

Article

Geographical mobility of young people across English towns and cities: March 2024

Cohort analysis using the Longitudinal Education Outcomes dataset exploring the link between education attainment and geographical mobility of young people: 2007 to 2019.

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Release date:
15 March 2024

Next release:
To be announced

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1 . Main points

- The share of young people who had obtained a graduate-level qualification by 2017 to 2018, and who took GCSEs between 2008 and 2011, ranged from 9% of those who lived in Blackfield and Stainforth when they took their GCSEs, to 70% or over for those who were living in Northwood, Duffield and in Hale.
- Of those from the 2008 to 2011 GCSE cohorts, 36% of graduates and 29% of non-graduates who achieved at least a level 3 qualification were living in a different area in the 2018 to 2019 tax year, from where they were living when they completed compulsory school.
- The likelihood of moving to a different area was much higher for graduates who came from rural areas and small towns than for graduates who came from large towns or cities.
- The number of towns and cities that attracted a large number of graduates from other places is relatively small, with only 26 out of over 1,000 English towns and cities having an inward-migration rate of more than 30%.
- The places with the lowest share of graduates in 2018 to 2019 were the coastal or ex-mining towns of Sheerness in Kent, Great Yarmouth in Norfolk and New Ollerton in Nottinghamshire, measured relative to the size of their initial GCSE cohorts (after accounting for moves among the overall cohort).
- In 2018 to 2019, the places with the highest proportions of graduates from the overall cohort, measured relative to the size of their initial GCSE cohorts, were either major cities such as London or Manchester, towns near cities such as Beeston or prosperous university towns and cities such as Cambridge or York.

2 . Overview of our analysis

Following on from last year's analysis, published in our article about [why young people in smaller towns do better academically than those in larger towns](#), this publication explores the link between education, geographical mobility and place characteristics. It shows how different educational attainment levels of young people are associated with different mobility patterns and, in turn, how geographical mobility differs across towns and cities with different place-based characteristics. Finally, it examines the extent to which towns and cities in England retain and attract qualified labour.

The analysis in this publication uses the Longitudinal Education Outcomes (LEO) dataset, which combines education data from early years through to higher education with labour market data.

We combined four cohorts of pupils living in England and who took their General Certificate of Secondary Education exams (GCSEs) at the end of Key Stage 4 (KS4) in funded state schools between 2008 and 2011. These form our population of interest, referred to as the GCSE cohort population throughout this article.

The article uses the Office for National Statistics (ONS) towns and cities geography to record the place where individuals in our cohort population lived at different points in their life. More information is available in [Section 9: Glossary](#).

In line with previous research, published by the Department for Education and Institute for Fiscal Studies in their [Higher education, geographical mobility and early-career earnings research report \(PDF, 4.9MB\)](#), that found that higher education is associated with greater geographic mobility, individuals in our analysis have been split into two groups, according to the highest qualification levels achieved by the academic year 2017 to 2018:

- graduates – those who obtained at least a bachelor’s degree, or equivalent level 6 qualifications
- non-graduates with advanced qualifications – those who obtained a sub-degree higher education qualification (level 4 and level 5), combined with those who achieved an advanced post-16 education (level 3), referred to in this article as level 3 (L3) to level 5 (L5) non-graduates

More detailed information on the data used and methodology can be found in [Section 10: Data sources and quality](#)

3 . Exploring graduate shares in towns and cities in England

There were 2.3 million pupils living in England who sat GCSE exams between 2008 and 2011. By 2018, 32% of those went on to achieve a graduate-level qualification (referred to as graduates) and 31% that obtained a sub-degree higher education or advanced post-16 education qualification (referred to as level 3 (L3) to level 5 (L5) non-graduates).

Figure 1: Young people from inner and outer London are most likely to achieve a graduate-level qualification

Share of the 2008 to 2011 GCSE cohorts that obtained a graduate-level qualification or a level 3 (L3) to level 5 (L5) non-graduate qualification, by academic year 2017 to 2018, and area type

[Download the data](#)

Inner and Outer London areas have the highest number of graduates as a share of its cohort population, at 39% and 42%, respectively. This contrasts with cities outside London that have, on average, the lowest share of graduates, with only 28% of the cities’ GCSE cohort population achieving a graduate-level qualification.

Young people living in small towns when they completed Key Stage 4 are more likely to achieve a graduate-level degree than those living in large towns or cities. Smaller built-up areas, such as villages and non-built-up areas that include the 4.5% of the population not living in an urban built-up area, also produce a higher share of graduates, on average, than most other places in England.

For L3 to L5 non-graduates, the differences in share between cities, towns of different size, and non-built-up areas was much smaller than for graduates, ranging from 28% in Inner London to 33% in non-built-up areas.

Differences within these city and town groupings can be much wider than the differences between the groups themselves. Figure 2 shows the distributions of the share of graduates (on the left-hand charts) and for the shares of L3 to L5 non-graduates (on the right-hand charts) for each of the different town size groupings and for cities. Figure 2 shows that, from the GCSE cohort:

- the highest variation in the share of graduates was found within small towns, where levels ranged from 9% in Stainforth (Yorkshire) and Blackfield (Hampshire), to over 70% in Northwood (Hertfordshire), Duffield (Derbyshire), and in Hale (Greater Manchester)
- it was mostly small towns and medium towns that had the highest shares of graduates; only two large towns (St. Albans and Sutton Coldfield) had more than 50% of pupils who became graduates
- pupils living in less deprived towns (represented by the green dots) were more likely to obtain a graduate degree qualification compared with pupils from higher deprived towns (represented by the blue dots)
- among the cohort population from higher deprivation areas (represented by the blue dots), those from large towns or cities are more likely to obtain a graduate-level degree than those from medium towns and small towns

Figure 2: A small number of lower deprivation small and medium towns had a relatively large proportion of graduates

Towns and cities' share of the 2008 to 2011 GCSE cohorts who obtained a graduate-level qualification or a level 3 (L3) to level 5 (L5) non-graduate qualification by the academic year 2017 to 2018, by area type and income deprivation

Notes:

1. For towns and cities with small sample sizes, data are not displayed.

[Download the data](#)

4 . Mobility flows between towns and cities

This section will examine the extent to which the young people in our GCSE cohort population changed their location between taking their GCSE exams in the academic years 2008 to 2011, and the end point of our cohort analysis, which was the tax year 2018 to 2019, when the young people would have been aged between 24 and 27 years (as they mostly took GCSE exams aged 16 years).

The data in this analysis therefore include the age groups where analysis on internal migration in England, shows the most internal moves occur, as published in our [Internal migration dataset](#). This is between the ages of 19 years (the age at which many leave home for study), and age 22 years (the age at which many have completed graduate degrees and then move for employment or further studies, return home, or move in with a partner). For towns and cities, these moves result in gains and losses of potential qualified labour.

Overall, 36% of graduates and 29% of level 3 (L3) to level 5 (L5) non-graduates in our GCSE cohort population were living in a different area in the 2018 to 2019 tax year from where they were living when they completed their GCSE exams. Figure 3 shows how these shares vary across different types of areas.

Figure 3: Graduates from small towns are more likely to move than those from cities or large towns

Share of graduates and level 3 (L3) to level 5 (L5) non-graduates, from the 2008 to 2011 GCSE cohort, who were no longer living in the same place where they sat their GCSEs in the tax year 2018 to 2019, by area type

[Download the data](#)

Figure 3 shows that, for all areas except London, graduates are more likely to move than L3 to L5 non-graduates.

It also shows that mobility is highest among those from smaller and not-built-up areas. Around half of the GCSE cohort population from rural areas and other small built-up areas like small villages and settlements have moved to a different area by 2019, in both the graduates and the L3 to L5 non-graduates groups. Compared with cities, this is more than twice the share of movers from the graduates group and more than three times the share of movers from the L3 to L5 non-graduates group. Similarly, those living in towns are more likely to move if they live in a small town compared with those living in medium or large towns.

The spatial surroundings where those towns are located also matters. To illustrate this, Figure 4 uses the Travel to Work Area (TTWA) geography and the TTWA classification (see [Section 9: Glossary](#)) to place towns into their wider labour market commuting areas and plot the shares of graduates and L3 to L5 non-graduates movers by town size and TTWA type. It shows that graduates that live in small and medium towns are more likely to move if they live in a rural TTWA than if they live in a TTWA that includes a conurbation or a large town or city. On average, more than 50% of the graduates from small towns that are located in "majority rural TTWAs" or in a "majority small towns TTWAs" move to a different area.

Figure 4: Graduates from towns located in major conurbation travel to work areas are less likely to move

Share of graduates and level 3 (L3) to level 5 (L5) non-graduates, from the 2008 to 2011 GCSE cohort, who were no longer living in the same place where they sat their GCSEs in the tax year 2018 to 2019, by area type

[Download the data](#)

More detailed analysis and data on geographical mobility across TTWA is available in the [Exploring educational attainment and internal migration, within English Travel to Work Areas: 2002 to 2019 article](#), published in September 2023.

Graduates mobility patterns

For many of those aiming to obtain a graduate-level qualification, moving from their town to a town or city with a university may be inevitable. It is common for university students to live on a university campus or in the same town or city where the university is located during term time. After completing their higher education, these individuals are again faced with the decision of returning to their hometown, staying in the town or city where they attended university, or moving to a different place.

In addition to knowing where individuals in our population were living at the end of compulsory school and where they were living during the tax year 2018 to 2019, for those in the graduates group, we can also use the location of the university they attended as a proxy (see Section 9: Data sources and quality) for their whereabouts in the period in between.

Figure 5: On average, towns and cities in England have retained more than half of their young people who obtained a graduate-level qualification

Share of graduates, from the 2008 to 2011 GCSE cohorts, by location during higher education, and in the tax year 2018 to 2019, by type of area where they sat their GCSEs

Notes:

1. 'Home' is referring to the same town or city where individuals had sat their GCSEs between 2008 and 2011.

Download the data

Figure 5 shows that for most places, more than half of the graduates were still living in their original location after obtaining their graduate-degree qualification and entering the labour market. These include all of those that have never left the town where they attended school and those that may have left to attend university in a different location but returned afterwards. The share of graduates still living in the same place in 2018 to 2019 was highest in London and in other large English cities outside London.

In contrast, graduates from small towns, other small built-up areas (BUAs) and rural areas after moving to university, are more likely to move somewhere else than graduates from larger towns and cities.

Compared with towns, cities kept, on average, a considerably higher number of their graduates. This reflects the fact that cities typically have universities and denser job markets offering more opportunities for graduates. The way the cities retained their graduates can however differ quite widely. In some cases, such as Brighton and Hove, and Bristol, very few graduates originating from those cities stayed in them for university and then stayed in them to move on into work (10% and 3%, respectively). However, both cities attracted back a high number of graduates that left them to study elsewhere.

In other cases, such as Liverpool and Plymouth, much higher shares (47% and 39%, respectively) of the graduates originating from those cities stayed throughout university and stayed to move into the labour market.

Among large towns, Middlesbrough kept 45% of the graduates originating from the city through university and into employment. Most other large towns, however, only had a very small proportion of graduates that stayed throughout university and afterwards. Many large towns did, however, attract back a high number of their graduates that left to study somewhere else. For example, in Slough and Watford, more than 70% of their graduates returned some time after university.

To explore data for a specific town or city, see our [Where did students from your town end up after gaining qualifications? interactive tool](#) published alongside this release.

5 . Stayers and leavers

Combining information from Section 3 on graduate shares, and from Section 4 on how people moved around after their GCSEs, we now examine the net effect for each town or city.

Figure 6 compares the share of individuals in our GCSE cohorts that obtained a graduate or level 3 (L3) to level 5 (L5) non-graduate-level qualification and were still living in the same place in 2018 to 2019 (on the horizontal axis) with the share that obtained the same qualifications but have moved to live elsewhere (on the vertical axis).

For example, in the case of York, 44% of the GCSE cohort obtained either graduate or L3 to L5 non-graduate qualifications and were still living there in 2018 to 19, while 19% had obtained these qualifications but were living elsewhere. The remainder of the GCSE cohort (39% in the case of York) did not obtain either graduate-level qualifications or L3 to L5 non-graduate qualifications.

Examining the data for graduates only from Figure 6, most medium and large towns (and cities) that had relatively few young people achieve graduate-level qualifications still managed to retain a majority of those who did. Kingston-Upon-Hull is an example of this with 16% of its GCSE cohort obtaining graduate qualifications and remaining in the city, compared with 6% who obtained graduate qualifications and moved elsewhere.

By contrast, Skegness was an example of a place that produced relatively few graduates, and additionally saw the majority of them leaving to reside elsewhere, with 9% of its GCSE cohort obtaining graduate qualifications and remaining in the city, compared with 13% who obtained graduate qualifications and moved elsewhere.

Among towns that produced a higher number of graduates, Radlett in Hertfordshire is an example of a town that retained most of its graduates, with 45% of its GCSE cohort obtaining graduate qualifications and remaining in the city, compared with 15% who obtained graduate qualifications and moved elsewhere.

Richmond in Yorkshire, however, is an example of a town that produced a relatively high number of graduates but did not retain most of them, with 16% of its GCSE cohort obtaining graduate qualifications and remaining in the city, compared with 30% who obtained graduate qualifications and moved elsewhere.

Figure 6: Towns and cities vary greatly in the number of graduates and L3 to L5 non-graduates they produce and retain

Share of the towns and cities' GCSE cohort who obtained a graduate-level, or a level 3 (L3) to level 5 (L5) non-graduate qualification, by whether they had moved location by the 2018 to 2019 tax year

Notes:

1. For towns and cities with small sample sizes, data are not displayed.

[Download the data](#)

Examining the data for L3 to L5 non-graduates, Widnes and Barrow-in-Furness are examples of towns that produced a high number and retained the vast majority. Bracebridge Heath in Lincolnshire, by contrast, also produced a high share of young people with this level of qualification, but the majority subsequently moved to live elsewhere.

6 . Geographic destinations of movers

This section focuses on the young people in our population of study who, in the tax year 2018 to 2019, were no longer living in the same town or city where they sat their GCSE exams.

Overall, 36% of those that obtained a graduate degree had left the place they were living when they sat their GCSE exams. Of those, 75% have moved to a different travel to work area (TTWA), and 58% have moved to a different region.

Meanwhile, 29% of those that obtained a level 3 (L3) to level 5 (L5) non-graduate qualification had left the place they were living when they sat their GCSE exams. Of those, 51% have moved to a different TTWA, and 31% have moved to a different region.

Figure 7 shows the share of those who moved town or city that have also moved TTWA or region, by town size and TTWA classification (see [Section 9: Glossary](#)). It shows that the relative location of a town creates an impact on the share of movers who move to a different TTWA or region. For example, among the graduates from small and medium size towns that have decided to move, those that come from more remote towns (located in rural TTWAs) are less likely to stay within the same TTWA or even region than those from towns the same size but located near a major conurbation or a large town or city. A similar pattern is found for L3 to L5 non-graduates.

In most cases, those who move TTWA or region will be moving a greater distance from the location at which they studied their GCSE exams, than those who move but remain in the same TTWA or region. As such, figure 7 suggests those who move from towns that are more remote (further from a conurbation or a large town or city) are more likely to have moved a greater distance than those who took their GCSE exams closer to conurbations or large towns.

Figure 7: Graduates who moved from small and medium towns that are more remote are less likely to stay in the same travel to work area or region

Share of graduates or level 3 (L3) to level 5 (L5) non-graduate movers, from the 2008 to 2011 GCSE cohort, who had moved to a different travel to work area (TTWA) or region by tax year 2018 to 2019, by type of towns and TTWA they were living when they sat their GCSEs

[Download the data](#)

At the regional level, the North West graduate cohort is the least likely of all non-London regions to have moved from the town or city in which they took their GCSE exams (33%). Furthermore, of those that obtained a graduate-level degree and moved, graduates from the North West are the least likely to move out of their home region (48%), or even their TTWA (68%), followed by those from the North East (54% and 69%, respectively). So not only is the North West graduate cohort the least likely to move, but those who move are the least likely to move beyond their home region or TTWA.

Where graduates moved to

In this section we examine in more detail where young people from towns and cities across England moved to. Figure 8 shows the aggregated number of graduates and L3 to L5 non-graduates that moved out of the place they were living at the end of Key Stage 4, and where they moved to, by area type.

Figure 8: The most popular destinations are cities for graduates, and medium towns for L3 to L5 non-graduates

Flows of graduates or level 3 (L3) to level 5 (L5) non-graduates from selected type of place where they sat their GCSEs, to type of place they were living in the tax year 2018 to 2019

[Download the data](#)

Cities are the most popular destinations among graduate movers, with 23% choosing to move into one of the English cities outside London. Around 19% of the graduates who moved from towns and cities have chosen to move to large towns, and a similar share has moved to medium towns. A further 18% left for London, of which 12% moved to Inner London and 6% moved to Outer London. The least likely destinations for graduates were small towns, other small built-up areas (BUAs) such as villages, and non-built-up area locations.

The most likely destinations are different for L3 to L5 non-graduates who have left the towns or cities they were living in for their GCSE exams. Medium towns were the most popular destinations (27%), followed by large and small towns (19% and 17%, respectively). Cities outside London were the destination chosen by 13% of the L3 to L5 non-graduates who moved and only 3% chose to move to Inner or Outer London.

Locations that attracted the most graduates and level 3 to level 5 non-graduates

A town or city's inward migration rate is the number of individuals from the GCSE cohort who had moved into that town or city from elsewhere, divided by the initial GCSE cohort population of that town or city. This allows us to determine which places were best at attracting graduates or L3 to L5 non-graduates.

Figure 9 shows that high levels of inward migration are concentrated in a relatively small number of places. Out of more than 1,000 towns and cities in England for which we have data, less than 50 have a graduate inward migration rate higher than 20% and only 26 towns and cities had a rate above 30%.

Brighton and Hove, Manchester, Bristol, and Leeds are the cities that attract the most graduates (as a share of their local GCSE cohort population), each with an inward migration rate above that of Inner London (which had a 33% rate).

Of the 26 places with a graduate inward migration rate of at least 30% only four – Royal Leamington Spa, Beeston, Cambourne, and Penryn – do not have a university; and of these, Cambourne is in the Cambridge TTWA, Penryn hosts campuses for Falmouth and Exeter universities, and Beeston borders the main University of Nottingham campus. However, it is also the case that there were nine large towns with a university that had a very low inward migration rate of below 10%. As such, the presence of a university is not a guarantee that a town or city will attract graduates, although many of the towns and cities that do have a high graduate inward migration rate do have one.

Figure 9: Only a small number of places attracted a high number of graduates

Inward migration rate by tax year 2018 to 2019, by type of area

Notes:

1. For towns and cities with small sample sizes, data are not displayed.
2. A town or city's inward migration rate is the number of individuals, from the 2008 to 2011 GCSE cohorts, who had moved into that place from elsewhere, divided by the initial GCSE cohort population of that town or city.

[Download the data](#)

Of the 20 towns with an inward migration rate above 30%, 11 are classified as having high levels of deprivation, compared with 6 classified as having low levels of deprivation. All, except Beeston, however, have relatively high levels of job density (calculated as the share of jobs to population aged 16 to 64).

While there is a small number of towns and cities that do attract a high share of graduates, Figure 9 also shows that the majority of towns, as well as six of the cities, have a much lower inward migration rate of less than 10%. In some towns, such as Canvey Island, Corby, Peterlee, Bridlington, Great Yarmouth and Clacton-on Sea, the rate is just 2%. The city with the lowest inward migration rate of graduates is Bradford (4%).

Focusing on the L3 to L5 non-graduates, it is mostly small towns that have the highest inward migration rates, with 34 small towns having an inward-migration rate of 20% or above. Many of these towns have connections to military employment opportunities.

Among the larger towns and cities, Brighton and Hove, Salford, Norwich and Lincoln have the highest inward migration rate of L3 to L5 non-graduates with Canterbury, Newquay, Hatfield and Newmarket having the highest rates of inward migration among medium-sized towns. In the cases of Newquay and Newmarket, the L3 to L5 non-graduate inward-migration rate is higher than the inward-migration rate for graduates, while the other six towns and cities in this list have high levels of graduate inward migration as well as high levels of Level 3+ non-graduate inward migration.

7 . What this means for towns

Combining information on the number of graduates and level 3 (L3) to level 5 (L5) non-graduates that each place retained and the number of graduates and L3 to L5 non-graduates that each place has attracted from elsewhere, we now examine how many of the cohort lived in each town in the final year of the cohort analysis.

Figure 10 shows what proportion of the GCSE cohort population for each area had obtained graduate-level qualification, or L3 to L5 non-graduate qualifications, and remained living there (on the horizontal axis) and the equivalent inward-migration rates (on the vertical axis). The data can also be seen split by graduates and L3 to L5 non-graduates.

For graduates, there are only a small number of towns that ended up with 11 or fewer graduates residing in the town per 100 young people in their initial GCSE cohort. These are coastal or ex-mining towns, namely Sheerness in Kent, Great Yarmouth in Norfolk, and New Ollerton in Nottinghamshire.

Figure 10: Places with a high share of graduates in 2018 to 2019 had either produced and retained graduates from their GCSE cohort, or attracted a high number of graduates from elsewhere

Towns and cities' share of the 2008 to 2011 GCSE cohort who gained level 3 (L3) to graduate-level qualifications by the tax year 2018 to 2019, living in the location where they sat GCSEs, by number of L3 to graduate achievers who moved to that location from elsewhere in England

Notes:

1. For towns and cities with small sample sizes, data are not displayed.
2. The inward migration rate only accounts for inflow of individuals from the 2008 to 2011 GCSE cohorts.

[Download the data](#)

The towns or cities that ended up with the highest shares of graduates tend to be those with the highest inward-migration rates. Places with 50 graduate residents per 100 initial GCSE cohort, were either cities (such as Manchester, Leeds and Newcastle), towns near cities (such as Horsforth, Hatfield, and West Bridgford) or prosperous market or university towns (such as Bath, Canterbury, and Oxford).

Towns with a low share of L3 to L5 non-graduates relative to the size of the initial GCSE cohort, include Beaconsfield, Amersham and Harpenden, which are all relatively prosperous suburban towns that produced and retained a relatively high share of graduates.

Towns with a high share of L3 to L5 non-graduates, relative to the size of the initial GCSE cohort, were mostly small towns with examples including North Walney (near Barrow-in-Furness in Cumbria), Market Weighton in Yorkshire, and Clowne in Derbyshire.

8 . Geographical mobility of young people across English towns and cities data

[Geographical mobility of young people in English towns and cities](#)

Dataset | Released 15 March 2024

Geographical mobility of those who sat GCSEs in English state schools from 2008 to 2011. Data are linked to the town or city pupils lived in when they sat GCSEs. Compiled using the DfE's Longitudinal Educational Outcomes.

9 . Glossary

Key Stage 4

Key Stage 4 (KS4) is the period of education where qualifications such as GCSEs and equivalents are typically taken, usually covering ages 14 to 16 years in school years 10 and 11.

Graduates

All individuals in the cohort population who had obtained at least a bachelor's degree or equivalent level 6 qualification by the end of the academic year from 2017 to 2018.

Non-graduates with advanced qualifications

Non-graduates with advanced qualifications are referred to as level 3 (L3) to level 5 (L5) non-graduates in this article. All individuals not in the graduates group, and who obtained a level 4 or level 5 higher education qualification, plus those who achieved full-level 3 qualification by the age of 25 years, are included in the L3 to L5 non-graduates group. A full level 3 qualification is two A-level passes (or equivalents).

In line with the [report looking at additional investment in skills benefit areas of the country that are poorer performing economically \(PDF, 2.1MB\)](#), that found that there is little difference among non-graduates in the tendency to move area, we combined level 3 to level 5 to increase sample sizes at lower geography levels.

Non-graduates achieving a level 2 or below qualification were not included in this analysis. A full level 2 qualification is five GCSE passes at grade A* to C, or equivalents. Individuals with a partial level 3 qualification were also not included in the analysis. A small number of people who achieved a full-level three qualification after the age of 25 will also be included in this group.

Qualification level

The qualification level achieved for individuals is determined by the regulated qualifications framework (RQF) and its predecessor, the qualifications and credits framework (QCF). Both frameworks have nine levels, from entry level through to level 8, with level 8 being the highest (doctorate or equivalent).

These frameworks show how different qualifications relate to each other, with qualifications at the same level being similarly demanding, but often different in content, duration, and assessment methods. For example, level 3 includes A-levels and BTEC National Diploma qualifications. Examples of [current qualifications at each level of the RQF can be found on GOV.UK](#). Individuals in this analysis may also have completed other equivalent qualifications that are not listed, and which have been discontinued, for example, the advanced GNVQ.

Towns and Cities geography

In line with previous releases, such as our [Understanding towns in England and Wales: town characteristics and house process article](#), towns and cities in this article are defined by the boundaries of the Built-Up Areas (BUAs) and Built-Up Area Subdivisions (BUASD). To qualify for inclusion in the cities list, the BUA population must have been 225,000 or more in 2011 (according to the 2011 Census). The towns list includes the BUAs or BUASD with a population between 5,000 and 225,000 in 2011 (according to the 2011 Census).

Included in this analysis are 18 English cities and 1,082 English towns. Of these:

- 89 large towns had a population above 75,000
- 331 medium-sized towns had a population between 20,000 and 75,000
- 662 small towns had a population between 5,000 and 20,000

BUAs and BUASDs with a population below 5,000 in 2011 (according to the 2011 Census) are grouped together as a single category, referred to as "Other Small BUAs".

Census Output areas not in the BUA and BUASD geography are combined into a single category, referred to as "Not BUA". These will be mostly rural areas.

Because the built-up areas geography does not provide subdivisions within the London area, this analysis groups BUAs into two London categories: BUAs in inner London and BUAs in outer London.

Please note that to enable coherent analysis, BUAs have been classified as towns or cities in this output, based on population size and not official designation.

More information about geography and classification of towns is available in our [Understanding towns in England and Wales: spatial analysis article](#).

Towns classifications

This article uses the towns' workplace and income deprivation classifications presented for the first time in our [Understanding towns in England and Wales: an introduction article](#), and updated in our [Understanding towns in England and Wales: spatial analysis article](#). The classifications are used subsequently in other releases using towns data.

A job density measure was calculated using the number of jobs in the town as a proportion of residents aged 16 to 64 years. Towns were then ranked based on the job density value and placed into deciles to create workplace classification. Towns with higher job densities (deciles 1 to 4) were classified as "working"; towns with the lower job densities (deciles 6 to 10) were classified as "residential"; and towns with job densities in the middle of the distribution (deciles 5 and 6) were classified as "mixed working-residential".

The income deprivation classification used the income deprivation score taken from the income deprivation domain of the English Index of Multiple Deprivation (IMD). The measure is based on the proportion of the residential population in a town experiencing deprivation relating to low income.

Towns were then ranked based on the income deprivation score and placed into deciles, with the towns with the highest average scores in decile 1 to 4 being classified "higher-deprivation towns". Towns with the lowest average scores in deciles 6 to 10 are classified as "lower-deprivation towns" and towns in deciles 4 and 5 are classified as "mid-deprivation".

Travel to work areas

Travel to work areas (TTWAs) are a geography defined by the Office for National Statistics (ONS) using 2011 Census data to approximate labour market areas. TTWAs reflect self-contained areas, in which at least 75% of people living in the area also work in the same area. These areas vary in size across the country, reflecting how far people living in them commute to work.

Travel to work areas classification

A labour market area in a sparse rural area of England will be very different from a labour market area based on a major city. Therefore, given that TTWA classifications are being used in this article to help explain the local context of individual towns, using a simple TTWA classification that provides a description of a TTWA. This is based on whether it exists in a conurbation, a rural area, a mostly urban area that includes a large town or city, or a mostly urban area that only includes smaller towns and villages.

To produce this classification, we have used population data combined with the Output Area (OA) version of the 2011 Rural Urban Classification (RUC) to categorise each TTWA as follows: - Major Conurbation TTWA – in which a majority of the population of the TTWA are resident in one of the UK's conurbations as defined by the RUC - Large Town TTWA – in which a majority of the population of the TTWA lives in an urban area, as defined by the OA version of the RUC, (but not a conurbation), and the TTWA includes at least one town or city of population greater than 70,000 - Small Town TTWA – in which a majority of the population of the TTWA lives in an urban area (but not a conurbation), and the TTWA does not have any towns or cities of population greater than 70,000 - Rural TTWA – in which a majority of the population of the TTWA lives in a rural area, as defined by the OA version of the RUC

More information about how this classification was produced, together with a map, is available in our [Understanding towns in England and Wales: spatial analysis article](#).

10 . Data sources and quality

This article, produced by the Office for National Statistics (ONS), forms part of a series of ONS and HM Treasury (HMT) articles being published by the ONS, using the Longitudinal Educational Outcomes (LEO) data.

The LEO database links administrative education data, from the Department for Education (DfE), on early years through to higher education. It also links the Higher Education Statistics Agency (HESA) with employment, benefits and earnings data from the Department for Work and Pensions (DWP), and Her Majesty's Revenue and Customs (HMRC). As of 2021, the LEO database comprised approximately 38 million individuals who attended education in England.

There are some limitations to the data coverage. To be included in the LEO database with school-level education data and outcomes, individuals must have been in the English school education system during at least one academic year. Also, the years for which qualification and labour market data exist, do not overlap exactly.

Qualification data are available, from each stage of education, for learners who were registered for Key Stage 4 assessments from the 2001 to 2002 to the 2018 to 2019 academic years. Labour market outcome data are available from the 2003 to 2004 to the 2018 to 2019 tax years. There are also specific exclusions to some types of data. HMRC pay as you earn (PAYE) records do not contain earnings information for "cash-in-hand" payments, and the school census does not include students who were home schooled.

This analysis uses the version of LEO, available to researchers in the Secure Research Service (SRS), also referred to as the "standard release". Further information about LEO is available from DfE or the SRS.

Methodology: population of study

This analysis includes individuals aged 14 years or over who completed Key Stage 4 (GCSE and equivalent qualifications) in English state funded schools in the four academic years 2007 to 2008 to 2010 to 2011. These four cohorts of individuals have been combined to increase sample sizes at lower geography levels, and to produce more representative and more robust estimates.

In total, there are 2,312,965 individuals included in our cohort population. Most individuals will have taken their GCSE exams aged 16 years, but a minority will have been older or younger than this depending on their circumstances (0.2%).

Individuals were excluded from the study if any of the following were true:

- they did not have a valid residential location in England recorded
- they had more than one record showing different ages in the same academic year in the English School Census
- individuals who took equivalent examinations to GCSEs between 2007 to 2008 and 2010 to 2011 outside of England, and then subsequently moved to England for higher education or work

This population is divided into three sub-groups for purposes of this analysis. Membership of each group is determined by the qualifications obtained by the end of the 2017 to 2018 academic year. Definitions and further examples for each of the qualification levels on the Regulated Qualifications Framework (RQF) can be found in [Section 9: Glossary](#) section in this article.

Methodology: location

Location data were captured at three periods: at the end of Key Stage 4, during higher education (if applicable) and during the tax year 2018 to 2019. Output Area (OA) information was used to capture geographic location at Key Stage 4 and during the tax year 2018 to 2019.

No OA information was available for HESA. To capture the geographic information of university students, we used the institutional UK Provider Reference Number (UKPRN). This meant that we did not have accurate information for where university students lived. Instead, we assumed that they stayed in the area where they attended university and studied higher education.

Individuals' work locations were derived from the LEO tax, benefit, and self-employment tables referring to the tax year 2018 to 2019. The data refer to the residential address of the individual.

This information is taken from the government's Customer Information System (CIS). The CIS is updated when an individual notifies DWP or HMRC of a change of address or through interacting with a tax or benefit system, for example the address held by their employer's payroll.

The statistics on location in 2018 to 2019 are based on this administrative data source. This is the same approach as used in other government and academic analysis using the LEO dataset. It should be noted that the quality of this location information is dependent on the accuracy and timeliness of address updates on the CIS system.

Methodology: geographic mobility

This study analyses the extent of the movement of individuals between geographic locations measured during the final year of Key Stage 4 at school and their location during the 2018 to 2019 tax year. This is 11 years after finishing GCSEs for those in the 2007 to 2008 cohort, and 8 years after finishing GCSEs for those in the 2010 to 2011 cohort. For individuals who successfully completed a bachelor's degree (or other equivalent level 6 qualification), mobility to and from the location of the higher education provider was also measured. Movement of individuals who attempted a level 6 qualification, but did not pass, is not measured.

The residential location at Key Stage 4 was taken from the reported Census Output area (a low-level geographical area covering approximately 100 to 625 people) in the English School Census. The location of individuals in the 2018 to 2019 tax year was taken from the recorded output area in the government's Customer Information System.

The term-time address of people completing level 6 qualifications was not available in the data. Individuals were assumed to be living in the town or city in which their higher education provider was situated (for example, individuals who graduated from the University of Sheffield were assumed to be living in Sheffield). There were two exceptions; graduates from the Open University (a distance learning institution), and those whose level 6 qualifications were recorded in the Individualised Learner Record (the Further Education Dataset) were assumed to have remained at their Key Stage 4 location.

Output areas were then used to derive the higher-level towns and cities geography. Movement between geographical locations was measured at three distinct geographical levels: region, travel to work area, and town or city.

11 . Related links

[Exploring the educational attainment of children and young people in English towns: 2012 to 2013 school year](#)

Article | Released 25 July 2023

Exploring how educational attainment differs across English towns, by town size, deprivation level and the average qualification levels of residents in the previous generation.

[Exploring educational attainment and internal migration, within English Travel to Work Areas: 2002 to 2019](#)

Article | Released 19 September 2023

Exploring the variation in educational outcomes across English travel to work areas.

12 . Cite this article

Office for National Statistics (ONS), released 15 March 2024, ONS website, article, [Geographical mobility of young people across English towns and cities](#)