

# Short-Term International Migration methodology – local authority estimates

An introduction to the main concepts that underpin Short-Term International Migration statistics for local authorities in England and Wales.

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# 1 . Introduction

A [quality and methodology information report](#) is also published in which Short-Term International Migration (STIM) estimates for local authorities are assessed against the six dimensions of statistical quality defined by Eurostat.

## 1.1. Background

A user consultation as part of the [Migration Statistics Improvement Programme \(MSIP\)](#) identified the need to produce robust, on-going Short-Term International Migration (STIM) estimates for local authorities. Local authority-level STIM estimates were first published as part of a [one-off research report](#) in 2009, based on a joint distribution and modelling method. Further estimates were published as [Experimental Statistics](#) in February 2012 on the basis of a distribution-only methodology that produces statistics in line with [the improved long-term immigration distribution methodology](#) for producing population estimates for England and Wales.

Since 2013, STIM estimates for local authorities based on this improved methodology have been designated as National Statistics, following assessment by the UK Statistics Authority and it is these estimates that this methodology report covers.

This method uses main reason for migration information from [the International Passenger Survey \(IPS\)](#) to identify short-term inflows of workers and students to England and Wales, which are then distributed directly to local authorities using administrative data sources.

## 1.2. Definition of a short-term international migrant

Short-Term International Migration (STIM) estimates for local authorities in England and Wales are based on the [UN definition of a short-term international migrant](#), that is:

"A person who moves to a country other than that of his or her usual residence for a period of at least three months but less than a year except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage."

In practice, for local authority STIM estimates, this refers to moves made to the UK for 3 to 12 months for the purposes of employment or study by non-UK residents.

In the administrative data sources used to calculate the distribution, it is not possible to use this exact definition. However, short-term workers and students staying for 3 to 12 months have been identified as accurately as possible with the data available.

# 2 . Current methodology

## 2.1. Overview

We developed the current methodology to distribute England and Wales Short-Term International Migration (STIM) estimates to local authority level during the Migration Statistics Improvement Programme (MSIP). The current methodology covers:

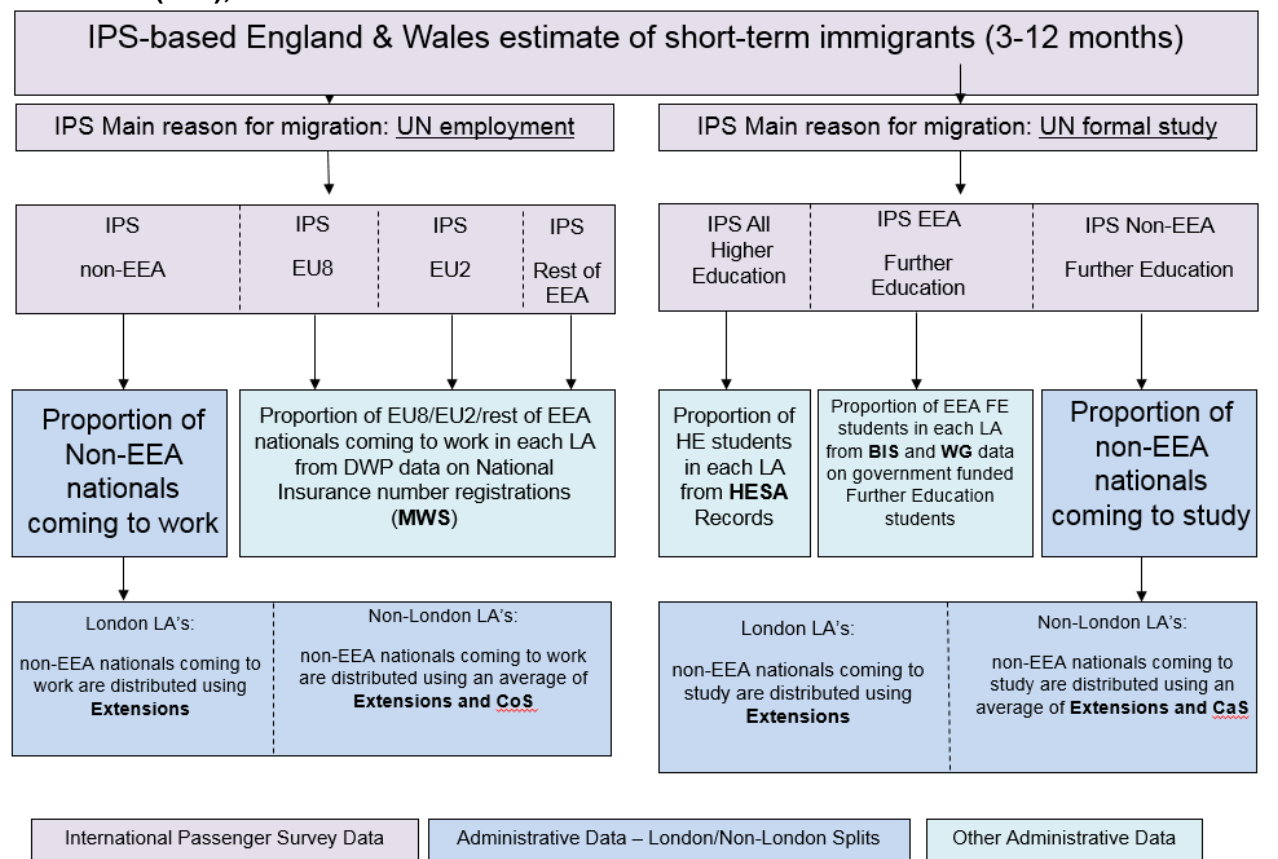
- inflows only
- moves made for 3 to 12 months for work and study reasons only (i.e. the UN definition)
- mid-years (that is, 1 July to 30 June) from mid-2008 onwards
- the use of administrative data from several different sources, including data on visas and student registrations (see Figure 1)

The methodology uses published short-term immigration totals derived from International Passenger Survey (IPS) data for workers and students staying for 3 to 12 months<sup>1</sup>. The worker and student totals are then distributed by mapping the IPS definitions as closely as possible to the relevant data within the administrative sources provided by other government departments. It should be noted that this method does not

- measure outflows
- measure stocks
- include those people migrating for one to three months
- include people migrating for reasons other than study or work

Figure 1 gives a high level overview of how short-term immigration estimates are broken down for distribution in the current methodology and which administrative sources are used in the distributions. The following sections give more information on definitions used and the detail of the methodology.

**Figure 1: Overview of methodology used to distribute short-term immigration estimates to local authorities (LAs), mid-2016**



**Notes:**

1. International Passenger Survey (IPS). United Nations (UN). Department for Work and Pensions (DWP). Migrant Worker Scan (MWS). Higher Education (HE). Higher Education Statistics Agency (HESA). Further Education (FE). Department for Business, Innovation and Skills (BIS). The Welsh Government (WG). Grants of extensions of leave to remain visas from the Home Office (Extensions). Certificate of Sponsorship (CoS). Confirmation of Acceptance for Studies (CaS).
2. Country groupings can be found in the [international migration table of contents](#).

**Notes for: Current methodology**

1. These published IPS estimates are based on interviews undertaken at the end of the short-term migration event, so lengths of stay are known. Therefore, no error arises from changes of intention (for example, intending to stay two months and actually staying four months). In this case, the end of the short-term migration event is when the individual leaves the UK after a 3 to 12 month stay in England or Wales.

**3 . Method used to distribute workers**

**3.1. Data sources**

## International Passenger Survey (IPS)

The International Passenger Survey (IPS) is a sample survey of passengers arriving at, and departing from, UK air and sea ports and the Channel Tunnel. The England and Wales-level estimate of short-term international immigration for 3 to 12 months for the main reason of work, which is distributed to local authorities, is derived from IPS data.

The IPS estimate for “work” used in the local authority-level Short-Term International Migration (STIM) estimates refers to as defined in the UN definition. This includes short-term migrants going to a definite new job, including au pair work, and those seeking a job, but excludes those visiting on business for their existing employer. Estimates for the latter are shown in the Business category in England and Wales-level STIM reference tables, but are not available for local authorities.

For more information about the IPS, please refer to [International Passenger Survey: quality information in relation to migration flows](#).

## Migrant Worker Scan (MWS)

The Migrant Worker Scan (MWS) is used to distribute European Economic Area (EEA) short-term migrant workers to local authority level and is a 100% extract of migrants registered on the National Insurance and Pay As You Earn (PAYE) Service (NPS)<sup>1</sup>. This dataset includes registration details, self-reported arrival dates and some demographic details along with address data at registration.

The MWS includes both short-term and long-term migrants but since there is no activity information included with the data, and migrants do not have to de-register from the MWS when they leave the country, there is no way to distinguish between these two types of migrants. To try to capture as high a percentage of short-term migrant workers as possible and exclude as many long-term migrants as possible, only those in the MWS who apply for a National Insurance number (NINo) less than six months after arrival have been used in these distributions. Length of stay estimates in [table STIM.02](#) show that the majority of short-term migrant workers identified in the IPS stay for six months or less.

## Grants of extensions of leave to remain for work

Home Office data on extensions of leave to remain applied for by migrants planning to stay in England and Wales for 3 to 12 months are used to distribute short-term immigration estimates for non-EEA workers to local authority level.

Over 100 nationalities require a visa for entry to the UK for any purpose or for any length of stay. EEA migrants and Swiss nationals do not require a visa to come to the UK. Other nationalities, known as “non-visa nationals” (such as Australia and the US), need to be granted a visa or an extension to come to the UK for over six months or for work. However, it is assumed that workers who stay three to six months distribute in a similar way to students coming in for 6 to 12 months and therefore this should not affect the distribution.

The main advantage of extensions data is that they contain the current UK residential addresses of the applicants. Some issues with the data for the purpose of the Short-Term International Migration (STIM) methodology are:

- these extensions may not be the initial grant of leave to remain and may relate to individuals who have been in the UK for at least a short time already; these individuals may not have required a visa when initially entering the UK
- an individual may have multiple consecutive extensions due to further grants of extensions (or, in limited circumstances, via switching to a different Tier)
- all applications for extensions, not just first applications, are included in the data provided; this is due to the complicated and time-consuming nature of linking together different applications made by the same person and it is assumed that this does not affect the distribution

## Certificates of Sponsorship (CoS)

Those applying for extensions of leave to remain under the Points-Based System (PBS) Tiers 2 and 5 (which cover most work routes for non-EEA nationals) must be sponsored by institutions for work, by being provided with a Certificates of Sponsorship (CoS). CoS data only cover workers and are split into applications for visas (“out of country” applications) and extensions (“in country” applications). The data used in the local authority distribution methodology are the “used” out of country CoS only, as the in country CoS applications are included in the extensions of leave to remain dataset.

The CoS contains two addresses: one for the employer (place of work) and one for the headquarters of the sponsoring organisation. Each sponsor is assigned a certain number of certificates (by Tier), which they can distribute to potential migrants. The issues with this system for the purposes of the STIM methodology are:

- applicants can have multiple certificates assigned to them either concurrently or consecutively, however, only in relatively rare cases would more than one be “used” simultaneously; since this methodology uses “used” CoS data, this is unlikely to have a substantial impact
- address information is based on employer address; this is not an issue for the majority of the country as most people live and work in the same local authority, however, grants of extensions data, which include home address, are used to distribute migrant workers to local authorities in London where migrants do not tend to live and work in the same local authority

## 3.2. Methodology

The method for distributing the England and Wales-level Short-Term International Migration (STIM) for work estimates is summarised in Figure 1. A worked example can be found in [distributing short-term migrants to local authorities, Annex E \(PDF, 1.2MB\)](#). The England and Wales International Passenger Survey (IPS) short-term immigration for work estimate is split into four different nationality groupings: the EU8<sup>2</sup>, EU2<sup>3</sup>, Rest of European Economic Area (EEA)<sup>4</sup> and Non-EEA.

### Non-EEA workers

We use applications for extensions of leave to remain from non-EEA nationals to distribute the non-EEA part of the short-term immigration for work estimate from the IPS. The length of the extension is used to separate out short-term migrant workers from the extensions data.

The distribution for non-EEA short-term immigration is calculated separately for local authorities in London and outside of London. The London and non-London split is taken from the average of the extensions and Certificates of Sponsorship (CoS) distributions.

For non-EEA short-term workers outside of London local authorities, the average of the distributions from the CoS and extensions datasets has been used to distribute to local authority level. This is because using the average of the two sources smooths out any outliers in the CoS data (due to its basis on work address) and any outliers in the extensions data (due to its basis on applications from individuals already in the country). London is treated differently because it has a lower percentage of people living and working in the same local authority compared with the rest of the country. Using the CoS data, based on work address, in London, even in combination with the extensions data, does not give a plausible distribution. The distribution taken from the extensions data is therefore used to distribute non-EEA short-term migrant workers within London.

## **EEA workers (EU8, EU2 and Rest of EEA)**

For short-term immigration for workers from the EEA, the Migrant Worker Scan (MWS) has been used to distribute to local authority level. Although the MWS contains both short- and long-term migrants – and it is not possible to distinguish between them – this is the only data source that could be used in the methodology to distribute this group of workers. Research during the development of this method [compared the distribution of the MWS EU8 subgroup with a distribution from the Worker Registration Scheme \(WRS\)](#)<sup>5</sup>. This comparison showed that the two distributions were similar enough to conclude that the MWS is a valid source for distributing short-term workers.

## **Notes for: Method used to distribute workers**

1. The NPS collects, validates and stores information on National Insurance contributions. In 2008, the database was expanded to record and validate payment of tax through the Pay As You Earn (PAYE) system. The NPS holds detailed information on periods of employment, self employment, sickness, tax credits, unemployment and periods of non-liability (for example, caring for children) back to 1975. The NPS data holds records for anyone who has ever had a National Insurance number (NINo) in the UK. This includes data on people who may no longer be resident in the UK and people who have died. The database currently holds over 75 million records, which continues to grow as new people reach age 16 years and enter the National Insurance and PAYE system. The NPS also includes data on the registration and identification of migrants from abroad who need a NINo to work or claim benefits.
2. The EU8 are the eight central and eastern European countries that joined the European Union (EU) in May 2004. These are: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.
3. The EU2 refers to Bulgaria and Romania, which joined the EU in January 2007.
4. The rest of the EEA includes all other EEA member countries. Of these only Iceland, Liechtenstein and Norway are not also members of the EU. Switzerland is also included in this group because, although not a member of the EEA, it is part of the Schengen zone and its citizens have the same right of travel into the UK as EEA citizens and so behave in a similar manner.
5. The WRS was a scheme with which EU8 nationals needed to register if they wished to take up employment in the UK. It ran between 2004 and 2011. Self-employed workers did not need to register with the WRS.

# **4 . Method used to distribute students**

## **4.1. Data sources**

## International Passenger Survey (IPS)

The England and Wales-level estimate of short-term international immigration for 3 to 12 months for the main reason of study, which is distributed to local authorities, is derived from International Passenger Survey (IPS) data. A short-term migrant student in the IPS is defined as having been in the country for 3 to 12 months on departure and having arrived for a “formal course”. In addition, IPS data are used to split the short-term immigration for study estimate into the following three groups:

- Higher Education (HE)
- Further Education (FE) students of European Economic Area (EEA)<sup>1</sup> origin
- FE students of non-EEA origin

For more information about the IPS, please refer to [International Passenger Survey: quality information in relation to migration flows](#).

## Higher Education Statistics Agency (HESA) Student Record

The Student Record is a record-level dataset giving demographic details of all students at [Higher Education Statistics Agency \(HESA\)](#) reporting institutions. Reporting institutions are all HE providers that are funded via the Higher Education Funding Councils for England or Wales. This dataset includes details such as length of course, year of study (that is, first year, second year), term-time postcode and country of previous residence.

The dataset has been linked with both the Student Record from the previous year and the Migrant Worker Scan ([MWS](#)) to identify and remove those in the country prior to starting study and so is considered to accurately identify short-term migrant students. In the HESA Student Record data, short-term migrant students are identified as those:

- domiciled abroad
- aged 17 to 59 years inclusive
- in their first year of study
- whose previous institution is not in the UK or is unknown;
- whose length of course was or is expected to be between three months and a year;
- who were not in the Student Record the previous year
- who, if successfully linked to the MWS, have a lag between arrival and start of study of less than three months

Data are split by academic year (1 August to 31 July). This is a slightly different reference period than that of the IPS data. This is not thought to significantly affect the distribution, as only 1.4% of short-term migrant HE students in the Student Record arrived in July in 2009 to 2010.



## **Individualised Learner Record and Lifelong Learning Wales Record**

Short-term immigration estimates for EEA FE students are distributed using aggregate data from the Learner Records provided by the former Department for Business, Innovation and Skills (BIS) (now the Department for Business, Energy and Industrial Strategy (BEIS)) and the Welsh Government (WG). These record government-funded learners at FE level, including those studying English as a second language, at their term-time postcode. It also details length of course and country of domicile (place of residence) prior to studying.

Short-term migrant students in the BIS and WG datasets are those who are domiciled abroad, aged 17 to 59 years and whose course is expected to last 3 to 12 months, which only include those who receive funding from the UK government and those studying at FE level. As with the HESA Student Record data, the data are split by academic year. The data are received as aggregates by length of study, local authority and previous country of domicile. Therefore, it is not possible to investigate the proportion of students that start their study in July.

For the 2014 estimate onwards, the previous year's distribution was used for BIS as the country of domicile variable is no longer available. The latest WG data are used in combination with the 2013 BIS data to produce the EEA FE distribution. Further research is being undertaken to improve our processes, including replacing the BIS data with a more up-to-date source. However, it is currently the most suitable data available to ONS.

### **Confirmation of Acceptance for Studies (CAS)**

Those applying for extensions of leave to remain under the Points-Based System (PBS) Tier 4 (non-EEA students nationals) must be sponsored by an educational institution to study by being provided with a Confirmation of Acceptance for Studies (CAS). CAS data only cover students and are split into applications for visas ("out of country" applications) and extensions ("in country" applications). The data used in the local authority distribution methodology are the "used" out of country CAS applications only, as the in country CAS applications are included in the extensions of leave to remain dataset.

It should be noted that, historically, CAS data covered those applying for both grants of extensions ("in country" applications) and visas<sup>2</sup> ("out of country" applications). This was an important difference between the Certificates of Sponsorship (CoS) data on workers, where these two groups could be separated, and the CAS data on students, where they could not. Where a combination of in country and out of country applications were previously used, only "out of country" applications are now used for the distribution in line with the CoS methodology. Other issues relating to CoS data, such as its basis on institution address rather than residential address, also apply to CAS data.

In the CAS data, short-term migrant students are those whose certificates state that their course is expected to last 3 to 12 months. The CAS data include the name of the institution at which the student is studying. All students attending institutions that are in the HESA Student Record are removed to prevent double counting.

### **Grants of extensions of leave to remain for study**

Home Office data on extensions of leave to remain, applied for by migrants planning to stay in England or Wales for 3 to 12 months for study, are used to distribute short-term immigration estimates for non-EEA FE students to local authority level.

Representatives from the Home Office have stated that student visas tend to be issued for a longer period than the course length, to give migrants time to leave the UK after they finish studying. Therefore, it is possible that some short-term migrant students could have grants of extensions for over one year and consequently not be included in the distribution. However, given that there is no evidence that these different effects are biased towards particular areas (therefore skewing the distribution), it is assumed that this will not affect the distribution.

These data relate to extensions and hence those covered are not new inflows. The extensions data are based on residential address and have the same characteristics for both work and study (for more information, please see Section 3.1, Grants of extensions of leave to remain for work).

## 4.2. Methodology

The method for distributing the England and Wales-level short-term immigration for study estimate is summarised in Figure 1. A worked example can be found in [Distributing short-term migrants to local authorities, Annex E \(PDF, 1.2MB\)](#). The England and Wales International Passenger Survey (IPS) short-term immigration for study estimate is split into three different streams: Higher Education (HE), Further Education (FE) for European Economic Area (EEA) and FE for non-EEA students.

### Higher Education students

The Higher Education Statistics Agency (HESA) Student Record is used to produce the HE distribution.

### Further Education for EEA

Learner Records from the former Department for Business, Innovation and Skills (now the Department for Business, Energy and Industrial Strategy (BEIS)) and the Welsh Government are used to produce the FE distribution for EEA domiciled students.

### Further Education for non-EEA

The distribution for non-EEA short-term immigration is calculated separately for local authorities in London and outside London. The London and non-London split is taken from the average of the extensions and Confirmation of Acceptance for Studies (CAS) distribution.

For non-EEA short-term students outside of London local authorities, the average of the distributions from the CAS and extensions datasets has been used to distribute to local authority level. London is treated differently because it has a lower percentage of people living and studying in the same local authorities, compared with the rest of the country. The distribution taken from the extensions data is used to distribute non-EEA short-term students in London.

### Notes for: Method used to distribute students

1. In this case, EEA refers to all EEA member countries, as well as Switzerland. This is in line with the definition used in the worker distribution..
2. Visas are applied for from outside the country. Those entering the UK on visas include the new arrivals which ONS is aiming to distribute, as well as individuals who have previously entered the UK and are returning on a new visa. It is assumed that where a previous visa is in existence, the period between exit on one visa and entry on the new visa is large enough that the second entrance is considered to be a second migration event. However, as these individuals have not entered the UK at the time of application, their subsequent residential address is unknown.

## 5 . Reliability of Short-Term International Migration (STIM) estimates

The International Passenger Survey (IPS) is a sample survey and is, therefore, subject to some uncertainty. Figures obtained from the IPS are subject to both sampling and non-sampling error.

To see how these estimates of Short-Term International Migration (STIM) measure against the Code of Practice for Statistics Dimensions of quality, please refer to the [quality and methodology information for local authority estimates](#).

Local authority-level estimates are provided unrounded and to the nearest unit in publication [table STIM.07](#). However, this is to enable and encourage further calculations and analysis; the estimates must not be assumed to be as exact as the level of detail implied by unit level data.

## 6 . Summary of methodological changes to date

Local authority Short-Term International Migration (STIM) estimates published in 2009 used a combination of methods, including modelling data from the International Passenger Survey (IPS) and distributing migrants using National Insurance number (NINo) data. In line with the [long-term migrant methodology](#) for producing population estimates for local authorities in England and Wales, the current STIM methodology is based solely on a distribution method. However, the short-term and long-term methodologies are not identical. The reasons for this include:

- new data sources becoming available to us
- difficulties in identifying short-term migrants in some of the data sources used in the long-term methodology
- to align with the UN definition of short-term migration; there are only two streams in our STIM estimates for local authorities (students and workers) compared with four streams (students, workers, returning migrants and others) in the long-term methodology

The previous local authority-level STIM estimates related to moves made for 1 to 12 months for all reasons for migration. The current methodology is based on the UN definition (that is, moves made for 3 to 12 months for work and study) because:

- the [Code of Practice for Statistics](#) states that National Statistics Institutes, such as ourselves, should promote comparability both within the UK and internationally by adopting common definitions
- STIM estimates for workers and students are the most important for resource planning, as they are more likely to remain in a single local authority during their stay; the majority of other short-term migrants come to visit friends or family, or for extended holidays and are more likely to move between several local authorities
- the data available are of better quality for students and workers staying for 3 to 12 months, as those coming for other reasons are unlikely to appear in an administrative data source (except for those who require a visa to enter the UK) – for example, those coming for shorter periods to work may not get a job and hence not register for a NINo

In changing the methodology to produce local authority-level STIM estimates, we consulted with our own internal Methodology Quality Assurance and Research Review groups, as well as an Academic Reference Panel. The decision was communicated to local authorities via Local Insight Reference Panels in May 2011 and in the Migration Statistics Improvement Programme quarterly updates.

The [consultation on new country groupings](#) ran from 21 January 2014 to 18 March 2014. As a result, these new groupings have been applied to the new STIM tables.

A [consultation on international migration outputs](#) ran from 11 November 2016 to 23 December 2016, which looked in part at the presentation and timing of the STIM output. This will feed into shaping the format of future STIM publications.