

International Passenger Survey

Overseas Travel and Tourism

**User Guide (Volume 1)
Background & Methodology
(2014)**

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Background to the International Passenger Survey (IPS)

1 The International Passenger Survey

The International Passenger Survey (IPS) is a dual purpose continuous sample survey carried out by the Office of National Statistics (ONS) designed to collect information about UK inbound and outbound migration, and data about UK international travel and tourism. The survey collects information about passengers entering and leaving the United Kingdom (UK) at all major airports and sea routes, at Eurostar terminals and on Eurotunnel shuttle trains.

The purpose of this User Guide is to provide background information for users of the IPS Overseas Travel and Tourism data. Further information regarding [Migration estimates](#), derived from the IPS is available via the ONS website.

Approximately 95 per cent of passengers travelling to and from the UK have a chance of being selected to take part in the IPS. The remainder are either passengers arriving or leaving the UK by air at night, when interviewing is suspended, or on those routes too small in volume or too expensive to be covered.

Interviewing is carried out throughout the year. In total, between 700,000 and 800,000 interviews are conducted each year for migration purposes and a sub set of approximately 250,000 interviews forms the basis of the Overseas Travel and Tourism estimates.

Data collected include: country of visit (for UK residents), country of residence and region of the UK visited (for overseas residents), purpose of visit, length of stay, expenditure, age group, gender, mode of transport, and UK port of entry or departure.

The IPS data are weighted to produce national estimates of all international travellers to and from the UK on a quarterly basis. The calculation of the weights for the IPS takes into account its complex sample design and information provided from other sources on total passenger traffic for all sampled and non-sampled routes and time periods. For example, estimates of spending by travellers to and from the Channel Islands are modelled from information provided by the Economic Advisor's Office in Jersey, and the Central Statistical Office in the Irish Republic provides information on travellers crossing the land border with Northern Ireland.

The IPS estimates feed into the Travel Account of the Balance of Payments (BoP) and provide information on international travel and tourism (that is, visits between the UK and abroad of less than 12 months), and provide a primary source of data on long and short-term migrants, that can be used by Office for National Statistics Centre for Demography (ONSCD) in the provision of migration and population estimates. The survey results are used by various organisations including the ONS, the Department for Culture, Media & Sports, the Department for Transport, the Home Office, HM Revenue and Customs, VisitBritain and the national and regional Tourist Boards.

Provisional monthly Overseas Travel and Tourism estimates are available six weeks after the end of the fieldwork month; quarterly datasets are available four months after the end of the quarter; and annual datasets are available approximately five months after the end of the year. Annual national estimates are created by combining the four quarters of the year together. The monthly estimates provide a limited overview of the number of visits to and from the UK and the expenditure associated with these visits, however, a single quarter is the minimum period over which most detailed analyses of the data can be made. The monthly and quarterly releases are provisional estimates because the data is subject to revision during the quarterly and annual production (see the [IPS revisions policy](#) for more details).

2 History of the IPS

The International Passenger Survey (IPS) celebrated its 50th anniversary in 2010¹. Its inception in 1961 was reported in the then Board of Trade Journal as follows:

'A new regular sample survey of sea and air passengers travelling between the United Kingdom and the continent of Europe, and on the long air routes beyond Europe, was introduced by the Government Social Survey on behalf of the Board of Trade during 1961 and 1962. This new system of interviewing a small proportion (up to 4 percent on some routes) of travellers has enabled the important contribution made by tourist and other travellers to the balance of payments to be measured without interfering with the free flow of passengers at our sea and air ports. Nine out of ten of those approached attempted to give all the information asked of them, and more than 80 per cent were able to make an estimate of their expenditure whilst abroad. Over 150,000 successful interviews were made during the year².'

Since then, the IPS has been, and continues to be, a key source of primary data related to international travel. The salient features of the surveys' evolution are shown in the following timeline.

¹ 'Celebrating 50 years of the International Passenger Survey', Travel Trends 2010

² Board of Trade Journal, Volume 185 July-December, 1963

2.1 Survey Timeline

1961/62	<ul style="list-style-type: none"> • A stratified random sample survey of passengers on long international air routes from London (Heathrow) and Prestwick airports and smaller (unnamed airports) is introduced in the summer by the Central Office of Information for the Board of Trade and other government departments. • A similar survey is introduced on the short sea routes from Dover to the continent in March 1962. The results of the two surveys, together with administrative data about traffic on the long sea routes are used to prepare the first estimates of the Passenger Survey relating to the 1962 calendar year. Over 150,000 successful interviews reported and response rate was more than 80 per cent. • Traffic between the UK and the Irish Republic (which accounts for 12 per cent of overseas visits to the UK and 19 per cent of UK visits abroad) and on the long sea routes i.e. beyond Europe, was not covered by the survey (this accounts for 5 per cent of UK visits). • Interviewers asked for information on nationality, country of residence, the purpose of their visit, their length of stay and their expenditure in the country visited, excluding the cost of travelling to and from that destination.
1963	<ul style="list-style-type: none"> • Survey is renamed the International Passenger Survey. • Sea data is collected from Dover, Folkestone, Harwich, Hull, London, Newhaven, Southampton, Tyne Ports, Bristol, Glasgow, Liverpool, Plymouth, Fishguard and Holyhead. Coverage of routes (air plus sea) covered increased from 86 per cent in 1962 to 88 per cent in 1963. • A large proportion of passengers leaving UK on the long air and sea routes are sampled in order to provide information about the sex, age marital status and occupation of emigrants. • The Surveys migrants' data provided for overseas visitors, supplemented by administrative data from the Home Office and Ministry of Pensions and National Insurance form the basis of estimates of migration to and from the UK.
1964	<ul style="list-style-type: none"> • Survey is extended to cover long sea routes. Nearly 250,000 successful interviews reported. • As with sea passengers, UK residents returning by air from visits abroad are for the first time analysed by the principal country visited rather than country of the airport at which they embarked. • Estimates for 45,000 overseas resident and 32,000 UK resident military and airline personnel and merchant seamen on duty are excluded from 1964 data. Most of these personnel were recorded under visits for 'other purposes' in earlier years. • A supplementary survey that covered accommodation and locality stayed during visit (for business visitors staying 6 months or less) is undertaken partly on behalf of the British Travel Association. Also collected in 1965 and 1966.
1966	<ul style="list-style-type: none"> • The analysis of purpose of visit is, for the first time, based on three main categories, namely 'holiday', 'business' and 'other'; 'Other' includes study, visit friends/relatives, attending sporting events, health or religious purposes; visits for a joint purpose for which no single principal purpose can be distinguished. • Survey is supplemented by information from the Central Statistics Office of the Irish Republic covering the routes between the Irish Republic and the UK. • Allowance is made for traffic on the Scandinavian Sea routes not covered by the Survey, as well as for the expenditure of visitors staying less than 24 hours in the UK with 'transit' as their principal purpose of visit • Items of expenditure for which direct information is not obtained for the survey (e.g. spending overseas by passengers on cruises and on sea vessels confined to day trips) are estimated independently. • The survey is designed to calculate separately the estimates of air fares paid by visitors, migrants and people travelling with employment as their principal purpose. Estimates of air fares are based on information about the flight number, airport of origin or destination on this flight, class of travel and whether a concessionary fare was paid.
1967	<ul style="list-style-type: none"> • A sample of US residents who arrive in the UK by air are asked additional questions to estimate the extent of their awareness of the 'Advice to International Passengers on Limitation of Liability' After the usual IPS, the text of the 'Advice' was shown.
1968	<ul style="list-style-type: none"> • The purpose of visit categories are extended to show separate estimates for holiday, business, staying with friends/family, study and other (miscellaneous reasons e.g. health/religious purposes, attend sporting events). • Estimates of fares for long and short sea routes are provided.

1969	<ul style="list-style-type: none"> • 1969 was a record year for overseas visitors to Britain because they increased by a record 21 per cent over 1968 figures.
1973	<ul style="list-style-type: none"> • From January 1973, UK entered the Common Market which led to some difficulty in distinguishing short term visitors (under one year) from countries in the European Community, from other persons entering for a period of one year or over who were previously excluded.
1980	<ul style="list-style-type: none"> • A change in the definition of 'inclusive tours'. Before 1980, this was defined as a holiday for which the tourist is unable to distinguish (within the total cost of the visit), the prepaid cost of his/her fare to and from his/her destination from the cost of accommodation. From 1980 it included all tourists who say they are travelling on an advertised inclusive tour/package holiday irrespective of their being able to distinguish the prepaid fare cost to and from destination from accommodation cost.
1980/81	<ul style="list-style-type: none"> • Specific 'migration filter shifts' are introduced for arriving passengers at Heathrow, Gatwick and Manchester as the IPS's focus on migration increased.
1983	<ul style="list-style-type: none"> • An estimate for purchases by overseas visitors at airport duty-free shops is included in the figures for earnings.
1991/92	<ul style="list-style-type: none"> • Feasibility study undertaken on the use of self-completion questionnaires on the IPS.
1992	<ul style="list-style-type: none"> • Marketing agents appointed by the ONS to process and market IPS travel and tourism data.
1993	<ul style="list-style-type: none"> • Convenience sampling' tested (but not adopted) to maximise interviewer usage i.e. conducting interviews whenever an interviewer is available. • Electronic data (Travelpac) made available to external users.
1994	<ul style="list-style-type: none"> • Computer assisted data input (CADi) introduced. • The Channel Tunnel sampled for the first time.
1995	<ul style="list-style-type: none"> • Self-completion questionnaires, with foreign language versions developed and tested in anticipation of high noise levels for channel tunnel shuttle service.
1996	<ul style="list-style-type: none"> • IPS conducted by the Office for National Statistics due to a merger of the Central Statistics Office (CSO) and the Office of Population Censuses & Surveys (OPCS).
1999	<ul style="list-style-type: none"> • Interviewing of passengers on air and sea terminals between UK and the Irish Republic commenced resulting in revisions to weighting and sampling methodology.
2000	<ul style="list-style-type: none"> • Self completion foreign language questionnaires introduced in French, German, Spanish, Italian, Greek, Portuguese, Japanese, Mandarin, Cantonese and Russian.
2005	<ul style="list-style-type: none"> • Prestwick and Liverpool airports added to sample.
2006	<ul style="list-style-type: none"> • Polish language questionnaire introduced
2007	<ul style="list-style-type: none"> • Additional information provided in reporting on enlarged European Union. • Revised focus for collecting information; moving from collecting some information at the start of the visit to all at the end of the visit. • Methodological changes relating to sampling, method of estimating fares and for imputing spending, seasonal adjustments and coding UK towns (and boroughs) are implemented. • Introduction of migration shifts for departing passengers.
2008	<ul style="list-style-type: none"> • Doncaster, Bournemouth & Southampton airports and London Heathrow Terminal 5 included to sample. • IPS is enhanced, with improved coverage of short-term migrants and the introduction of specific additional survey shifts (migration filter) designed to identify more international migrants at Stansted, Luton, and Manchester, in response to increases in flows of migrants through these airports.
2009	<ul style="list-style-type: none"> • Revisions to sample design, weighting and imputation methodology (to address recommendations made by the Inter-Departmental Task Force on Migration Statistics). • Aberdeen and Belfast airports included in sample. • Monthly reporting of overseas travel & tourism extended to include purpose of visit in response to user demand. • Interviewing ceases at Terminal 2 (Heathrow) due to modernisation works being carried out at the airport
2010	<ul style="list-style-type: none"> • Feasibility study undertaken on the use of digital pen technology as a mode of data collection on the survey. The study concluded that the digital pen technology was not appropriate for the IPS.

2011	<ul style="list-style-type: none">• Sample optimisation carried out.
2012	<ul style="list-style-type: none">• The IPS adapted its design to produce an accurate estimate of the number of visits to the Olympic/Paralympic Games by overseas residents.
2013	<ul style="list-style-type: none">• Croatia joined the EU in July 2013.• Monthly and quarterly Overseas Travel and Tourism publications retitled to indicate the provisional nature of the estimates.

3 Primary purpose, users and uses of the IPS Overseas Travel and Tourism data

3.1 Primary purpose

The primary purposes of the IPS Overseas Travel and Tourism data are to:

- measure the impact of travel expenditure on the UK economy
- provide information on international travel and tourism, and in particular to monitor change overtime

3.2 Users of IPS Overseas Travel and Tourism data

International travel and tourism estimates from the IPS are required by the following sponsors:

- Office for National Statistics
- Department of Culture, Media and Sport (DCMS)
- Department for Transport (DfT)
- Scottish Government
- Welsh Government
- HM Revenue and Customs (HMRC)

Additional sponsorship is provided by VisitBritain, VisitWales and VisitScotland, the organisations responsible for marketing tourism in Great Britain, Scotland and Wales, respectively.

These data are also used by the Bank of England, including the Monetary Policy Committee, Her Majesty's Treasury (HMT) and the Office for Budget Responsibility (OBR).

The Civil Aviation Authority (CAA), British Airways, EuroStar and travel and tourism operators and organisations within and outside the United Kingdom are among regular users. Other users include Public Health England (PHE) and the National Travel Health Network & Centre.

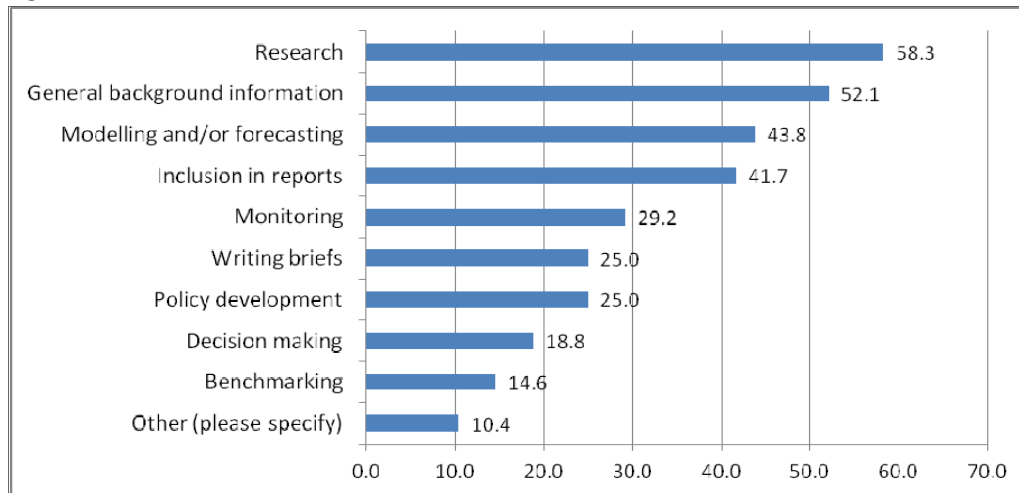
Researchers, students, consultants, the media, business organisations and the general public make use of the IPS. Quarterly and annual Overseas Travel & Tourism datasets are deposited at the [UK Data Archive](#). The Economic and Social Data Service (ESDS) promotes and supports the use of this data in research and teaching and by providing user support and training. An [ESDS report on the usage of the IPS](#), which is based on information from users who have downloaded OTT datasets, suggests that the IPS is widely used by a range of academics.

European Commission (EC) or European Union (EU) regulations dictate that the UK provide Tourism Statistics (EC Regulation 692/2011) to EuroStat. The UK is required to collect and report the value of UK travel services and provide international migration statistics (EU Regulation 862/2007). The IPS fulfils these statutory requirements by providing this unique set of data.

3.3 Uses of the IPS Overseas Travel and Tourism data

A 2012 user engagement study, which focused on users of the Overseas Travel and Tourism statistics, suggested that the IPS Overseas Travel and Tourism estimates are used for a variety of reasons including to facilitate research (58.3% of users) and to provide general background information (52.1% of users).

Figure A Uses of IPS Overseas Travel and Tourism Estimates



The full Overseas Travel and Tourism 2012 [User Engagement Report](#) is available on the ONS website through this link. Table 1 provides a summary of the uses of the Overseas Travel and Tourism data by main IPS users and sponsors.

Table 1 Uses of the Overseas Travel and Tourism data by main IPS users and sponsors

Users	Uses
British Airways	IPS data are used to identify reason for travel. It is also used to obtain residence (by UK airport used), and expenditure of travellers.
Civil Aviation Authority	IPS data are used to create a time series of air fares and air passengers for forecasting and analysing the market for air travel.
Department for Culture, Media and Sport	IPS data are used to respond to Parliamentary Questions and provide evidence on tourism to policy teams and to provide data to EuroStat. The 2012 and 2013 DCMS sponsored questions about the Olympic Games will be used to assess the impact of the games on the tourism industry.
Department for Transport	IPS data are used to monitor trends in travel to and from the UK and is particularly useful for comparing travel patterns between different modes. IPS data is a key source of information on passenger characteristics, such as purpose of travel, for the UK as a whole (rather than just at key ports).
Her Majesty's Revenue and Customs	IPS data are used for assessing the level of legitimate cross border shopping of alcohol and tobacco in order to calculate official statistics on excise tax gaps as well as being used to inform policy decisions. Outputs from these analyses are published as official statistics on HMRC website.
Her Majesty's Treasury	IPS expenditure data are used to monitor the UK Balance of Payments.
Office for National Statistics – Balance of Payments	Data from the IPS are used to provide information about goods and services provided to UK residents during trips of less than one year abroad and provided to non-residents during similar trips in the UK. This information is incorporated into the UK Balance of Payments Pink Book.
Public Health England	IPS data are used to monitor trends in overseas travel by UK residents, both on a general basis and in response to international outbreaks where UK travellers may be at risk. The data is also used to calculate estimates of rates of diseases such as dengue fever, enteric fever, malaria, and gastrointestinal infections, per number of UK visits so that risk assessments can be regularly reviewed and advice for travellers can be developed by the National Travel Health Network and Centre.
Scottish Government and VisitScotland	Data from the IPS are used for a range of planning and monitoring purposes in respect of international tourism to Scotland.
VisitBritain	<p>IPS data form the base of VisitBritain intelligence about inbound tourism. It provides VisitBritain with volume and value of inbound tourism both at a macro-level across the UK, and a micro-level for individual counties and towns. The data is used to shape VisitBritain's global strategy, and to inform the Department for Culture Media and Sport. In addition IPS data is used to provide research, market intelligence and analysis to inform the British tourism industry. Each year VisitBritain sponsors questions on the IPS to understand more about visitors to the UK.</p> <p>VisitBritian makes their analysis of the IPS data available via their website, allowing the UK tourism industry, and sister organisations such as VisitEngland and Partners free access to a wealth of data to inform their decisions.</p> <p>VisitBritain also use IPS data in their data submissions to several global tourism resources, including the European Travel Commission, TourMIS (Marketing Information System for tourism managers) and UNWTO (World Tourism Organisation). These are acknowledged to be the definitive sources of market intelligence for European and international tourism trends, used globally.</p>
Welsh Government and Visit Wales	Data from the IPS are used for a range of planning and monitoring purposes in respect of international tourism to Wales.

3.4 Assessment of User Needs and Perceptions

User engagement is undertaken to identify gaps between key User needs and the estimates provided by the survey, as well as a means of finding out Users' views of the statistical products. The views of the main external and internal ONS sponsors and stakeholders of the IPS are regularly sought through the six-monthly IPS Steering Group consultation meetings. Liaison meetings are also routinely held with internal stakeholders.

The survey [questionnaire](#) is reviewed annually and question sponsors are consulted and changes are suggested, discussed, piloted and where acceptable, implemented as a result of changing User demands or policy requirements.

ONS also strives to understand the wider User community. Recent actions to engage with Users include: presentations given to the Transport Statistics User Group in September 2011 and 2013; a User satisfaction survey with Users of Overseas Travel and Tourism data was carried out in December 2011 and a follow-up User engagement study undertaken in February 2012; and a workshop, co-hosted with the Economic and Social Data Service (ESDS), was held in June 2012 at the University of Manchester.

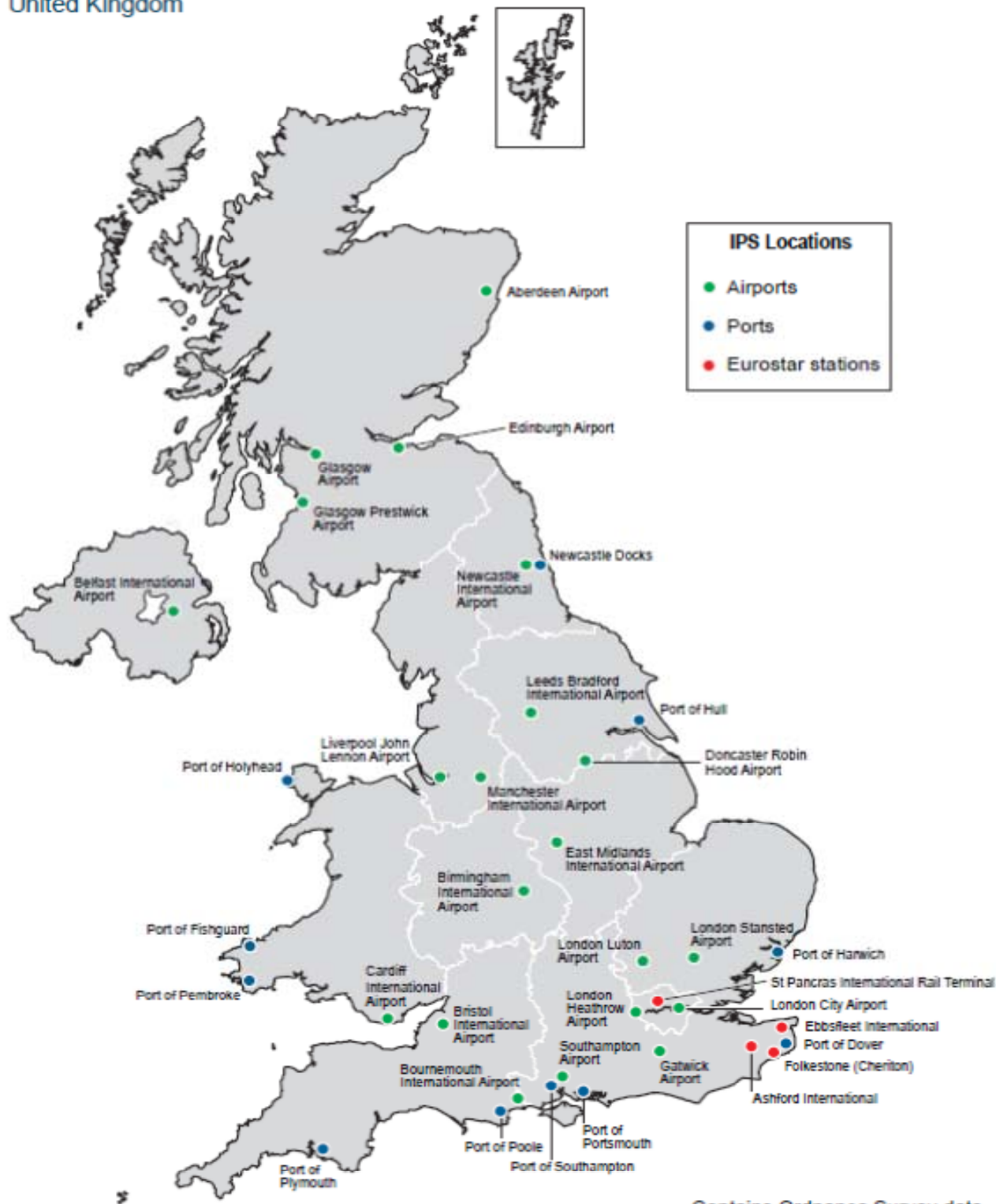
The Overseas Travel and Tourism 2012 [User Engagement Report](#) is available on the ONS website along with an [update](#) on progress towards the recommendations.

Design and Data Collection

4 Survey Design

Survey data are collected through voluntary face-to-face interviews with randomly selected passengers travelling through principal airports, sea routes and train terminals (Map 1)

Map 1 International Passenger Survey Locations
United Kingdom



Contains Ordnance Survey data
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Section 5 IPS Sampling design

The IPS sample is designed to be representative of passengers travelling to and from the UK and to provide a robust measure of UK migration and travel and tourism. The achieved sample comprises approximately 800,000 migrant screening interviews a year, of which over 250,000 are also used to produce estimates of Overseas Travel and Tourism patterns. This large sample size allows reliable estimates to be produced for various groups of passengers despite the low proportion of travellers interviewed.

The IPS incorporates the two sample requirements into a single sample design. The sample is a two-stage design:

1. All eligible contacts are asked questions to identify whether they are migrating into or out of the UK. If someone is identified as a migrant they are asked a migration trailer questionnaire that collects information about their migration plans.
2. A pre-determined sub-sample of all eligible contacts are asked the Travel and Tourism questionnaire.

The IPS sample is stratified to ensure it is representative by mode of travel (air, sea or tunnel), port or route, and time of day. The frequency of sampling within each stratum is determined according to the variability of tourist expenditure and interviewing cost considerations. For example, where the expenditure quoted on a particular route varies greatly across respondents, a higher sampling frequency is used to ensure that the variability of expenditure is captured.

The IPS uses a multi-stage sample design which is carried out separately for air, sea and tunnel travel. This involves randomly sampling a given port or entry/exit route on: (a) a given day; (b) within a given time of the day (this is referred to as a 'shift'); and then (c) within the shift passengers are systematically selected at fixed intervals from a random start and interviewed.

Figure B shows the sample drawn for a two-week period for Heathrow Airport. The sample allocation (shifts) ensures that the IPS operates across different days of the week and at different times of the day for arrival and departure passenger flows, during this time period. There are two air shift times operating at all sampled airports: morning (typically 6am to 2pm) and afternoon (typically 2pm to 10pm); there is no data collection at airports during the night (10pm – 6am). The sample design is additionally stratified by weekday/weekend to ensure that the allocation of shifts reflects patterns in passenger traffic.

Figure B Example of sample drawn for a two-week period for Heathrow Airport

WEEKS 5 & 6	LHR 1	TRANSIT	LHR 2	LHR 3	LHR 4	NORTH (Arr/Dep)	LHR 5 SOUTH (Dep)	Transit	WEEKS 5 & 6
SUN 27 JAN	PM DEP	PM ARR		AM ARR	PM ARR				SUN 27 JAN
MON 28 JAN				AM ARR	AM DEP	PM ARR		AM DEP	MON 28 JAN
TUE 29 JAN		PM ARR		PM ARR					TUE 29 JAN
WED 30 JAN				PM ARR		AM DEP			WED 30 JAN
THU 31 JAN	PM ARR			PM DEP	AM ARR		AM DEP		THU 31 JAN
FRI 1 FEB		PM DEP		PM DEP		PM DEP		AM DEP	FRI 1 FEB
SAT 2 FEB	AM DEP			PM DEP	PM ARR	AM DEP			SAT 2 FEB
SUN 3 FEB				AM DEP PM ARR				AM DEP	SUN 3 FEB
MON 4 FEB		PM DEP		AM ARR		PM ARR	PM DEP		MON 4 FEB
TUE 5 FEB	PM ARR			AM DEP	PM ARR	AM DEP			TUE 5 FEB
WED 6 FEB	IR AM ARR IRISH			PM ARR	AM ARR		AM DEP		WED 6 FEB
THU 7 FEB				AM ARR PM DEP	AM DEP	AM ARR	PM DEP		THU 7 FEB
FRI 8 FEB		AM ARR		AM ARR	PM ARR	AM DEP			FRI 8 FEB
SAT 9 FEB	AM ARR	PM ARR		PM ARR		AM DEP			SAT 9 FEB

Two sampling intervals are applied on each shift:

1. The first is referred to as the 'first-stage sampling interval' and is the sample interval applied to all passengers crossing the interviewing line – all contacts identified as eligible for this sample form the IPS migration sample. Each of the passengers identified as contacts by the first-stage sampling interval is screened to assess whether or not he or she is migrating.
2. The second is referred to as the 'second-stage sampling interval' and is used to identify a sub-sample of contacts, who form the IPS Overseas Travel and Tourism sample.

For example: if the first-stage sampling interval on a shift is 10 and the second-stage sampling interval is 30, two out of three passengers are approached and only screened to see if they are migrating. If the selected passenger is migrating they are then asked a migration interview, if they are not migrating they are not asked any further questions. However, the third sampled passenger is asked the migration screening questions and if they are a migrant then asked the migration interview, if they are not migrants they are then asked the Travel and Tourism interview. To administer the sample effectively interviewers are provided with a sub-sample sheet that indicates which contact is eligible for a travel and tourism interview. These sheets ensure that the travel and tourism sub-sample is allocated randomly within the full (migration) IPS sample. Figure C is an example of a sub-sample sheet and Figure D illustrates how the two-stage sampling works on an IPS shift.

Figure C Example of sub-sample sheet for arrivals shift

ARRIVALS 1 in 2 (1) Sheet no: _____ of _____
 Port Code Date

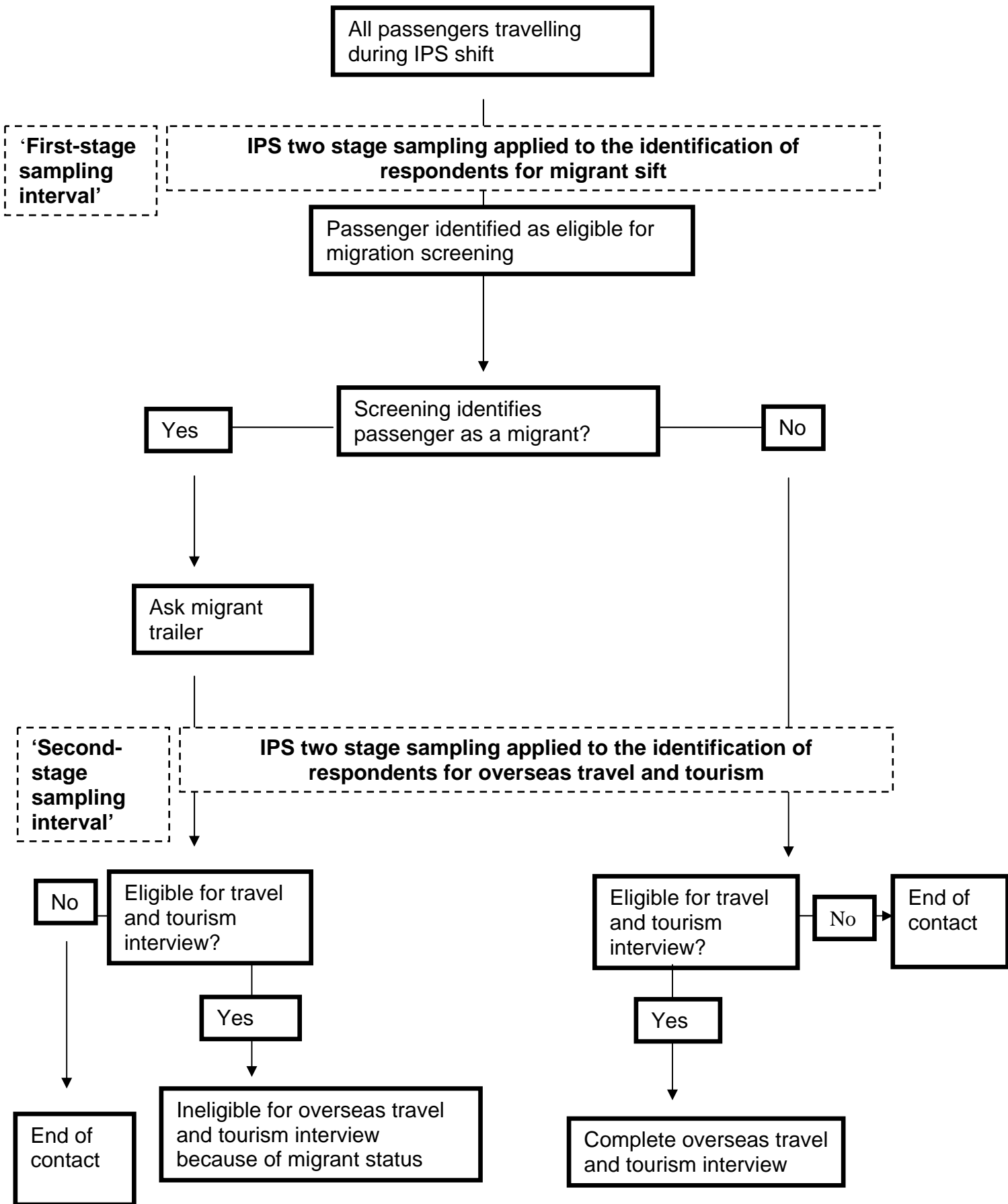
S c h e d u l e	I n e l i g i b l e	Q1 What nationality passport do you hold?			Q2 In which countries have you been living (working/studying for the last 12 months) <i>If 2 or more countries ask Q3&4 overleaf</i>		If foreign resident: Q3 How long do you intend to stay in the UK under 3 months: CHECK if possibly 3 months or more		3 months or more or possibly 3 months		Is the contact an adult or child?		NON-RESPONSE	
		UK	EU	F	UK	F	UK	For	Adult	Child	Non contact	Refusal		
COUNTS FROM PREVIOUS PAGE(S)														
X1	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X2	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X3	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X4	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X5	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X6	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X7	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X8	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X9	I	UK	EU	F	UK	F		M	M	A	C	N	R	
X10	I	UK	EU	F	UK	F		M	M	A	C	N	R	

Page Totals

Running Totals

Interviewer's name : Auth No Sheet A 1 of 2

Figure D The application of the IPS two-stage sampling (2 in 1 sub-sample)



Overseas Travel and Tourism data focuses on passengers who are ending their visit – overseas residents who are departing the UK and UK residents returning to the UK. Consequently, a large proportion (approximately a half) of people contacted to participate in the Travel and Tourism interview are not eligible for the full interview because they are starting their visit (either to the UK, or UK residents departing for a visit overseas). The Overseas Travel and Tourism estimates, produced by ONS, comprise only of those passengers ending their visit (see Figure E).

Fig E: Passengers included in Overseas Travel and Tourism estimates

	Arriving into the UK	Departing from the UK
UK Residents	INCLUDED	EXCLUDED
Overseas Residents	EXCLUDED	INCLUDED

5.1 Sampling ports and routes

The sample design for air, sea and tunnel travel differs slightly by mode of travel, although the underlying principle is broadly similar. In the absence of a sampling frame of travellers, time periods/shifts or sea crossings are selected at the first stage (primary sampling unit), and travellers are then systematically chosen at fixed intervals from a random start within these shifts or crossings at the second stage (as described above). The details of the sampling scheme for each individual mode of travel are as follows:

5.2 Air routes

The IPS sampling frame includes UK air ports with high volumes of passenger traffic: Aberdeen; Belfast; Birmingham; Bournemouth; Bristol; Cardiff; Doncaster; East Midlands; Edinburgh; Gatwick; Glasgow; Glasgow Prestwick; Heathrow; Leeds Bradford; Liverpool; London City; Luton; Manchester; Newcastle and Southampton. Airports with less than approximately 250,000 passenger movements per quarter are excluded from the survey on the grounds of cost effectiveness, but traffic at these sites is taken into account when scaling up to produce national estimates.

The first stage of the air route sample is the selection of time periods to which shifts are allocated. The sample is selected such that the numbers of shifts are balanced between mornings and afternoons, and days of the week within any quarter. The second stage of the

sampling process is the selection of passengers as they cross a predetermined line, with every nth person being interviewed.

The passenger sampling interval (n) differs between sites and is determined by estimated passenger flow and expected variance within key characteristics. Departing passengers are sampled at a higher rate than arriving passengers because the expenditure information for overseas residents visiting the UK is more variable than that for UK residents returning from visits abroad.

The following larger airports are included in the IPS sample every quarter: Heathrow; Gatwick; Manchester; Stansted and Luton. A small number of shifts every quarter are also conducted at the other sampled international airports in the UK. However, the sample sizes for these airports are insufficient to provide accurate estimates for most of these airports at an individual airport level.

The most frequently sampled air port is Heathrow Terminal 3 departures with over 200 interviewing shifts a year. Across all airport terminals and routes included in the IPS sample the average number of shifts run per year is around 100 (split fairly equally between arrivals and departures).

5.3 Sea routes

Sea routes carrying at least 50,000 passengers a year are generally included in the IPS sample. At some seaports, passengers are sampled and interviewed on the quayside as they embark or disembark, while at others IPS interviewers travel on the boat itself with interviewing being carried out on board. The choice between interviewing on the quayside or on crossings is made on practical grounds such as cost, safety and permission.

Where interviewing is conducted on the quayside, the sample is designed to select shifts that are balanced across different days of the week and times of day within a quarter, with each individual shift covering several sailings. Where interviews are conducted on crossings, a predetermined number of return crossings are selected for each route, spread across time of day and days of the week, each quarter. As for sampling for air routes, sea passengers are selected at fixed sampling intervals from a random start within each shift or crossing.

The IPS also samples long haul ships capable of carrying more than 200 passengers at the port of Southampton.

The most sampled sea route is Dover-Calais on which around 200 arrivals and 200 departures sailings are sampled a year.

5.4 Tunnel routes

The method used for the tunnel routes is different for Eurostar passenger trains and for Eurotunnel vehicle shuttles.

The method for passenger trains is similar to that for air travel; time shifts are selected and then passengers are selected at fixed intervals within the time shift. Passengers are interviewed after crossing a predetermined line at Ebbsfleet, St. Pancras, and Ashford

International stations on arrival or departure. A total of 320 passenger trains are sampled in each direction

In contrast, for vehicle shuttles, crossings are randomly selected and interviewing takes place on board the shuttles themselves. Because of time constraints, only a certain number of interviews can be carried out on any individual shuttle and the sampling interval used is therefore dependent on traffic volumes.

5.5 Exclusions from the IPS sample

The IPS sampling frame includes approximately 95% of passengers travelling to and from the UK. The sampling frame excludes the following passengers:

- travelling outside of IPS interviewing times at all sampled airports;
- travelling through routes not covered within the IPS sample;
- travelling between the UK and the Channel Islands and the Isle of Man; and
- travelling across the land border between Northern Ireland and the Republic of Ireland
- travelling on international cruises terminating at or departing from a UK port or making a cruise port of call visit to the UK.

While data is not collected from these passengers they are taken account of within the IPS weighting process, which uses total UK international passenger figures. In the case of traffic between the UK and the Channel Islands, Isle of Man, across the Irish land border and passengers on (foreign operated) cruises terminating in the UK, records are created to represent these cases within the IPS data, based on external information about estimated expenditure for these groups.

6 Historical changes to sampling

6.1 Changes made in 2009

Prior to 2009, the main UK airports – Heathrow, Gatwick and Manchester – were always included in the sample. Other airports were included in sample if they had at least one million passengers a year passing through them. Sea routes were treated similarly to the smaller airports, in that they were included or excluded in the sample depending on the size of the international traffic passing through.

Extra samples, referred to as migration filter shifts, were also carried out on the inward (arrival) flows at the four Heathrow and two Gatwick terminals to boost the sample of migrants. These were first run for departures (outflow) in 2007. Contacts were asked a brief series of questions to identify whether or not they were migrants and only migrants were given a full interview.

6.2 Changes made in 2009

In January 2009, changes were made to the sample design and data processing of the IPS. These changes were introduced following a Port Survey Review in response to the recommendation put forward by the Inter-Departmental Task Force on Migration Statistics in

2006. Further information on the Port Survey Review is available in [Port Survey Review - Stage Two Final Technical Report](#)

The sample design changes consisted of:

- increasing the number of shifts run at many air/sea/tunnel ports apart from at Heathrow
- decreasing the number of shifts run at Heathrow
- new shifts being established at Aberdeen and Belfast airports and the Portsmouth to Bilbao sea route
- abolishing the migration filter shifts
- introducing a primary sampling interval for screening migrants (around 1:10) and a sub-sample interval for travel and tourism contacts (around 1:30) within the ordinary shifts, i.e. travel and tourism contacts are a sub-sample of the migrant sample

The new sample design aimed to be both more migrant focused and more balanced in terms of the routes that migrants use. An optimization exercise was undertaken using 2006 IPS data to determine the distribution of IPS shifts by route that would be expected to deliver the most statistical robust sample.

The sampling process is reviewed regularly at specific ports and approaches are undertaken to ensure the sampling process is made more efficient. A reoptimisation of the sample was undertaken in 2011, and a review of the IPS sample is taking place in 2014 and 2015 with recommendations expected to be implemented in 2016.

6.3 Sample revisions during the 2012 Olympic/Paralympic Games

The London 2012 Olympics took place from 27 July to 12 August (with a few events starting on 25 July), and the Paralympics from 29 August to 9 September. The time immediately before, during and after the Olympics and Paralympics witnessed changes to passenger flows at some airports and seaports.

During the period 1 to 16 August 2012 the following additions were made to interviewing shifts run at certain ports:

- The number of departures shifts run at each of Luton, Stansted, Gatwick North, Gatwick South, Heathrow terminals 1, 4 and transits, together with St Pancras Eurostar terminal, were doubled relative to the standard IPS sample.
- The number of departures interviewing shifts run at each of London City, Southampton and Bournemouth airports and Ebbsfleet and Ashford Eurostar terminals were increased by a factor of four relative to the standard IPS sample.
- Southend, Biggin Hill and Farnborough airports were each sampled four times in that period.
- Passengers passing through the temporary athletes' terminal at Heathrow airport were sampled as they entered the main departure terminal (terminals 1, 3, 4 or 5) after being transported there from the temporary terminal.

In order to facilitate this additional sample coverage within the IPS field force the rate of selection of passengers at most of these ports was widened during this period. The revised probability of selection was reflected in the weighting of IPS data.

Further details regarding the expansion of the IPS sample in August 2012 specifically to collect robust estimates of visits to the UK for the [London 2012 Olympic Games and Paralympics](#) can be found on the ONS web site. Further information related to the [Games](#) can also be found on the ONS website.

7 Changes in methodology

7.1 Changes to the collection of data from travellers to and from the Irish Republic from 1999 onwards

From the second quarter of 1999, the IPS began interviewing on air and sea routes between the UK and the Irish Republic. For the years up to and including 1998, estimates of visitor numbers, their spending and nights stayed on routes between the UK and the Irish Republic and their characteristics were based on data provided by the Central Statistical Office of the Irish Republic.

From 1999, and for subsequent years, the Overseas Travel and Tourism estimates use IPS interview data. To enable 1999 data to be analysed, data for the first quarter of 1999 were constructed, based upon interviews conducted in the first quarter of 2000, but weighted to the traffic volumes of the first quarter of 1999.

Analysis of the interview data from 1999 onwards has shown that a large number of Irish visitors who would previously have been defined as tourists to the UK were transiting through the UK on their overseas visits. Also, the data for 1999 onwards showed that a number of European and Commonwealth visitors made combined visits to the UK and the Irish Republic; these visits were previously recorded as visits from residents of the Irish Republic.

These factors combined to reduce the number of overseas visitors to the UK from 1999 onwards, mainly the estimates of visitors from the Irish Republic, but they also increased the number of visitors from certain other countries, particularly Australia, New Zealand, Canada, Germany and the Netherlands.

The data from the IPS Irish interviews also affected estimates of spending and nights. These showed that the previous estimates of spending per visit of Irish visitors to the UK were overstated, while estimates of UK residents' spending per visit in the Irish Republic were previously understated.

The interview-based details of visitors from the Irish Republic have enabled more completed duration of stay and regional breakdowns to be produced from 1999 onwards. This has led to discontinuities between 1998 and 1999 in the duration of stay and regional profile from the IPS.

In summary, the major effect resulting from IPS interviewing on routes to and from the Irish Republic was to improve the quality and detail of estimates from 1999 onwards. The discontinuities from this change affected time series estimates of visitors to and from the Irish Republic, with some smaller effects for other countries.

7.2 Changes in methodology, 2005

Due to a rapid growth in traffic, in 2005 two new residual airports, Liverpool and Prestwick were introduced into the IPS sample for the first time. The introduction of these two airports has some implications for the results of the IPS.

The inclusion of these two ports means that there is more likelihood of picking up contacts that reside in, or have visited areas close to, these airports.

The introduction of the new airports caused the IPS research team to review the way that traffic from airports not sampled by the IPS is accounted for in the IPS processing systems. As a result, the systems were modified slightly in order to prevent overestimates or underestimates of traffic occurring at a regional level.

The introduction of the new airports and the subsequent changes made to the processing systems causes a discontinuity in the IPS results. Any comparisons of IPS results for 2005 onwards with earlier years (and especially those of a UK regional nature) therefore should be made with care.

7.3 Changes in methodology, 2007

- Imputing expenditure

The methods of computing expenditure (imputation) for cases where no expenditure information is given by the contact changed in 2007. The new method takes account of the duration of stay of the contact which had not been the case previously and means there may be a discontinuity in the expenditure series from 2006 to 2007.

The new methodology compensates for possible overestimates of spending which may have arisen in the past due to the average daily spending being generally lower on longer trips than on shorter ones.

- Imputing fares

The costs of a package trip normally include fares to and from the country of visit. For expenditure estimates the fares are deducted from the cost of a package in order to obtain the amount of spending on the visit. The manual method of looking up fares from brochures and from the web was replaced in 2007 by an automated system which uses fares data provided by the respondent.

- Coding of UK towns

In 2007 a more comprehensive approach to coding UK towns was introduced. Interviewers were provided with a more detailed list of towns and boroughs than in the past, meaning that their recording of responses given by respondents was more accurate.

7.4 Changes in methodology, 2009

Aberdeen Airport was introduced to the sample, and as a result, the estimated number of visits to cities and regions in Scotland will have been impacted positively. Belfast International Airport was also introduced but visits to cities and regions in Northern Ireland are not reported in the IPS Overseas Travel and Tourism estimates due to inability to record

details of visits made by crossing the Irish land border. Prior to 2009, known passenger traffic passing through Belfast was allocated to airports in Great Britain. The allocation of this traffic to interviews conducted in Belfast in 2009 will have had some downward impact on estimates of visits to towns and regions in Great Britain.

More broadly, the overall methodology of the IPS was changed in 2009, in terms of both sampling and data processing.

Sampling was revised to incorporate an increase in the number of shifts run at many ports outside of Heathrow and a decrease in the number of shifts run at Heathrow. This change was introduced following a Port Survey Review in response to the recommendations put forward by the Inter-Departmental Task Force on Migration Statistics. Further, the way that shifts are run was changed via the introduction of a system employing a primary sampling interval for screening migrants and a sub-sample interval for travel and tourism contacts. This approach didn't affect the profile of travel and tourism contacts but it did require a change in the way the data is processed.

The data processing involves weighting of all records and imputation of records with information missing at certain questions. The basic principles behind the processing were retained in 2009 but improvements were made in some aspects. This resulted in some discontinuity with a downward impact of approx 2 per cent in visits to the UK and 3 per cent in visits overseas and a further value of less than 1 per cent in earnings and expenditure. Details are found on the ONS website here: <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/travel-and-transport-methodology/international-passenger-survey-methodology/changes-in-the-international-passenger-survey-methodology-1-jan-2009.pdf>

7.5 Changes in methodology, 2010

There were no changes in data collection methodology in 2010. However, the methodology used to estimate the number of UK residents departing from or arriving at UK ports on cruises was revised. The new methodology utilises new sources of data, including that published by DfT, IRN Research and the European Cruise Council. This represents an improvement in methodology and has the effect of increasing the estimated number of visits to 'rest of the world' by UK residents by approximately 175,000 compared with 2009.

8 Fieldwork

8.1 The collection of IPS data

Interviews are carried out throughout the year, apart from on Christmas Eve, Christmas Day and Boxing Day. The survey is therefore carried out 362 days a year and great emphasis is placed upon the interviewers' ability to capture data efficiently and accurately.

Nationally, IPS data are collected by a team of over 200 interviewers who are recruited and trained specifically to work on the survey. All IPS interviewing staff undergo an intensive initial training course and, once qualified, are regularly briefed and monitored by a support team of Team Leaders and Site Managers. Some interviewing teams will cover a single large port, such as Heathrow or Gatwick, while others may cover several smaller ports which are generally in the same part of the UK. Site Managers have overall responsibility for a port or group of ports and ensure that data quality is maintained.

Typically, an IPS shift will consist of a group of between three and ten interviewers led by a Team Leader. The Team Leader is responsible for the organisation and running of a shift and is available to offer advice to team members when required.

During the shift team members take it in turns to act as the 'counter'. Their role is to count the passengers as they cross the IPS counting line and to identify the passenger selected for interview according to the sampling intervals appropriate for that port and shift.

Interviews are conducted on a voluntary and anonymous basis. They take place on a face-to-face basis with the responses being initially recorded on paper questionnaires.

'Self completion' questionnaires, available in 13 languages, are used where an interviewer is unable to conduct an interview because of language difficulties. These questionnaires do not cover the complete range of questions asked within a full IPS interview.

Due to the layout and facilities at some seaports it is not always possible to interview passengers as they arrive. In such cases, interviewers travel to seaports in France to sample passengers and conduct interviews on board the vessels leaving and returning to the UK.

Shortly after the interview has taken place, the data are transferred to a computer system in which electronic checks are made of the data being input. Once the interview information has been captured electronically, it is transmitted to ONS headquarters where a series of further quality and accuracy checks are made on the data before they are ready for processing and the survey estimates published.

9 The IPS questionnaire

There are two main questionnaires used on the survey for the two main passenger flows – arrivals and departures.

In addition, there are short ‘trailers’ that have been designed to collect information from specific subgroups: students; foreign employees; and migrants.

9.1 Main concepts

The following are key concepts that form the basis of the IPS.

a) Nationality

This is the country to which an individual belongs and is usually where they were born and where their origins lie, although some people may change their nationality when they move to a different country.

In IPS terms, nationality is defined as . . .

. . . the country which issued their passport.

b) Residence

The international definition of residence as used for the IPS is as follows:

Living in a country for 12 months or more.

Respondents are residents of a country if:

- they have been staying in a country for the last 12 months or more (apart from holidays and business trips away). This includes people who have been working in that country for at least 12 months (excluding commuters) or have been studying in that country for more than one academic year;
- they have set up home in the country during the last 12 months and intend to complete 12 months there;
- they have begun work / study there during the last 12 months and intend to be still working / studying there for 12 or more months after they arrived;
- they have been living in the country for 12 months but are in the process of moving to live in another country for at least 12 months;
- the country in which they have their main home but commute weekly or fortnightly to another country where they work: e.g. spend weekends in one country but spend Monday to Friday in another country, or commutes to work on an oil rig or fishing fleet.

c) Length of Stay

Length of stay is used to:

- estimate trends in migration e.g. the gains and losses from and to different countries and changes affecting the labour force in the UK;
- help estimate UK local authority populations and so to calculate the estimated need for health services, pensions, housing, etc.

Length of stay questions are crucial for determining whether someone is a migrant.

The international definition of a migrant is

... a person who leaves their country of residence to live in another country for at least 12 months.

The IPS is also interested in collecting information on medium (3 to 6 months) and long term visitors (6 months, but less than a year). These are referred to as 'short term migrants' and are also routed to the Migration trailer.

d) Reason for visit (RFV)

People travel for different reasons and this can have an effect on the amount of money spent as well as the length of time they are away from their resident country. Sometimes, there can be more than one reason for travelling; the IPS records the many different reasons people have for making a visit. These are combined into four main analysis categories – holiday, business, visiting friends or relatives and miscellaneous.

As well as providing important data, RFV questions enable interviewers to route the interview past the expenditure questions for those passenger groups that do not add to the Balance of Payments account, for example, military personnel and unaccompanied school children.

e) Expenditure

A main purpose of the IPS is to collect information about the amount of money spent during a visit. This is used to feed into the UK Balance of Payments (BoP) Travel Account and requires information on:

- the amount of (UK) money spent abroad by UK residents; and
- (foreign) money spent in the UK by foreign residents.

Expenditure information is only collected at the end of a visit, because an estimate of total spend during the visit is required. This information is only collected during the full Overseas Travel and Tourism interview with UK residents arriving back in the UK and overseas residents departing the UK.

Further information and guidance about each of these concepts is available from the IPS Research Team or from the [interviewer instructions](#) which are available via the ONS website:

9.2 Trailer questionnaires

Trailer questionnaires are designed to collect more detailed information about particular groups of travellers: Students, Foreign Employees and Migrants.

a) Student trailer

The student trailer applies to respondents who are studying at colleges and universities in the UK and respondents who are studying abroad.

b) Employee trailer

The employee trailer applies to respondents who work in a country which is different to the one in which they are resident. The 2 main groups which fall into this category are international commuters ('border' workers) and people on short-term contracts ('seasonal' workers, who spend less than 12 months in their country of work). It is asked to arriving UK residents and departing foreign residents,

The trailer is asked on behalf of ONS Balance of Payments. Under BPM5 (Balance of Payments Manual 5), and the ESA 95 (European System of Accounts 1995) the expenditure of UK residents while working abroad should be treated as a debit to the UK Balance of Payments and their income from working abroad should be treated as a credit. The reverse applies to foreign residents working in the UK.

c) Migration trailer

All UK residents who intend to stay away from the UK for more than **three** months, or foreign residents who intend to stay in the UK for more than three months, are routed from Qs11-15 on the main questionnaire (arrivals for foreign residents and departures for UK residents) to the migration trailer.

Those intending to stay for 3 months or more but less than 12 months are referred to as short-term migrants, those staying for 12 months or more are referred to as long-term migrants. Long-term migrants are asked a small number of additional 'migration' questions (Q34 to Q37).

Information from the migration trailer is used by ONS to feed into the calculation of long term international migration estimates.

The following diagrams illustrate the flow of the IPS Overseas Travel and Tourism questionnaire and how respondents are routed to the respective trailers (Figures F and G).

Figure F Flow through departures questionnaire

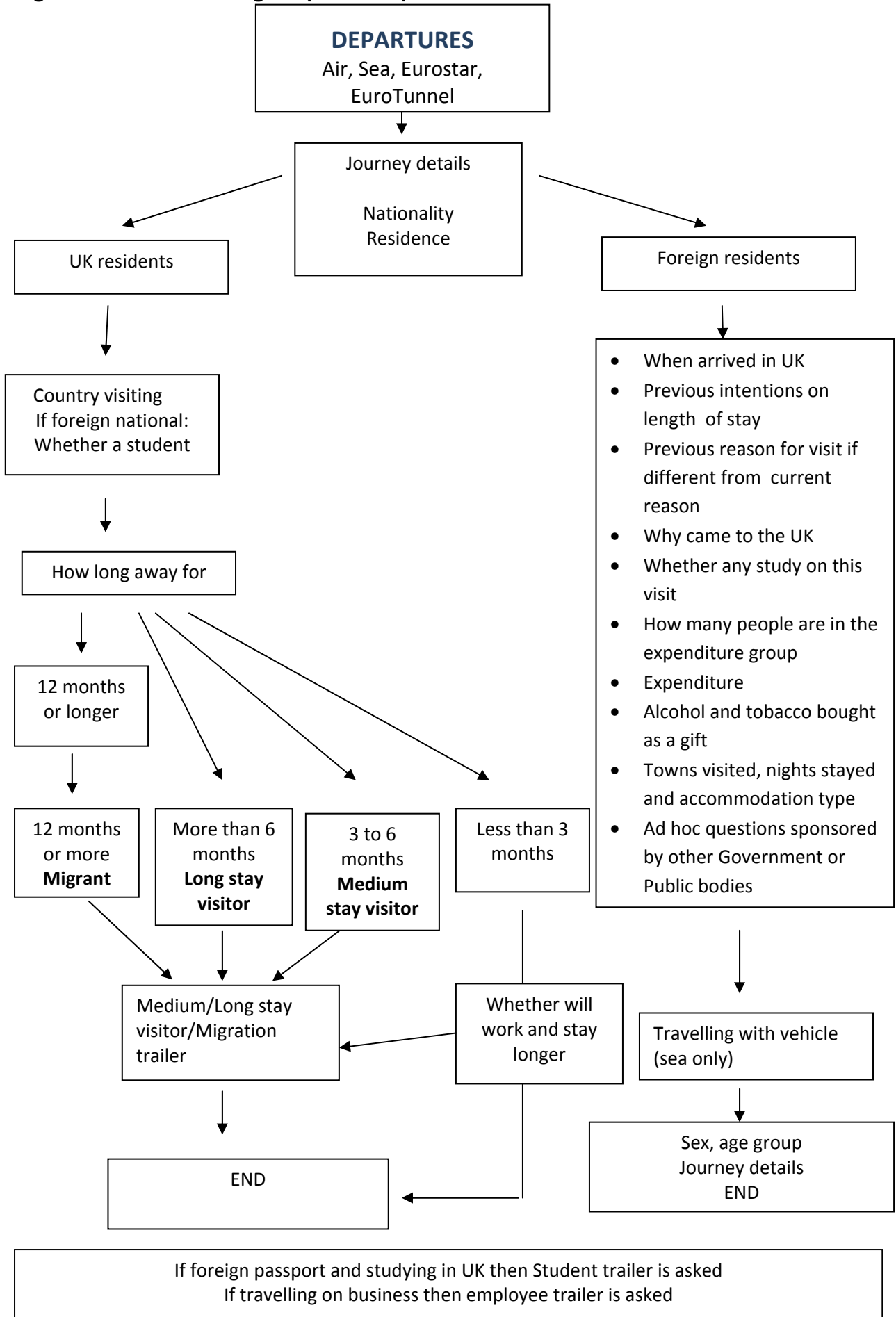
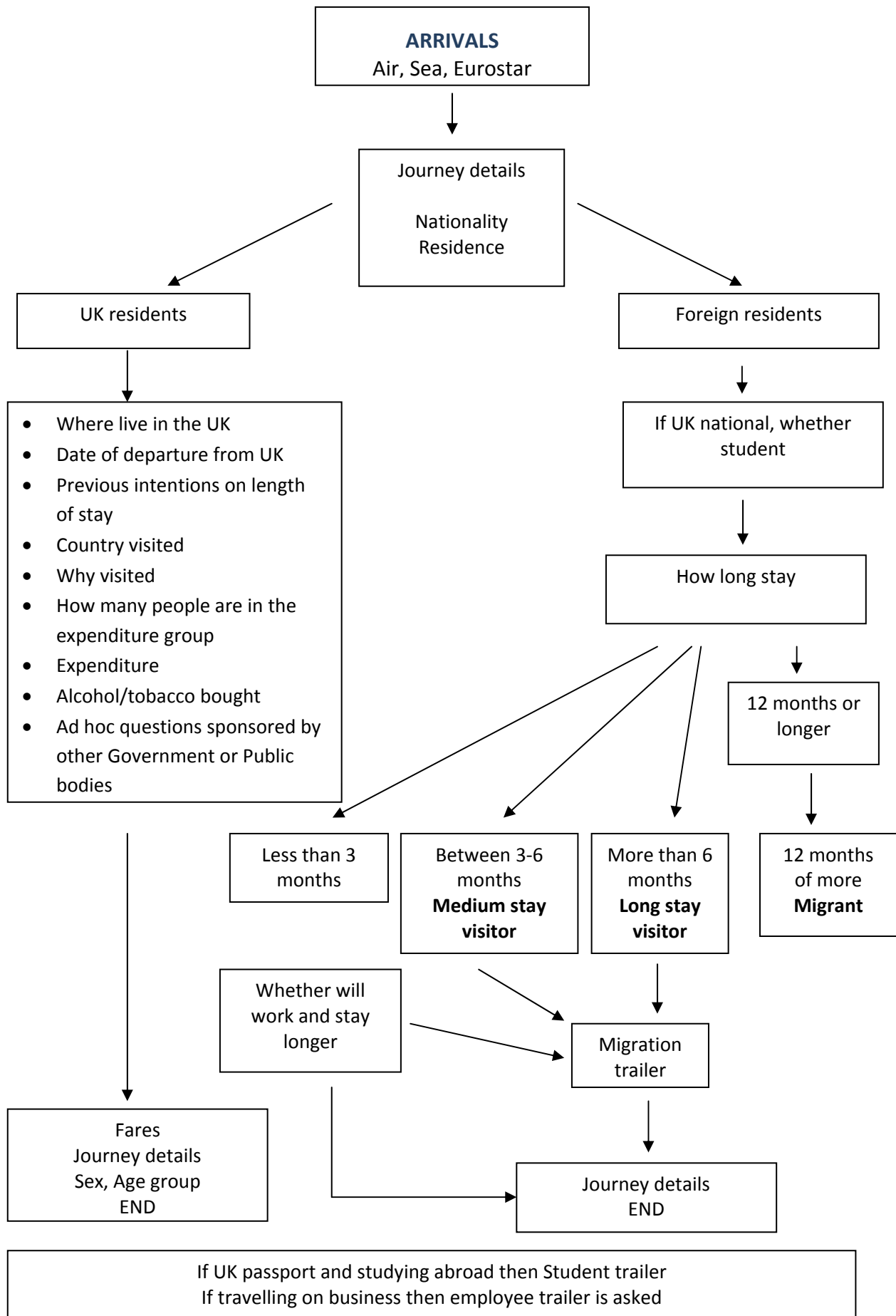


Figure G Flow through arrivals questionnaire



9.3 Piloting the IPS questionnaire

Changes are made to the IPS questionnaire following sponsor consultation. Changes introduced to the questionnaire undergo extensive testing before they are approved by the IPS steering group.

The annual survey timetable includes:

- asking question sponsors or main users for any change requirements in January;
- discussing these requirements at the IPS steering group meeting in March;
- conducting questionnaire pilot testing between May and July;
- recommendations from the pilot agreed by the steering group in September; and
- changes to the questionnaire implemented from January the following year.

The IPS questionnaire pilot involves testing proposed major questionnaire changes at three IPS interviewing sites. Iterative pilot testing is used so that issues identified during the first pilot can be addressed and changed for the second pilot, and similarly issues identified at the second pilot can be addressed and tested at the third pilot. The pilot locations are chosen to ensure that the questions to be tested can be adequately assessed on relevant passengers. Heathrow airport, for instance, is a significant gateway that is used by a large number of foreign residents and migrating passengers so is often used as a location for questionnaire testing.

Pilot testing is an opportunity to assess: the clarity and suitability of the proposed questions and answer categories; the flow of the interview; the quality of responses; and the length of time it takes to complete the survey.

9.4 Primary purpose of the pilot

The aim of piloting the questionnaire is to qualitatively analyse and assess:

- the clarity of the proposed questions (including response categories) i.e. whether or not the questions are fully understood by interviewers and administered without difficulty;
- whether or not the questions are fully understood by respondents and answered without difficulty to minimise any respondent burden;
- the impact of the new or revised questions on interview length, possible effects on future co-operation and the rest of the questionnaire;
- the suitability of other survey documentation such as interviewer instructions and prompt cards; and
- the ease with which questions can be administered within the context of a full interview.

9.5 Restrictions on the questionnaire

To ensure that the IPS is able to fulfil its key purposes to provide robust data to feed into the compilation of UK migration data and travel and tourism estimates, the following restrictions are placed on the questionnaire:

- the interview length does not reach a level which would impact on sample size and response rates;

- the interview progresses smoothly so that it is completed quickly without interfering with the free flow of passengers.

Consequently, recommendations from the pilot are intended to:

- ensure that the estimated average interview length is not unduly extended;
- reduce the risk of increasing partial interviews associated with poor quality information due to passengers not completing the interview;
- ensure the interview progresses smoothly; and
- minimise any risk to the survey.

IPS Data Processing

The IPS overseas travel and tourism data are used by ONS, along with other sources of information, to produce national estimates of different types of travellers. To ensure that the IPS data is representative of the total UK passenger traffic a complex weighting process is used.

10 Weighting

A weighting is applied to the IPS survey data so that sampled respondents at a port/route represent the total passenger traffic known to have passed through that port/route in the period in question. Actual passenger traffic information, used within the IPS weighting process, is provided by the Civil Aviation Authority, the Department for Transport, Eurostar, Eurotunnel, BAA and a number of individual airports.

Weighting is carried out for each port/route and direction of travel combination, employing the same principles at each one. The IPS weighting approach incorporates a number of stages which take account of all passengers selected for interview.

10.1 Weighting stages

The stages, listed in order of application, are as follows:

Stage 1

A Design weight is employed, to account for the probability of sampling every passenger using the first-stage sampling interval. The calculation compares the number of shifts or crossings sampled (at each port/route and direction of travel combination) with the number of shifts or crossings that could have been sampled for that combination in the period.

In addition it takes into account the first-stage sampling interval. For example, in a case where a contact was sampled at a port with the following details:

- 10 shifts were run in the period
- 100 shifts could have been run in the period
- The contact was sampled employing a first-stage sampling interval of 20 (that is, every 20th passenger was selected)

The design weight for this contact would be 200, calculated as $(100/10) \times 20$. As well as port/route and direction, this weight incorporates weekday or weekend, and am, pm or night as weighting strata.

Stage 2

A Non-response weight factor is employed to take account of contacts selected for interview but who were subsequently not interviewed, either because it was not possible to contact them or they refused to participate.

The weight is applied at each port/route and direction travel combination and also incorporates weekday versus weekend as weighting strata. It involves uplifting 'complete' and 'minimums' cases by a factor calculated as:

- the sum of weights applied to all 'completes', 'minimums' and 'non response' records

- divided by the sum of 'completes' and 'minimums' at that port/route and direction of travel combination

Stage 3

A second Design weight is applied to account for the second-phase of the sample design and relates to the sub-sampling of non-migrants. The weight for this factor is simply equal to:

- the ratio second-stage sample interval: first-stage sample interval for non-migrants,
- 1 for migrants.

Stage 4

A weight factor is applied for discarding minimum respondents. Minimum interviews are discarded in this step of the weighting, with other cases weighted up to compensate.

The purpose of applying this weight is that it is possible that the profile of minimums might be skewed to certain nationalities or residents of a certain countries (for example driven by language difficulties meaning that only minimal information is provided to the interviewer).

This weighting step works to the same principle as the non-response weight. It utilises port/route and direction of travel as weighting strata.

Stage 5

Weighting to the sampling frame; here the population (that is, passenger traffic) or the ports and routes covered by the sampling frame are used to weight the data.

The population excludes interlining passengers (those neither entering nor leaving the UK from this port, that is, simply changing international flights) and out-of-hours traffic (that is, arriving or departing outside the hours covered by the IPS interviewing at that port).

The weight is applied at each port/route and direction of travel combination.

Stage 6

Weighting for frame under coverage is applied to extend the above population weighting to compensate for not covering certain ports and times of day (out-of-hours traffic) in the survey sample.

The weight utilises port/route and direction of travel as weighting strata and also incorporates region of the world that traffic has come from/gone to.

The weight reflects the fact that flights to and from some parts of the world are more likely than others to arrive or take off at night when no interviewing is conducted at airports.

Stage 7

Weighting for observed imbalance is used to correct an observed imbalance between the number of non-migrants entering and leaving the UK. These are applied as a series of fixed factors, relating to direction of travel, port/route and country/residence.

It has been noted since spring 2009 that there has been an increase in the proportion of respondents in the IPS overseas travel and tourism sample who are starting their visit

compared to the proportion ending their visit. This proportion of the two types of traveller in the sample defines the estimates of travel and tourism.

There is no clear reason for this trend and ONS has taken steps to calibrate its overseas travel and tourism estimates with external data, notably estimates from surveying conducted at departure gates at main airports in the UK by the Civil Aviation Authority (CAA) and e-borders data. This work has shown general consistency between the datasets with the result that the factors used in the imbalance weight have been retained. More information about the work undertaken to explore the imbalance, and planned future work can be found on the [ONS website](#).

Stage 8

A final weight is applied, which combines each of the weighting stages listed above.

10.2 Imputation

Imputation is applied where the responses or values for key items of interest are missing from the survey data for an individual record. Imputation is applied to the following items:

- Length of stay
- Cost of fare (expressed in terms of cost of the single fare for the respondent)
- Spend
- Town of stay

For each of length of stay, cost of fare and spend, a value is calculated for the survey record which had the information missing. The IPS employs a mean-value within class imputation procedure where the missing value is replaced with the average value for records with similar characteristics. The matching variables used for each of these items are:

Length of stay:	Country of visit/visiting from Purpose of visit
Cost of fare:	Port in UK travelled to/from Overseas port travelled to/from Month of travel Operator
Spend:	Country of visit/visiting from Duration Purpose of visit

Where the respondent has travelled on a package holiday, the cost of the fare is imputed and then deducted from the total cost of the package, and the residual cost (after removal of a percentage to cover travel agent fees) is assigned to expenditure.

Overseas residents staying in the UK are asked about their total expenditure in the UK. This information is then imputed across the towns stayed in, proportionate to the length of stay in each one. It is recognised that people tend to spend more when they stay in London than in other towns in the UK and therefore an uplift index is calculated and applied to the spend allocated to London in cases where the respondent stayed in both London and other towns in the UK.

In cases where an overseas resident hasn't given details of all the towns in the UK they stayed in, an uplift is applied to towns stayed in by similar records, using the same principles as outlined above for the imputation of stay, fares and spend

10.3 Seasonal adjustment

The number of travellers and their spending both have a clear seasonal pattern, with more visits and spending in the summer than in the winter. Statistical techniques are used by ONS with the package X-12-ARIMA to produce seasonally adjusted figures. These figures show visits and spending with an estimate for the seasonal component removed. They allow more meaningful comparisons to be made between months and quarters of the year and help to identify underlying trends.

More details on seasonal adjustment procedures can be obtained from the IPS Branch of ONS.

10.4 Constant prices

Usually, spending by overseas residents in the UK and UK residents abroad grows each year as the price of goods and services rise. Constant price figures are calculated by ONS to show real spending across years with the effects of price inflation removed.

For overseas residents' expenditure in the UK, an index is created by splitting spending into its component parts (accommodation, meals and so on) using past IPS data and uprating these components by their related retail price indices. The resulting index is then used to rebase the overseas figures back to 1995 prices.

For UK residents abroad, spending is split by country of visit. Consumer price indices for particular countries are used with currency conversion rates to produce an index of price rises. The index is then used to rebase UK residents' spending to 1995 prices.

10.5 Additional sources of data

The method above explains how the national estimates are produced based on the routes sampled on the IPS. Unfortunately, as the IPS does not cover all passenger routes, additional figures have to be obtained from other sources or estimates and added to the totals derived from the IPS. These additions are:

- UK residents on cruises departing from or arriving at UK shores
- Channel Islands expenditure and receipts from tourism, from the Economic Advisor's office in Jersey
- rail fares purchased by overseas visitors to the UK and UK visitors abroad before the start of their visit, and

- estimates of travel across the land border between Northern Ireland and the Irish Republic, from the Irish Central Statistical Office. For years before 1999, information was also provided regarding travel on air and sea routes between the UK and the Irish Republic. However, since 1999, the air and sea routes have been covered by the IPS sample

Quality of the IPS

11 Strengths and Limitations

11.1 Strengths

- The IPS is the main source of information in the UK on international travel and tourism and associated earnings and expenditure and has been running since 1961. The survey provides a comprehensive time series of travel and tourism which can be used to identify long- term trends and patterns or to undertake time series analysis and forecasting.
- International travel and tourism involves the exchange of approximately £50 billion of trade each year. Earnings to the UK account for over £18 billion of the £50 billion, equating to approximately 10% of total export of services. Expenditure abroad accounts for over 25% of total imports of services. The information in the IPS Overseas Travel and Tourism data helps users in the following areas:
 - Tracking earnings and expenditure, as an important input to measuring balance of payments.
 - Understanding how the volume of visits and earnings to the UK develops, which can be compared with statistics from other countries to assess how effective the UK is in attracting visits (a) from key parts of the world, (b) for different purposes and (c) among different demographic groups.
 - To help understand how particular events (for example, in 2012 the London 2012 Olympic Games and Paralympics) held in the UK link to visits and spending. This can aid future decision making.
 - To provide insights regarding how effective different parts of the UK are in attracting visits and earnings, in total and from different parts of the world and for different purposes.
 - To provide profiles of UK residents travelling to different parts of the world, to aid government and industry in developing policy and strategy.
- Survey design. The IPS uses a two-stage stratified random sample to produce efficient estimates of UK passenger traffic. Random sampling eliminates systematic bias by giving all passengers an equal chance to be selected.

11.2 Limitations

The IPS is a sample survey and so is subject to weaknesses which also exist for other surveys, including:

Non-sampling error.

- Estimates from all sample surveys, including those derived from the IPS data, will contain a degree of uncertainty due to non-sampling and sampling error. Non-sampling error generally arises from errors in the collection, measurement and processing of the data. To minimise non-sampling error, as a result of errors arising from data collection, all IPS interviewers receive training prior to and during their working on the survey.
- Non-sampling error may also be due to non-response. Bias may occur when passengers who do not respond to the survey have different characteristics to those who do respond. Possible low levels of response that might be expected due to the respondent not speaking English have been reduced in recent years by the use of

self-completion language questionnaires and the introduction of separate sampling arrangements at the Port Health arrivals entrance at Heathrow Terminal 3.

- Non-response and missing information. The information from a respondent may be incomplete. This can be due to a couple of reasons: i) a partial refusal (for example, to expenditure); or a particular item was missed because of a lack of understanding or an error.

Sampling error

- The estimates produced from the IPS are based upon one of a number of samples that could have been drawn during the interview period. This means that there is a degree of variability around the estimates produced. IPS Overseas Travel and Tourism estimates are accompanied by confidence intervals, which provide a range within which we could expect the true value to lie had all passengers been interviewed. 95% confidence intervals are used, which is a widely accepted level, meaning that we would expect the true value to lie within the interval on 19 out of 20 occasions. For example, if an IPS inflows estimate were 25 million, with a 95 per cent confidence interval of +/- 2.0%, then it is expected that 95 per cent of the time, the true IPS estimate will be within the range 24.5 million to 25.5 million. Caution should be exercised when using an estimate with a large confidence interval. Furthermore, the number of survey interviews on particular routes or for some main reason for visit such as playing sports and getting married, are sometimes small and consequently attract higher sampling errors. This also applies to visits to or from countries with low visit numbers. Sampling errors for the Overseas Travel and Tourism estimates are published each quarter in the [Quarterly publication](#) and annually in [Travel Trends](#).
- The IPS sampling frame ensures that approximately 95% of all passengers entering and leaving the UK have a chance of being sampled in the survey. The remainder are either passengers travelling at night, when interviewing is suspended, or on those routes too small in volume or too expensive to be covered. The IPS weighting process takes account of the excluded passengers, however there is a risk that the assumptions made within this process are incorrect. Regular reviews of the IPS sample design and weighting process reduce the risk of using incorrect assumptions in both.

12 Response rates

The Overseas Travel and Tourism IPS response rate is calculated as the proportion of eligible respondents who completed a full or 'partial' interview.

In 2013 the overall response rate, for full and partial interviews was 80%. The annual IPS Overseas Travel and Tourism response rates are available in the [Travel Trends](#) publication.

Response among departing passengers tends to be higher than among arriving passengers mainly due to the flow of passengers departing the UK being more constant than the flow of arriving passengers, which tends to peak and trough during the survey shifts, reducing the likelihood of interviewers being able to make contact with the selected passengers.

Table 2 IPS Overseas Travel and Tourism response rate by quarter, 2013
(complete and partial response)

		Qtr 1 (%)	Qtr 2 (%)	Qtr 3 (%)	Qtr 4 (%)	TOTAL (%)
TOTAL IPS Response	Arrivals	78.4	78.1	76.1	81.5	78.3
	Departures	81.6	82.6	81.2	82.6	82.0
	TOTAL	80.2	80.6	78.9	82.1	80.4
Total AIR Response	Arrivals	77.2	76.2	74.4	80.4	76.8
	Departures	81.0	81.4	80.1	81.4	81.0
	TOTAL	79.4	79.1	77.6	81.0	79.1
Total SEA Response	Arrivals	90.6	93.1	89.2	92.0	91.1
	Departures	90.8	92.1	88.6	92.2	90.6
	TOTAL	90.7	92.5	88.9	92.1	90.8
Total TUNNEL Response	Arrivals	82.0	84.4	81.0	85.7	83.3
	Departures	83.6	89.3	86.7	91.7	88.1
	TOTAL	82.7	86.8	83.7	88.7	85.6

There are three levels of response to the IPS Overseas Travel and Tourism interview:

1. Full interview: respondent provides answers to all relevant questions on the Overseas Travel and Tourism questionnaire.
2. Partial interview: respondent provides answers to a sub-section of the Overseas Travel and Tourism questionnaire, excluding expenditure.
3. Minimum interview: respondent only provides information to satisfy the migration sift and does not complete any of the Overseas Travel and Tourism interview. This information identifies the respondent's country of residence and can be used in the calculation of number of visits to and from the UK.

Minimum response is not included as a positive response in the calculation of the IPS Overseas Travel and Tourism response rate. These respondents are therefore defined as non-responders.

Non-responders to the IPS can be categorised in three ways:

1. Refusal: passengers selected to participate refuse to take part in the survey.
2. Non-contact: interviewers are unable to make contact with the selected passenger because they are talking on their mobile phone; eating a meal; rushing to catch a plane; the passenger does not speak English or any of the languages provided as language questionnaires; etc.

3. Non-contact due to high passenger flow: the passenger flow at a particular time during the shift is such that interviewer capacity to contact all selected passengers is insufficient.

The largest element of non-response to the IPS is due to lack of interviewer capacity to contact all selected passengers at times of peak passenger flow. Any given IPS shift is resourced to cope with an average passenger flow for that port, unfortunately at times of above average passenger flow this means that interviewers are unable to make contact with all eligible passengers. In 2013, 12% of all selected passengers were unable to be contacted due to lack of interviewer capacity. Only a very small number of passengers refuse to take part in the survey or are non-contacts: in 2013 2% of the eligible sample refused to participate in the survey and 2% were non-contacts (Table 3).

Table 3 IPS Overseas Travel and Tourism full response, 2013

	Full	Partial	Full & partial	Minimum	Non-contact	Refusal	Not contacted due to lack of interviewer capacity	Eligible sample
	%	%	%	%	%	%	%	
Arrivals	73	5	78	3	2	2	14	163,557
Departures	79	3	82	3	2	2	11	203,325
Total	76	4	80	3	2	2	12	366,882

Publications & Data Dissemination

13 IPS Dissemination and publications

13.1 Publications

ONS publishes the following regular IPS Overseas Travel and Tourism estimates, available free of charge from the Office for National Statistics website:

Provisional Monthly estimates

Provisional Quarterly estimates

Annual estimates, published as Travel Trends

These publications, data tables from the IPS and other statistics relating to travel and tourism are available at the Travel and Transport theme page on the Office for National Statistics website.

Further information about the International Passenger Survey, including the current IPS questionnaire and interviewer instructions, and methodology information can be found on the [IPS Methodology page](#) on the Office for National Statistics website.

13.2 Accessing datasets

IPS Overseas Travel and Tourism data is available via:

1. [TravelPac](#): this is a simplified version of the IPS Overseas Travel and Tourism dataset, comprising of 14 of the most widely used variables, and is available quarterly and annually on the Office for National Statistics website. Data are available online for each year from 1993 onwards, in both SPSS and Excel formats.
2. Larger IPS Overseas Travel and Tourism datasets are available through the [UK Data Archive](#). These datasets are deposited quarterly and annually.

13.3 Other analyses

General enquiries about the IPS or requests for ad-hoc analyses of the Overseas Travel and Tourism data should be directed to:

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