

Article

Improving our travel and tourism statistics: June 2025 update

An article outlining our progress towards planned improvements to our travel and tourism statistics, including official statistics in development.

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Table of contents

1. [Main points](#)
2. [Development of travel and tourism statistics](#)
3. [Methodological development of overseas travel and tourism estimates](#)
4. [Data considerations for July to September and October to December 2024 estimates](#)
5. [Understanding comparability of estimates over time](#)
6. [Future developments](#)
7. [Glossary](#)
8. [Provide feedback](#)
9. [Related links](#)
10. [Cite this article](#)

1 . Main points

- This article outlines our progress in developing and quality assuring new methods underpinning our travel and tourism statistics since February 2025.
- We have improved our data processing pipeline, further validated our weighting approach, and developed a model to estimate Great Britain residents' post-departure overseas spend.
- These developments have allowed us to publish our travel and tourism estimates for Quarter 3 (July to Sept) and Quarter 4 (Oct to Dec) 2024 in our accompanying bulletin, which are released as official statistics in development.
- We will continue developing and quality assuring our new travel and tourism methods; we invite user feedback on our newly published estimates and developing methods.

These are [official statistics in development](#). We are continuing to develop and quality assure the new methods. Estimates are subject to future change as we introduce further improvements to these methods.

2 . Development of travel and tourism statistics

Overview of travel and tourism statistics transformation

This article provides an update on the data collection changes and methodological developments we are undertaking to transform our travel and tourism statistics. This work was first set out in our [Improving our travel and tourism statistics: changes from July 2024 article](#). We provided a progress update and included a first look at indicative estimates of visits, spend, and nights for overseas residents visiting Great Britain (GB) in Quarter 3 (July to Sept) 2024 in our [February 2025 update article](#).

These data collection and methodological changes follow a statistical review that concluded in May 2022 with our [Travel and tourism review: final report](#). This review explained why these changes are required and discussed how they would make our statistics more accurate and coherent.

We have continued to develop and quality assure our methods since February 2025. This has increased our confidence in the methods and estimates. This latest article accompanies the first release of our newly developed travel and tourism statistics for Quarter 3 and Quarter 4 (Oct to Dec) 2024, published as official statistics in development in our [Overseas travel and tourism, provisional: July to September and October to December 2024](#). They include estimates for overseas residents' visits to GB and GB residents' visits abroad.

These latest estimates of visits, spend, and nights for overseas residents visiting GB can be compared with the equivalent indicative estimates we shared in February 2025 for Quarter 3 2024. This comparison shows that since our February 2025 release, estimates have changed from:

- 10,493,000 to 10,408,000 visits
- £10,244 million to £10,153 million in spend
- 90,830,000 to 90,360,000 nights

We have made developments since February 2025, including:

- improving our data processing through developing Reproducible Analytical Pipelines
- further quality assurance of our data processing stage
- further development and validation of our weighting approach
- developing, reviewing, and quality assuring a model to estimate GB residents' post-departure overseas spend

We continue to work on the development of these travel and tourism statistics, as set out in [Section 6: Future developments](#). We will keep users informed of our progress. If you would like to receive travel and tourism updates, please [subscribe to our GovDelivery newsletter](#). We also welcome feedback from users as we progress with these developments (see [Section 8: Provide feedback](#)).

3 . Methodological development of overseas travel and tourism estimates

We updated on our latest developments to transform our travel and tourism statistics, and set out our future developments in our [February 2025 update article](#). We have been progressing with further methodological developments and quality assurance. This has enabled us to produce more extensive travel and tourism estimates using these new methods. This section outlines our progress since February 2025.

Data processing

We are developing Reproducible Analytical Pipelines (RAPs) to ensure our data processing is reproducible, auditable, and efficient. More information on RAPs and their purpose can be found on the Government Analysis Function's [RAP webpage](#).

We have carried out further quality assurance throughout the data processing stage, which has identified several data quality issues to resolve as part of our ongoing improvements. We provide further details on what these data quality issues are, how they could affect interpretation of our latest provisional estimates, and how we will resolve them in [Section 4: Data considerations for July to September and October to December 2024 estimates](#).

Weighting

We have previously outlined the three selection stages in our sample design and how we require different components of design weights to produce the final travel and tourism estimates. These components include:

- shift design weights
- flight design weights
- passenger design weights

We have further considered and validated our weighting approach by:

- testing different weighting options
- developing a new approach for weighting flights to accurately account for the sample selection methods used at some airports
- adjusting design weights to account for non-response at each sample selection stage
- testing and developing options for calibration groups

We are confident that our current weighting approach produces estimates that are fit for purpose. We have assessed the quality of this approach by applying it to multiple time periods, using International Passenger Survey (IPS) data for Quarter 3 (July to Sept) and Quarter 4 (Oct to Dec) 2024. We will continue with quality assurance, including seeking assurance from methodological experts, before formally adopting our final weighting method. This may result in further revisions to the weights while the estimates remain as official statistics in development.

Estimation

Estimation uses the final weights to ensure the sampled passengers represent all passenger trips in the corresponding estimates.

Our main estimates include number of visits, nights, and total spend. They are produced for Great Britain (GB) and overseas residents and are broken down by geography and visit purpose.

Estimating quarterly overseas residents' trips to GB is relatively straightforward. We use the corresponding quarterly IPS dataset, which contains information collected from overseas residents as they departed GB at the end of their trip.

For GB residents' trips overseas, estimation is more complicated. Like measuring overseas residents when they depart GB at the end of their trip, we need to assign GB passengers to the quarter they expect to arrive back in GB. However, under the new design, GB residents' information is collected as they leave GB when their trip is beginning. A departing GB-resident tourist could expect to arrive back in any of five quarters, ranging from the current one to the same quarter a year in the future. This complexity requires additional consideration for quarterly weighting and estimation. This is because each arrival quarter dataset will include respondents from five departure quarters with different weights depending on when they departed on their overseas trip.

Great Britain residents' overseas spend

We have continued to develop our methods for measuring GB residents' total spend overseas under the new IPS arrivals design. GB residents' spending overseas has now been split into two components: spend to date (pre-departure spend) and spend while overseas (post-departure spend).

Pre-departure spend and intended return date are collected on the IPS departures survey at the start of GB residents' visits. Post-departure spend is collected through a new set of arrivals questions on the [Great Britain Tourism Survey \(GBTS\)](#). These questions ask an online panel of GB residents about recent overseas visits and how much they spent outside the UK. We use these data to fit a model of post-departure spend to the GBTS data. We then use this to predict IPS respondents' post-departure spend by accounting for variables such as destination, purpose, and duration.

We were not ready to share indicative estimates of GB residents' overseas spend in our February update article because the methods required further development. We have been working to understand the most appropriate model choice and how this will affect estimates and quality, and have developed linear regression models to estimate GB residents' overseas spend. These have been reviewed and quality assured by internal and external methodological experts. We are satisfied with the overall methodology used for Quarter 3 and Quarter 4 2024 estimates, but the model is subject to improvement and development. These will be fully tested and implemented in future quarterly releases.

We have identified an issue with how pre- and post-departure accommodation spend is reported on the GBTS while progressing this work. We provide more details on this issue in [Section 4: Data considerations for July to September and October to December 2024 estimates](#).

4 . Data considerations for July to September and October to December 2024 estimates

We identified several data quality issues while quality assuring our developing methods. These issues remain in the Quarter 3 (July to Sept) and Quarter 4 (Oct to Dec) 2024 estimates published in our [Overseas travel and tourism, provisional: July to September and October to December 2024](#). We will correct these issues either in upcoming publications or following further investigation. They include:

- assigning an incorrect airport code to a small proportion of International Passenger Survey (IPS) cases
- incorrectly assigning a Northern Ireland postcode to Great Britain (GB)
- incorrectly grouping total fares and spend across variables
- incorrectly including a small number of non-tourists in Quarter 4 2024 data
- incorrectly reporting some GB residents' overseas pre-departure accommodation spend as post-departure accommodation spend

There is further development work required, so we have also not provided confidence intervals that would normally accompany the following Quarter 3 and Quarter 4 2024 estimates:

- regional estimates of overseas residents visiting GB
- spend estimates of GB residents visiting abroad
- estimates of GB residents for the "Fly/Cruise stay on board" category

International airport codes were incorrectly assigned for 7% to 7.5% of Quarter 3 and Quarter 4 2024 data. This is because of changes in IPS sampling methodology and survey questions. We have retained these data in our Quarter 3 and Quarter 4 2024 estimates, because the error does not affect most other travel information collected.

Caution should be taken when interpreting country-level estimates for visits, spend, and nights, because some estimates may be underestimated or overestimated. This is because incorrect flight information has affected weighting and the estimates. We will resolve this issue for Quarter 2 (Apr to Jun) 2025 onwards by improving our code and adding an interviewer check in to our questionnaire.

GB residents' visits abroad were overestimated by approximately 0.07% in Quarter 3 2024 and 0.006% in Quarter 4 2024. This is because a Northern Ireland postcode was incorrectly assigned to GB. We will resolve this issue for our annual Travel trends: 2024 article onwards.

Fares were underestimated by 1.3% in Quarter 3 2024 and 1.9% in Quarter 4 2024. Spend was underestimated by 0.1% in Quarter 3 2024 and 0.02% in Quarter 4 2024. This is because total fares and spend across variables were incorrectly grouped. We will resolve this issue for our annual Travel trends: 2024 article onwards.

A small proportion of non-tourists were included in our Quarter 4 2024 estimates, accounting for 0.009% of GB residents' visits abroad. This caused a slight overestimation of GB residents' overseas estimates. We will resolve this issue for our annual Travel trends: 2024 article onwards.

We have identified that some Great Britain Tourism Survey (GBTS) respondents may be reporting pre-departure accommodation spend in their post-departure accommodation spend. This was discovered while developing our GB residents' overseas spend estimates. We have removed all post-departure accommodation spend from our data while we investigate this issue. It is likely that GB residents overseas spend estimates are underestimated in Quarter 3 and Quarter 4 2024. We will conduct qualitative analysis, including cognitive interviewing, to investigate this further and identify a solution.

We have also identified some patterns in our Quarter 3 and Quarter 4 2024 estimates using our new methodology that differ from previous quarters' estimates for Quarter 3 and Quarter 4 2023. Quarter 3 and Quarter 4 2024 estimates attribute a lower proportion of visits via sea transport to overseas residents than previous years' quarters. We will conduct further investigation into the survey design and the administrative data used for calibration to better understand this difference. This will form part of our ongoing development and quality assurance of our new methods as we continue to publish as official statistics in development.

We are sharing our developing estimates as official statistics in development to support the release of timely and relevant statistics while we continue to resolve these minor issues. We are confident the developing estimates published in our quarterly bulletin are relevant and useful for our users.

5 . Understanding comparability of estimates over time

Background

We use time series analysis to understand how estimates produced using our old and new methods compare over time, and to help investigate the effect of method changes. A time series is made up of data collected over a period, allowing for comparison of estimates and analysis of trends. We may introduce a break, or discontinuity, in the time series by introducing new methods and data sources to produce our travel and tourism estimates. This could make comparison over time more difficult. However, any identified break in the time series may be caused by our methodological developments and could reflect improvements to our estimates.

We have not trialled our new data collection methods alongside our old data collection methods, known as a parallel run. This means we cannot directly compare estimates from the old and new methods. We will compare estimates produced before and after this change to identify potential discontinuity in the time series.

When working to identify discontinuities, it can be difficult to establish whether these are caused by real-world differences (for example, changes in international travel patterns), or the changes made to methods. To explore this, we first produce expected visits, nights, and spend estimates in the absence of a method change by fitting State Space Models (SSM), a type of time series analysis, to the published back series. These SSM-projected figures show what might have happened if methods, data sources, and past travel patterns continued unchanged. This should enable us to evaluate the impact of real-world differences and method-driven changes.

Initial time series analysis

We currently have final estimates for most historical time periods, from 2009 to 2019 and 2023. However, we only have provisional estimates for Quarter 1 (Jan to Mar) and Quarter 2 (Apr to June) 2024 available to use in our initial SSM analysis.

These provisional SSMs fit the observed, historical IPS time series well. They recreate the survey's seasonal trends and produce projections for Quarter 3 (July to Sept) and Quarter 4 (Oct to Dec) 2024. From an initial analysis using provisional data, we have not seen any dramatic shifts in the time series when comparing the provisional SSM projections with our developing estimates.

We plan to update our SSMs with final Quarter 1 and Quarter 2 2024 estimates before we publish our Travel trends: 2024 article. We also plan to compare the projected time series from these updated SSMs with our latest estimates in development. We will share these updated results from our ongoing time series analysis with users. We will then continue to investigate these comparisons as we develop and quality assure our new methodology and estimates.

We also need to collect data for further time periods under the new methodology and work through our future developments, as described in [Section 6: Future developments](#). This will allow us to investigate trends and carry out more extensive analysis to identify potential discontinuities in the time series. We will use this, as part of our wider quality assurance, to help users understand how estimates produced using our old and new methods compare over time.

6 . Future developments

Method development and quality assurance

We have outlined the methodological and quality assurance developments made since February 2025 to transform our travel and tourism statistics. These developments have increased our confidence in the methods and estimates, allowing us to publish our [Overseas travel and tourism, provisional: July to September and October to December 2024](#). These estimates are published as "official statistics in development", indicating further development and quality assurance is required before we can remove the "in development" label. This may result in further changes to our estimates as we refine our methods.

To continue with this development, we plan to:

- conduct further review and quality assurance of our weighting and estimation approaches, including evaluation using Quarter 1 (Jan to Mar) and Quarter 2 (Apr to Jun) 2025 data
- further develop and test the modelling approach used to estimate Great Britain (GB) residents' overseas spending
- conduct a qualitative review of the way we collect pre- and post-departure overseas spend information for GB residents
- resolve outstanding data quality issues and missing confidence intervals, as highlighted in [Section 4: Data considerations for July to September and October to December 2024 estimates](#).

Development of data sources

We aim to incorporate Northern Ireland travel and tourism data, provided by the Northern Ireland Statistics and Research Agency (NISRA), to produce our UK travel and tourism estimates. We aim to publish these in late July to early August 2025 in our annual Travel Trends: 2024 article.

We have harmonised our data collection methods with the Civil Aviation Authority (CAA). We plan to incorporate CAA departing passenger survey data, alongside International Passenger Survey (IPS) data, in our estimates. We now aim to apply this in our Quarter 3 (July to Sept) 2025 release. We will explore revising the back series from Quarter 1 2025, but still have notable methods development to undertake. We will update users with expected release dates for this implementation as we progress with the required research and methodological development work.

7 . Glossary

Discontinuity

Changes in time series resulting from a sudden change in the average level of the series or a complete shift in periodic effects such as seasonal patterns.

Overseas residents

An overseas resident is a person who permanently resides outside the UK.

Visits

The figures for visits relate to the number of completed visits, not the number of visitors. Anyone entering or leaving more than once in the same period would be counted on each visit.

Visits by overseas residents to Great Britain

A visit by an overseas resident is a visit for a period of less than 12 months. UK citizens residing overseas for 12 months or more coming home on leave are included in this category.

Visits outside the UK by residents of Great Britain

Visits for a period of less than 12 months by people permanently residing in Great Britain, who may be of foreign nationality.

Weighting

A method used to make the responding sample of passengers representative of all passenger trips. The final weight includes components that represent the sample design, non-response, and calibration to known passenger totals to improve consistency.

8 . Provide feedback

If you have any feedback or suggestions on the work we are doing to develop our travel and tourism statistics, please contact us at travel.and.tourism@ons.gov.uk.

9 . Related links

[Overseas travel and tourism, provisional: July to September and October to December 2024](#)

Bulletin | Released 13 June 2025

Estimates for overseas travel and tourism, including visits, spending, number of nights, and purpose of visit. These are official statistics in development.

[Improving our travel and tourism statistics: February 2025 update](#)

Article | Released 25 February 2025

Update on our progress towards planned improvements to our travel and tourism statistics, including official statistics in development.

[Improving our travel and tourism statistics: changes from July 2024](#) Article | Released 14 June 2024

An article outlining changes to our travel and tourism statistics from July 2024.

[Travel and tourism review: final report](#)

Article | Released 16 May 2022

Final report of the travel and tourism review, including the findings of the review and the next steps for this work.

10 . Cite this article

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