Tourism Volumes & Flows I User Guide

Prepared by Vistr Limited for MBIE, Tourism Regions and Hospitality
Version 1.3: Update to reflect release of Visitor nights measure

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W: *www.vistr.nz*
E: *tvf@vistr.nz*
P: *+64 28 457 4919*
A: *Te Ōhaka - Centre for Growth & Innovation*
Christchurch Central City
8011
New Zealand

People, Places and Patterns

What's in this User Guide?

Introduction

The MBIE Tourism Volumes and Flows (TVF) insights series provides measures of visitor activity and movement across Aotearoa New Zealand. Developed by Vistr for the Ministry of Business, Innovation and Employment (MBIE), this insights series uses a blend of anonymised human mobility data combined with official population and travel statistics to provide granular estimates of visitor volumes and flows.

The series has been designed to fill a critical data gap, identified by the Tourism Data Leadership Group, helping stakeholders understand visitor patterns to support monitoring, planning, investment, and decision-making. The series includes an extensive set of high resolution measures which will be released over time by MBIE following sector feedback on initial publication.

This document serves as a user guide to assist all stakeholders with understanding the insights as published by MBIE and making the most valuable analysis. As a tourism focussed data series, we have in places made comparisons and analogies with other core tourism datasets for illustrative purposes.

What's new? Document Version History & Change Log

Version	Date	Submitted By	Description
0.9	13/11/2025	Tom Craigie	Internal draft release for MBIE review
1.0	25/11/2025	Tom Craigie	First public release
1.2	11/03/2026	Tristan Adams	Update reflecting FAQs and including Jan data gap
1.3	24/03/2026	Tristan Adams	Update to reflect release of Visitor nights measure

Getting Started: A Quick Guide

1. What are Volumes and Flows?

In simple terms, Volumes measures reflect the 'busyness' of a destination based on visitor numbers, while Flows provide insights into where the visitors to that destination have come from.

1.1 Volumes | *"How busy is this place?"* | *"How many people have visited?"*

Volume measures provide estimates of the number of visitors that were present in a specific geographic area / destination (like a Regional Tourism Organisation (RTO) area or Territorial Authority (TA)) during or over a given time period. The volumes series comprises several key measures, which are represented across combinations of destination, visitor type / origin and temporal aggregation. These are:

- **Peak Visitors:** The maximum number of visitors estimated to be in a specific area during the defined time period (e.g. Peak Daytime: Maximum count between 10:00 AM – 9:00 PM) .
- **Visitor Days:** The main measure of 'busyness'. It is the cumulative sum of daily peak daytime visitor counts over a specific period (e.g., monthly). Note, it is not a count of unique people, e.g.
    - Example 1: One visitor staying for 4 days contributes 4 visitor days to the total.
    - Example 2: A destination has a peak visitor count of 5,000 Monday and 15,000 on Tuesday, equalling 20,000 Visitor Days.
- **Visitor Nights**: As visitor days, but based on the Peak Visitation modelled for the overnight hours of 11:00 PM - 06:00 AM on the following day.
- **Monthly Unique Counts:** The main measure of 'visitor attraction'. The total number of unique (individual) visitors who were present in a destination (based on geographical level or filter) at least once during a given month. In other words, the estimates relate to the number of visitors, and not the number of visits nor the stay length of the visitor.
    - Example: One visitor who visits twice in the same month contributes one unique count, during the monthly temporal resolution (time range).

Figure 1 - Comparison between key volumes measures

1.2 Flows | *"Where did the visitors come from?"*

The "Flows" series adds deeper insight by adding estimated breakdowns of monthly visitor days by market of origin. These are provided as a domestic region and international market group, closely aligned to the segmentation used in other tourism data series such as the MRTEs and the IVS.

The key flow measure currently published is the Visitor days by visitor origin, effectively providing a breakdown of the monthly Visitor Days metric by detailed market origin.

2. Who are the Tourism Volumes and Flows for?

This insights series is published by the Ministry of Business, Innovation and Employment (MBIE) for a wide range of stakeholders. Its goal is to provide reliable, consistent insights on national, regional and sub-regional visitation or to support all stakeholders in the visitor economy in gaining a better understanding of destination dynamics, make better informed strategic and operational decisions and measure progress against goals.

3. Where does the data come from and how are the insights compiled?

The Tourism Volumes and Flows insights series relies on two key data types:

- **Mobility Data (High Frequency, High Resolution):** TVF uses multiple anonymised mobility (mobile phone) location data sets to understand visitor movement and distribution. This mobility data is drawn from multiple sources, including passive collection through mobile phone network connections and active collection through Global Positioning System (GPS) data collected via mobile applications

(apps). These are used to understand the movement and distribution of the visitor segments included in the series.

- **Official Population & Travel Statistics (The National "Ground Truth"):** The mobility data is combined with outputs from a highly sophisticated population model. This model uses an array of population, travel and migration statistics to provide a comprehensive set of "ground truth" population totals (i.e. how many domestic residents and international visitors are in the country on any given day). Key inputs include Stats NZ data such as the Quarterly Estimated Resident Population (ERP) and border crossing data collected by the **NZ Customs Service.**

The combination of these data types allows high granularity (combinations of geography and time period), low latency estimates to be published that are representative of the entire visitor population.

4. When and where is the Tourism Volumes and Flows series published?

The series is published monthly by MBIE through the Tourism Evidence and Insights centre (TEIC) at: https://teic.mbie.govt.nz/teiccategories/datareleases/tv&f/

This includes pre-built visualisations and prepared .xlsx downloads for custom analysis. It is intended that the range of visualisations and downloads available will increase over time as more measures from the series are released.

5. How do I start using Tourism Volumes and Flows insights?

The simplest way to get started is to review the pre-built visualisations provided by MBIE in the Tourism Evidence and Insights Centre. Deeper and more targeted analysis can be performed via the available downloads. Here is a simple 3-step guide to approaching this analysis:

Step 1: Get the downloads and review the definitions

The TEIC page includes pre-built visuals that provide users with an overview of top level trends and dynamics as well as links for direct downloads. Downloads are provided as pre-prepared .xlsx spreadsheets that can be filtered or repurposed for specific user cases and analysed in your tool of choice.

💡 *Top Tip: As with any insights and data series, it is important to review the definitions of measures, classifications and segmentations to ensure that analysis is conducted and interpreted appropriately.*

An important note around using the data before you dive in - do not sum totals for geographic areas together. As daily counts are calculated based on the peak counts for a given day, you cannot add the data for two RTOs together to get a total for that combined area. Doing so may result in double-counting, as a visitor may be counted in both regions. The dataset provides correct totals for standard areas (like National and RTO-level). This is illustrated in the figure below.

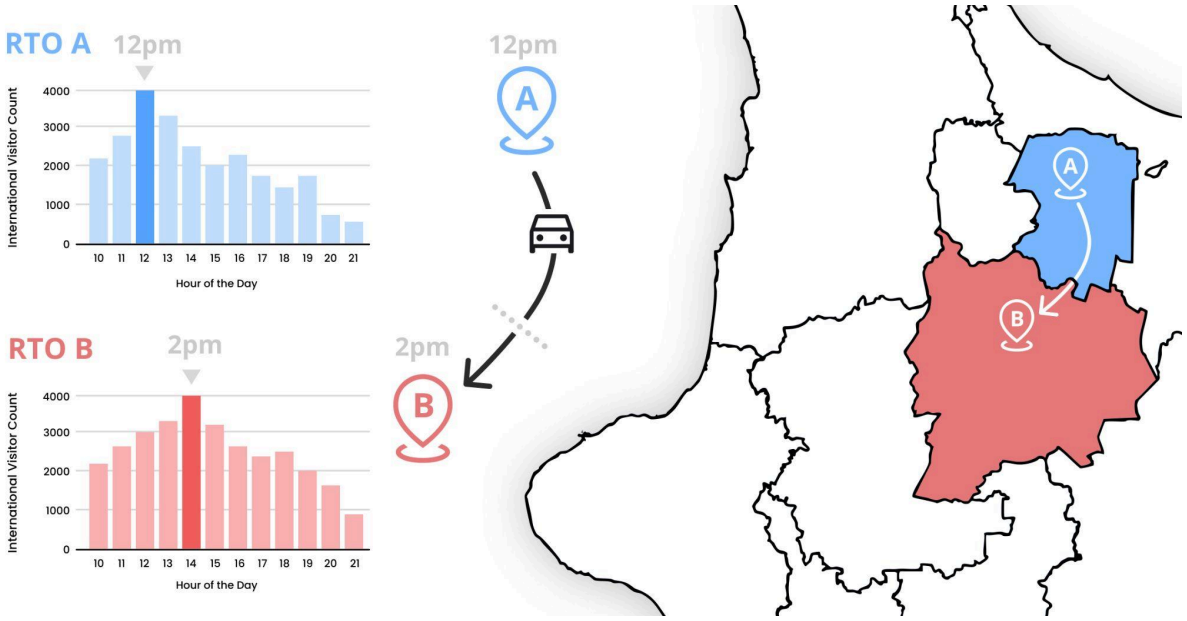


Figure 2 - Risk of double counting if summing values across multiple areas

Step 2: Open the file and Filter the Data

You can open the .xlsx files in a program like Microsoft Excel or Google Sheets. The data is in “long” or "unit-level" format, meaning each row contains a single observation.

The measures are separated for you into individual files (e.g. Visitor days, Monthly unique counts, Visitor nights), however these files still contain multiple segmentations and levels of aggregations, a single file may include multiple representations of the same figure and so users must be careful to filter the series to the required measures and selections. In this respect the available downloads are similar to those available through e.g. the Accommodation Data Programme (ADP) rather than MBIE spend datasets (MRTE/TECT).

💡 *Top Tip: As a guide, for simple analysis you should expect to have a filter applied to every column in the data, aside from date.*

The columns you will find are as follows. These may vary depending on the specific file preparation downloaded. See the key definitions section below for further detail..

Column (Variable)	Definition
Geographic_level_destination	The type of area for which the selected measures is being represented (e.g. RTO Area, Iwi Area of Interest)
Destination	The specific area chosen as destination of interest (e.g., 'Canterbury RTO', 'Christchurch City')
Destination Code	Destination Code is a unique identifier, that can be used as an alternative to filtering by the string field "Destination"
Temporal_resolution	The time period for which the measures relates to (e.g., 'Monthly')
Population_segment	The type of visitor (Domestic, International)
Date	The end date for the time period (specified by Temporal_resolution) which the measure relates to (e.g last day of month)
Value (Measure name)	The resulting value for the measure of interest, E.g. Visitor Days, based on selections above. All values are absolute visitor numbers unless otherwise stated and are rounded based on the rules in the privacy section below

Step 3: Ask a question and get insights!

The best way to start any analysis is by ensuring you have a clear question in mind!

Example question: "How many domestic visitor days did my RTO have last month?" To answer this, you would begin by filtering the Visitor Days file as per the example below.

Once filters are applied to all columns, the number in the value column for that row is your output or answer. From here, you can start tracking this measure over time to see trends (include additional selections in the 'Date' column), or compare it to other segments (include multiple selections in the 'Population_segment' column.

Column (Variable)	Definition
Geographic_level_destination	RTO
Destination	RTO of interest, e.g. 'Canterbury RTO'
Temporal_resolution	Monthly
Population_segment	Domestic
Date	Last day of month of interest — in this example the previous month (e.g., 31/08/2025)

💡 *Top Tip: A good rule of thumb when looking for actionable insights, is to focus on comparative trends within destinations across visitor types and over time, rather than absolute numbers. Shares of totals, proportions and changes over/across time provide relative benchmarks that are often more informative for making comparisons across datasets and not as significantly influenced by uncertainties in sample size and total scaling. Where absolute numbers are stated, it must be noted that these are estimates and may change over subsequent revisions.*

🛑 *Avoid: Using the Visitor Days / Visitor Nights and Monthly Unique Count measures for calculating and quoting a precise average stay length as an absolute figure - for example, stating that "the average international visitor stayed 3 nights in March." This is because visitor days and monthly unique counts use different denominators: visitor days are a cumulative of peak daily counts (which are a daily sample) while monthly unique counts count each visitor only once regardless of how long they stayed. Dividing one by the other does not produce a reliable per-visitor average.*

👍 *Do: Use the relationship between the two measures to identify directional trends. For example: "Average stay length by international visitors likely decreased over the past year, as international visitor days grew at a slower pace than monthly unique international visitor counts."*

Key Definitions & Terminology

The following sections provide summary definitions of the key measures and variables outlined above. For more information including acceptable values for each field, a full data dictionary is available for download through the TEIC. Note, some of the definitions provided below may not be available in the first TVF release, but are expected to be available in future releases.

1. Volumes Measures

- **Visitor Days / Visitor Nights:** The main measure of 'busyness'. It is the cumulative sum of daily peak daytime / nighttime visitor counts respectively over a specific period (e.g., monthly).
  - Example: One visitor staying for 4 days contributes 4 visitor days to the total.
  - Importantly, it is not a count of unique visitors (see monthly unique counts below).
- **Peak Daytime / Peak Nighttime:**The maximum number of visitors estimated to be in a specific area during any single hour within the defined period
  - Daytime: 10:00 AM – 9:00 PM
  - Nighttime period: 11:00 PM – 6:00 AM
- **Monthly Unique Counts:** A measure of the total number of unique individuals (e.g., unique domestic visitors) who were present in a destination at least once during a given month, regardless of length of stay. Example:
  - One (1) visitor who visits twice in the same month contributes 1 unique count.
  - A group of 3 visitors in a region for 1 hour, contributes 3 unique counts.

Note: In some cases and especially for regions that see significant transit, monthly unique visitor counts can exceed monthly visitor days. This is because for unique counts every device is counted irrespective of the time of day it is recorded in a given area or the duration of visit. Hence the daily unique visitor count can exceed the daily peak visitor count.

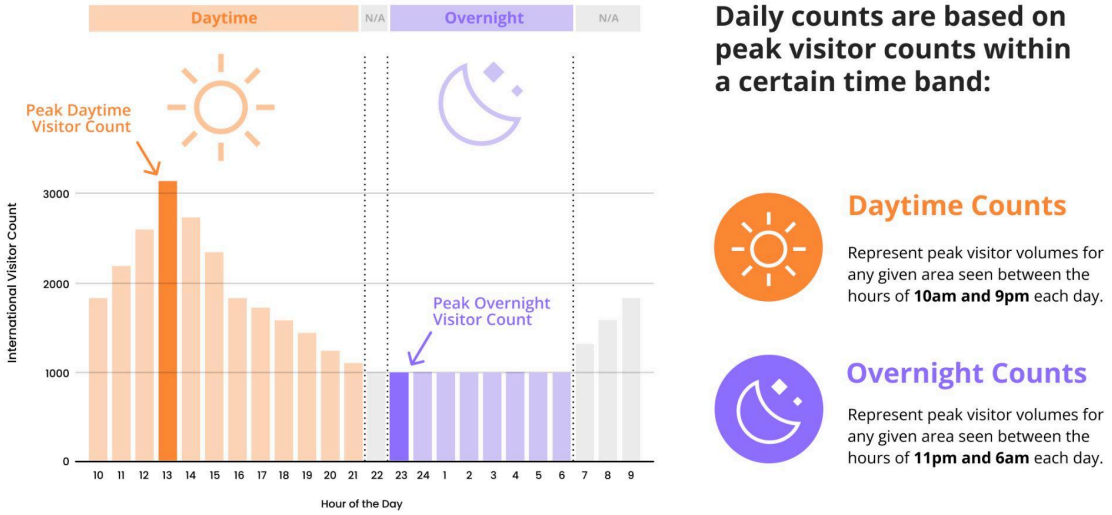


Figure 3 - Daily counts are taken as the peak during given time bands

2. Flows Measures

- **Visitor Days by Visitor Origin**: The estimated breakdown of total monthly visitor days in a destination by key visitor markets (visitor origin). These are represented as NZ Regions and International Market Groups. This measure provides insight into the market mix and visitation trends within the different visitor markets.

3. Visitor Population Segments

- **Domestic Visitor:** A New Zealand resident who is currently outside their home RTO area (as defined below) and not within an associated commuting region.
- **International Visitor (Total):** A non-resident visiting New Zealand for less than 12 months (365 days), in line with the official definition from Stats NZ.
- **International Visitor (Short-stay):** An international visitor in NZ for 0 to 90 days and hence a sub-set of International Visitor (Total). Note that International Visitor (Long-stay) is not currently provided as a segmentation in the output as the dynamics within this segment are not as reliable, given the challenge in isolating a true long-stay visitor from a recent migrant to the country who is otherwise classified as NZ resident / domestic visitor.

💡 *Note: International visitor numbers are for the most recent 90 days are highly provisional. Visitors are initially classified as short-stay on arrival. Those who remain in New Zealand beyond 90 days are retrospectively reclassified as long-stay across their entire period of stay, once the 90 day stay has materialised. This means short-stay values will ordinarily be revised downward and long-stay values revised upward in successive deliveries until classifications are confirmed - typically 3-6 months following an*

international's first entry into New Zealand, and recognition inside the TV&F data series.

👍Use: Total International visitor figures when comparing year-on-year trends for recent periods. This measure is not materially affected by the reclassification and is stable across deliveries.

🛑Be Cautious when: Comparing short-stay figures year-on-year until at least 90 days have elapsed since the period in question. For example, data for January 2026 should not be compared at the sub-segment level until the April 2026 delivery at the earliest.

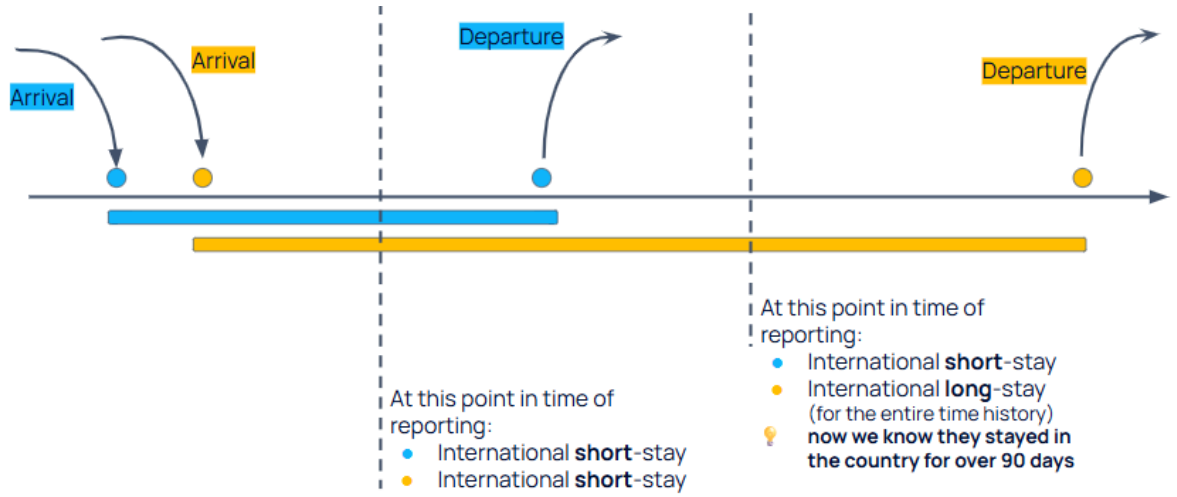


Figure 4 - International visitors classifications are revised over time

4. Geographic Level / Destinations

The series provides various options for selecting destination area definitions that are most appropriate for your use case. All areas are aligned with standardised definitions published by either Stats NZ or Te Puni Kōkiri (TPK) for use alongside other standard data sources. A list of references is provided at the end of this document.

- **National:** This covers the whole of New Zealand.
- **Region:** Regional Council areas (e.g., 'Canterbury Region').
- **Regional Tourism Organisation (RTO) Area:** These are based on the official Stats NZ RTO area definitions, as of August 2025, which includes areas without an active Regional Tourism Organisation. Hence for clarity, they are named by the area they represent (e.g., 'Canterbury RTO') rather than their commercial brand name.
- **Territorial Authority (TA):** These are the official Stats NZ city and district council areas (e.g., 'Christchurch City').

- **Iwi Areas of Interest (AoI):** Are based on the definitions published by Te Puni Kōkiri. Note that unlike the other area definitions, Iwi Areas of Interest are not mutually exclusive and can overlap. Users should be also aware that more than one group may have interests in any given area. Hence further caution must be exercised when considering groups of AoIs together. For further information, refer to Te Puni Kōkiri glossary (https://www.tkm.govt.nz/glossary/) and disclaimer (https://www.tkm.govt.nz/disclaimer/) for these datasets.

5. Temporal Resolution

Within the dataset, the measures are provided at several different time scales (known as "temporal resolutions") to support different types and interests of analysis. Daily data is aggregated to Weekly, Monthly, Quarterly, Seasonally, and Yearly as cumulative measures, such as “Visitor Days” and “Visitor Nights”. Dates are provided as the last day in the given period. For example, a monthly value for January 2025 would have the date "2025-01-31".

Where there are any data gaps, averaging is applied across the days present in the period (as long as there are enough days to make that valid). These daily gaps are notified in the Known Data Gaps section below.

Key points relating to the temporal definitions are listed below:

Daily:

- Provided as "Peak Daytime" or "Peak Nighttime" volume for a *single day* and is the baseline measure for calculation of higher level aggregations.
- How it's calculated: It's the maximum visitor count recorded during any single hour within that day's time band - *See figure 4 above*:
    - Daytime: 10 AM and 9 PM
    - Nighttime: 11 PM – 6 AM (the following day).

Weekly:

- How it's calculated: It's the sum of the "Daily" peak counts over the 7 peak daytime or nighttime counts from each day of that week. Weeks are taken as Monday - Sunday.

Monthly:

- Monthly “Visitor Days” represent the sum of "Peak Daytime" counts for a month. Monthly “Visitor Nights” represent the sum of "Peak Nighttime" counts for a month. Note this means cumulative totals are subject to variation based on

number of days, so may be best averaged if comparing across months of different lengths.

- "Monthly Unique Counts" represent individual visitor counts irrespective of stay length. For example one visitor staying for 7 days equates to 7 visitor days, but only to 1 unique visitor.

Seasonal:

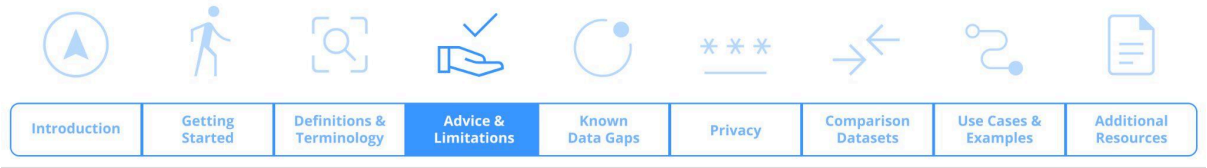
- Sum of daily counts over the Southern Hemisphere seasons:
  - Summer (peak): December, January, February
  - Autumn (shoulder): March, April, May
  - Winter (off-peak): June, July, August
  - Spring (shoulder): September, October, November

Quarterly:

- As for seasonal, following the standard fiscal year definitions:
  - Q1: January, February, March
  - Q2: April, May, June
  - Q3: July, August, September
  - Q4: October, November, December

Yearly:

- Based on the rolling available 12 months dating back from the reference month. Example: Yearly value for 31 July 2025 = cumulative total for August 2024 to July 2025, inclusive.



Publication Advice & Limitations

Like all insights and data series that rely on large-scale data samples, MBIE Tourism Volumes & Flows has specific limitations and characteristics you should be aware of.

1. Recent publications are provisional

It's important to note that the most recent 14 months of the series are always provisional and are subject to ongoing updates as more recent data becomes available to inform the "Ground Truths" used in the TVF. This is most material in the international visitor segments.

Why? A number of the official statistics used as inputs to the TVF are subject to embargoes and revisions over time. This is due to updates to official population models. In particular international visitor counts are prone to change as international arrivals data is revised e.g. following confirmation of whether an individual is truly an international visitor or rather a migrant who initially entered the country on a tourist visa.

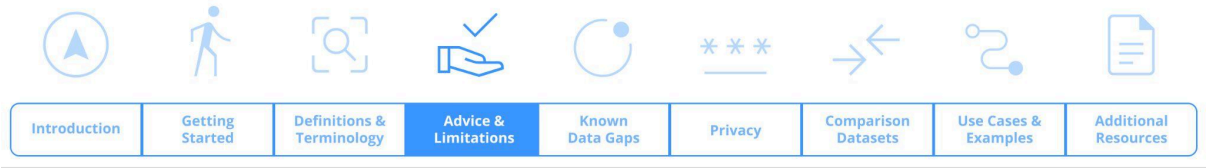
What it means for you: You can use the most recent data to track current trends, but be aware that these numbers may be updated in future data releases. Changes in the most recent 3 - 4 months of data can be expected to be most material (as classification of an international visitor as a short-term or long-term is confirmed) and can be expected to be relatively minor after that. Note that these effects may be exaggerated during periods of unusual visitor activity such as extreme weather events or large scale major events.

2. Outputs are modelled estimates, not measured actuals

Estimates are based on a sample of devices, NOT direct observations of people. Whereas the sample size is sufficiently high to be considered statistically robust, and subject to extensive validation against benchmark indicators, we cannot be certain it is 100% representative of the populations being represented. In particular, the higher the granularity, the less precise we can expect the measures to be as sample size reduces and there is more variability in the actual behaviours being modelled.

3. Variations in data collection infrastructure can manifest in outputs

The data is derived from hardware and software interactions and is sensitive to network conditions and usage patterns . Because TVF relies on devices connecting to cell towers



or transmitting GPS signals, it can be impacted by physical network changes (e.g., tower maintenance or outages), data collection hardware failure and changes in the panels of applications used to collect GPS data. Extensive quality assurance is conducted on all raw data sets and at all stages of the modelling pipelines to ensure these effects are identified and mitigated where possible.

💡 *The incident summarised in Appendix section Additional Details re. Jan '26 Data Quality Event is a real world example of this type of limitation.*

4. Representativeness varies across measures and segments

Different visitor segments have different characteristics and behaviour patterns, including how they use technology. For example, not every member of a family group will carry or use a roaming mobile device while travelling. As a result, accuracy and representativeness can vary across measures and segments. This is particularly the case when looking at origin market level detail, where sample sizes can differ.

Weighting is applied at multiple stages of the methodology to adjust for these differences, but estimates for smaller markets and segments are still less precise. Users should take extra care when comparing across origin markets or drawing conclusions from small segments. A few specific points to keep in mind are set out below:

Long stay international visitors: The longer an international visitor is in the country, the harder it becomes to reliably distinguish them from recent migrants based on observed behaviour alone. For this reason, long stay international visitors are not currently reported as a separate segment in the public outputs, and any figures derived by subtracting short-stay from total international visitors should be interpreted with caution.

International visitors using travel SIMs: The mobility data sample identifies international visitors whose devices are roaming on New Zealand networks and/or have a regular pattern or reported usage in another country. Visitors who switch to a temporary domestic device or travel SIM may not be directly observed in the same way. TVF adjusts for this using official statistics on international visitor arrivals and stays, assuming that the observed roaming devices provide a reasonable proxy for the wider visitor cohort.

Night time counts are generally less robust than daytime equivalents: Overnight measures can be influenced by reduced device activity, such as phones being turned off, placed in flight mode, or located in low coverage areas. Additionally, regular network maintenance that can impact the quality of the raw data used in the TV&F model is most often conducted at night and hence nighttime estimates are impacted to a greater extent and subject to a broader range of outages and data quality exclusions. Night time figures (Visitor nights) are therefore best used to track patterns and trends, rather than as an exact measure of visitor volume and should generally be considered indicative vs. the

more precise daytime equivalents (Daily peak, Visitor days). For this reason, peak nighttime counts are not included in the public release.

💡 *See the Known Data Gaps section below for a full list of exclusions impacting the Visitor night measure*

5. Domestic Visitors defined as resident traveller outside of home RTO area

In the Tourism Volumes and Flows (TVF) series, a Domestic visitor is defined as a New Zealand resident who is currently outside their home Regional Tourism Organisation (RTO) area. Residents who travel and undertake tourism activities within their home RTO (for example, an Auckland resident staying overnight in the Auckland CBD) are classified as Local residents, not Domestic visitors. As a result, intra-regional tourism is not captured in the Domestic visitor segment.

Note this definition applies across all geographic levels of reporting, including the Flows dataset, where domestic visitor origin is reported at Regional Council (RC) level. Visitors travelling outside their home RTO will appear in the Visitor Days by Origin measure even if their origin and destination fall within the same RC. For example, a Rotorua resident visiting Tauranga would appear as a domestic visitor - both cities sit within the Bay of Plenty RC, but they are in different RTO areas. By contrast, a visitor from Ashburton to Christchurch City would not appear as a domestic visitor, as both fall within the Canterbury RTO area.

A domestic device's home location is inferred from behaviour using its most common evening location over a recent reference period. This approach works well for most residents but has a known limitation:

- If a domestic visitor stays at a secondary location, such as a holiday home, for an extended period, that location may be temporarily reclassified as their new home.
- During this period they will be counted as a Local resident in that area rather than as a Domestic visitor.

To account for this limitation, the TVF methodology corrects for them during peak periods, when long-stay domestic visitation to second homes is most pronounced by estimating these **long-stay domestic** counts and reallocating them from the local resident pool back into the Domestic visitor segment. Outside of peak periods this correction is less robust, as it is harder to distinguish long-stay domestic visitors from, for example, recent migrants.

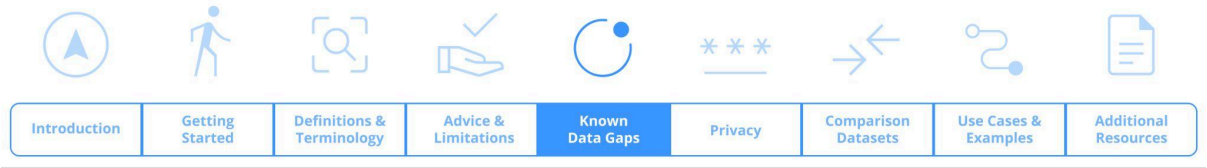
Known Data Gaps

1. Series-wide exclusions

The TV&F series are subject to extensive diligence and quality assurance processes on all source datasets. Given the complexity of the source data collection and size of the dataset, there are occasionally inconsistencies or dynamics not relevant to intended measurements (e.g. planned maintenance on mobile networks) that cannot be rectified. In these cases the relevant dates are excluded from the published insights series. As of February 2026 there are a total of 30 days with exclusions, as outlined in the table below.

Outlier Start	Outlier End	Days Excluded	Period Affected
2024-03-14	2024-03-14	1	Nighttime only
2024-05-08	2024-05-08	1	Nighttime only
2024-05-27	2024-05-28	2	Day and night
2024-05-30	2024-05-30	1	Nighttime only
2024-06-04	2024-06-05	2	Day and night
2024-06-10	2024-06-11	2	Day and night
2024-12-08	2024-12-08	1	Nighttime only
2024-12-31	2024-12-31	1	Nighttime only
2025-01-23	2025-01-23	1	Daytime only
2025-02-23	2025-02-25	3	Day and night
2025-05-11	2025-05-12	2	Nighttime only
2025-07-21	2025-07-21	1	Daytime only
2025-09-11	2025-09-11	1	Nighttime only
2025-09-12	2025-09-12	1	Daytime only
2025-09-30	2025-10-02	3	Day and night
2026-01-16*	2026-01-16	1	Nighttime only
2026-01-17*	2026-01-17	1	Day and night
2026-01-18*	2026-01-21	4	Nighttime only
2026-01-22*	2026-01-22	1	Daytime only
2026-02-19	2026-02-19	1	Nighttime only

For higher level temporal aggregations (weekly, monthly, etc.) the effect is mitigated by imputation of missing data, however, at the daily level the data gap is deliberately retained. Note, that those marked with an asterisk are part of the same Data Quality



Event, which occurred 16 - 23rd January '26. Further detail on this event is provided in the Additional Resources section of this document.

2. Geographic specific exclusions

Given the nature of network maintenance and outages most commonly occurring at night, overnight counts (aggregated to the Visitor nights metric) are more frequently impacted by localised data quality concerns and hence are subject to an additional set of localised exclusions. These are summarised below:

Ongoing exclusions: Visitor nights values are excluded for the following destinations across all dates due to persistent localised data quality concerns affecting nighttime telco coverage in these areas.

Geographic level	Destinations excluded
Region	Canterbury Region, Wellington Region
RTO	Canterbury RTO, Wellington RTO
Territorial Authority	Christchurch City, Lower Hutt City, Upper Hutt City, Porirua City, Wellington City

Date-specific exclusions: Visitor nights values are excluded for the following destination and date combinations, where localised infrastructure events affected nighttime data quality for a limited period. Weekly and monthly aggregations that include the affected days are also excluded.

Period	Destinations affected	Weekly dates excluded	Monthly dates excluded
June 2024	Waikato RTO, Hamilton City	2 Jun, 16 Jun, 23 Jun 2024	30 Jun 2024
July 2025	Hawke's Bay RTO, Wairoa District	6 Jul, 13 Jul 2025	31 Jul 2025
Oct–Nov 2025	Rotorua RTO, Rotorua District	12 Oct, 19 Oct, 26 Oct, 2 Nov 2025	31 Oct 2025

Privacy Considerations

The Tourism Volumes and Flows series is built on privacy-forward datasets and has been subject to a Privacy Impact Assessment (PIA) to ensure the methodology complies with the Privacy Act 2020 and does not pose any risks to individuals. Key aspects include:

- **Anonymised at the Source:** All personal information (like names, phone numbers, or specific device identifiers) is removed or hashed, making it impossible to link data back to an identifiable person.
- **Focus on Aggregated Patterns:** The final product only shows aggregated totals. For example, it answers "How many domestic visitors were in a region?" not "Where is a specific person?".
- **Suppression of Low Counts:** Any outputs of low enough counts that could feasibly allow for identification of any individual or group of individuals is suppressed / rounded as per the rules below.

1. Data Suppression

"Suppression" is a confidentiality technique used when data for a specific, granular measure is based on a very small sample size. This is a key part of protecting privacy, but it also ensures data quality.

TVF uses defined "sample size thresholds". If the number of devices in the sample for a specific measure (e.g., visitors from one country to a small TA on a single day) is below this threshold, the data point is not shown at that detailed level. This process ensures that the dataset protects individual privacy while providing stable and reliable insights for decision-making.

2. Rounding

All outputs, aside from 0-1 ratios, are rounded using graduated random rounding adopted with minor changes from the Stats NZ '[Microdata output guide]'. As a result, subtotals may not always equal totals. Ratios are rounded to two decimal places. Low-count O/D cells are suppressed using stable rules to avoid back-calculation.

Count magnitude	Rounded to base
0 - 18	3
19	2
20 - 99	5
100 - 9,999	10
10,000+	100

Comparison to Common Datasets

This section provides high level guidance on how Tourism Volumes and Flows (TVF) relates to other commonly used tourism datasets. In all cases, it is important to remember that different sources use different definitions, methods and samples. These differences mean that numbers are not directly comparable, even when names such as "domestic visitors" or "visitor days" sound similar.

1. Previous mobility based datasets

Users of TVF may be familiar with earlier mobility based series that have now been discontinued, in particular:

- **Visitor and Local Population Estimates (VLPEs)** published by Tourism New Zealand, which provided estimates similar to visitor days measures.
- **Monthly Unique Regional Population Estimates (MURPEs)** published by MBIE, which provided estimates similar to monthly unique population counts.

Users should exercise caution when using these series alongside TVF. For example, comparing visitor days from TVF directly with visitor days in 2019 from the VLPEs is not recommended. The series are not directly comparable due to definitional and technical differences. The most important of these are outlined below.

TVF and both previous datasets

- **Area definitions:** VLPEs and MURPEs were based on the 2020 Regional Tourism Organisation (RTO) boundaries. TVF is based on updated 2025 geographic definitions from Stats NZ. This affects which locations fall inside each RTO and can change totals over time.
- **Population weighting:** Different methodologies were used to weight device samples to population totals. Documentation for VLPEs and MURPEs does not fully describe the approach taken, and back testing shows that the weighting methods produce different totals from TVF.

TVF (volume measures) compared with VLPEs

- **International definition:** VLPEs defined international visitors as those in New Zealand for up to 90 days, but with the stated limitation that the underlying device data did not distinguish international devices by length of stay. TVF applies

updated device definitions and explicitly segments international devices into different length of stay categories, aligned with the Stats NZ international visitor definition. This allows better identification and exclusion of migrant's devices. In practice, TVF often reports lower counts of short stay international visitors in large urban areas and regions with sizable seasonal workforces, and higher counts in destinations that are primarily tourism focused.

- **Daily measure:** VLPEs used a fixed 12 noon snapshot as the daily metric. TVF uses the "Peak Daytime" measure, which is the busiest hour between 10 am and 9 pm and can occur at different times in different places. This provides a more accurate reflection of peak visitation. Peak Daytime counts are reported at several geographic levels. Summing counts across smaller areas to create your own larger totals (for example adding together two districts to make an RTO) can lead to double counting of visitors who move between those areas during the day.
- **Commuter and "long-stay domestic" (e.g. use of holiday homes) corrections:** TVF applies specific methodologies to remove inter-region commuters from domestic visitor counts and better separate long-term domestic visitors from internal migrants. These were not applied in the VLPEs with varying impacts on comparability.

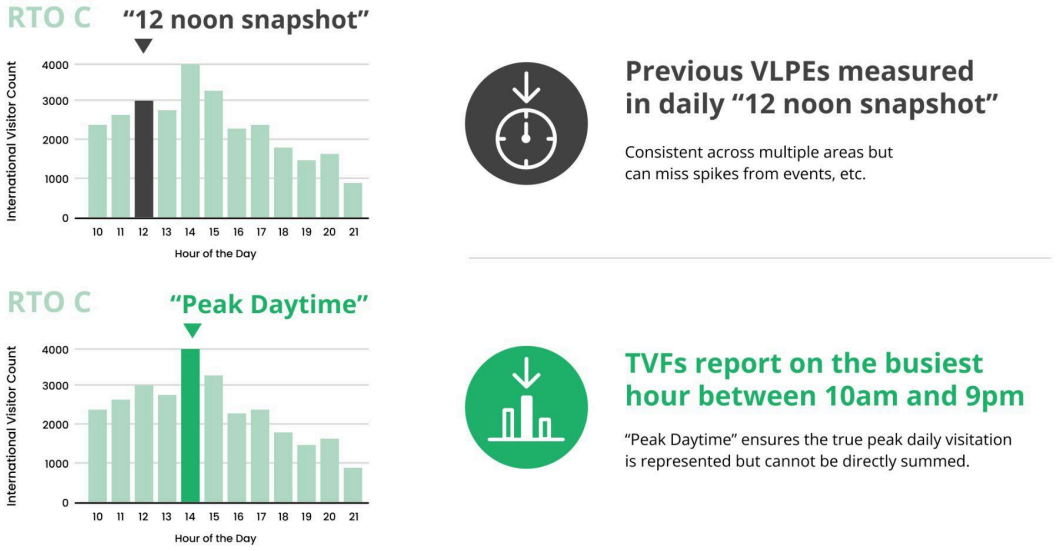


Figure 5: TVF measure of peak daytime counts differs from previous models (e.g. VLPEs) that have used a 12pm / noon snapshot as the daily metric.

TVF (monthly unique counts) compared with MURPEs

TVF also provides monthly unique counts that may appear similar to MURPEs at first glance. However, the underlying definitions and methods differ.

- In general, national level international monthly unique counts in TVF are similar to those in MURPEs, although there are some regional differences.
- Domestic monthly unique counts in TVF are typically higher than in MURPEs at both national and regional levels, reflecting differences in definitions, device classification and weighting methods.

Because of these differences, users should avoid treating TVF monthly unique counts as a direct continuation of MURPEs or combining them into a single time series.

2. TVFs vs. Other Benchmarks

TVF is most powerful used alongside other tourism datasets such as spend data, accommodation performance and other visitor survey data. These combinations can be powerful for insight, but the same caution about definitions applies.

TECT & MRTEs (Visitor Spend)
How to use them together:

- Compare TVF visitation measures such as visitor days with spend measures from TECT or the Monthly Regional Tourism Estimates (MRTEs) to understand how average spend may be changing over time.
- Focus on changes in trends, patterns and relative movements, rather than calculating precise average spend per visitor.

Key definitional difference:

- In TVF, domestic visitors are defined as New Zealand residents travelling outside their home RTO area, excluding commuting.
- In TECT and MRTEs, domestic spend is currently defined based on spend outside a 40 kilometre radius of the home territorial authority's main urban centre.

These different definitions mean that domestic segments will not line up exactly between the two sources.

Accommodation Data Programme (ADP)

How to use them together:

- Compare TVF visitor days with ADP guest nights to understand changes in the balance between day trips and overnight stays.
- Compare TVF visitor nights with ADP guest nights to monitor the share of overnight visitors staying in commercial accommodation.
- Focus on trends, such as whether visitor nights are growing faster or slower than guest nights, rather than precise proportions.

Key definitional difference:

- ADP guest nights cover only commercial accommodation, and the classification of visitors as domestic or international is made by accommodation providers.
- Unlike ADP, TVF captures visitation regardless of whether the visitor stays overnight, and if they do, regardless of accommodation type. This means TVF daytime counts represent visitor activity from both day-trippers and overnight visitors. Overnight counts capture visitors staying in commercial accommodation, non-commercial accommodation (such as holiday homes, vacation rentals / "Airbnb's" and freedom camping), and those visiting friends and relatives.

International Visitor Survey (IVS)

How to use them together:

- Use TVF volumes and flows to understand how many international visitors from a particular market are in a region and how this changes over time.
- Use IVS to understand why those visitors come, what they do, how they spend and to investigate detailed itineraries and activities.
- Together, TVF can answer the "how many" and "when and where" questions, while IVS provides the detailed demographic and behavioural context.

Key definitional and methodological points:

- International visitor definitions used in TVF are aligned with the Stats NZ concepts that also underpin the IVS.
- TVF metrics are based on large scale, passively observed population samples that are calibrated to official totals. IVS estimates are derived by weighting a smaller survey sample of individual visitors with much greater depth of information.

- IVS insights are therefore best used to add depth and context to the visitor groups represented in TVF, rather than as a one to one numerical match for TVF volumes.

💡 *Top Tip: Good practice when combining datasets: When drawing insights across sources that are similar but not fully comparable, it is good practice to:*
👍*Focus: On comparative trends within destinations, across visitor types or markets, and over time.*
👍*Use: shares of totals, proportions and changes over time as relative benchmarks rather than relying on absolute numbers.*
🛑*Be Cautious: About making bold numerical statements that imply a single, precise answer when definitions differ between sources.*

For example, rather than calculating a single average spend per visitor market by dividing total spend from TECT or MRTEs by a visitor count from TVF, it is usually more robust to state that spending appears to be growing faster or slower than visitor numbers for a given market or destination.

Putting The Insights to Work: Use Cases & Examples

This section gives practical examples of how Tourism Volumes and Flows (TVF) can be used in everyday decisions. The examples are designed to be illustrative, not prescriptive.

1. Understanding visitation during a major event

Scenario	Tourism Operators in Taupō district want to understand the visitor impact of the Taupo Supercars event, including the scale of uplift during the event and how quickly visitation returns to typical levels before and after.
TVF download	Volumes: Peak daytime visitors
Suggested filters	- `Geographic_level_destination`: Territorial Authority (max. res.) - `Destination`: the TA where the event occurred (e.g. `Taupō District`) - `Temporal_resolution`: Daily - `Date`: event date(s) +/- 7 days - `Measure`: Peak daytime `-Population Segment:` Total Visitor
Steps	- Use the same event period in a previous year as a benchmark - Consider comparability of context (time of year, weather, other local events) - Look at visitation in the days either side of the event window to assess lead-in and tail-off
What it tells you	- The scale of visitor uplift during the event relative to typical seasonal volumes for that period - The peak daytime count during the event window - How far before the event visitors typically arrive, and how long they remain after - Year-on-year change in event-period volumes (if the event is annual)
Things to keep in mind	- TVF counts all visitors present in the TA, not event attendees specifically - other activity in the area during the same period may contribute to the figures - Event attraction is also subject to factors such as capacity, ticket sales and weather conditions

💡 ***Quick ideas for further exploration***

Event impact*: Compare daily peak visitation and cumulative visitor days in an event week with the same week in previous years for the same area to gauge relative uplift, rather than calculating a precise number of "event visitors."*

2. Destination marketing example: choosing a winter target market

Scenario	An RTO wants to design a winter campaign and decide which domestic market to focus on. For most immediate impact, they want to identify which domestic origin RTO already generates th e most winter visitor days in their destination.
TVF download	Flows: "Visitor days by Origin" file
Suggested filters	- `Geographic_level_destination`: RTO - `Destination`: the RTO (for example `Canterbury RTO,` or Destination_code `'RTO_2025_29'`) - `Origin_market`: the domestic region or international market (for example, United Kingdom, or Destination_code `'INT_2025_006'`) - `Temporal_resolution`: Seasonal - `Date`: winter season end date (for example `2025-08-31`) - `Measure`: Visitor days by visitor origin `-Population Segment:` Domestic
Steps	- Apply the filters above in the Flows file. - Sort the `Visitor_days` (measure that displays corresponding values) column from highest to lowest. - Identify the domestic origin RTO at the top of the list (for example `Waikato Region`).
What it tells you	Shows which domestic origin RTO currently contributes the most winter visitor days. This helps the RTO prioritise which markets to target with a winter campaign.
Things to keep in mind	- Treat values as indicative of relative scale, not exact headcounts. - Do not sum across destinations. - Use alongside other information such as airline capacity, partnerships and brand fit.

💡 ***Quick ideas for further exploration***

Domestic vs. International Mix: *Use the Volumes file to track how the balance of domestic and international visitor days is shifting in your destination over time. To go deeper, use Flows by origin to understand which domestic regions or international markets are driving those changes.*

3. Tourism business example: are shoulder seasons strengthening?

Scenario	A motel wants to know whether shoulder seasons are strengthening. They want to see if more visitors are staying overnight in spring and autumn over time.
TVF download	Volumes file
Suggested filters	- `Geographic_level_destination`: RTO - `Destination`: their RTO (and corresponding Destination_code) - `Temporal_resolution`: Monthly - `Date`: shoulder season months of interest (for example April, May, September and October for the last 2 years) - `Measure`: Visitor days and Visitor nights `-Population Segment:` Total Visitor
Steps	- Filter the Volumes file to the selected months and the two measures. - For each month, compare how `Visitor days` and `Visitor nights` change from year to year. - Optionally, calculate a simple ratio: `Visitor nights` divided by `Visitor days` by month, as an indicator of the balance between day trips and overnight stays.
What it tells you	If visitor nights are growing faster than visitor days over time in shoulder months, this suggests more visitors are staying overnight rather than visiting just for the day. This can support decisions about staffing, pricing and the timing of promotions.
Things to keep in mind	- TVF does not identify accommodation type, so this shows regional patterns, not motel specific demand. - Use alongside the motel's own booking data. - Focus on trends over several years rather than any single month.

💡 ***Quick ideas for further exploration***

Weekday vs. Weekend Balance*: Use daily* `Peak daytime` *to compare typical weekdays with weekends, to understand where there may be opportunities to shift demand*

4. Local government example: planning for peak summer load

Scenario	A local council wants to understand the maximum visitor load on local infrastructure during summer. They want to find the single summer day with the highest peak daytime visitor count in their area.
TVF download	Volumes file
Suggested filters	- `Geographic_level_destination`: Regional Council or Territorial Authority (Region or TA) - `Destination`: the council area (for example `Taupo District`) and corresponding Destination_code - `Temporal_resolution`: Daily - `Date`: summer period (for example from 2024-12-01 to 2025-02-28) - `Measure`: Peak daytime -`Population Segment:` Total Visitor
Steps	- Apply the filters listed above - Sort the `Peak daytime` (measure that displays corresponding values) column from highest to lowest - Identify the day with the highest `Peak daytime` value.
What it tells you	Indicates the busiest single day of summer in terms of total visitors present during the daytime peak. This can inform infrastructure capacity planning and operational resourcing.
Things to keep in mind	- Focus on an approximate range rather than a precise count, as values are modelled estimates. - Consider residents as well as visitors when planning capacity. - Check whether the identified day coincides with known events, weather or other local factors.

💡 Quick ideas for further exploration

Benchmarking: Extract the daily data for other similar areas / regions and plot on a line graph to explore how the infrastructure loading challenges compare across regions.

💡 *Remember: All examples should be interpreted in line with the limitations described earlier: focus on patterns and relative movements, be cautious with small segments, and avoid summing across multiple destinations or combining TVF figures directly with older series.*

Additional Resources

1. Frequently Asked Questions (FAQs)

A collection of common user questions will be available for download from the TEIC shortly after release. If your question is not answered there please contact us via TVF@vistr.nz

Vistr are committed to ensuring the MBIE Tourism Volumes and Flows data series evolves to meet the needs of the industry, and we welcome your insights to help refine future releases.

2. Geographic Standards and Key Definitions

Official Area Definitions: Includes definitions for:

- Regional Council (2025) (RCs)
- Regional Tourism Organisations (2025) (RTOs), and
- Territorial Authorities (2025) (TAs), all published by Stats NZ.

Iwi Areas of Interest: Are maintained and published by Te Puni Kōkiri (TPK) and used with permission under the Creative Commons Attribution 4.0. Important notes:

- These shapefiles were created by tracing over the borderlines in georeferenced images created from maps provided by iwi or from Treaty Settlement documents.
- Users should note that Iwi Areas of Interest are based on data provided by iwi organisations and interested parties. Te Puni Kōkiri who provided the spatial dataset acknowledges there may be some inaccuracies.
- Users should be also aware that more than one group may have interests in an area of interest. For further information, refer to Te Puni Kōkiri disclaimer for these datasets (https://www.tkm.govt.nz/disclaimer/).

International Tourism Definitions: Based on standards from the UN World Tourism Organization (UNWTO) and Stats NZ International Travel definitions.

💡 ***Disclaimer for iwi areas of interest:*** *The presence of the data in this feature class does not imply any warranty, representation, endorsement or statement about the currency, completeness or accuracy of the information by the Ministry of Business, Innovation and Employment, Te Puni Kōkiri, or the Crown.*

3. Additional Details re. Jan '26 Data Quality Event

Stakeholders are advised a material issue was identified in one of the raw data inputs affecting the week 17–23 January 2026. Vistr has reconstructed the affected data to published standards, however additional caution is advised when analysing daily data for this period.

Detail

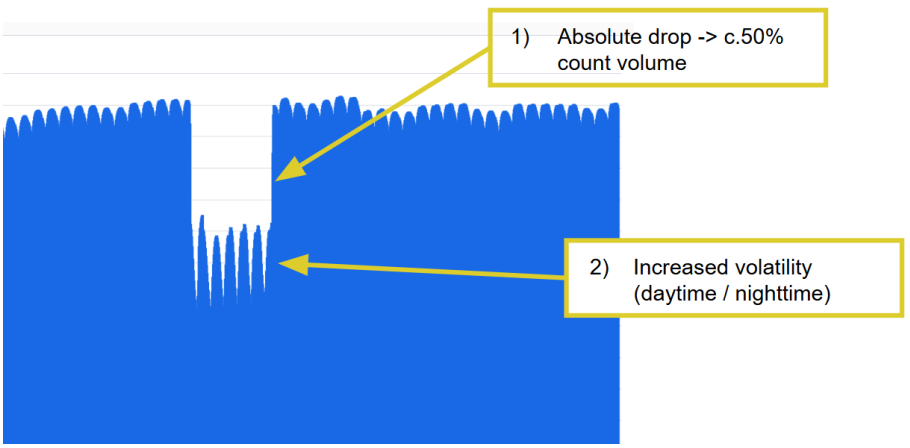
During production of the January 2026 Tourism Volumes and Flows release, Vistr identified an upstream hardware failure within the telco network monitoring equipment. This equipment collects aggregated connection statistics used as input to the Volumes and Flows model.

The failure resulted in significantly lower reported counts for the week of 17–23 January, with non uniform impacts across locations and population segments. If left unaddressed, this would have created an artificial dip in visitor volumes during a peak period.

Rather than exclude the affected week, Vistr undertook a structured reconstruction process, including modelling adjustments and multi layer review across all SA2 areas and population segments. The corrected outputs have been validated against event schedules and regional intelligence.

Two individual daytime periods (17 and 22 January) remain excluded from daily reporting. Higher level aggregates (weekly and monthly) remain representative, as they are calculated from available days, although precision for that week is slightly reduced. Users are advised to exercise additional caution when conducting analysis at a daily level for 17–23 January.

Figure - illustration of reduction of raw count volume in telco data feed (hourly counts).



People, Places
and Patterns