

# Tourism Research

## Guide to tourism data sources, methodologies and definitions

### Introduction

The Tourism, Events and Visitor Economy (TEVE) research unit of the Department of Economic Development Transport and Resources (DEDJTR), analyses and collates a range of research and statistics relating to tourism in Victoria. This document outlines the key data sources used, their methodology and definitions, as well as limitations and caveats.

#### Key data sources include:

- National Visitor Survey (NVS) – Tourism Research Australia (TRA)
- International Visitor Survey (IVS) – TRA
- Tourism Forecasts - TRA
- Overseas Arrivals and Departures (OAD) - Australian Bureau of Statistics (ABS)
- Tourism Satellite Accounts (TSA) –ABS, TRA

### Indemnity/Disclaimer

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### Definitions

A tourist (in accordance with the United Nations World Tourism Organization) is defined as someone who is away from home for less than one year continuously, for the purposes of leisure (including holiday and visiting friends and/or relatives), business, education, employment or other personal reason, other than to be employed by a resident entity in the country or place visited.

**International Overnight Visitors** have stayed in Australian for less than one year and are departing through one of the eight major international airports. Passengers who depart via another gateway, or via other transport methods such as cruise ships are not captured within the survey however are included in the benchmarked results (please refer to International Visitor Survey methodology).

**Domestic Day Trip** visitors are those who have travelled for a round trip distance of at least 50km, are away from home for at least 4 hours and do not spend a night away from home as part of their travel. Same day travel as part of overnight travel is excluded, as is routine travel such as commuting between work or school and home.

**Domestic Overnight Visitors** are those who have taken a trip away from home for at least one night (and less than one year), at a place at least 40km from home. A person is a visitor to a location if they stay one or more nights in the location while travelling.

Net visitor numbers are reported within each geographic region: for example, if a visitor has a stopover of one night in Benalla and one night in Wangaratta, they are counted as a single visitor to the total High Country region.

**Visitor nights** is a measure of the total number of nights spent by overnight visitors on overnight trips (e.g. one visitor can spend several nights away).

Example – An interstate overnight visitor to Melbourne and the Goldfields who stayed 4 nights on their trip (2 in each destination) is counted as:

- 1x interstate overnight visitor to Melbourne spending 2 nights
- 1x interstate overnight visitor to Goldfields staying 2 nights
- 1x interstate overnight visitor to Victoria spending 4 nights

Note that you can sum the nights as they are mutually exclusive but you cannot sum visitors within the one geographic destination as you may double count and overestimate visitor numbers.

TEVE primarily reports on Victoria's 12 tourism regions, including Melbourne. Some larger tourism regions also contain sub-regions. A map of Victoria's regions is available at:

<https://www.business.vic.gov.au/tourism-industry-resources/research/regional-visitation>

Each region/ sub-region is defined using smaller geographical building blocks called Statistical Areas Level 2 (SA2s) developed by the Australian Bureau of Statistics (ABS). SA2s do not precisely align with the boundaries of Local Government Areas (LGAs). This means that International and National Visitor Survey results cannot be precisely mapped on to Local Government Areas.

**Average annual growth (AAG)** is a calculation of the average annual increase or decrease over a specified number of years.

## International Visitor Survey (IVS):

### Key Metrics

- Destination
- Usual place of residence
- Repeat visitation
- Group tours
- Travel party
- Purpose of visit and places visited
- Transportation / accommodation
- Activities
- Expenditure
- Demographics

*The above are indicative of the type of information routinely collected in the IVS, however, there are more data items collected. Further, the questionnaires are modified each calendar year to collect information on emerging issues in the tourism industry.*

## Survey Methodology

The IVS is conducted with short-term visitors (less than one year) aged 15 years or more who depart Australia through one of the major international airports. The survey is conducted with 40,000 international visitors per annum, using Computer-Assisted Personal Interviewing, with interviews conducted in English, Japanese, Korean and Mandarin. Survey results are weighted to data on international visitor numbers over the period, provided by the Department of Immigration and Citizenship (DIAC), with the assistance of the Australian Bureau of Statistics (ABS). The data is weighted to be representative of country of residence, state of arrival, main purpose of journey, departure airport, age and sex.

Results of the survey are published by Tourism Research Australia quarterly.

## Expenditure

The IVS captures all expenditure by the respondent relating to the trip, including elements such as airfares, package expenditure, accommodation, food and beverages, etc. Some elements of this expenditure will only partially flow through to the Australian economy (e.g. airfares and package expenditure) with much of this expenditure attributable to the respondent's home country. As part of the expenditure modelling process, a portion of this expenditure is allocated to Australia.

Regional Expenditure modelling (referred to as REX) - Expenditure in the IVS is collected for whole trips and for a randomly selected stopover; it is not collected for each overnight stopover a visitor makes. The remaining visitor expenditure (apart from the randomly selected stopover, which is a known quantity) is allocated to particular regions as part of a modelling process.

Note that the IVS expenditure is allocated to regions based on overnight stopovers. If a visitor takes a daytrip to a region, but does not stay overnight there, their expenditure is not allocated to that region.

## Limitations and caveats

Estimates produced as part of the IVS are based on a sample, rather than a census. As such, the results are subject to sampling variability.

IVS expenditure is allocated to regions through the regional expenditure model (REX) based on overnight stopovers. If a visitor takes a daytrip to a region, but does not stay overnight there, their expenditure is not allocated to that region. The IVS is a sample-based survey rather than a census; as such, the results are subject to sampling variability.

TEVE publishes IVS estimates based on the following thresholds:

- International Overnight Visitors: 5,000 or more.
- International Visitor Nights: 250,000 or more.

Results below this are suppressed due to sampling variability that is too high for practical purposes. Estimates that fall below these thresholds are indicated in publications by "-" or "np" (for "not publishable").

More detailed information about the IVS, including confidence intervals is available from: <https://www.tra.gov.au/Research/International-visitors-to-Australia/international-visitor-survey-methodology>

## National Visitor Survey (NVS):

### Key Metrics

- Destination
- Purpose
- Travel package
- Information sources
- Transportation
- Activities
- Expenditure
- Accommodation
- Travel party
- Demographics

*The above are indicative of the type of information routinely collected in the NVS, however, there are more data items collected. Further, the questionnaires are modified each calendar year to collect information on emerging issues in the tourism industry.*

### Survey Methodology

The NVS is conducted with Australians aged 15 years or more by Computer-Assisted Telephone Interviewing. Prior to 2014, respondents were contacted on landlines, however, from 2014 onwards, respondents may be contacted either by landline or mobile phone (a 50:50 mobile/landline split was achieved through to the end of 2017 and TRA plan to move to 60:40 mobile/landline sample split in 2018). Future increases in mobile sample share are likely, assuming the growth of mobile-only households continues.

A total of 120,000 respondents are surveyed, including both travellers and non-travellers. The relevant recall periods for travellers are: within the last 7 days for daytrips; within the last 28 days for domestic overnight trips; and within the last 3 months for outbound trips.

Trip weights for the NVS are calculated on an individual trip basis. The process takes into account the age group, gender and place of residence of the respondent, the size of the household in which they live (for landline sample), the month of travel, the recall period applicable to the trip, and the number of trips reported. As part of the calculation, groups of NVS trip records are benchmarked to the ABS estimated resident populations according to their age group, gender and place of residence. Results of the survey are produced by Tourism Research Australia quarterly.

### Overnight Expenditure

Overnight expenditure in the NVS is collected for the respondent's entire journey rather than individual stops. Total trip expenditure includes expenditure by the respondent during the trip, before or after the trip (e.g. taxi fare) and expenditure paid by an employer or other person who is not travelling.

Note that expenditure on capital goods (e.g. motor vehicles, property and office equipment) is not regarded as tourism expenditure and is therefore not included in published estimates.

Pre/post-trip expenditure is allocated to the respondent's home region, as is part of any long-distance travel fares (e.g. airfares).

Regional Expenditure modelling (referred to as REX) - As expenditure is not collected for each individual stopover, a modelling process is undertaken to allocate destination expenditure to stopover regions.

Note that expenditure is allocated through the regional expenditure model (REX) based on overnight stopovers. If a daytrip to another region is undertaken as part of an overnight trip, expenditure will not be allocated to the daytrip destination.

### **Daytrip Expenditure**

Daytrip expenditure is allocated using a much simpler process, as each trip has one destination. Expenditure is divided between the home region and the destination region, based on predetermined ratios.

### **Limitations and caveats**

Estimates produced as part of the NVS are based on a sample, rather than a census. As such, the results are subject to sampling variability.

TEVE currently publishes NVS estimates based on the following thresholds:

- Domestic Overnight Visitors: 50,000 or more.
- Domestic Visitor Nights: 500,000 or more.
- Domestic Daytrip Visitors: 100,000 or more.

Results below this are suppressed due to sampling variability that is too high for practical purposes. Estimates that fall below these thresholds are indicated in publications by “-” or “np” (for “not publishable”).

More detailed information about the National Visitor Survey including confidence interval tables is available from:

<https://www.tra.gov.au/Research/Domestic-tourism-by-Australians/national-visitor-survey-methodology>

## **Tourism Forecasts**

The Tourism Research Australia tourism forecast provides ten-year forecasts for Australia’s inbound, domestic and outbound sectors. The forecasts are issued by TRA annually.

### **Key metrics**

- Expenditure: Inbound, domestic overnight, domestic daytrip
- Inbound arrivals by market and purpose
- Inbound nights by market
- Inbound visitor nights by state (metro/ regional)
- Domestic overnight trips, domestic daytrips
- Domestic visitor nights by purpose
- Domestic visitor nights by state (metro/ regional)
- Outbound resident departures by destination and purpose

### **Methodology**

The Forecasts consider macroeconomic variables such as the consumer price index, exchange rates, current and forecast economic growth in Australia and internationally, as well as supply-side issues such as aviation capacity changes.

As part of the forecasting process, Tourism Research Australia (TRA) established the Tourism Forecasting Reference Panel (the Panel) comprising experts from industry and government. Its key purpose is to review and provide feedback on TRA's draft tourism forecasts before results are finalised.

### **Caveats and Limitations**

The Tourism Forecasts only provides forecasts of nights at a state and metro/regional level. For total growth in international visitors and expenditure, the national growth rate for each source market (e.g. China) is applied to Victoria's existing visitor numbers/expenditure. The forecast result for each market is then added to produce the total visitor/expenditure result. From this, a headline growth rate is calculated.

For growth in domestic visitors/expenditure, the national growth rate is applied to Victoria's current results. As such, the Victoria-level forecasts should be treated with additional caution, as Victoria's performance may differ from national growth.

TRA's tourism forecasts represent the most likely outcomes given past trends, current information and the impact of known policy changes. The current information includes macroeconomic and industrial (mainly aviation and accommodation) forecasts and sentiment indices, plus external specialist agencies and market intelligence. As with all forecasts, any variations in the assumptions or any disruptive events could produce risks that may drive tourism forecasts either upward or downward.

More detailed information about Tourism Forecasts is available from:

<https://www.tra.gov.au/Research/Forecasts-of-tourism-activity/forecast-methodology>

### **Overseas Arrivals and Departures (OAD)**

The OAD is produced monthly by the Australian Bureau of Statistics. Information on persons arriving in, or departing from, Australia is collected via various processing systems, passport documents, visa information, and incoming passenger cards. Aside from persons travelling as Australian or New Zealand citizens, persons travelling to Australia are required to provide information in visa applications. These administrative data are collected by the Australian Government Department of Home Affairs (HA).

ABS statistics on overseas arrivals and departures (OAD) are mainly compiled using information from HA sources. From July 2017, due to the removal of the outgoing passenger card, the ABS has also used Medicare enrolment data as a secondary source of State of residence information for Australian residents.

The main focus of the OAD is to provide information and analysis of short-term movements (i.e. less than one year), in particular short-term visitor arrivals (STVA) and short-term resident returns (STRR). Statistics on overseas arrivals and departures relate to the number of movements of travellers rather than the number of travellers. Individuals who travel multiple times in a year are counted each time they cross Australia's borders.

OAD results are produced for all travellers (as compared to travellers aged 15 years or more in the IVS and NVS).

## Key Metrics

The ABS reports on:

- Arrivals by source market and purpose
- Departures by destination
- Main state of stay

## Limitations and caveats

The OAD collects data at a national level. Travellers do not nominate each and every state that they visit. As such, detailed results are not available for individual states, with the exception of main state of stay.

The OAD includes a combination of comprehensive data and sampled data. The total number of short-term movements is fully enumerated. However, within that set of movements, the characteristics are derived based on a sample of passenger cards. As such, the results broken down by market, purpose and destination are subject to sampling variability.

From 1 July 2017, travellers leaving Australia were no longer required to complete an Outgoing Passenger Card (OPC). This provided an opportunity to consider alternative data sources and ways to make better use of a range of existing data collected by HA about Australia's international border crossings. The review has resulted in a break in series, necessitating a revised time series for OAD data from July 2007 to June 2017 based on the new methodology. Figures prior to June 2007 may not be strictly comparable to those which follow.

More detailed information about the OAD is available from:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3401.0Explanatory%20Notes1Nov%202017?OpenDocument>

## Tourism Satellite Account (TSA)

Economic impacts for tourism are estimated using a standardised statistical framework that is applied at the national, state and regional level using a Tourism Satellite Account (TSA) methodology. This is done because tourism is not a 'traditional' industry and is therefore not included explicitly in the Australia Bureau of Statistics (ABS) system of National Accounts (where industries are defined on the basis of the goods and services they produce).

Rather, tourism is implicitly included in the National Accounts on the basis of products purchased by visitors and produced by suppliers. In this way, the tourism industry is an aggregate of 'conventional industries' and is defined by the status of the consumer of these products (i.e. as a visitor). Tourism is not restricted to leisure activity and also includes travel for business, education or other reasons, provided that the destination is outside of the visitor's usual environment and is for the duration of less than a year.

## Methodology

TSA use financial and economic data to generate important measures of economic activity like Gross Regional Product (the equivalent to Gross State Product (GSP) or Gross Domestic Product (GDP)), Gross Value Added (GVA) and employment.

There are a number of steps required to calculate the tourism industry's contribution to the economy. To start, a tourism consumption bundle is derived from TRA visitor survey data

and adjusted to remove any price effects that are not directly attributed to the seller of the good or service (e.g. taxes, transport margins, pre-manufactured inputs etc.).

The direct and indirect contributions of tourism are estimated by using regional input-output multiplier tables, derived from Australian Bureau of Statistics data.

Importantly, TSA reporting generates measures that are comparable to economic statistics from other industries produced in the National Accounts.

### Important terms/concepts

TSA can capture both the direct and indirect impacts of tourism. These are two important concepts to distinguish:

- The **direct** contribution of tourism measures the contribution of direct transactions between a visitor and producer of a good or service. Put simply, this would include the direct impact of a visitor staying at hotel or participating in a tour.
- The **indirect** contribution of tourism captures the flow-on or 'second round' impacts created by the tourism industry. These result from the need for inputs to be supplied to the industries that directly provide goods and services to visitors. For example, this might include the fresh produce supplied to a hotel to deliver meals to guests.

The most widely recognised metrics in the TSA are:

- **Gross Regional Product or GRP:** this is the equivalent measure to Gross Domestic Product (GDP) or Gross State Product (GSP). This is one of the primary indicators used to measure the value of tourism to the economy and measures the total value of tourism goods and services produced over a specific time period. GRP estimates have been derived for both *direct* and *indirect* tourism activity.
- **Gross Value Added:** Generally considered the most accurate measure of the contribution of the industry to the economy. It includes the total labour income and capital revenue received by the industry and the net taxes that government received from the production. The direct estimates of GVA are directly comparable with the GVA of 'conventional' industries such as mining and manufacturing.
- **Employment:** this is the number of jobs that are generated as a result of tourism activity.
  - **Employed person:** Is a person aged 15 years and over who worked for one hour or more per week for pay, profit, commission or payment in kind in a job or business, or on a farm; or worked for one hour or more without pay in a family business or on a farm.
  - *Direct employment* includes employees of a tourism business i.e. an employee of a hotel, tour operator etc. *Indirect employment* relates to the workforce of the suppliers to the tourism industry i.e. someone working for a laundry company that services a hotel.

There are three levels of TSA produced in Australia:

#### 1. National Tourism Satellite Accounts produced by the Australia Bureau of Statistics (ABS)

The National TSA captures **direct** economic value of tourism for Australia. This allows tourism to be compared 'traditional' national industries.

More detailed information about the National TSA is available from:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/5249.0Explanatory%20Notes12012-13?OpenDocument>



## **2. State Tourism Satellite Accounts produced by Tourism Research Australia**

Tourism Research Australia (TRA) supplements the national Tourism Satellite Account (TSA) published by the Australian Bureau of Statistics (ABS) with a similar set of TSA data expanded for all states and territories. The state TSAs go beyond the scope of the national TSA by providing state measures for both the **direct and indirect** contribution of tourism, and the resulting total contribution of tourism to the state and national economies. This provides a more complete picture of the contribution of the tourism sector to the Australian economy.

More detailed information about the State Tourism Satellite Accounts is available from TRA: <https://www.tra.gov.au/Research/Economics-and-the-tourism-industry/economic-reports>

## **3. Regional Tourism Satellite Accounts**

Extended TSA modelling to further estimate the value of tourism to Victoria's tourism regions and sub-regions. This includes both direct and indirect estimates. All regional numbers has been calibrated so they align to the State TSA numbers produced by TRA and are comparable.

More detailed information about Victoria's Regional Tourism Satellite Accounts is available from:

<https://www.business.vic.gov.au/tourism-industry-resources/research/economic-significance>

### **Limitations and caveats**

TSA includes best estimates based on the internationally recognised and accepted methodology. It is important to note that the estimates of economic contribution are derived from estimates and assumptions of complex interactions amongst all components of the economy which change over time (and are benchmarked every third year). While as much care as possible has been taken to ensure the quality of the estimates in the satellite accounts, users should exercise some caution in the use and interpretation of the results.