



# YSCB Air Traffic Operations

Canberra Airport consists of a two intersecting runways in the direction 17/35 and 12/30 magnetic.

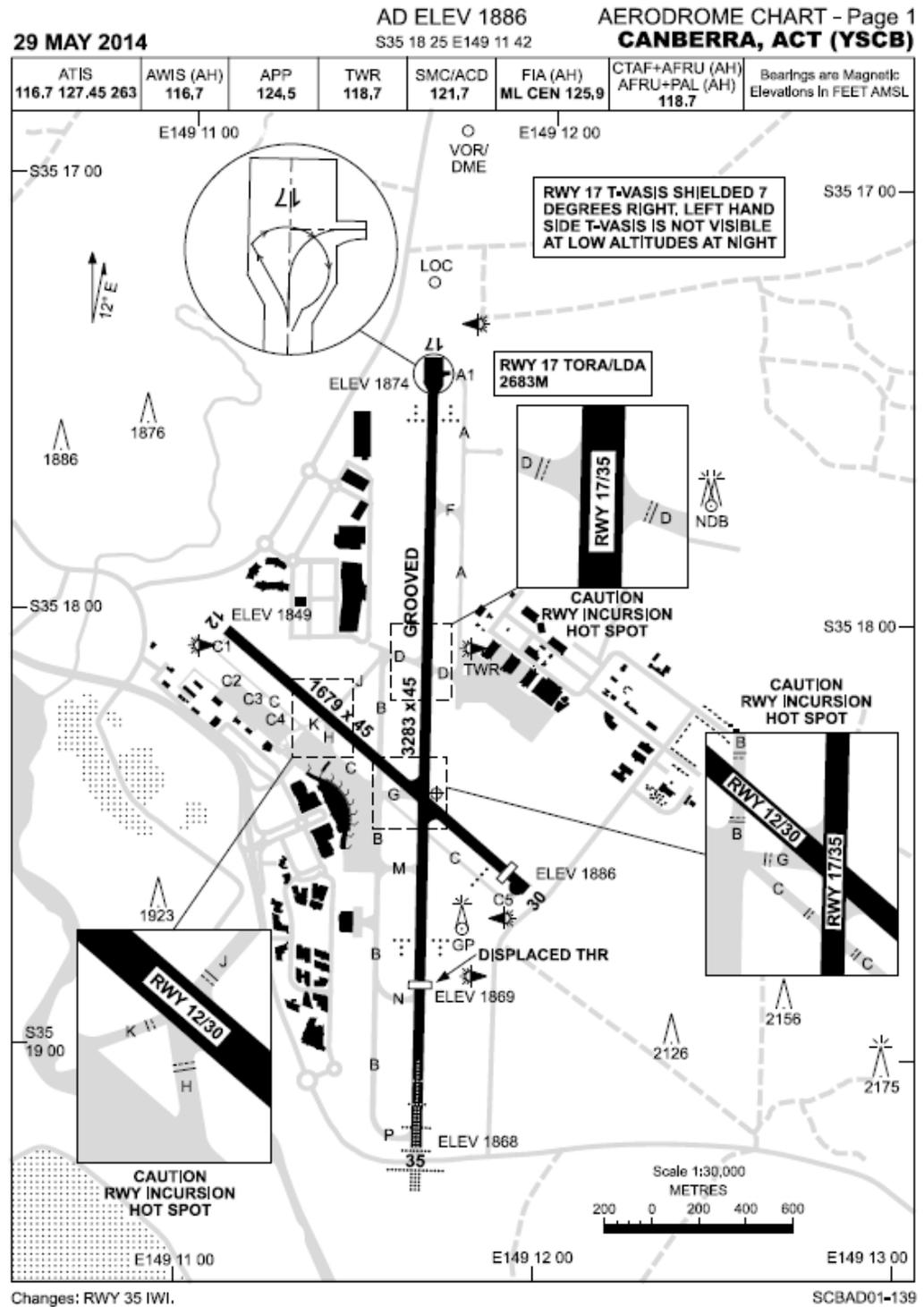


Figure 1: Canberra Airport Aerodrome Chart (Source: Airservices Australia)

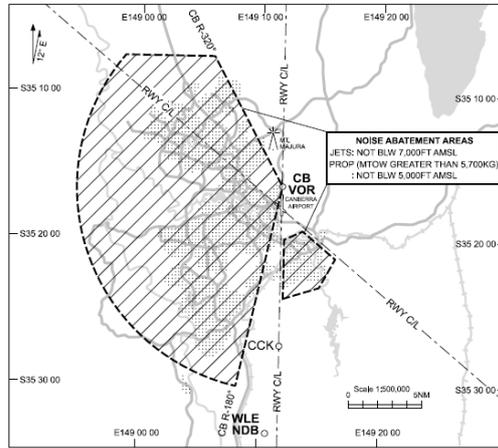
## Noise Abatement

Canberra Airport is not required to implement a curfew; however a noise abatement area applies to most areas of Canberra and Queanbeyan. Where it is not practical for aircraft to remain clear of this area minimum restricted overflight heights apply to:

- i) Jet aircraft above 7000ft AMSL
- ii) Propeller aircraft above 5000ft AMSL

In addition, the preferred runway for landing between 2000 and 0700 is:

1. RWY17
2. RWY35/RWY30
3. RWY 12

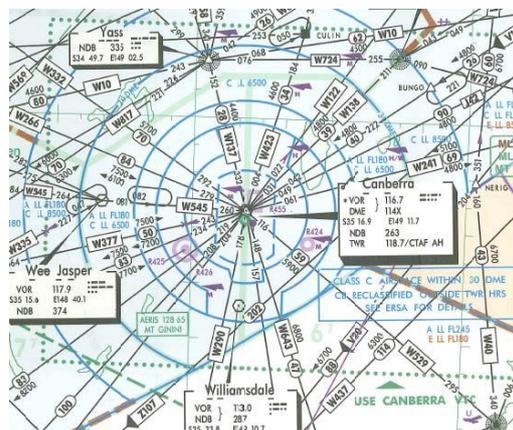


**Figure 2: Canberra Noise Abatement Area Map**  
(Source: Airservices Australia)

### Terminal Area (TMA)

This term is used to describe the designated area of controlled airspace surrounding a major airport where there is a high volume of traffic. The Terminal Area (TMA) is a 30nm radial area around Canberra.

Within the TMA there are a number of corridors for arriving and departing aircraft. The high terrain close to the airport and the approach paths has considerable impact on the processing of traffic by ATC. ATC for the Canberra TMA is provided from the Melbourne Traffic Centre, until handover to the Canberra Tower for the very last (or first) part of the flight.



**Figure 2: Canberra Terminal Airspace**  
(Source: Airservices Australia)

### Runway Direction

It is important to remember that although runway direction is annotated in magnetic co-ordinates, wind direction is reported in degrees true. The conversion for Canberra airport is as follows:

**Table 1: Canberra Runway Direction Conversion Table**

Runway	Magnetic	True
12	117	129
17	168	180

(Changes to the previous version have been highlighted in yellow)

30	297	309
35	348	360

\*Please note that you refer to a runway direction as it is being travelled on. Using RWY17 means landing and departing towards the S. This is the opposite of reported wind direction but in general results in the runway in use being aligned to the wind direction.

### Nomination Of Runways

The nomination of runway is determined by Air Traffic Control (ATC) using a preferred runway or take-off direction. ATC shall not nominate a particular runway for use if an alternative runway is available, when:

**Table 2: Runway Wind Thresholds**

	Dry	Wet
Crosswind	>20kts	>20kts
Downwind	>5kts	0kt

(\*Please note that thresholds relate to sustained wind gusts as well as mean wind speeds.)

If possible, aircraft will take off and land with a head wind. A tail wind on landing is acceptable up to 5 knots on a dry runway. Tail winds are unacceptable on wet runways. When departing with a tail wind, the take-off distance increases so the runway length is important.

As there is no alternative runway available, when crosswind exceeds 20 knots, the runway selection is determined by downwind.

Departures and arrivals do not have to occur on the same runway. The unsuitability of instrument approaches to the duty runway may also require departures and arrivals to operate in opposite direction to each other. This is a rare occurrence and places a high toll on aircraft movement rates.

Landing and take-off distances differ with aircraft-type, weight, atmospheric pressure and temperature. The active runway will have to be able to accommodate the majority of traffic.

### Forecasting for Canberra Airport

Forecasters for Canberra airport can contact NOCMET for information on the operational effect caused by a TAF amendment. Alternatively, forecasters may contact Canberra Tower directly if the need arises.

It is expected that forecasters can provide meaningful information to Air Traffic Controllers regarding Canberra Airport when requested.

### Peak Times



Generally peak demand for traffic movements at Canberra airport occurs between 7-9am, 12-2pm and 5-8pm Monday to Friday.

The forecasting of holding near or during these hours must be considered. The removal or movement of holding that affects these periods may prompt a call to NOCMET prior to the TAF amendment.

### Wind Forecasts

The TAF can be used by forecasters to routinely provide information about significant wind changes that affect ATC runway decisions.

Canberra is generally subject to the north-westerly winds throughout the year. It is very rare to see a south-westerly wind at Canberra Airport. During summer a NE sea breezes can propagate inland to Canberra during the early evening.

It is less common to see winds from the southerly quadrant however an east to south-easterly wind can develop with the passage of a southerly change along the NSW coast. Accurately forecasting a southerly wind is critical to planning a runway change from Runway 35 to Runway 17.

An unplanned/unexpected change of runway causes the re-direction of aircraft leading to an additional 10-20 mins delay in arrivals during peak periods.

Mechanical turbulence commonly occurs over the aerodrome in strong west and north-westerly wind regimes. Turbulence is created by airport infrastructure to the immediate west and northwest of the runways.

### Thunderstorms at YSCB

Thunderstorm cells identified on ATSAS/ATIFS within 10nm of Canberra airport affect the ability of aircraft to land and the provision of services to aircraft once on the ground. The movements of aircraft into and out of bays are affected due to ramp closures and the removal of ground staff from the tarmac.

Airline WHS regulations require the removal of ground staff from the tarmac when a thunderstorm is within 5nm, with an 'on-alert' status for a thunderstorm within 10nm. This decision is an important part of the duties of the Virgin and Qantas meteorologists.

In prolonged thunderstorm events this can lead to an accumulation of aircraft waiting on the ground to be handled.

### Thunderstorms in the TMA (30nm)

Thunderstorms within the Terminal Area (TMA - 30nm) also affect operations however aircraft are usually able to manoeuvre around cells. Organised convective activity can present major traffic handling issues for ATC.

### Fog

There are approximately 43 fogs per year at Canberra Airport, 21 of these occur during the winter months. When temperatures drop below zero there is a significant change of freezing fog at Canberra airport. The different meteorological circumstances resulting in freezing fog versus frost is not well understood at Canberra Airport.

Mist is also common at Canberra Airport. Mist can occur at temperatures below zero resulting in aircraft icing.

### Cloud/Visibility

Low cloud and/or reduced visibility on approach will necessitate the use of an instrument approach when a visual reference with the runway is not available. Any instrument approach has a specified decision height (landing minima) at which a 'missed approach' must be initiated if the required visual reference to continue the approach has not been established.

This decision height (DH) can vary and will depend on the available equipment for the runway. The DH is approximately 250ft AGL for an Instrument Landing System (ILS) category 1, the most common instrument approach on runways at Australian major airports. Visibility and cloud are less critical during take-off, with most commercial jet aircraft allowed to depart with visibility over 550m.

Cloud and visibility has a large effect on an aircraft's arrival into Canberra. Low cloud is common in north-westerly winds ahead of a cold front or change in air mass during winter. This scenario usually results in TEMPO or alternate conditions at the aerodrome.

Canberra Airport has a Category 1 ILS on Runway 35, however the decision height is only 240ft AGL and/or 1200m visibility. Runway 17 is serviced by a localizer approach with a decision height of just under 1500ft AGL. For licensed operators a RNP approach into RWY17 will reduce decision height to just over 500ft AGL.



Table 3: Summary of Decision Point Triggers

Phenomena	Criteria	Potential Effect
Cloud (>3octas)	<2200ft	Instrument approach
	<2000ft	Reduced rate of traffic
	<200ft	Low visibility operations
Visibility	≤6000m	Instrument approach
	≤4400m	Reduced rate of traffic
	≤800m	Low visibility operations
	≤350m	Low visibility operations, take offs cease.
Downwind	>5kts/0kts (dry/wet)	Change of runway

*This is a reference card intended to educate users on the phenomena that affect Air Traffic Flow Management (ATFM) and is based on information obtained from Airservices Australia. The card was accurate on 23/10/2015 – Version 0.1, but may be subject to short term changes that are not reflected in this document. There may also be other factors beyond the meteorological conditions affecting ATFM on any particular day. Airservices Australia, NOC should be contacted for all day of operations information related to arrival/departure rates and runway configurations. Please email any feedback, corrections or comments to [SRAT@bom.gov.au](mailto:SRAT@bom.gov.au).*