How aircraft are allocated to runways

How are aircraft allocated to runways?

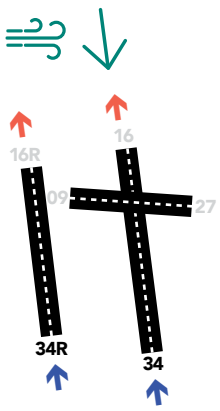
Runway use is determined by Air Traffic Control based on a number of factors. These include the volume and type of aircraft operating at the airport, the length of runways, weather conditions (including wind speed and direction) and pilot requirements.

Air traffic control in Australia is managed by Airservices Australia. Further information can be found on Airservices' website: www.airservicesaustralia.com/about-us/about-our-operations/runway-selection

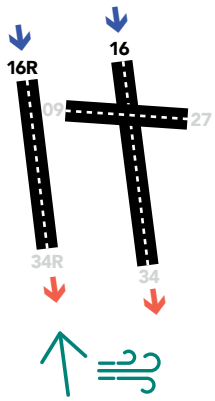
Wind direction

Wind direction is a primary factor in determining which runway is used. Wherever possible, aircraft depart and arrive 'into' the wind.

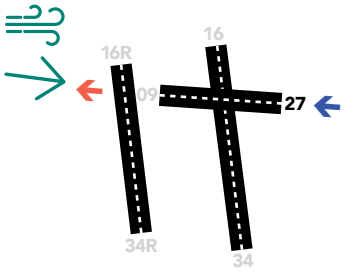
Northerly winds require Runway 34



Southerly winds require Runway 16



Westerly winds require Runway 27



Where the wind does not require a nominated runway end, Air Traffic Control uses Noise Abatement Procedures, such as the choice of runway and aircraft landing direction. Noise Abatement Procedures are designed to reduce the impact of aircraft noise on the community. They may include preference for certain flight paths or runway modes of operation. There is more information about these Noise Abatement Procedures on the Airservices Australia website.

Proposed operating modes

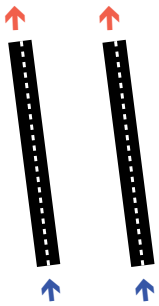
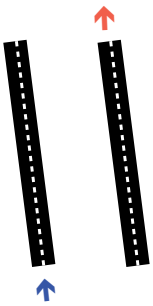
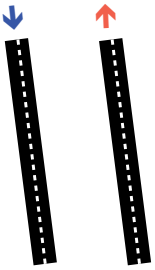
Delivering Melbourne Airport's third runway requires changes to the airport's runway operating modes. In designing these, Melbourne Airport, Airservices Australia and other stakeholders will look for ways to minimise and manage noise impact on communities, especially at night.

Melbourne Airport outlined a preliminary proposal for how the new runway configuration could operate in the Major Development Plan (MDP). Further refinement of the operating modes will occur between now and the runway opening in 2031, and community consultation will be important to this process.

Modes for operating three runways will be determined for:

- Peak periods: runway operating modes used for busy periods occurring during the day and evening (6am to 11pm)
- Off-peak periods: runway operating modes used outside of the busy periods during the day and evening
- Night periods: runway operating modes used between 11pm and 6am.

The operating modes proposed in the MDP are:

Mixed mode operations	Segregated parallel operations (Segregated mode)	Simultaneous Opposite Direction Parallel Runway Operations (SODPROPS)
Simultaneous operations where runways are used for arrivals and departures	Simultaneous operations where one runway is used for arrivals and the other for departures	Simultaneous operations where one runway is used for arrivals and the other for departures in the opposite direction
		
To be used when the airport is busy and requires maximum operating capacity.	To be used in off-peak and night periods.	An option for use during night periods when wind conditions allow.

Melbourne Airport is exploring additional opportunities for noise sharing outside of peak periods.

Will the east-west runway still be used?

The east-west runway (Runway 09/27) will remain an important part of the airport's operation when Melbourne Airport's third runway opens. Public feedback clearly showed the community's desire for its ongoing use as a way to share noise, especially at night.

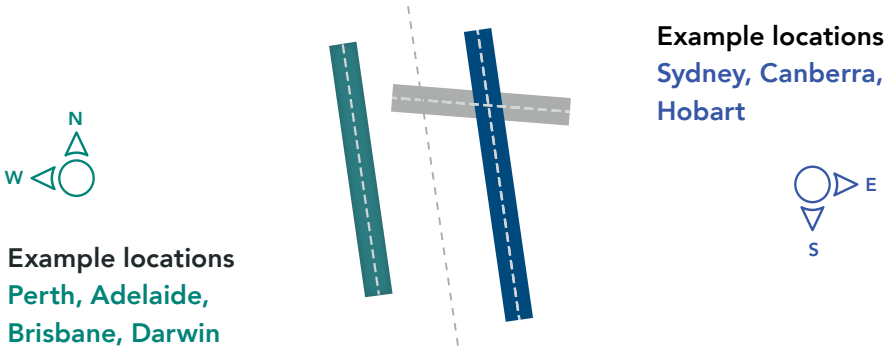
Original plans for this project included shortening the east-west runway by 346 metres. Concerns about the effect of this on the runway's use have been heard, and will be addressed through a project to extend the runway again at its other end.

Melbourne Airport's third runway

Mixed mode runway allocation

During peak times aircraft will generally be allocated to one of the north-south runways based on the geographic location of the flight's origin/destination.

In general, northern and western locations will be assigned to the new north-south runway (shown in green on the left below), whereas eastern and southern locations will be assigned to the existing north-south runway (shown in blue on the right-hand side below).



Example locations
Perth, Adelaide, Brisbane, Darwin

Example locations
Sydney, Canberra, Hobart

However, for a variety of operational reasons and to balance capacity with demand, it will sometimes be necessary to allocate aircraft to either runway.

In addition, the existing runway will be required for some ultra long-haul departures (such as Dubai) for which large and heavy aircraft require greater than 3,000m runway length to depart safely.

Noise Sharing Plan

The conditions of approval for the third runway Major Development Plan include the development of a Noise Sharing Plan.

This Noise Sharing Plan will include the development of additional runway modes for use outside of peak periods.

These modes will support noise sharing through the use of the existing east-west (09/27) runway. Our website will have updated information available about the Noise Sharing Plan as it is developed.