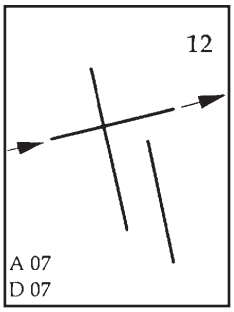
Mode 12

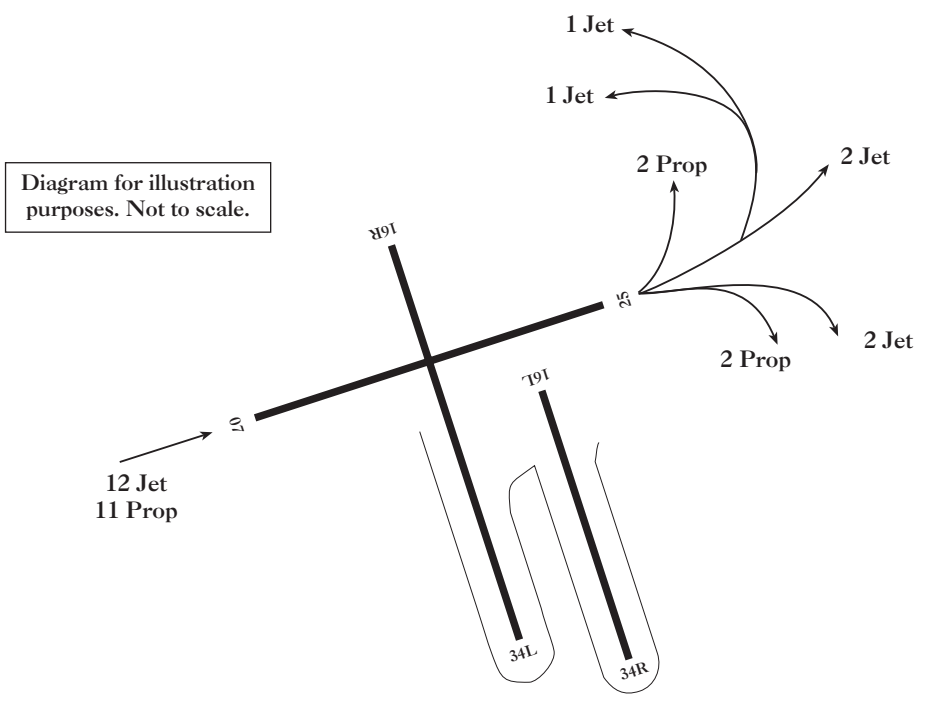


Method of operation

Departures over the east and north-east from Runway 07. Departures to the north from Runway 34L or to the south from Runway 16R for those aircraft requiring the use of the long runway.

Arrivals from the west on Runway 07

Runway 07 (Mode 12)



The traffic distribution figures represent estimated hourly movements for a Mode 12 operation based on a sustained capacity of 33 movements per hour consisting of 23 arrivals and 10 departures (refer Sydney Runway Capacity Study prepared by Sabre Decision Technology).

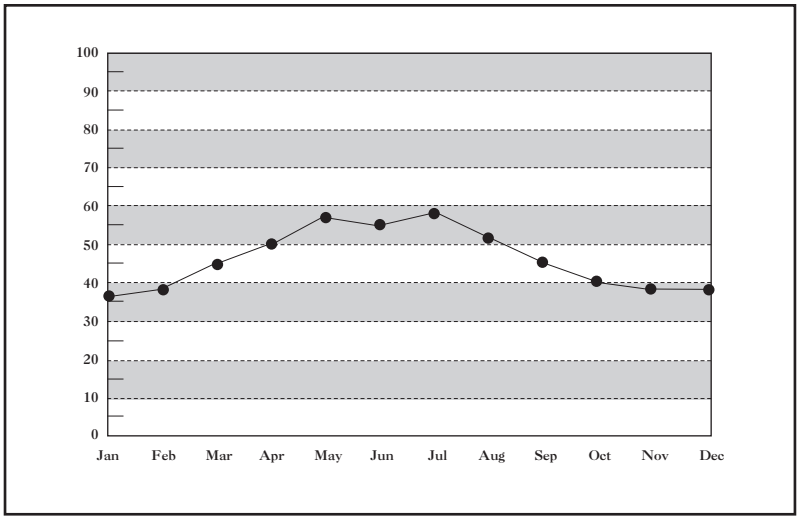
Note: an additional 6 aircraft per hour would require arrival/departure on Runway 16R/34L.

Availability of configuration

Operationally acceptable in wind with an easterly component.

The Bureau of Meteorology (BOM) wind data for the 55 years to December 1995 indicates that:

- **the all months average availability would be 74 per cent.**
- **the average monthly availability ranges from 59 per cent in Julys' to 87 per cent in January and February.**



The graph indicates the 55 year average availability from January to December. Where nil downwind criteria is specified the average of all months availability is 53 per cent

Operational capacity

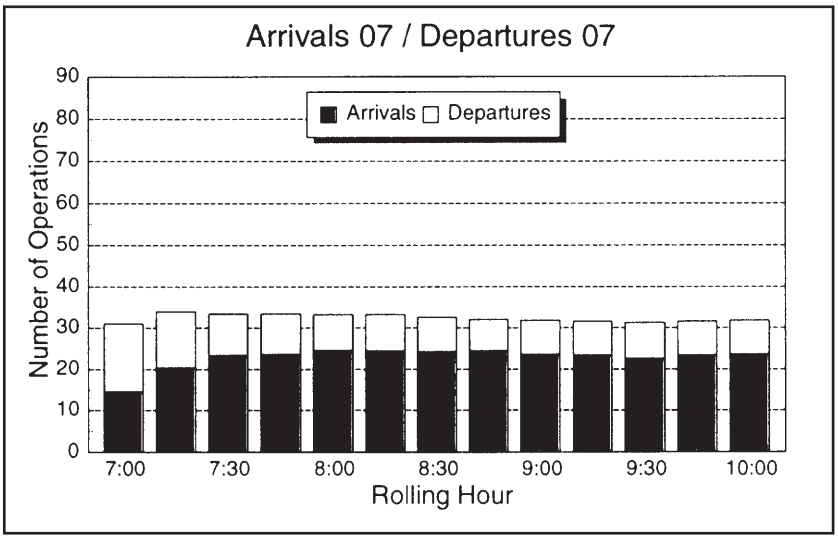
Sabre SIMMOD modelling found a sustained capacity of 33 operations per hour consisting of 23 arrivals and 10 departures. Peak observed capacity of 34 operations

Sabre indicated Mode 12 may achieve a sustainable capacity of 37 movements per hour if the landing rolls of the arriving aircraft were shortened to better match runway exit geometry. However, as no observations were made of Runway 07 operations it was determined that the observed Runway 25 landing rolls would be used.

Sabre indicated that additional separation could be required between consecutive arrivals to ensure that more departures will operate per hour. This would not necessarily increase the overall capacity, but rather balance the arrivals with the departures.

Sabre indicated this mode will not attain 80 operations per hour with only one runway in use.

Graph below presents SDT simulation results for a rolling hour period.



Operational complexity

This is a current operational mode which is not complex because of single runway operations.

Constraints to optimisation of capacity

There is a shortage of available taxiways around the International Terminal which consequently contributes to departure delays as well as restricting entry to and exit from the terminal aprons. This affects not only arriving and departing aircraft, but the regular movement of aircraft under tow to and from the maintenance areas or aircraft being repositioned on the aprons. Additional taxiway facilities between Taxiway G and Runway 07 may alleviate this problem, but would be usable only in visual conditions.

Single runway operation requires spacing of arriving traffic to allow for departures.

Environmental implications

Arrivals 07

The number of people exposed to noise of 70 dB(A) or more for B747-200 aircraft is a total of 72,600.

At the outer tip of the contour for each particular type of aircraft the noise reaching the ground will be close to 70 dB(A) and the aircraft will be at the following heights.

B747-200	3,400ft	at	Royal National Park
B747-400	3,100ft	at	Royal National Park
B767	2,900ft	at	Padstow Heights
Saab 340	850ft	at	Hurstville

Departures 07

The number of people exposed to noise of 70 dB(A) or more for B747-200 aircraft is a total of 223,200.

At the outer tip of the contour for each particular type of aircraft the noise reaching the ground will be close to 70 dB(A) and the aircraft will be at the following heights.

B747-200	10,000ft	at	Over Water
B747-400	6,500ft	at	Over Water
B767	6,000ft	at	Over Water
Saab 340	3,000ft	at	Rosebery

For further details refer to Appendix 9

Conclusions

This mode results in aircraft noise to the east and west of the airport, but provides relief to the north. It does not meet the aims of maximising flight over water or non populous areas. The mode has limited potential because of the capacities of the single runway. There are other modes which achieve relief to the north with higher movement rates and less noise impacts.

Proposed use

It is proposed that this Mode be included in the plan for use when wind conditions require, such as when a crosswind on the parallel runways is 25 knots or more.

When this Mode is in use, there will be the occasional use of Runways 16R or 34L for departing and arriving long haul jets.

SYDNEY MODE 12 DEPARTURES 07 ARRIVALS 07
(LONG HAUL JET DEPARTURES/ARRIVALS 16R OR 34L)

MP 96/544.8.12
November 1996

Built-up-area (1993)

Note: Tracks shown are indicative

0 km 5
Scale approx

N

DEPARTURES	ARRIVALS
Jet track	Jet track
Non-Jet track	Non-Jet track
Dual track	Dual track

SYDNEY NOISE IMPRINT MODE 12 JET DEPARTURES 07 ARRIVALS 07

The noise imprints shown on the map above are a worst case scenario based on the single movement of a 747-200 series aircraft

km 5

Scale approx

N

ote: The noise imprints shown are based on a ngle aircraft movement on the centreline of the dicative flight track

The diagram above indicates that a 767, 737 and similar aircraft leave a significantly smaller imprint than 747-200 series aircraft

Noise imprint Arrivals (70dBA or above based on a single movement of a 747-200 series aircraft)

Noise imprint Departures (70dBA or above based on a single movement of a 747-200 series aircraft)

Built-up-area (1993)