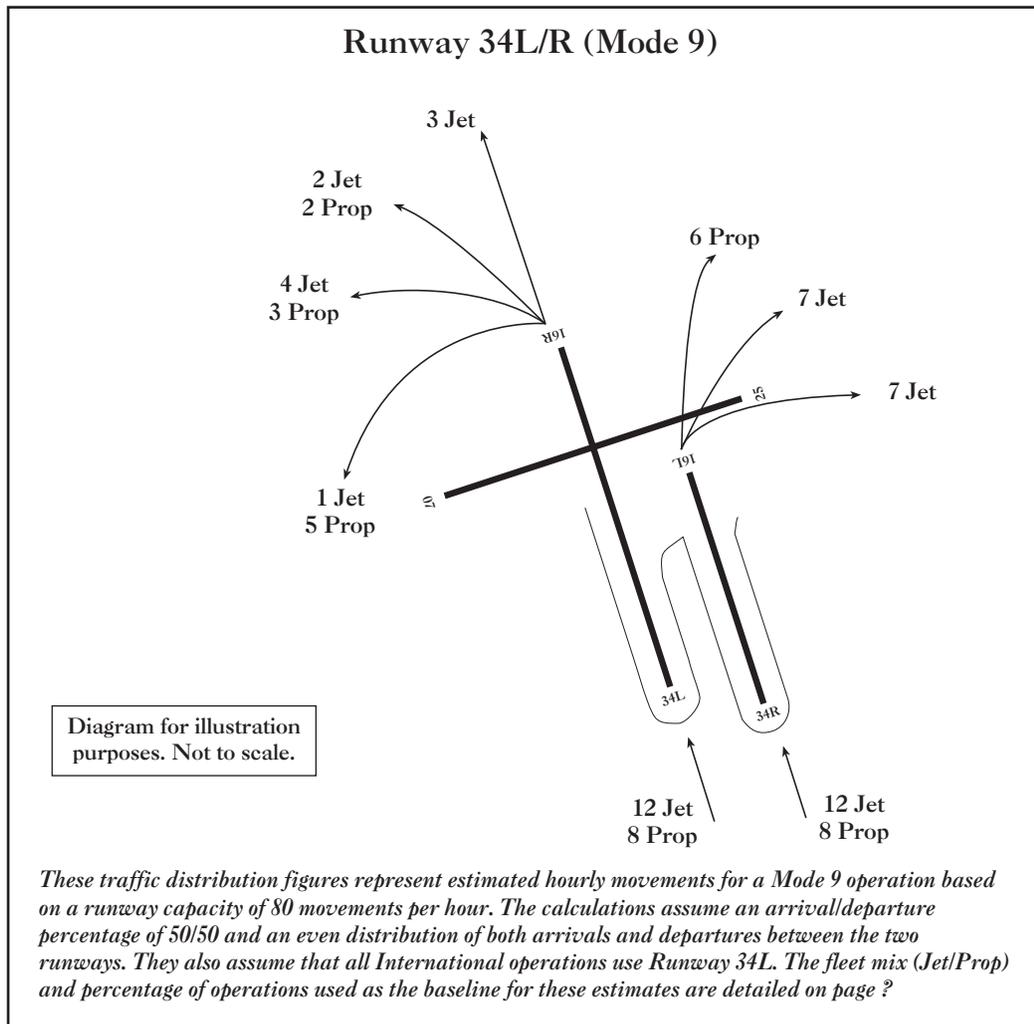
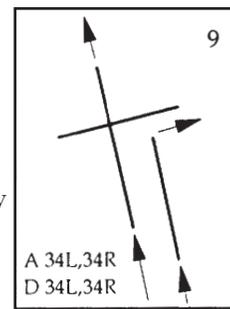


Mode 9

Method of operation

Departures over the north and northwest from Runway 34L and departures to the east and north-east from Runway 34R

Arrivals from the south over Botany Bay on Runway 34L and 34R.

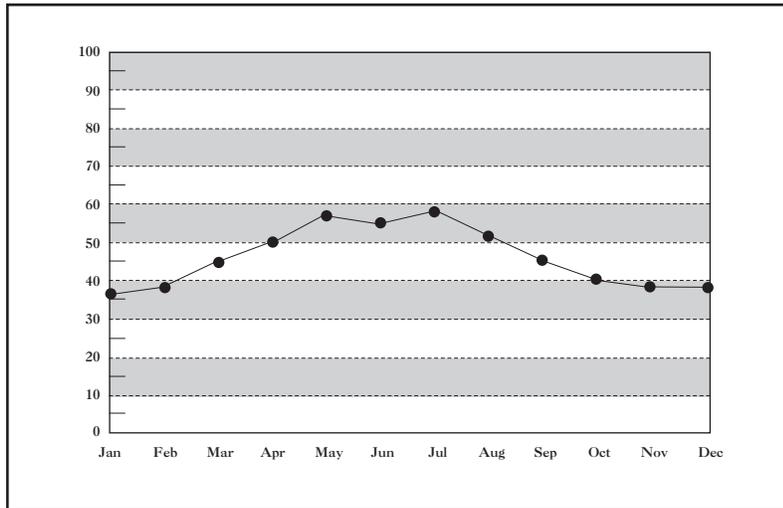


Availability of configuration

This Mode is operationally acceptable in wind conditions from west through north to east depending on wind strength.

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

- the all months average availability would be 70 per cent.
- the average monthly availability ranges from 60 per cent in February to 82 per cent in July.



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 58 per cent

Operational capacity

Initially Sabre SIMMOD modelling found a sustained capacity of 74 operations per hour consisting of 39 arrivals and 35 departures. Peak observed capacity of 75 operations

This Mode confines arrivals to over-water and directs departures to the east (34R) and to the north.

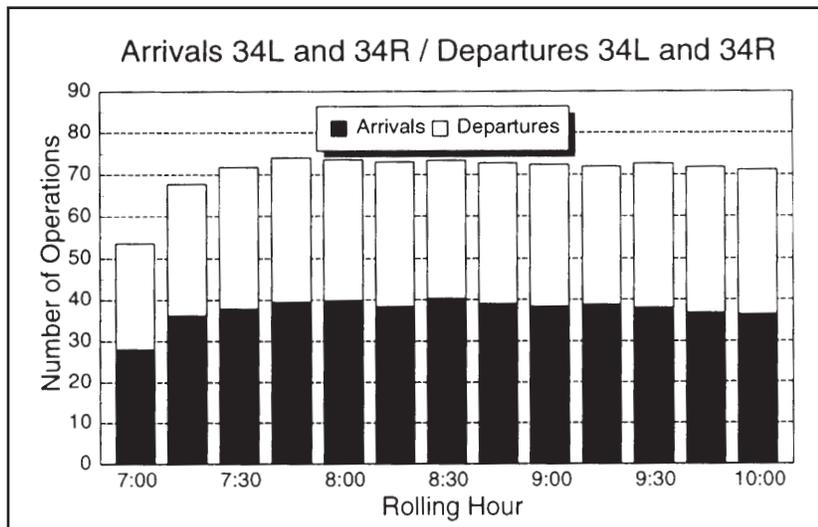
The Sabre modelling evaluation found that balancing the departures evenly between Runways 34L and 34R initially produced a capacity of 71 operations. When all propeller departures were moved to Runway 34L and all large departures to Runway 34R capacity increased to 74. Capacity may be limited by inefficient runway exits on both arrival runways.

This Mode will attain 80 movements per hour. However, new runway exits 34L and 34R that will shorten landing roles, maybe required.

Further Sabre modelling with both new runway exits and a reduced buyout of two nautical miles resulted in a sustained capacity of 82 movements per hour consisting of 43-44 arrivals and 38-39 departures. Peak observed capacity was 83 movements per hour.

The high speed exit locations used in the model for the arrival runways did not prove to be advantageous for high frequency use by small and medium commuter aircraft.

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



Operational complexity

Current parallel operating mode allowing segregation of airspace and variation in departure tracks to achieve noise sharing.

Constraints to optimisation of capacity

Traffic levels up to the cap of 80 movements per hour would be achievable under this mode with some variation, dependent on traffic mix, wake turbulence separation requirements and whether instrument or visual approaches are being used.

Operation under this mode could be enhanced by the provision of high speed exits from Runway 34L to allow closer spacing between successive arrivals and a taxiway between Runway 34R and Taxiway T to provide segregation between outbound and inbound traffic.

The operating efficiency of the aerodrome controllers would be increased with the addition of aerodrome control coordinator positions to assist the aerodrome controllers. Experience with the Mode indicates the complexity of managing ground traffic may eventually require an additional ground controller positions. The enhancement provided by the extra positions, in conjunction with the provision of identified taxiway improvements, should enable controllers to sustain efficient operations at the nominated capacity.

Helicopter operations to and from the Heliport may be restricted and delayed during this mode of operation.

Environmental implications

Arrivals 34L&R

The number of people exposed to noise of 70 dB(A) or more for B747-200 (34L) and B767 (34R) aircraft is a total of 700.

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	Over Water
B747-400	3,100ft	at	Over Water
B767	2,900ft	at	Over Water
Saab 340	850ft	at	Kurnell Peninsula

Departures 34L

The number of people exposed to noise of 70 dB(A) or more for B747-200 aircraft is a total of 606,300.

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	Kuring-gai Chase National Park (north), Cromer (east), Royal National Park (south), Horsley Park (west) and Kellyville (northwest)
B747-400	6,500ft	at	Davidson (north, east), Royal National Park (south), Wetherill Park (west), Baulkham Hills West (northwest)
B767	6,000ft	at	Gladesville (north & east), Mortdale (south), Berala (west) & Homebush (northwest)
Saab 340	3,000ft	at	Marrickville South (south and west), Marrickville (northwest)

Departures 34R

The number of people exposed to noise of 70 dB(A) or more for B767 aircraft is a total of 127,200.

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.

B767	6,000ft	at	Over Water
Saab 340	3,000ft	at	Mascot

For further details refer to Appendix 9

Conclusions

This is a prime mode of operation, providing air traffic capacities up to the cap of 80 movements per hour, flight over water for all arriving traffic and the capability to disperse departures.

Proposed use

It is proposed that this Mode be included in the plan for use during peak traffic periods, and when weather conditions require, in accordance with the runway selection plan, to assist in achieving equity of noise sharing.



SYDNEY MODE 9 DEPARTURES 34L, 34R ARRIVALS 34L, 34R



MP 36/344.0.0
November 1995

■ Built-up-area (1993)

0 km 6

Scale approx



DEPARTURES

- Jet track
- Non-Jet track
- Dual track

ARRIVALS

- Jet track
- Non-Jet track
- Dual track

Note: Tracks shown are indicative



SYDNEY NOISE IMPRINT MODE 9 JET DEPARTURES 34L, 34R ARRIVALS 34L, 34R



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

November 1996 MP 96/544.5.5 © Commonwealth of Australia



Note: The noise imprints shown are based on a single aircraft movement on the centreline of the indicative 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)