

# 6 Runways

## 6.1 Existing Facilities

Sunshine Coast Airport has two existing runways available. These are Runway 18/36, running along the coastline and Runway 12/30 running at an angle to the coastline

### 6.1.1 Runway 18/36

Runway 18/36 is 1,797m long and 30m wide with pavement strength of PCN31/F/B/1400/T and 3m sealed shoulders. The total runway strip width is 150m, making it a Code 3C per Civil Aviation Safety Authority (CASA) Manual of Standards Part 139 – Aerodromes (MoS Part 139).

The runway is bordered by residential development to the north, south and east and by the airport terminal and parking areas to the west.

Runway 18/36 is sufficient for A320-200 and B737-700/800/900 domestic flight operations at Maximum Take-off Weight (MTOW). However, due to the runway length Trans-Tasman operations by these aircraft may only be possible at reduced payloads.

Extending Runway 18/36 was considered in the Preliminary Draft Master Plan, however due to community concern, impacts on the PSA and RESA and the limited operational value afforded by extending the runway, these options have been removed as viable options from this Plan. Similarly there are considerable costs and operational constraints involved in the widening of the existing runway, consequently there will be no interim changes to the existing Runway.18/36.

Using the existing Runway 18/36 passenger growth can only be accommodated by increasing aircraft numbers. This is due to the limitations of the runway width and hence the inability to accommodate larger aircraft types. This limits the potential to grow the destination and the aviation market to all but limited Trans Tasman routes.

Traffic forecasts indicate that the existing runway, with taxiway enhancements, will be suitable to cater for the increases in aircraft traffic over the forecast period, this will be contingent upon the Airport being able to manage slot times to avoid peak congestion times.

### 6.1.2 Runway 12/30

Runway 12/30 is 650m long and 18m wide, and is considered a Code 1A runway per MoS Part 139. The runway is bordered by landside airport facilities to the south and a national park to the north.

Operations are limited to aircraft up to 5,700kg in weight only, and the runway is typically used for GA operations.

## 6.2 Planning Considerations

### 6.2.1 Runway Strip Width

MoS Part 139 Section 6.2.3 requires a runway width for Code 3C operations (1,200m to 1,799m runway length) of 30m, and 45m for Code 4C (1,800m and over runway length). Regulation 235A of the Civil Aviation Regulations, set out in Aeronautical Information Publication (AIP) ENR 1.1-73.2.4, allows for B737 and A320 Code C aircraft operations from 30m wide runways. B747, B767, B777, B787 and A340 aircraft require a 45m runway width.

There is also a requirement that non-precision approach runways Code 3 or 4 (where the runway width is 45m or more), to have a runway strip width of 300m. However, where it is not practical to provide the full

runway strip width, a minimum 150m wide graded only strip may be provided subject to landing minima adjustments. The current runway 18/36 has a runway strip of 150m with the proposed new runway 13/31 being planned to accommodate a 300m wide runway strip.

### 6.2.2 Runway End Safety Areas

Runway End Safety Area (RESA) are to be provided at the end of a runway strip for all new runways, and when existing runways are lengthened and, by April 2008, for existing Code 4 runways used by jet transport aeroplanes conducting international operations. The purpose of the RESA is to accommodate an aircraft on over-run or under-shoot. Runway 18/36 is a code 3 runway and complies with these requirements in its current configuration.

The minimum length of a RESA is 90m for new code 4 runways used by air transport jet aeroplanes. The minimum required width of a RESA is twice the width of the associated runway. The proposed runway 13/31 will be required to provide a minimum of a 90m x 90m RESA.

### 6.2.3 Public Safety Areas

Queensland Government State Planning Policy (SPP) 1/02 requires Public Safety Areas (PSA) be provided at the end of the main runways at major airports, including Sunshine Coast Airport, where increased risks to public safety can arise from development near the runway ends, including:

- ◆ Residential development.
- ◆ The manufacture of bulk storage of flammable, explosive or noxious materials.
- ◆ Uses that attract large numbers of people (e.g. sports stadiums, shopping centres, industrial or commercial uses involving large numbers of workers or customers).
- ◆ Institutional uses (e.g. educational establishments, hospitals).

The PSA is trapezoidal in shape with a 350m wide base centred on the runway centreline at the runway end. The zone tapers to a width of 250m at a distance of 1,000m from the runway end.

Planning policy allows existing development to remain within PSA, however no new development should be permitted in the PSA.

## 6.3 Future Runway Development

The 2006 Draft Preliminary Master Plan considered several runway options focused on development of the existing Runway 18/36.

As discussed above, operations from the existing Runway 18/36 are limited to domestic Australian east coast routes using Code 3C narrow bodied aircraft (B737 and A320). Trans-Tasman operations are possible and have taken place using similar aircraft types; however these operations may suffer payload penalties due to the available take-off runway length, particularly during the summer when ambient temperatures are higher.

Possible development options for Runway 18/36 are limited by the adjacent built up areas, the need to provide for RESA and PSA and the limited economic, social and operational value such development would bring.

SCA passenger and aircraft RPT movement growth has been greater than expected and there is demand for a direct regional point of entry to the Sunshine Coast from Australian West Coast, Trans-Tasman and Asian destinations. To service these markets SCA requires a runway that can cater to at least Code 4C/D aircraft, and preferably up to Code 4E. This cannot be achieved by developing Runway 18/36

The public consultation which accompanied the 2006 Draft Preliminary Master Plan showed public resistance to any development of Runway 18/36 which extended safety areas into the surrounding residential areas. There was however support for the development of Runway 13/31.

Development of Runway 18/36 does not provide for the long-term needs of the Sunshine Coast, nor is it supported by the local community; development of Runway 13/31 is considered the preferred development option to enable SCA to meet the future air transport needs of the Sunshine Coast Region.

### 6.3.1 Next Steps

A conceptual layout for Runway 13/31 is shown at Figure 9-1 below. The layout was selected based on an SCA analysis of aircraft useability, wind and weather conditions, and impact on the surrounding community, landform suitability and airspace constraints. Geotechnical, airfield and flight path survey and planning will need to be undertaken as part of the detailed runway design.

## 6.4 Operational Ranges from Runway Options

The indicative operational ranges of typical current aircraft types operating out of Sunshine Coast Airport, and types which are likely to do so in the future, are shown at Figure 6-1 below.

### 6.4.1 Assumptions

Runway lengths:

- ◆ Existing Runway 18/36                    1,797m
- ◆ Future Runway 13/31                    2,450m

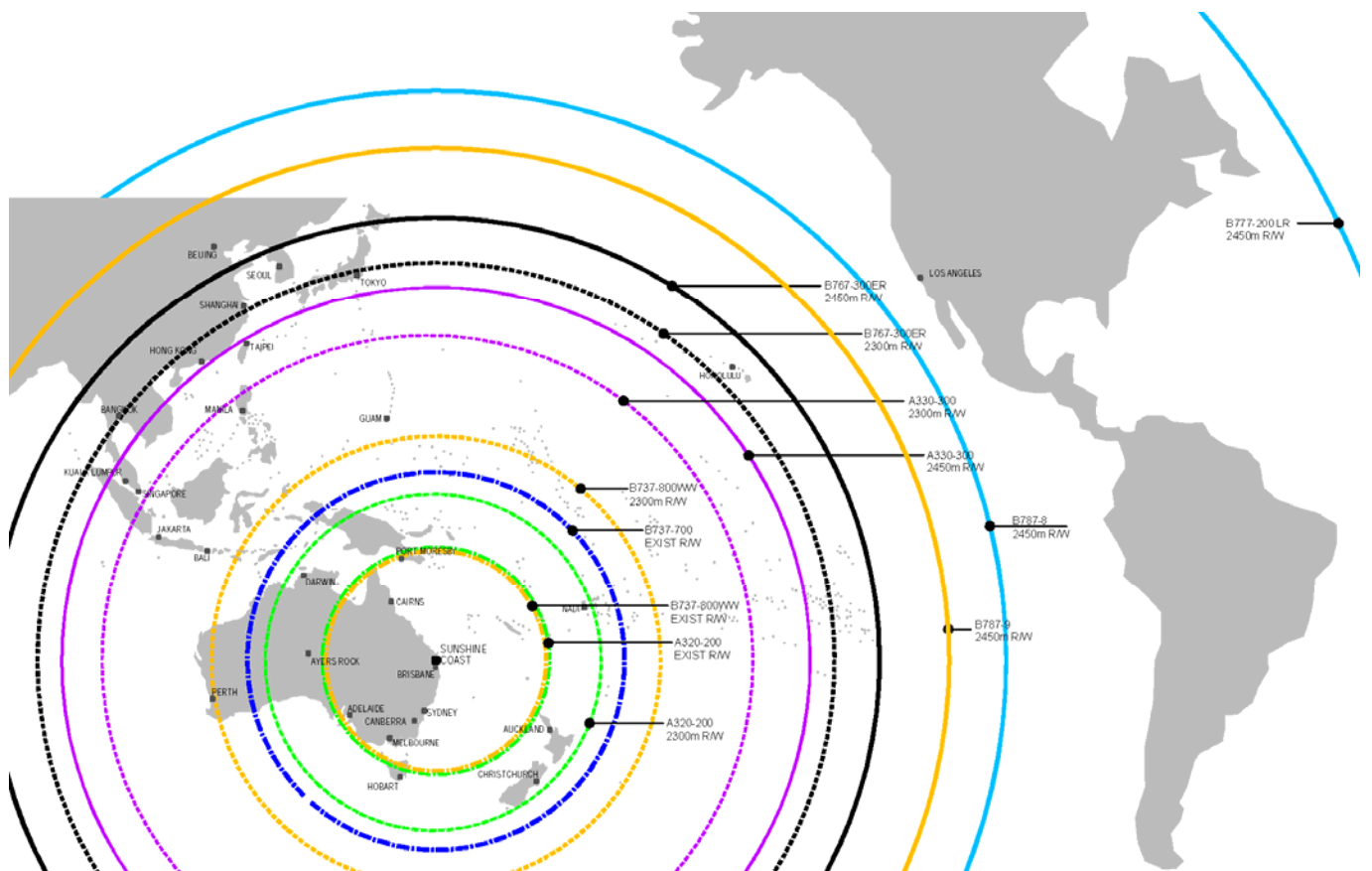


FIGURE 6-1 INDICATIVE RANGE BY TYPICAL AIRCRAFT

Aircraft, engine and payload combinations:

- ◆ B737-700 / CFM56 (24,200lbs Thrust) with 144 passengers @ 100 kg/pax.
- ◆ B737-800W(winglets) / CFM56 (24,200lbs Thrust) with 180 passengers @ 100 kg/pax.
- ◆ A320-200 / V2527E-A5 with 177 passengers @ 100 kg/pax.
- ◆ B767-300ER / CF6-80C2 (56,000lbs Thrust) with 270 passengers @ 100 kg/pax
- ◆ A330-300 / CF6-80E1A4 with 346 passengers @ 100 kg/pax
- ◆ Boeing 777 / GE90-110B (110,000lbs Thrust)
- ◆ Boeing 787-8/9 with GenX (75,000lbs Thrust)

Note: Includes a nominal 1,000 kg freight for B737/A320 and 5,000 kg freight for B767/A330 aircraft

Atmospheric conditions:

- ◆ 30<sup>0</sup> C ambient temperature
- ◆ Level, wet runway
- ◆ Nominal en route headwinds
- ◆ Typical operating reserves.

## 6.5 Conclusions

The Sunshine Coast is growing rapidly as a region and a long term solution to increasing the access to this region is inextricably linked to developing a long term plan to cater for increased aviation traffic.

Runway 18/36 can accommodate A320 and B737 services to Sydney, Adelaide and Melbourne (and some Trans-Tasman) with full passenger loads. Due to its width some aircraft currently operating on the runway do so with operational constraints on maximum cross wind capabilities.

Should CASA withdraw approval for A320 or B737 operations on 30m wide runways at some time in the future, or Airlines elect not operate these aircraft on 30m wide runways operations would be severely affected.

Investigations into the possible extensions to or widening of Runway 18/36 were considered during the development of this plan and were not considered viable options.

A 45m wide Code 4E runway is necessary to enable operations by larger and longer range aircraft types that would be required for services to key Asian hub destinations. The alignment of the proposed 13/31 runway takes into consideration the impacts of the PSA on the surrounding community and will contribute to the long term growth of the region.