

HOBART AIRSPACE DESIGN REVIEW

PROPOSED DESIGN DEVELOPMENT PROCESS

Airservices has undertaken a review of the Hobart Airspace, using a 'greenfield approach', with safety of air navigation as our primary consideration.

BACKGROUND

As part of the community consultation process through November and December for the Hobart Airspace Design Review, a number of submissions sought clarification regarding the process that Airservices went through that resulted in the particular proposed designs being taken to stakeholders for consultation.

This fact sheet provides an overview of the process.

PROPOSED DESIGN DEVELOPMENT PROCESS

The process of developing proposed designs for consultation consists of the following steps:

1. Design constraints
 - a) *Regulatory compliance*
 - b) *International and domestic operational mandates*
 - c) *Airservices business requirements*
2. Design considerations
3. Environmental assessment
4. Net benefit analysis

1. Design constraints

Design elements consisted of those required to meet international and domestic regulatory airspace, flight path and procedures design criteria.

These include requirements from the International Civil Aviation Organisation (ICAO), Civil Aviation Safety Authority

(CASA), Environment Protection Biodiversity and Conservation Act (EPBC Act, 1999) and Air Services Act (1995).

Additionally there were design elements that were necessary to meet international, domestic and regulatory air traffic management mandates. These included:

- Optimisation of Performance Based Navigation (PBN)
- Reduced reliance on ground-based navigation systems and increased satellite surveillance capability
- Airspace optimisation providing enhanced instrument flight rules (IFR) services and visual flight rules (VFR) access
- Improved flight paths capturing optimal climb and descent profiles and route optimisation

Airservices also has requirements to ensure safety, while minimising the effect of aircraft noise on the community. These included:

- Comply with Airservices Safety and Environmental Management Systems
- Planning horizon of 2028 to ensure longevity of design
- Airspace architecture that fully considers the [Social Impact Review Report \(TPC, 2018\)](#)
- Effective communication and consultation regarding proposed changes.

- Introduce new SIDs to Strahan and Antarctica
- Introduce a new easterly flight path off the coast of Tasmania for Aircraft arriving from east coast ports (e.g. Sydney, Brisbane, Gold Coast etc)
- Move holding patterns over sparsely populated areas or over water wherever possible
- Improve management of General Aviation (GA) operations around Cambridge airport.

Several alternative designs were reviewed against their ability to integrate all of the key design elements.

Findings of the proposed design alternatives assessment

The current design at Hobart Airport did not progress to further stakeholder consultation, as it does not provide a balance of safety enhancements and environmental improvement, particularly relating to community experience of aircraft noise.

Two design alternatives **Figure 2 Overhead Hobart** and **Figure 3, Over Water Approach** did not progress as they did not meet a range of design considerations, nor provide sufficient net benefit when compared to the remaining design alternatives.

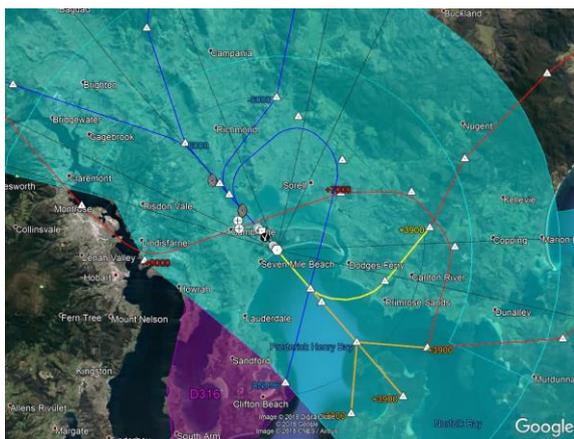


Figure 2: Overhead Hobart

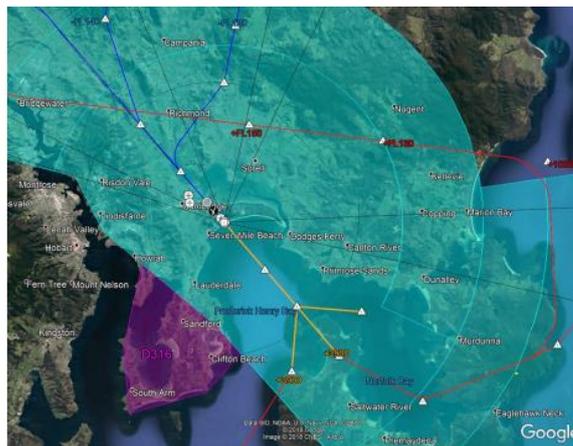


Figure 3: Over Water Approach

Two design alternatives that met a majority of the key design elements were progressed to environmental assessment (**Figures 4 and 5**).

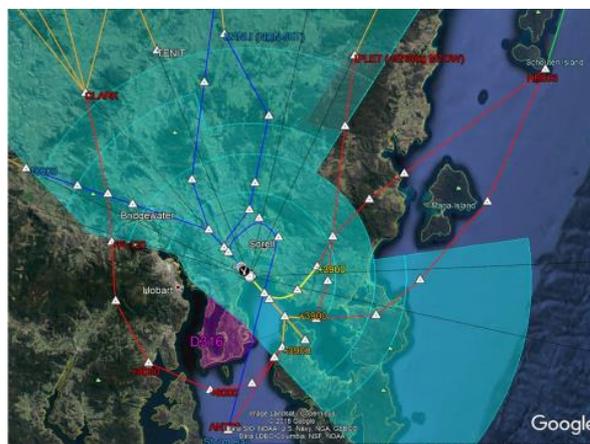


Figure 4: Arrivals to the West

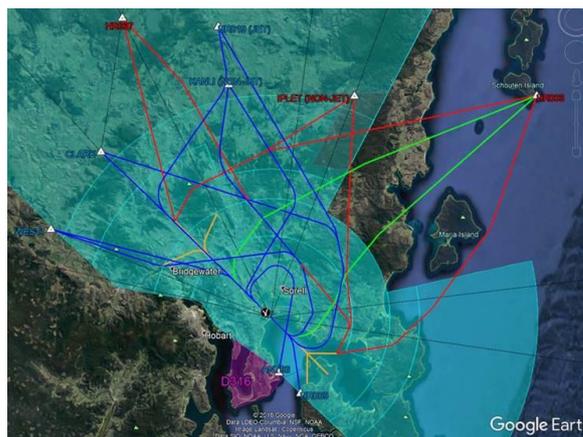


Figure 5: Arrivals to the East

3. Environmental Assessment

In accordance with the requirement of the EPBC Act 1995 and Airservices environmental management procedures, a Targeted Environmental Assessment was conducted on **Figure 4 Arrivals to the West** and **Figure 5 Arrivals to the East**. A copy of this [Assessment](#) is now available on the Airservices website.

Arrivals to the West included arrivals from Perth, Adelaide and Melbourne tracking west of Mt Wellington to join a new RNAV approach which is completely over water. This STAR to the west of Hobart required additional airspace and would result in additional aircraft noise to areas that currently have few overflights.

Arrivals to the East proposed an airspace and air route design that will require less additional controlled airspace for implementation. The STAR for arrival traffic from Melbourne, Perth and Adelaide would track to the east of Hobart, with a requirement to be at or below the jet SID (for departure traffic) in the RWY 30 configuration. This STAR also has an RNP-AR, visual approach or RNAV termination to the RWY 30 threshold, with arrivals from Sydney and Brisbane also tracking over the east coast.

The Targeted Environmental Assessment noted no material differences between the two design alternatives in terms of noise impacts, ecological and heritage impacts, and effects on aircraft emissions and fuel burn. A comparison of aircraft of track miles versus fuel burn and emissions, resulted in approximately 22 kilometres (12 nautical miles) additional track miles compared to the current flight path design, but there was negligible difference in fuel burn (due to closer alignment to CDA).

4. Net Benefit Analysis

The two alternatives were compared against a range of considerations relating to safety, efficiency, environment and community consideration, in addition to Airservices regulatory, operational and other constraints, to determine the total net benefit of each alternative.

Both design alternatives included new RNAV designs for Runway 30 to minimise the effect of aircraft noise on the community, segregated SIDs to the east of Hobart (providing strategic separation between jet and non-jet aircraft), new SIDs to Strahan and Antarctica and incorporated continuous descent approaches (CDA) and unrestricted departures

However *Arrivals to the West* included noise exposure to a number of areas that currently have few overflights, and less ability to distribute noise. It also required increased controlled airspace, requiring air traffic controllers operating in the tower to issue clearances for GA aircraft to operate in newly established controlled airspace. *Arrivals to the East* required less additional airspace, which aligns with the requirement to provide equity of access across all airspace users.

The comparative net benefit analysis assessment identified that *Arrivals to the East* demonstrated the greatest net benefit through:

- Greater noise distribution across communities than the current design
- Reduced the effect on General Aviation, by keeping the STAR from Melbourne to the east of Hobart
- Inclusion of RNP-AR (Smart Tracking) and visual terminations to provide greater safety, predictability and flexibility for aircraft operations, particularly in poor weather conditions.

This integrated design formed the basis of the stakeholder consultation process for the Hobart Airspace Design Review through November and December 2018.

¹ RNAV: area surveillance navigation

² RNP-AR: required navigation performance – authorisation required