



Hobart Airspace Design Review

Final Report

March 2019



Contents

Purpose.....	3
Background	3
Terms of Reference	3
Timeline	3
Social Impact Overview	4
Flight Path Design Considerations	4
Proposed Design Development Process	4
Stakeholder Consultation	5
Consideration of Feedback.....	5
Final Design.....	6
Targeted Environmental Impact Assessment - Addendum.....	7
Community Impacts	7
Implementation.....	8
Attachment 1 – Hobart Airspace Design Review Timeline.....	9
Attachment 2 – Consideration of Feedback	10
Attachment 3 – Comparison of Designs.....	20

While the information contained in this document has been presented with all due care, Airservices does not represent that the information is free from errors or omission.

Purpose

The purpose of this document is to provide a summary of the Hobart Airspace Design Review, present the final design decision, and describe how stakeholder feedback has been considered and used to shape the final designs.

Background

Airservices Australia introduced changes to arrival and departure flight paths at Hobart Airport in September 2017. The changes were designed to organise aircraft departing from or arriving into Hobart Airport onto standard routes called Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs).

The implementation of new flight paths were associated with satellite-based navigation systems aimed at improving the safety of aircraft landing and departing at Hobart Airport. The use of satellite navigation systems is required by the Civil Aviation Safety Authority (CASA).

In response to negative community feedback regarding aircraft noise and visual impacts, we committed in November 2017 to amending the arrival flight path for Runway 30, and this was implemented in March 2018.

[Hobart Runway 30 STAR Review Report \(November 2017\)](#)

Terms of Reference

We committed to undertaking a full review of the SIDs and STARs, and commenced the Hobart Airspace Design Review in January 2018.

[Hobart Airport Airspace Design Review – Terms of Reference \(January 2018\)](#)

Timeline

A timeline of the Hobart Airspace Design Review was developed to present the progress of the review (**Attachment 1**).

[Hobart Airspace Design Review Timeline \(March 2019\)](#)

Social Impact Overview

We engaged a social planning and consultation firm, Tania Parkes Consulting (TPC), to conduct a social impact overview of the flight path changes, and to facilitate the consultation process.

[Social Impact Overview of Hobart Airspace Changes \(Sept 2017/March 2018\) Consultation Summary Report \(August 2018: updated\)](#)

[Community Engagement Plan Survey Results \(September 2018\)](#)

[Hobart Airspace Design Review – Community Engagement Plan \(September 2018\)](#)

Flight Path Design Considerations

Stakeholder feedback received between September 2017 and September 2018 shaped the design considerations that were incorporated into the proposed flight path designs.

We hosted a Stakeholder Reference Panel in Hobart on 14 September 2018, with stakeholders from airport, airlines, local and state government, and community representatives, to explain the design safety, operational and regulatory constraints and to verify the design considerations.

[Hobart Airspace Design Review – Flight Path Design Considerations Infographic \(September 2018\)](#)

[Hobart Airspace Design Review – Stakeholder Reference Panel Summary Report \(September 2018\)](#)

Proposed Design Development Process

Design alternatives were compared against a range of considerations relating to safety, efficiency, environment and community considerations to determine the total net benefit of each alternative. The designs that provided flight paths to and from the east of Hobart Airport were determined to provide the total net benefit.

The proposed design was presented to airlines on 13 August 2018 to confirm its safety and flyability.

This Hobart Airspace proposed design progressed to stakeholder consultation.

[Fact Sheet Hobart Airspace Proposed Design Development Process \(January 2019\)](#)

[Environmental Assessment of Proposed Changes to SIDs and STARs at Hobart Airport \(November 2018\)](#)

Stakeholder Consultation

A second Stakeholder Reference Panel was held in Hobart on 30 October 2018 to validate the community consultation materials.

We conducted consultation on the Hobart Airspace proposed designs between 31 October 2018 and 21 December 2018, with written submissions accepted until 7 January 2019. This included consultation with community and industry stakeholders (including airlines, airports and general aviation operators).

All stakeholders were provided an overview of the designs that did not progress to consultation for reasons of safety, operational and/or environmental issues.

Summary reports of the consultation and feedback from community and industry stakeholders were provided on the Airservices website.

Community members who had contributed to the review were invited to provide feedback on the *Proposed Design Feedback Consultation Summary Report* to ensure that their feedback had been accurately reflected. The report was subsequently updated in response to the feedback.

[Hobart Airspace Design Review – Proposed Design Feedback Consultation Summary Report \(February 2019\) \(March 2019: updated\)](#)

[Hobart Airspace Design Review – Stakeholder Reference Panel #2 Summary Report \(October 2018\) \(March 2019: updated\)](#)

[Hobart Airspace Design Review – Industry Consultation Feedback Summary \(March 2019\)](#)

Consideration of Feedback

The ‘consideration of feedback’ process consisted of several workshops where a thematic analysis was conducted on the collated feedback, to identify if the designs could be improved across safety, operations, environmental and/or community impact considerations.

Most of the design elements contained in the Hobart Airspace proposed design were broadly accepted by stakeholders, however several design elements were identified for further review, as a result of community feedback on noise and visual impacts. Community feedback specifically favoured the removal of the east coast over-the-water flight paths and amendments to Runway 12 SIDs.

Some community feedback requested that Airservices re-visit the concept of flight paths to and from the west of Hobart Airport. As these had previously been reviewed and discounted on the grounds of safety and operational concerns, this feedback did not progress to further review.

A summary of the consideration of feedback is provided in **Attachment 2**.

Final Design

Following consideration of all feedback, we have developed the final design.

The final design integrates the accepted proposed design elements with amended design elements that were shaped by community feedback including:

- Removal of the east coast over-the-water flight paths
- Amendment of the Runway 12 non-jet and jet SIDs.

The Hobart Airspace final design:

- Delivers a range of safety enhancements through:
 - a. segregated jet and non-jet departures
 - b. jet departures that no longer have a height restriction
 - c. improved design for the SID/STAR cross-over
 - d. 'Smart-tracking' arrivals with vertical guidance and terrain protection
- Maintains segregation of general aviation (GA) and regular public transport (RPT) operations
- Minimises the effect of aircraft operations on the environment
- Avoids areas of World Heritage and where possible, local community and cultural sensitivity
- Requires less additional controlled airspace than the proposed design
- Delivers airline stakeholder efficiency through an overall reduction in track miles.

The final design was presented to airlines on 14 and 15 March 2019 to confirm safety and flyability.

A comparison of the designs is provided in Figures 1, 2 and 3 in **Attachment 3**.

A zoomed in image of the arrival and departure flight paths in the South East region is provided in Figure 4.

Targeted Environmental Impact Assessment - Addendum

A Targeted Environmental Impact Assessment (TEIA) was conducted on the amended final design elements and found similar emissions and slightly less population overflight, when compared to current operations.

The amended final design elements, and the resultant integrated design (previously assessed via a TEIA), did not trigger the Environmental Protection and Biodiversity Conservation (EPBC) Act referral criteria, as defined in Airservices National Operating Standard (AA-NOS ENV2.100).

However, some communities will still be affected by aircraft noise, due to the low ambient noise levels in these areas, and visual impacts due to the direction and location of flight paths.

[Hobart Airspace Design Review – Environmental Assessment Addendum \(March 2019\)](#)

Community Impacts

The following provides an overview of how communities will be affected in the final design:

- The Runway 12 RNAV arrival flight path from the north, that was included in the proposed design, has been moved 3 kilometres (km) to the west of Kempton to avoid overflying communities of Kempton, Melton Mowbray, and Dysart.
- The Runway 12 RNAV arrival flight path from the east has been slightly adjusted to meet the needs of airline stakeholders. The community of Colebrook will experience arriving aircraft above 10,000 feet.
- When compared to the proposed design, there are no changes in the final design that will change the experience of the communities of Bagdad, Campania, Richmond and Sorell.
- Additional analysis of the projected use of the Strahan SID indicated it was not required to be implemented as part of the final design. As such the communities of Bridgewater and Brighton will not experience concentrated overflight of non-jet aircraft tracking to Strahan.
- The community of Nugent will experience increased overflight from the final Runway 30 arrival flight path design as a result of the removal of the proposed east coast over-the-water flight paths and the design of flight paths that track from IPLET waypoint to the Runway 30 approaches.
- Communities of Copping and Kelleve will experience arrivals on the Runway 30 STAR flight path that connects with the RNAV approach in the final design. This will be similar to the current arrival flights, but different from the proposed design. This is as a result of the removal of the proposed east coast over-the-water flight paths, and the design of flight paths that track from IPLET waypoint to join the Runway 30 approaches.
- In the final design, the community of Dunalley will experience arrivals on the Runway 30 STAR flight path, however this flight path will be 2 km to the west of the current design.

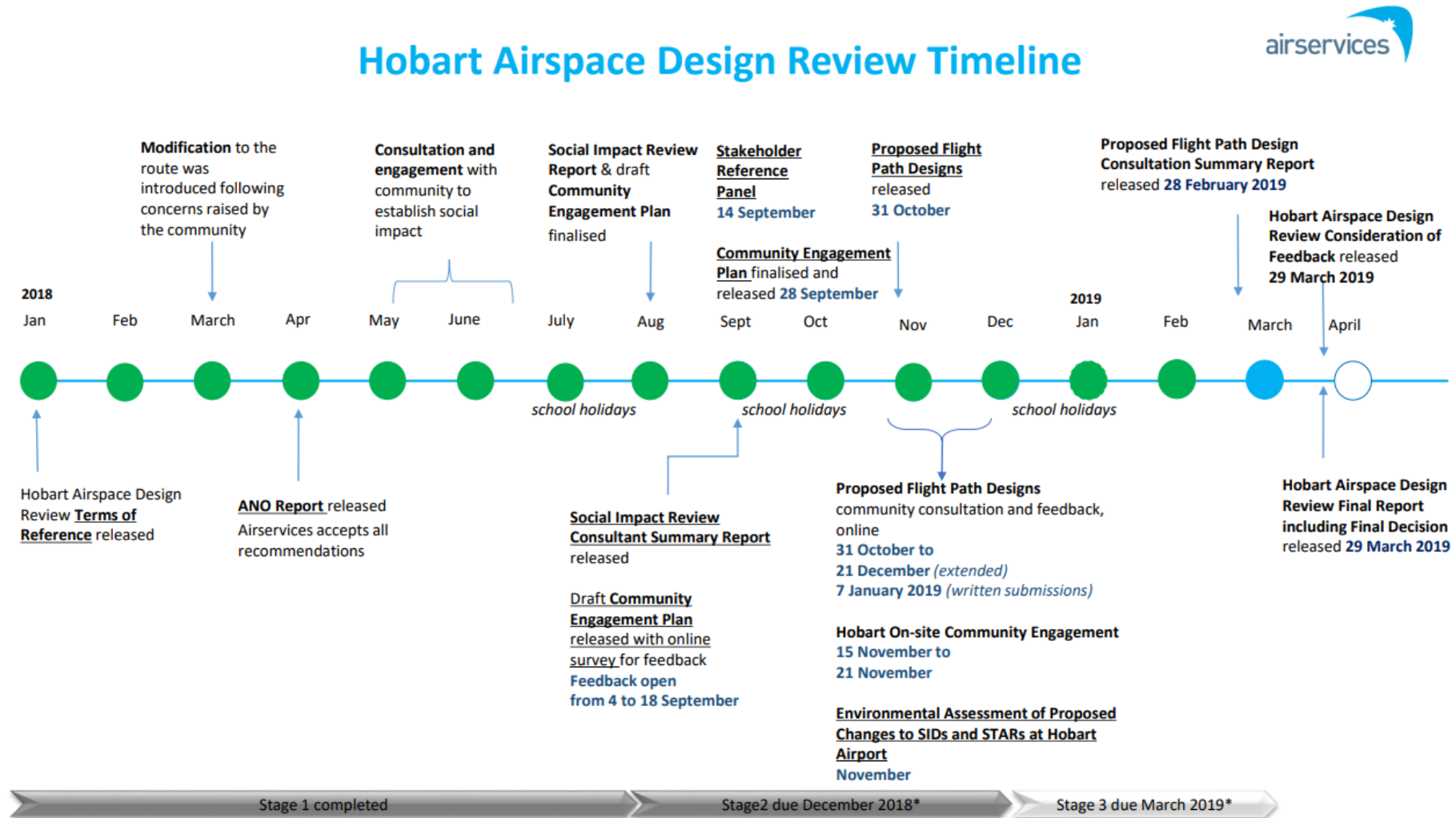
- Communities of Dunalley, Boomer Bay and Marion Bay will not experience arriving aircraft to the south in the final design, due to the removal of the proposed east coast over-the-water flight path that connected to the Runway 30 RNAV approach.
- Communities in the area of Murdunna, Sloping Main and Saltwater Creek will not experience arriving aircraft to the north in the final design, due to the removal of the proposed east coast over-the-water flight path that connected to the Runway 30 RNAV approach.
- Communities in Primrose Sands and Carlton will experience the Runway 30 Smart Tracking (RNP-AR) approach, however they will not experience the Runway 12 SID overflight in the final design.
- In the final design, the Runway 12 jet SID tracks between Connellys Marsh and Dunalley, however it tracks 4 km further over water than the proposed design, before turning over land. It is designed with a tracking point to contain the expected area of aircraft operations during the turn and will cross land at 6,000 feet, nearly 1000 feet higher than in the current or proposed designs.
- In the final design, the communities of Dodges Ferry, Forcett and Pawleena will experience non-jet aircraft operating on the Runway 12 non-jet SID, and this SID has been slightly tightened on the left turn near Forcett and Pawleena to enable the jet SID to be slightly amended to the west near Nugent.
- Communities in the area of Copping and Kelleve will experience the Runway 12 jet departures. However, as a result of the extension of the jet SID over water, most departing jet aircraft are expected to be higher than in the proposed design when flying near these communities (above 9,000 feet). Departing jet aircraft will be also be higher near Nugent than in the proposed design (above 10,000 feet).

Implementation

We are seeking to have the designs implemented in full by 7 November 2019, subject to CASA approving the Airspace Change Proposal.

We will be conducting a Community Update Program in May 2019, consisting of drop in sessions at central locations in the Hobart Area, and the provision of additional community specific information.

Attachment 1 – Hobart Airspace Design Review Timeline



Attachment 2 – Consideration of Feedback

Workshops were conducted to analyse the collated feedback from all stakeholders.

A.2.1 Process

Design Elements

The feedback was categorised against each of the design elements that formed the basis of the proposed design, and were presented in the consultation material, including during the on-site consultation sessions. Additional elements were added for consideration based on community feedback.

Themes

The feedback was then categorised according to the following themes:

- Safety
- Efficiency
- Noise distribution
- Noise concentration
- Environment/emissions
- Operational (ATC)

Region/Location

The feedback was categorised based on the region and location of the proponent of the feedback, to identify if there were common threads by region.

Response

The feedback was also categorised based on the overall nature of the feedback, to determine if it was a positive, negative or neutral response to the design element/s or the proposed designs overall.

Outcome

Following analysis of the feedback the proposed design element was assessed as to whether it could be accepted and incorporated into the final design, needed further review, or could not be incorporated into the final design. Feedback that required no further action was reviewed and noted.

Feedback that did not inform the flight path design but was related to internal processes and/or practices was reviewed for continuous improvement opportunities.

A.2.2 Design Consideration of Feedback Outcomes

1. Re-design of the Runway 30 Satellite Based Area Navigation Approach (RNAV) to extend it over water

A key aspect of this design element included moving the three ‘forks’ of the RNAV approach closer to the runway, and adjusting the splay, so as to reduce the effect of aircraft noise on the community.

Consideration: This design element was generally accepted by stakeholders without further feedback that could improve its design.

Outcome: This proposed design element has been accepted in the final design.

2. Runway 30 Required Navigation Performance – Authorisation Required (RNP-AR; ‘Smart Tracking’)

Key aspects of this design element included the increased precision with navigation including lateral and vertical guidance, to provide safe, predictable and dependable operations in almost all weather situations, delivering safety and operational improvements and a reduction of emissions.

Consideration: This design element was generally accepted by stakeholders. Some community stakeholders expressed concern regarding the location of the track and the expectation of concentrated overflight on a known and predictable path.

Others sought to have the turn on the Smart Tracking (RNP-AR) approach adjusted to ‘tighten’ the turn, so as to move the potential audible effect away from some communities.

Some community members queried whether the same flight path could be used for the Smart Tracking (RNP-AR) approach, and the RNAV approach. This is not possible due to the different design criteria and constraints required, and the opportunity to provide a shorter and longer approach to improve operational efficiency.

The Smart Tracking (RNP-AR) approach, could not be further adjusted due to design constraints and criteria to ensure stable approaches for the final stages of flight.

Outcome: This proposed design element has been accepted in the final design.

3. Runway 12 Required Navigation Performance – Authorisation Required (RNP-AR; ‘Smart Tracking’)

Key aspects of this design element included the increased precision with navigation including lateral and vertical guidance, to provide safe, predictable and dependable operations in almost all weather situations, delivering safety and operational improvements and a reduction of emissions.

It included the associated Runway 12 STAR flight path that links to this approach.

Consideration: This design element was positively accepted by stakeholders over the current flight paths.

Outcome: This proposed design element has been accepted in the final design.

4. Runway 12 Standard Instrument Arrival (STAR) to the RNAV

The proposed design element included flight paths for jet and non-jet aircraft to connect with the RNAV approach to Runway 12.

Consideration: This design element was generally accepted by stakeholders. However the Runway 12 RNAV arrival flight path from IPLET waypoint was slightly adjusted to accommodate airline operations. Previously it had been designed to support non-jet aircraft only.

We did not receive feedback to amend the proposed Runway 12 RNAV arrival flight path from the north, however on review of the design element it was identified that this flight path could move 3 km to the west, so as to avoid three communities, who will no longer be directly overflown.

Outcome: These amended design elements have been incorporated in the final design.

5. Runway 30 Jet Standard Instrument Departure (SID)

The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.

Consideration: This design element was generally accepted by stakeholders.

Outcome: This proposed design element has been accepted in the final design.

6. Runway 30 Non-Jet Standard Instrument Departure (SID)

The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.

Consideration: This design element was generally accepted by stakeholders.

Outcome: This proposed design element has been accepted in the final design.

7. Holding Patterns with operations below 6000 feet were moved to be located over sparsely populated areas wherever possible.

The proposed design included mandatory airspace design elements of holding patterns. They were orientated over less populated areas wherever possible.

Consideration: This design element was generally accepted by stakeholders.

Some community feedback sought to have the holding pattern for the Runway 30 RNAV approach moved out to the east, off the coast of Tasmania.

This feedback was unable to be incorporated into the design due the need for low level holding patterns to be located at the Initial Approach Fix (IAF), in accordance with international design standards.

It was noted that these holding patterns would be used infrequently by jet aircraft, however may be used by trainee pilots conducting instrument training flights.

Outcome: This proposed design element has been accepted in the final design.

8. Movement of flight paths away from World Heritage listed sites

The proposed design included moving the Runway 30 arrival flight path to the RNAV approach away from, and further north of, the Coal Mine Historic Site.

Consideration: While this design element was generally accepted by the community, feedback also included requests to: avoid the UNESCO-listed convict heritage site on the west coast of Maria Island; avoid Maria Island's unique ecological environment completely; and not to fly further down the Tasman Peninsula near or over Port Arthur Historic Sites.

Some community feedback questioned why areas of National Environmental Significance and World Heritage areas need to be taken into consideration. Airservices considers areas of National Environmental Significance and World Heritage sites in accordance with our procedures that comply with the Environmental Protection and Biodiversity Conservation Act (1999).

The amended design elements were reviewed to ensure flight paths do not operate in close proximity to these areas, while ensuring safety of operations.

Outcome: The final design does not overfly known areas of National Environmental Significance or the Coal Mine Historic Site, Maria Island, Freycinet Peninsula or Tasman Peninsula.

9. Antarctica Standard Instrument Departure (SID)

A key aspect of this design element involved the introduction of a dedicated SID for flights to Antarctica.

Consideration: This design element was positively accepted by stakeholders without further feedback that could improve its design.

Outcome: This proposed design element has been accepted in the final design.

10. Strahan Standard Instrument Departure (SID)

A key aspect of this design element involved the introduction of a dedicated SID for flights to Strahan.

Consideration: This design element was positively accepted by stakeholders, however the forecast utilisation, adjusted for revised aircraft movements, identified that this element of the design did not need to be incorporated at this time.

Outcome: This proposed design element has been removed from the final design.

11. General Aviation operations

It was a requirement of the Hobart Airspace Design Review to consider Cambridge Airport operations.

Consideration:

Some community feedback sought to have the GA operations from Cambridge and the designated training area, Danger Area 316, relocated, reduced or re-sized, so as to afford flight paths that could track to the west of Hobart.

GA stakeholders were supportive of the proposed designs and expressed concern regarding any large or significant changes to the airspace around Hobart that would restrict their operations.

Airline stakeholders were supportive of the proposed designs as they maintain the safe segregation of general aviation operations and RPT operations.

Airservices has requirements to ensure equity of access to airspace for the range of airspace users. We determined that any changes to GA operations that affected the potential segregation of training operations from commercial and RPT operations may have a compounding negative effect on the safety of operations, due to the risk of airspace infringements leading to loss of separation, and the associated increased workload for air traffic controllers and pilots.

Outcome: The final design considers Cambridge Airport operations.

12. Easterly flight paths off the coast of Tasmania for aircraft arriving from Sydney or Brisbane

The proposed east coast over-the-water flight paths were informed and designed using a range of community feedback collated from September 2017 to September 2018. The flight paths were designed to cater for up to thirty percent (30%) of aircraft arrivals (coming from eastern ports of Sydney, Brisbane and Gold Coast) off the east coast of Tasmania and over water, instead of these aircraft flying over land. The intention was to provide flight path distribution and have arriving aircraft fly over less populated areas.

The proposed inbound STAR to the Runway 30 RNAV tracked over the water and crossed land only when necessary to join the RNAV approach, at a location that aimed to minimise noise impacts to rural communities.

The flight paths also included a new STAR to join the new Smart Tracking (RNP-AR) approach, which provided alternative tracking for arriving aircraft and flight path distribution for the community.

A change to air traffic control airspace volumes was required to accommodate the new flight paths and would require approval from the CASA.

Continued - Easterly flight paths off the coast of Tasmania for aircraft arriving from Sydney or Brisbane

Consideration:

Industry stakeholder feedback was supportive of these flight paths.

A number of community feedback submissions requested that we review the proposed east coast over-the-water flight paths.

Some community feedback sought to have these flight paths removed from the design, while others suggested retaining it, but moving it at least 5 km away from the Maria Island east coastline. Other community feedback suggested we retain the proposed east coast over-the-water flight paths, but that the point where the STAR that connects with the Runway 30 RNAV approach crosses land move further south than as depicted in the proposed design.

Careful consideration was given to removing these flight paths and re-routing them over land due to the need to ensure the safety of the operations, particularly as it related to the interdependencies of the non-jet and jet SIDs and the interplay between the SIDs and STARs.

Consideration was also given to ensuring that aircraft arriving from eastern ports were on different flight paths from those arriving from Melbourne, so as to minimise the number of aircraft on any one flight path.

The removal of the proposed east coast over-the-water flight paths, removal of Schouten Island waypoint, and re-design of flight paths from the IPLET waypoint would have a resultant impact on communities on the land and, wherever possible, flight paths designs should avoid directly overflying communities.

The STAR flight path for Runway 30 from IPLET waypoint was examined to avoid overflying some small rural towns wherever possible.

Consideration was given to having both Runway 30 STARs from IPLET waypoint join the STAR for Melbourne arrivals at the same common waypoint, however a number of turns in a short segment was assessed as increasing the risk of unstable approaches and increased operational complexity for pilots. This was not able to progress to the final design.

Outcome:

The proposed east coast over-the-water flight paths have been removed.

Flights arriving from ports such as Sydney, Brisbane and Gold Coast will track via IPLET waypoint and then connect to the Runway 12 STARs and the Runway 30 STARs.

The Runway 30 STAR flight path was re-routed slightly, within the constraints of ensuring separation from the Runway 12 SID, so as to avoid directly overflying some communities.

These amended design elements have been incorporated in the final design.

13. Runway 12 Non-Jet and Jet Standard Instrument Departures (SID)

The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.

Consideration:

Industry stakeholder feedback was supportive of the jet SIDs, including the unrestricted climb and separation of non-jet traffic and inbound arrivals. Industry stakeholder feedback identified the SID design as a safety enhancement and efficiency improvement.

Some community feedback requested the following adjustments to the Runway 12 non-jet SID and jet SID:

- tighten up the departure turn off the runway and fly closer to the airport (westward) for both SIDs so as to approximate previous flight paths as much as possible
- extend the jet SID further over the water to east of the proposed design
- have the jet departure follow the same track as the arrival flight path
- examine if the jet aircraft could fly the designed non-jet SID.

In reviewing these SIDs, there were a range of operational constraints including strategic separation of non-jet and jet departures, strategic separation of SIDs and STAR, separation points to enable unrestricted climb for jet aircraft, track miles and ensuring an appropriate turn rate and climb gradient for common aircraft types.

In addition to the constraints, considerations included the provision of flight path distribution for community, the height of aircraft crossing the coast, climb gradient to facilitate aircraft climbing away from communities as soon as possible, and the ability to further contain the splay when aircraft are turning on a SID.

The non-jet SID was adjusted slightly to tighten the turn but was not able to be brought in any closer due to the need for sufficient track miles to meet separation requirements and terrain considerations further along the departure flight path.

To minimise the effect of the jet SID on communities along the flight path, the outbound segment of the SID has been extended over the water for 4 kms before turning prior to the Lime Bay State Reserve, and crosses land between two communities. The jet SID is contained to fly along the boundary of a business operation in the area.

Due to the extended outbound segment, the aircraft will now cross the coast at higher altitude than in the current and proposed designs, and will be higher when flying near communities along the flight path

The jet SID flight path segment over land was adjusted to turn slightly westward near Woodvine Nature Reserve, earlier than in the proposed design, but was restricted in moving further west in the final design due to the need to ensure strategic separation and segregation of the non-jet and jet SID flight paths, and ensuring separation from the STARs.

Continued - Runway 12 Non-Jet and Jet Standard Instrument Departures (SID)

The non-jet SID could not be used for jet departures due to the speed restrictions, and height requirements that are required to ensure separation from the missed approach flight path and the STAR flight paths. The speed restrictions preclude jet aircraft from operating safely on this flight path.

Outcome:

In the final design:

- The Runway 12 non-jet SID has been adjusted slightly to tighten up the turn closer to the airport.
- The Runway 12 jet SID has been further extended over water before turning left to cross the coast between two communities.
- The jet SID flight path segment over land has been adjusted to turn slightly westward near Woodvine Nature Reserve.

14. Topography

Community feedback noted areas of topography in different regions that were identified as being able to minimise the effect of aircraft noise on communities.

Consideration: In reviewing the design elements, topography identified in community feedback was referenced. This included avoiding flying over Susan Bay, utilising flight paths over quarries and state forests, and identifying where flight paths could be adjusted either side of ridgelines or in areas that would be less likely to cause noise reverberation.

Outcome: Flight paths in the final design have been adjusted to utilise topography to minimise the effect on communities wherever possible.

15. Crossover of the SIDs/STARs

The proposed design included an amendment to the SID/STAR cross-overs to provide for unrestricted jet SIDs and the addition of requirements on the STARs. The proposed design moved the cross-over points for jet aircraft further away from the airport, and raised the cross-over by several thousand feet.

Consideration: In reviewing the Runway 12 SIDs and amending the STARs for Runway 12 and Runway 30, the safety and efficiency enhancements were maintained.

Outcome: The SID/STAR cross-over enhancements are incorporated in the final design.

16. Flight paths to the west of Hobart

A number of community submissions requested we consider arrival and departure flight paths to the west of Hobart and/or airspace changes to Danger Area D316 (located south west of Hobart).

Consideration: These flight path alternatives had previously been evaluated and discounted on the grounds of safety and operational complexity and concern about noise impacts on communities that currently experience few overflights.

Industry stakeholder feedback received during the consultation period supported this assessment and included safety concerns related to increased risk of Controlled Flight into Terrain (CFIT) due to operations near terrain, and aircraft controllability issues associated with severe turbulence and occasional aircraft icing.

Industry stakeholders also noted that flight paths that track down the path of the Derwent River do not provide adequate manoeuvring margins and would lead to a potential increase in missed approaches and go-arounds.

Flight paths from the west did not include the safety and operational benefits of the Smart Tracking (RNP-AR) approach.

Outcome: These flight paths were not further considered as part of this analysis.

17. Implementation

Some community feedback requested that the implementation of any change to flight paths be delayed for a period of 12 months from the release of the final design decision, to enable communities to prepare for the change.

There was also a request to defer implementation until the ANO recommendation related to review of environmental assessment criteria had been addressed and closed and the new criteria were applied to the environmental assessment of these designs. Other community members and industry stakeholders have requested that the final designs be implemented as soon as practicable so as to realise the changes to the airspace and aircraft operations.

Consideration:

The ANO Recommendations are due for completion by June 2019. Delaying until this time would see the flight path changes implementation delayed until May 2020.

After considering all the requests, we have decided to implement the designs as soon as practicable, so as to realise the safety enhancements, deliver efficiency to airline stakeholders, and implement flight path changes that minimise the effect of aircraft operations on the community and environment, including World Heritage listed areas.

Outcome: The final design will progress to implementation on 7 November 2019, subject to CASA approval of the Airspace Change Proposal.

Attachment 3 – Comparison of Designs

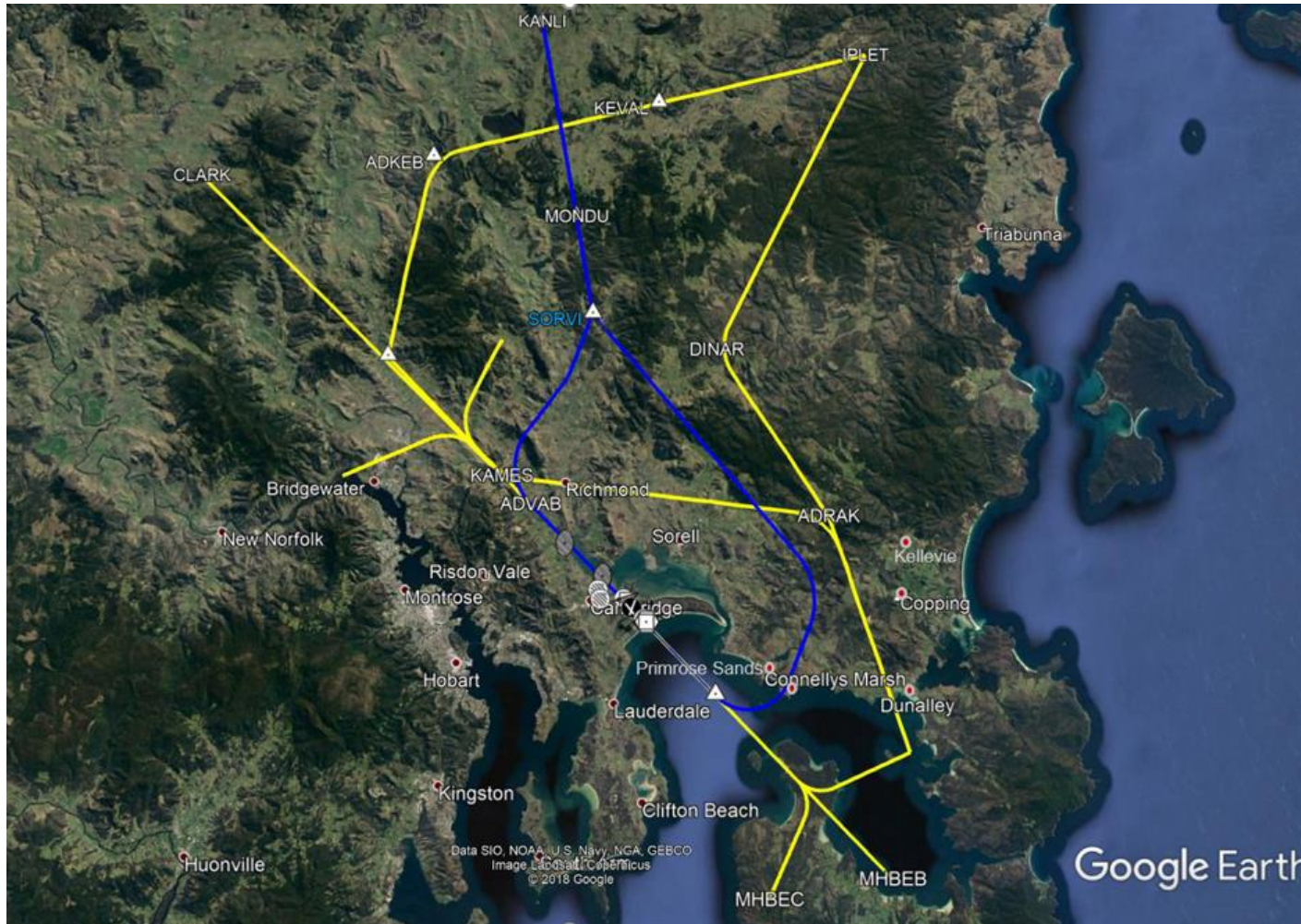


Figure 1. Current Design (March 2018) – arrivals (yellow); departures (blue); waypoints (white triangles)

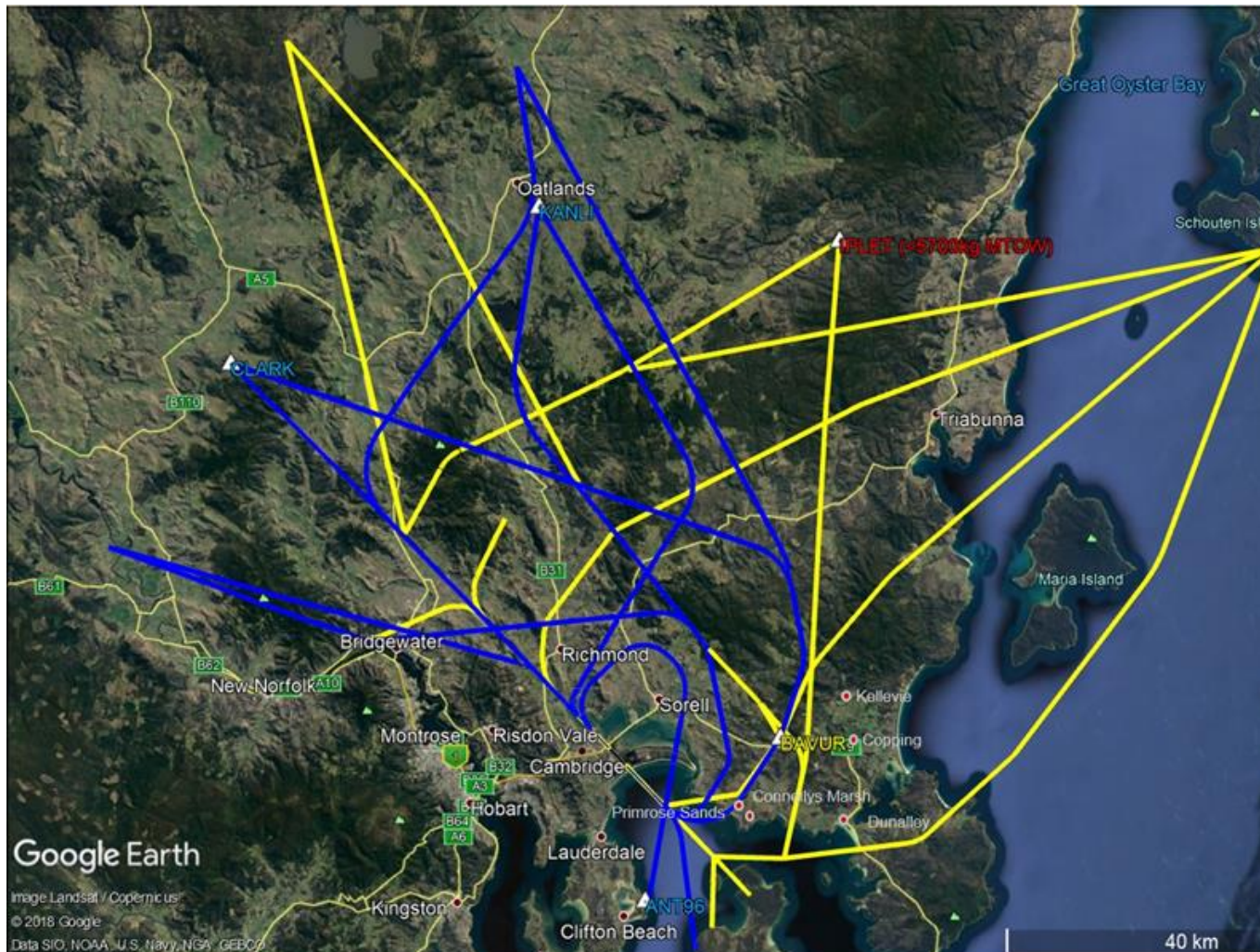


Figure 2. Proposed Design (October 2018) - arrivals (yellow); departures (blue); waypoints (white triangles)

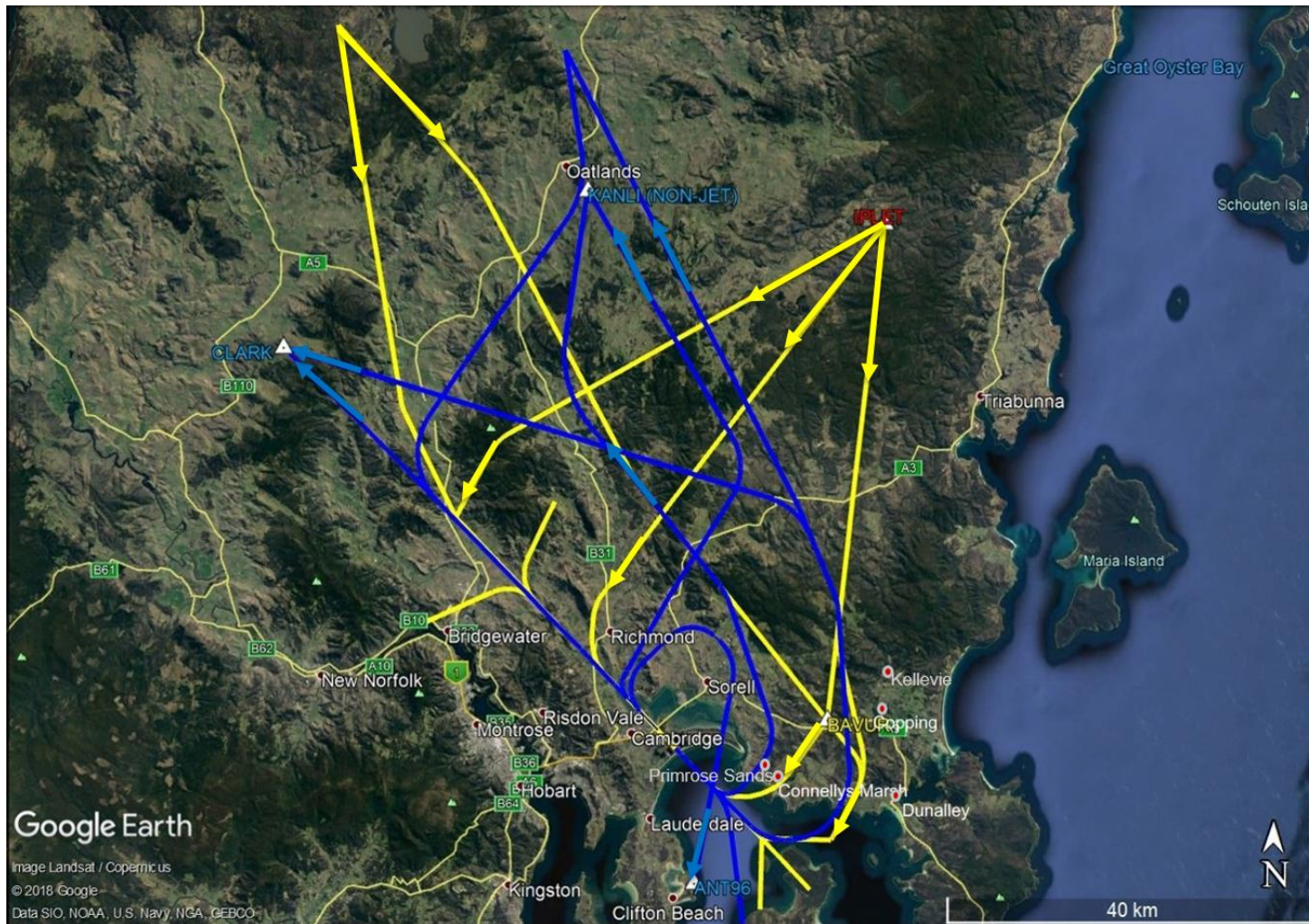


Figure 3 – Final Design (March 2019) - arrivals (yellow); departures (blue); waypoints (white triangles)



Figure 4 – Final Design (March 2019) - Zoomed in image showing Runway 12 departures and Runway 30 arrivals in the South East region; arrivals (yellow); departures (blue); waypoints (white triangles)