ano
AIRCRAFT NOISE OMBUDSMAN

Investigation into complaints about the flight paths associated with the Brisbane Airport new parallel runway

August 2021

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1. Executive Summary

The complaints

1.1. As of 30 June 2021, the ANO received 265 complaints regarding aircraft noise following the opening of Brisbane Airport's new parallel runway. One complaint from the Brisbane Flight Path Community Alliance incorporated a survey of 2075 residents adversely affected. The ANO conducted a multi-complaints review of Airservices' environmental assessment of the impact of the flight paths developed for the new runway and its community engagement with potentially affected residents.

The 2007 EIS

1.2. As the airport development would have a significant impact on the environment, it was referred to the Minister for the Environment in 2005 under section 160 of the Environment Protection Conservation and Biodiversity (EPBC) Act. The Minister required an Environmental Impact Statement (the 2007 EIS), which was open for public consultation and submissions from November 2006 to February 2007. The 2007 EIS included consideration of various options for potential flight paths and recommended a preferred option.

Flight path design and environmental impact

1.3. Airservices' design of the eventual flight paths commenced in 2015 and a Preliminary Design Review (PDR) was completed in August 2017. The PDR did not assess differences between the flight paths it proposed and those put forward in the 2007 EIS. Further work of the flight path design occurred from November 2017 and was set out in a Critical Design Review Report finalised on 29 May 2018. The report noted the proposed flight path design took advantage of technological improvements in satellite guided and instrument guidance, the effect of which is to concentrate flights, and consequent aircraft noise, into narrow paths.

1.4. The EPBC Act also provides that a proposed development, which has a significant impact on the environment, need not be referred to the Minister again if it had previously been referred and the environmental impact is not significantly different from the original proposal.

1.5. In early 2018, the Brisbane Airport Corporation (BAC) commissioned a Noise Footprint Comparison to compare the impact of aircraft noise with the flight paths proposed at that time with the impact of those in the 2007 EIS. It found there was no significant difference. Airservices endorsed this Noise Footprint Comparison in May 2018 and wrote to the Minister to this effect in August 2018. At this stage, however, the flight paths were still being developed and Airservices assessment of their impact on the environment was incomplete. The flight paths continued to be developed and amended up to late 2019.

1.6. Airservices' environmental assessment did not compare the proposed flight paths with those put forward in the 2007 EIS. It extracted a map from the 2007 EIS and deemed the area covered by that map, to be the area determined by the 2007 EIS to be the area of significant environmental impact. This approach did not address the central question of whether the environmental impact of the flight paths ultimately implemented was significantly different from those proposed in the 2007 EIS.

1.7. As Airservices did not adequately addressed the question of whether the flight paths ultimately designed had an environmental impact that was similar to, or significantly different from, those proposed in the 2007 EIS, the ANO is unable to conclude whether or not Airservices complied with the EPBC Act.

Community engagement

1.8. A consistent theme in the complaints to the ANO was that complainants felt misled by the information they were provided about the potential impact of the new flight paths. Particularly, the complainants say they were reassured that the impact would be minimal because the dual runways allowed for simultaneous take-offs and landing over Moreton Bay, thus minimising noise over the suburbs to the southwest of the new runway.

1.9. Airservices entered into an agreement with the Brisbane Airport Corporation (BAC) that BAC would take the lead and Airservices play a support role in a joint initiative to engage with the community potentially affected by the new flight paths. BAC determined that any community involvement in the location of the new flight paths was completed by the 2007 EIS process and subsequent community engagement would consist only of the provision of information. Airservices agreed with this position.

1.10. There was a considerable lapse of time since the flight paths contained in the 2007 EIS and the final flight paths were designed without comparing them to those in the EIS. EIS approval, and the design of flight paths without assessment of those in the 2007 EIS, and Airservices' own environmental assessment identifying aircraft noise impacts that residents would perceive as significant, Airservices did not ensure that the community received adequate information about the potential impact or any opportunity to influence the location of the flight paths. This was contrary to Airservices obligations regarding community engagement on the design of flight paths.

The review makes the following findings:

1. Airservices assessment of the environmental impact of the flight paths designed for the new runway at Brisbane Airport was largely compliant with its internal policies. There is insufficient evidence to find that it did not comply with the requirements of the Environmental Protection and Biodiversity Conservation Act.

2. Airservices failed to engage effectively with the communities potentially affected by the new flight paths in contravention of its then applicable policy and contrary to best practice for community engagement.

3. Airservices did not provide full and complete information regarding aircraft noise to potentially affected communities.

The review recommends that:

1. Airservices Post Implementation Review of the Brisbane flight paths includes a community engagement process that provides reasonable opportunities for community contributions and the consideration of community suggested alternatives to the current flight paths.

2. Airservices review the effect of its managerial separation of flight path design, environmental assessment and community engagement, and implement a management structure that includes these functions under the same manager or demonstrate how effective community engagement is incorporated into the flight path change process under the current structure.

3. Airservices update its Third Party Framework to ensure that Airservices' obligations regarding community engagement are properly acquitted when it enters into cooperative arrangements for community engagement with third parties.

4. Airservices update its policies to ensure that if metrics for the assessment of significance have changed since the initial EIS assessment and approval, the originally approved designs and data should be used to produce the relevant applicable metrics, retrospectively. If the original approved data does not support production of the additional metric, for comparison against the final flight path designs, the comparative assessment should clearly explain the reasons for the alternate assessment method selected.

2. The complaints

2.1. Brisbane Airport's new runway, parallel to the existing runway, opened in July 2020. Significant numbers of complaints about aircraft noise were received by the ANO in November and December 2020. As a result, the Aircraft Noise Ombudsman (ANO) commenced an investigation into Airservices Australia's (Airservices') environmental assessment of the new flight paths, and its engagement with the community associated with their implementation. The ANO received 265 individual complaints up to 30 June 2021.

Figure 1 – Position of Brisbane Airport existing (blue) and new parallel (green) runway, relative to nearby suburbs.

2.2. One complaint consisted of a detailed and extensive submission from the Brisbane Flight Path Community Alliance (BFPCA) and included a survey of 2,075 residents adversely affected. The complaints expressed in the BFPCA's submission and survey largely reflect the complaints made directly to the ANO by individuals.

2.3. The overwhelming majority of complaints came from those areas closer to the new runway and most heavily affected by its operation. These include the suburbs of Hawthorne, New Farm, Balmoral, Bulimba, Hamilton, Ascot, Teneriffe, Norman Park and Hendra. A smaller but significant number of complaints were received from areas at a considerable distance from the airport about the impact of new runway's northern flight paths. These included Brookfield, Upper Brookfield, Pullenvale, Samford, Samford Valley, Toowong and Yeronga.

Figure 2 – Location of complaints by suburb, as received by the ANO. Each pin represents one suburb where one or more complaints were received. A further 22 complaints were received without a suburb.

2.4. Any summary of the adverse impacts reported by complainants will be inadequate. The issues reported include negative impacts on health, mental stress and anxiety; disruption and aggravation for complainants working from home; loss of residential amenity, including interruption to indoor activities and loss of use of outdoor areas; interruption to sleep, adverse impacts observed in children and diminished property values. To varying degrees, the complainants exhibit shock, anger and frustration.

2.5. Some complainants were completely unaware of the potential impact of the new flight paths. These included both long term residents, and those who had moved into affected suburbs after the public consultation process in 2007.

2.6. The majority of complainants, both long term and more recent residents, were aware of the new runway before it became operational. These complainants reported varying degrees of inquiry into the potential impacts on their properties and lifestyle. Some report attending public information sessions as well as more detailed inquiries of Brisbane Airport Corporation's (BAC) public information campaign. The consistent theme of these complaints is that the complainants were reassured that the impact on them would not be significant. Having experienced the actual impact after July 2000, the complainants allege that the information they were given was misleading. In particular, they say that they were falsely reassured that the dual runway would provide for the bulk of take-offs and landings over Moreton Bay and minimising the disturbance to them. Some complainants felt so aggrieved that they alleged they were intentionally and deliberately misled.

2.7. The nature of the complaints informed the terms of reference for this investigation which can be summarised as:

- inadequate assessment of the environmental impact; and

- no and/or inadequate consultation or engagement with the affected community.

3. The investigation

3.1. The investigation included assessment of all complaints and examination of documentation on Brisbane Airport's website relating to the environmental impact assessment of the proposed new runaway in 2007. Airservices provided relevant documents requested by the ANO related to its environmental assessment (EA) of the final flightpath design, and to its community engagement activities, including some documents from the Brisbane Airport Corporation (BAC) where the two worked jointly. The ANO has not investigated BAC, the conduct of which is outside the ANO Charter, and BAC is referred to only in so far as it is necessary for the investigation into Airservices.

3.2. As set out above, a consistent theme of the complaints alleged that complainants were falsely reassured that there would be minimal impact on them. While the similarity of these complaints may suggest a pattern of conduct, this aspect of the complaints was not amenable to detailed investigation, given the lapse of time since the conduct occurred and the lack of any contemporary, corroborative documentation of the conduct alleged.

4. The 2007 Environmental Assessment Process

4.1. On 27 May 2005, in compliance with section 160 of the Environmental Protection and Biodiversity Conservation Act 1999 (the EPBC Act) Airservices wrote to the Minister for the Environment notifying that airspace management associated with Brisbane Airport's proposed new runway was likely to have a significant impact on the environment. On 16 June 2005, the Minister advised that an Environmental Impact Statement would be required including public consultation.

4.2. The Draft Environmental Impact Statement (EIS) is published on the Brisbane Airport website[1]. Volume D3 sets out various flight path options developed and provided by Airservices. Of relevance to the areas from which complaints were received, a number of options for arrivals overland to the new runway were considered. Option 2A, which became the preferred option, is mapped at Figure 3.6d, D3-45. Departures from the new runway overland were mapped at Figure 3.6f, D3-47.

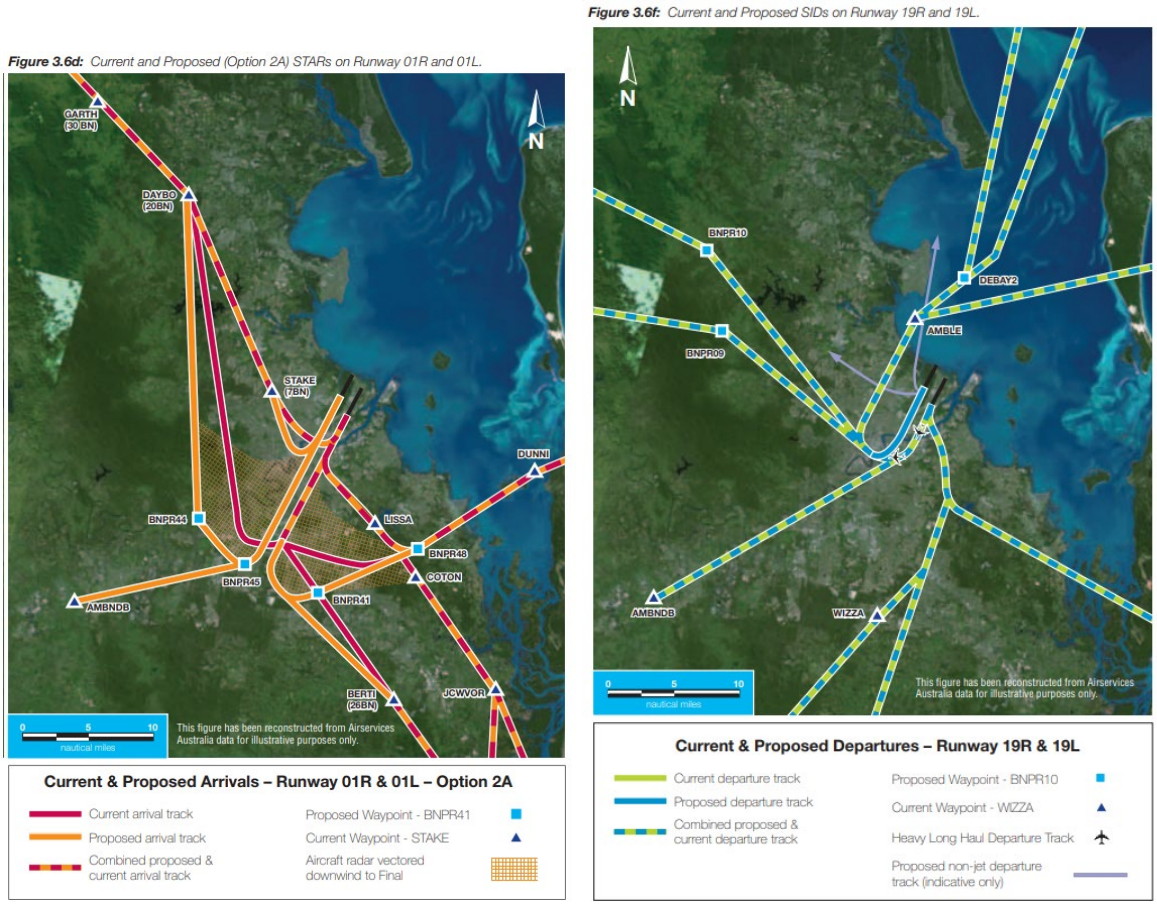


Figure 3 – Arrivals Option 2A (left) and overland Departures for the new runway (right), from Volume D3, draft EIS.

4.3. Volume D5 assessed the environmental impact of aircraft noise under option 2A, mapped at Figure 5.2d, D5-99. The environmental assessment concentrated on the impact of the number of flights at or above 70 decibels (dB(A)) (known as N70). Although submissions to the EIS criticised use of this metric as inadequate, it was defended in the EIS as consistent with the standards at the time. At Table 5.4 (D5-143/4) the EIS did forecast that operation of the new runway would result in

[1] Early Planning and Approvals | Brisbane Airport (bne.com.au)

substantial increases of flights at 70 dB(A) over the suburbs from which the great majority of complaints to the ANO were received.

4.4. The geographical limits of the areas identified as potentially affected by aircraft noise are not entirely clear. Chapter A6 - Public Engagement, at Figure 6.2, A6-235 sets out zones of an expanding radius up to 20km from the airport with lessening degrees of public engagement further out. The Social Impact Statement of the EIS, Chapter D9, chose the area within a 15km radius of the airport as potentially affected by aircraft noise.

4.5. The draft EIS was open for public exhibition and submissions from 1 November 2006 to 6 February 2007 and the Supplementary Report to the EIS sets out exhaustive detail of public engagement and activities, which was concentrated on locations close to the airport. The Supplementary Report does not provide a list of the locations from which submissions were made but does note receipt of 196 submissions. 116 of these concerned noise, 37 of which were from the suburbs southwest of the airport "most notably Hawthorne, Balmoral, Bulimba, Hamilton, Ascot and Hendra."[2]

4.6. On 13 September 2007, the office of the Minister for the Environment advised that the assessment of the proposal had been completed although some further consideration was required, "to take account of the options to mitigate noise impacts", and "require validation of uncertainties inherent in the forecasts" of the EIS regarding safety and environmental assessment prior to the opening.

[2] EIS Supplementary Report, Vol D - Responses, p181

5. Development of flight paths and environmental assessment by Airservices

Work on the construction of the new Brisbane Airport runway began in 2012 and the airfield design and layout of the new runway was finalised from 2014-2016, while the sand was settling on the site.

Flight path design

5.1. Work on the design of flight paths appears to have begun in March 2015 with an airspace options review paper evaluating various potential flight path options in May 2016. By this time, the criteria applied to assess the impact of aircraft noise had evolved with greater attention to the impact on those affected. Guidelines were amended suggesting aircraft noise at 60dB(A), rather than 70dB(A), was a level at which everyday activity would be disturbed and which should form the basis of relevant planning decisions. Accordingly, the criteria used by Airservices changed and the options review paper noted that the noise footprint at 60 dB(A) "extends much further than the N70 contours in the EIS" and "a full EA [*environmental assessment*] would need to consider the impact on both the N65 and N60 contours."[3]

5.2. Further flight path design work is documented in the Preliminary Design Review (PDR), which began in March 2017 and was finalised on 2 August 2017. One of the limitations noted in the PDR report was that "differences between the PDR design and the design depicted in the MDP/EIS have not been assessed."[4] The report notes that the Minister's approval of the new runway project foresaw that the design "would require updating to align with the ICAO[5] emerging technologies and practices as well as technological advances in aviation."[6] These include instrument landing systems (ILS) and satellite/GPS guided (RNAV) arrivals and departures, which had developed significantly since the 2007 EIS[7]. Both represent safety improvements since they make flight paths more accurate, predictable and easier to manage. The ILS projects a beam straight from the runway that appropriately equipped aircraft can lock onto. This concentrates aircraft noise into a narrower corridor than visual approaches. RNAV is more sophisticated and while it also concentrates flight paths allows for more flexibility than the straight line of the ILS. These systems are also called performance based navigation (PBN) and Required Navigation Performance (RNP).

5.3. More intensive work on flight path design is set out in Airservices Critical Design Review Report. The first draft was developed from 19 November 2017 to 9 May 2018 and the report was finalised on 29 May 2018. The report notes "design of the airspace and air routes was not expected to deviate by more than 10% from the Preliminary Design."[8] The flight path design included both ILS and RNAV and noted "minor amendments may be required as the relevant environmental and stakeholder engagement work progresses".[9] The report noted that the design incorporates "leading edge best practice that permits the use of Performance Based Navigation (PBN) technologies" and sets "a great example for others as to how PBN can fit well into a busy operation".[10]

[3] PROSIG Airspace options review, May 2016, General observations EIS 65dBA and 60dBA
[4] Page 9
[5] International Civil Aviation Organisation
[6] At Page 25
[7] Instrument landing systems (ILS) and satellite guided system termed area navigation (RNAV) also referred to as performance based navigation (PBN)
[8] Page 9
[9] Page 38
[10] Page 48

5.4. Airspace changes required to implement the new flight paths were approved by the Civil Aviation Safety Authority (CASA) on 31 October 2018 and 26 August 2019.

BAC activity during flight path design and environmental assessment

5.5. Airservices consulted and worked with BAC during the design of the flight paths. In 2018, BAC commissioned consultants to carry out a Noise Footprint Comparison of the latest flight path designs with those proposed in the 2007 EIS. Airservices advised that it participated in this assessment through a series of workshop. The report of this exercise found no significant differences between the two. The report appears to have been completed in the first half of the year, as Airservices agreed with the conclusions of the report in a letter to BAC on 7 May 2018. Airservices also wrote to the Department of Environment Energy on 9 August 2018 attaching the report and advising that it had taken account of options to minimise noise impacts and considered its obligations under the Minister to be satisfied.

5.6. BAC also engaged consultants to update the Noise Modelling for the flight paths in 2019. The report of this exercise is dated 26 July 2019 and notes it is based on a workshop with Airservices on 18 July 2019, to update the noise modelling assumptions including calibrating the noise model based on actual flight tracks.

Airservices' environmental assessment

5.7. As noted at paragraph 5.1, the criteria for the assessment of the environmental impact of aircraft had developed by the time Airservices came to environmentally assess the new flight paths for Brisbane. It had been broadly appreciated that noise at 60 dB(A) disturbed everyday activity and Airservices' relevant policy had been modified to reflect this.[11] Airservices operating standard at the time provided that certain numbers of flights over 60 dB(A), depending on the location, would be regarded as having a "significant" impact on the environment and require referral to the Minister for the Environment under section 160 of the EPBC Act.

5.8. Airservices' environmental assessment of the new flight paths is set out in a number of separate reports. There are four environmental assessment reports regarding lowering of airspace for light general aviation to accommodate the ILS and PBN procedures.[12] This was necessary because the ILS and PBN systems require larger and jet aircraft to arrive on a more gradual and lower descent path. Consequently, the upper level of airspace for lighter aircraft needed to be lowered to keep them safely separated from larger aircraft flying the PBN procedures. The ANO received three complaints from Northgate disturbed that propeller aircraft were now flying lower over them and they had not been notified of any change.

5.9. In another environmental assessment report,[13] Airservices assessed the impact of 37 new routes, the purpose of which it described as improving safety and "to take advantage of Performance

[11] AA-NOS-ENV-2.100

[12] Lowering of airspace over Archerfield, Moreton Bay, Redcliffe and Deception Bay

[13] EA 1340, effective 18 June 2018.

Based Navigation capabilities of modern aircraft."[14] All the route changes in this assessment were at significant distances from the airport. The majority of the proposed changes covered by this report were more than 80 kilometres (km) from the airport with the closest new route commencing 40 km from the airport. The altitudes of aircraft at these distances were over 10,000 feet. For the most common jet aircraft using Brisbane Airport, the Boeing 737-800 and Airbus A320, the noise levels generated are between 40 and 50 dB(A) at 40 km from the airport. As the projected level of noise did not reach 60 dB(A) for any of these routes they did not qualify as having a "significant" environmental impact. No complaints were received by the ANO from the areas under these route changes, which are at great distances from the airport. The environmental impact of the extensions of these routes towards the airport were assessed in a separate environmental assessment report.

5.10. The major work of environmental assessment by Airservices is set out in a report titled "Environmental Assessment of proposed SIDs and STARs (outside the EIS boundary) for Brisbane Airport's New Parallel Runway Project".[15] The initial draft was on 14 August 2018 and the report was finalised on 21 December 2018.

5.11. The Airservices report noted that the potentially significant environmental impact of flight paths for Brisbane's new runway had been referred to the Minister for the Environment under the EPBC Act in 2005 and been subject to an environmental assessment process in 2007. The Airservices EA extracted a map from the 2007 EIS[16] and used it to establish a "boundary" - the area inside was deemed to be the area that the 2007 EIS considered to be significantly impacted. The Airservices EA concluded that this area had already been dealt with under the EPBC Act, and therefore not require further referral to the Minister for the Environment.

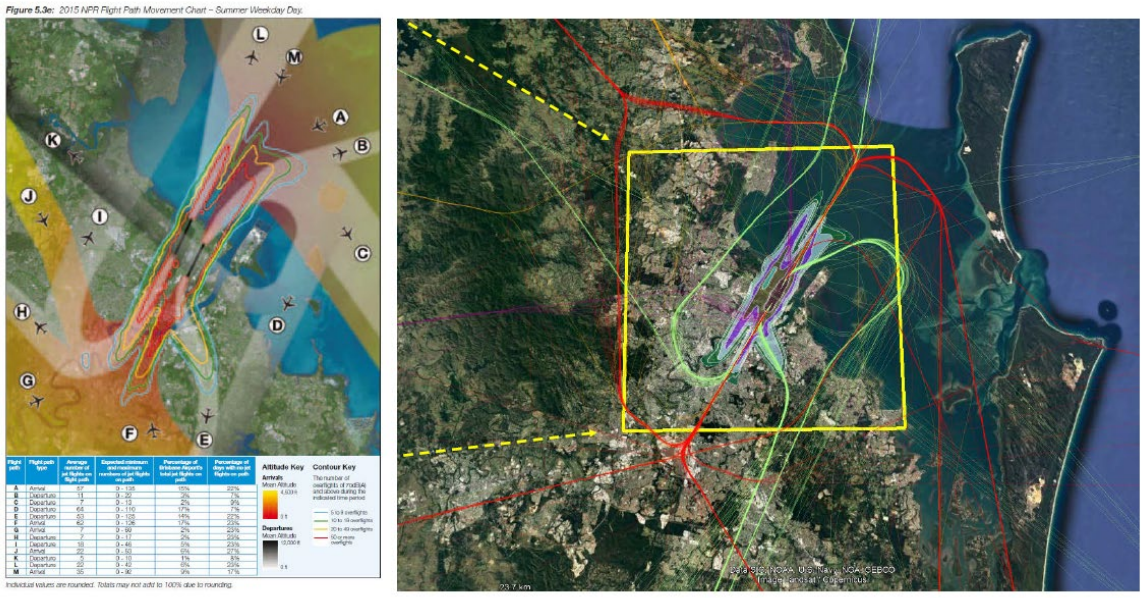


Figure 5 - Defined boundary of the Brisbane Airport NPR EIS (2007) from BAC's Brisbane Airport Current and Future Flight Path and Noise Information Booklet (left). Overlay of defined 2007 EIS boundary (yellow) in Google Earth, with current radar flight tracks (NFPMS) and summer weekday N70 contours from original EIS (right). Jet arrivals in red and departures in green, propeller aircraft arrivals in orange and departures in purple.

Figure 4 - Extracted illustration of boundary from Brisbane Airport NPR EIS 2007, overlaid upon radar flight tracks, from EA 1353, page 13.

[14] Page 6

[15] EA 1353, (Note: SIDs and STARs are shorthand for standard instrument departures and arrivals).

[16] Figure 5.3e, Vol D5 of the 2007 EIS at D5-117.

5.12. The 2007 EIS assessed the environmental impact of aircraft noise at the 70 dB(A) level and mapped the various numbers of flights in N70 contours. As noted previously, however, Airservices' internal criteria for determining "significant" environmental impact, at the time it came to assess the Brisbane flight paths, was 60 dB(A). To comply with its internal criteria, Airservices' EA modelled potential aircraft noise of 60 dB(A) at more than 50 events per day and mapped the resulting N60 contours onto the map extracted from the 2007 EIS. This exercise determined that the N60 contours at numbers, which constituted a "significant" environmental impact, were all inside the boundaries set by the map except for the suburb of Rochedale. Although Rochedale was classified by Brisbane Council as rural residential, which would mean a lower number of flights at 60 dB(A) would amount to a "significant" environmental impact than for an urban area, the EA decided this particular issue did not require referral to the Minister under section 160 of the EPBC Act. This decision was explained on the basis that Rochedale was surrounded by busy roads and urban areas and because of BAC's "extensive consultation efforts associated with the original EIS including consultation in the Rochedale area", more than 10 years previously. [17]

5.13. The logic of this approach is difficult to grasp. The 2007 EIS did not set out or consider the environmental impact at N60 but at N70. While Airservices did model N60 contours for the current flight path designs, N60 contours for the 2007 EIS flight paths were not produced for comparison. Rather Airservices took a map from the 2007 EIS showing the N70 contours, applied its N60 contours and concluded that it also substantially covered the environmental impact at N60. On this basis, it concluded that no further referral was required under the EPBC Act.

5.14. The environmental assessment report noted that there were some N60 contours outside the map extracted from the 2007 EIS and these extended large distances from the airport. Because these areas were projected to have less than 50 movements per day at 60 dB(A), Airservices' criteria for determining "significant" environmental impact under the EPBC Act were not triggered.

5.15. The assessment did note, however, that there were "numerous residential areas in Brisbane likely to be affected by the proposed changes. These areas included the suburbs of Toowong, Taringa, West End and Auchenflower [for departures] and Forestdale, Hillcrest and Heritage Park [for arrivals]. While not considered significant in relation to Airservices EPBC Act significance criteria the changes will be noticeable (audible) to some individuals and communities listed in Table 2 and Table 3."[18]

[17] BAC advised, however, that whilst they undertook extensive consultation activity associated with the EIS, to the best of their knowledge no specific activities were undertaken for the Rochedale area.
[18] EA 1353, page 32

5.16. Tables 2 and 3[19] set out the potential impact of the various new flight paths on areas around Brisbane, including areas from which complaints received. Areas at a significant distance from the airport include the following:

Arrivals

Flight path C – Pullenvale – up to 25 aircraft per day on a busy day.

Flight path D – Upper Brookfield, Samford Valley – 53 per day on a busy day

Departures

Flight path L- Camp Mountain, Samford Valley/Village, Mt Samson – 44 per day on a busy day

5.17. In its conclusion, the report noted that the identified residential areas "will likely notice the proposed changes (audibly and visually) and may perceive them as significant (due to the subjective impacts of aircraft noise). As such it is recommended that a SEP [Stakeholder Engagement Plan] is prepared and implemented by the Airservices G & CE [Group and Community Engagement] team, prior to the proposed changes being implemented."[20]

[19] EA 1353, pages 26-30
[20] EA 1353, page 35

6. Community Engagement and the provision of noise information

6.1. Airservices prepared an Engagement Plan[21] regarding the proposals to lower airspace for light aviation to accommodate the PBN flight paths and an Interim Engagement Plan[22] regarding the changes to concentrate flight paths at high altitudes and at considerable distances from the airport. Both these followed Airservices' usual approach at the time, which was to present to the Community Aviation Consultation Group (CACG) at relevant airports and to provide notice to local members of Parliament and Councils. The ANO has been critical of this approach in the past as not reaching the people affected and Airservices has since changed its practice. As noted above, the ANO received relatively few complaints related to the lowering of airspace and none regarding the high altitude changes.

6.2. Airservices adopted a different approach regarding community engagement for the areas identified as affected visually and audibly in EA 1353. In the Background section of its Support Plan[23], Airservices notes the establishment of a working group with BAC in early 2018 to deliver information to the community. Governing this working group was a Parallel Runway Operations Implementation Group (PROSIG). The Support Plan also notes "the consultation phase has been completed [by the 2007 EIS]. Therefore the community engagement phase for these activities is to inform, educate and update community."[24]

6.3. The Support Plan continues: "It was established at PROSIG that BAC would lead community engagement activities and Airservices would support these activities as much as is practicable"[25]. The Guiding Principles of the Support Plan note that the flight path and airspace design "cannot now be modified" but "in accordance with community engagement best practice, BAC and Airservices will commence the final engagement phase to inform, educate and update the community on the new parallel runway, airspace design, flight paths, approaches, expected noise and noise minimisation strategies."

6.4. Appendix A of the Support Plan outlines the BAC community update activities including the Flight Path Information Tool on the airport website and BAC's Mobile Information Centre. The Support Plan notes Airservices' role was to provide BAC with "suburb specific information on airspace changes (inc. noise impacts) to help in the development of information sheets (see Appendix B)". [26]

[21] Engagement Plan, 13 July 2018
[22] Interim Engagement Plan, 13 July 2018
[23] BAC's New Parallel Runway, Community Update Program (November 2018-August 2020), Airservices Support Plan (effective 24 April 2019).
[24] Support Plan, page 5
[25] Support Plan, page 4
[26] Support Plan, page 7

6.5. Appendix B is a briefing paper prepared by Airservices for a Mobile Information Centre location visit to Bulimba on 24 November 2018 and contains specific information regarding flight paths affecting that suburb (also known as "the Benny brief"). The information includes estimated numbers of arrivals and altitudes over Bulimba and departures over Balmoral, an adjacent suburb. The information sheet was not prepared for public distribution and sets out the following "Bulimba specific talking points":

- "departures and arrivals can occur simultaneously over Moreton Bay in low demand times, such as overnight";
- "preferred operation during high demand periods is in a southerly direction, maintaining arrivals over the Bay. Note this mode is not available **when northerly winds exceed 10 knots.**" (emphasis added).
- "when aircraft must arrive from the south at night time…they will use the existing runway…avoiding overflying Bulimba."

6.6. Beside the "talking points" the Mobile Information Centre brief also noted that the RNP River track passing north of Bulimba with up to 38 jet arrivals per day, would be far less frequently used and arrivals would increase by an average of 24 along the new RNP AR track. A copy of the Mobile Information Centre brief is attached as **Annexure A**.

6.7. Airservices also provided a copy of a similar information sheet jointly branded by BAC and Airservices for a September 2019 "Bulimba event". It is in substantially similar terms to the Mobile Information Centre brief with the amendment to the talking points that the arrivals over the bay operation mode "is not available when northerly wind exceeds 5 knots" (emphasis in original).

6.8. Airservices advised that it could not locate any other suburb specific information sheets prepared by Airservices and provided to BAC. BAC confirmed that other briefing sheets were developed by an industry expert for BAC, rather than by Airservices. It appears that some other suburb specific information sheets were developed but these were for internal training purposes only, to assist staff in responding to inquiries and not for publication.

Over the Bay operations

6.9. Many complainants assert they were assured significant numbers of flights would occur over Moreton Bay and not over suburbs to the southwest of the new runway. The 2007 EIS sets out two over the bay modes of operation. SODPROPS (applicable to dual runways) and DODPROPS (applicable to a single runway). Both provide for take-off and landing over the Bay with the difference being that SODPROPS allows for take offs and landings to occur over the Bay at the same time, with an aircraft landing on one runway and another taking off from the other runway simultaneously. With DODPROPS, the first aircraft must land before the other departs, from the parallel runway. SODPRPOPS would provide for a greater number of movements over the bay than DODPROPS but due to the greater margin of safety required with simultaneous take offs and landing could not be used when northerly winds were greater than 5 knots.

6.10. The 2007 EIS noted that "the meteorological conditions under which SODPROPS could be used (i.e. five knot tailwind) were under discussion"[27] but modelled SODPROPS use on the basis that

[27] 2007 EIS, Vol D, D5-95

a greater than five knot tailwind would prevent its use. The 2007 EIS also provided charts modelling the extent to which SODPROPS was likely to be used[28].

6.11. Airservices applied to CASA in the form of a Safety Statement dated 23 May 2016 for an exemption from the standard 5 knot tailwind limit for SODPROPS. This was rejected by CASA for safety reasons in a letter dated 22 August 2017.

The Flight path tool

6.12. Apart from the Mobile Information Centre, the major means through which BAC provided noise information was its web-based flight path tool. As noted in Section 5, airspace changes to accommodate the new flight paths were approved by CASA in August 2019. At that stage, the flight paths themselves had yet to be finalised and consequently the projected numbers of flights and their altitudes over particular suburbs was also not final. On 4 November 2019, an Airservices' officer emailed BAC referring to discussion "regarding the potential difference between Airservices final design and the one used for the BAC flight path tool". On 21 January 2020 Airservices provided BAC with the "latest" design and the PROSIG meeting minutes record continued contact between BAC and Airservices to clarify and finalise flight numbers for the BAC flight path tool up until April 2020.

6.13. BAC did not retain "point in time" data on the adjustments to the projections made to the flight path tool and it is not possible to track updates to the numbers during the process of finalising the flight paths.

Education/promotional media

6.14. In addition to The Mobile Information Centre and the flight path tool BAC produced videos for social media related to the noise impact of the new runway. Airservices' Community Engagement Plan Addendum[29] noted "a range of multimedia educational resources that have been developed by BAC" and provided a link to one example: https://www.youtube.com/user/BrisbaneAirport.

[28] 2007 EIS, Vol D, D5-109

[29] Community Engagement Plan Addendum, Airservices Support Plan for Brisbane Airport's New Parallel Runway Community Update Program - Final Flight Path Design, effective 31 January 2020.

7. Analysis and conclusions

Airservices Flight Path Design and Environmental Assessment

7.1. Airservices determined that the flight paths associated with Brisbane's new runway would have a significant impact on the environment and referred the matter to the Minister for the Environment in compliance with section 160 of the EPBC Act on 27 May 2005. On the basis of this and other potential environmental impacts, the Minister required an Environmental Impact Statement, which occurred in 2006/7.

7.2. Further design of the flight paths by Airservices occurred from 2015 – 2019 and included modifications made possible by advances in relevant technologies not available in 2007. The question arises as to whether the final flight paths designed during this period were substantially similar to those proposed in the 2007 EIS process. Section 160(3) and (4) of the EPBC Act provide that a further referral to the Minister need not be made where a referral has already been made and the impacts are an extension of; not significantly different in nature from and do not significantly add to the previous impacts related to that referral.

7.3. Airservices addressed this issue in a variety of ways although there does not appear to be a single detailed and comprehensive assessment of whether the environmental impact of the final flight paths deviated significantly from those proposed in the 2007 EIS.

7.4. The maps of potential flight paths shown in the 2007 EIS are broad representations and it is difficult to identify the suburbs affected, particularly those at greater distances from the airport. Airservices was unable to provide the ANO with the specific designs that it furnished to BAC's consultants, upon which the 2007 EIS process was based. This hindered any contemporary comparison of the flight paths with those put forward in the EIS.

7.5. The Critical Design Review Report (May 2018) noted that the final designs should not deviate more than 10% from those in the Preliminary Design Review Report (August 2017). The Preliminary Design Review Report, however, lists as one of its limitations "differences between the PDR design and the design as depicted in the MDP/EIS have not been assessed".[30]

7.6. On 7 May 2018, Airservices wrote to BAC agreeing with BAC's 2018 Noise Footprint Comparison that there was "no material difference" between the flight paths as then designed and those in the 2007 EIS. The letter noted a "comprehensive and detailed review" was conducted by Airservices and its "noise and environmental specialists" agreed with the conclusions. There was, however, no documentation of Airservices' own assessment environmental impact at this stage and its relevant environmental assessment was not concluded until 21 December 2018.[31] On 9 August 2018, Airservices wrote to the Ministry for the Environment endorsing the conclusions of the Noise Footprint Comparison to the effect that there was no material difference between the flight paths proposed at that time compared to those in the 2007 EIS.

7.7. The Noise Footprint Comparison contained a table comparing numbers of flights at 70 dB(A) estimated in the 2007 EIS with its own estimation over the most heavily affected suburbs. Table 1 below compares those estimations with the numbers of jet arrivals shown in the BAC Flight Path Tool in June 2021 and shows substantially more in 2021 than were projected in 2018 for some suburbs.

[30] Brisbane New Parallel Runway Airspace Design – Preliminary Design Review Report, v1.1, at page 9 of 74
[31] EA 1353

Table 1 – Comparison of estimated arrival flights, by suburb, for jet aircraft.

Suburb	2007 EIS[32]	2018 Noise Footprint comparison[33]	Flight path tool June 2021
Ascot	0-55	0-50	0-74
Balmoral	5-31	1-25	0-45
Bulimba	1-37	0-30	0-30
Hamilton	0-44	0-50	0-74
Hawthorne	4-21	2-15	0-30
Hendra	0-55	0-50	0-74
New Farm	2-12	0-5	0-30

7.8. The stage of development of the flight paths used for the Noise Footprint Comparison was version 21.1, dated 13 November 2017. The Critical Design Review Report was finalised on 29 May 2018. It presents what it terms a "Detailed Design". It does not appear, however, that this design finalised the flight paths. It formed the basis of a submission to CASA for airspace changes, which was approved on 31 October 2018. However, it is noted that separate airspace changes were approved by CASA on 26 August 2019 and that approval did not cover 12 other routes, which were to be dealt with separately.

7.9. The major environmental assessment work undertaken by Airservices based its modelling on the detailed design in the Critical Design Review Report. [34] An addendum to this assessment, however, finalised on 6 December 2019, environmentally assessed what it describes as "minor design changes" the impact of "new updated flight tracks (design v21.6, 25 October 2019)".[35] Another Airservices' environmental assessment assessed 37 flight path changes in June 2018 was updated in June 2019, noting an increase to a total of 42 proposed route changes for assessment.[36]

7.10. It does appear that there was some attempt at a systematic approach to comparing the final flight paths with those proposed in the 2007 EIS. Airservices provided the ANO with copies of templates comparing 27 of the flight paths designed later with those proposed in the 2007 EIS and with those in operation before the opening of the new runway. However, many of the comparisons were incomplete, lacking some images of flight paths at the various stages sought to be compared.

7.11. Airservices also addressed the issue of whether or not further referral to the Minister for the Environment was required in its "Environmental Assessment of proposed SIDs and STARs (outside the EIS boundary) for Brisbane Airport's New Parallel Runway Project"[37]. This assessment did not conduct a direct comparison of the flight paths between 2007 and 2018. It extracted a map from the 2007 EIS, applied its internal criteria for "significant" impact at 60dB(A), imposed the N60 contour onto and, since it substantially fitted within the map, determined that the significant environmental impact on the area with the map, and any requirements under the EPBC Act, had been approved under by the 2007 EIS.

7.12. The evidence set out above does show some consideration by Airservices of the central question of whether or not the environmental impact of the final flight path designs was significantly

[32] 2007 EIS – Vol D5 at 144 – Table 5.4
[33] Noise Footprint Comparison, Table 7
[34] EA 1353, p 11
[35] Addendum to Environmental Assessment of Proposed SIDS and STARS (outside the EIS boundary) for Brisbane's New Parallel Runway Project, effective 6 December 2019, at page 3
[36] Environmental Assessment of Proposed Changes to Routes associated with the Brisbane Airport New Parallel Runway Project, EA 1340, v 1.1 (effective 18 June 2018) and v 2.1 (effective 28 June 2019)
[37] EA 1353

different from that proposed in the 2007 EIS. However, the different bases and variable data on which comparisons were made at various stages and the lack of a clear and comprehensive analysis comparing the flight paths proposed in 2007 with the final flight paths implemented leaves me unable to comfortably conclude that the issue was satisfactorily addressed by Airservices.

7.13. A determination by the ANO, however, that Airservices did not comply with section 160 of the EPBC Act would be a serious matter and consequently require strong and compelling evidence. The investigation has not disclosed sufficient evidence to justify a conclusion that the environmental impact of the final flight paths was significantly different from the impact projected in the 2007 EIS.

Airservices Community Engagement

7.14. The obligations of Airservices to consult with the community affected by flight paths are set out at some length in Part 3 of the ANO's report on its investigation into the introduction of new flight paths in the Sunshine Coast.[38] The ANO's report on its Review of Airservices systems for community engagement[39] sets out best practice principles for community engagement. These can be summarised as engaging with noise affected communities and giving them the opportunity to contribute to and influence the decision making process of where flight paths should be.

7.15. Airservices' commitment to aircraft noise management[40] recognises "the importance of proactive community engagement and public participation when managing noise related issues" and undertakes to ensure this it will "provide clear accurate and timely information to the community on…future aircraft noise and aircraft operations" and "engage openly and constructively with the community, and consult in a timely manner on aircraft noise and changes to the air traffic management system that impact the community."

7.16. In taking a support role to BAC, Airservices went along with a process that explicitly stated its terms were limited to the provision of information. Although the extent of Airservices' cooperation in preparing information for the public is unclear, the Mobile Information Centre brief indicates Airservices provided "talking points" for BAC staff, which put the best complexion on information relevant to the impact on communities. While more detailed information was included, as an internal reference document, members of the community would have needed to ask appropriate questions to receive this. This contrasts with the approach undertaken by Airservices in the 2018 Hobart Airspace Design Review, where tailored factsheets were developed for individual communities.

7.17. In doing so, Airservices did not comply with its obligations and policies to engage openly and constructively with the communities affected by the changes to flight paths in Brisbane associated with the new runway. It did not provide communities affected with relevant information that allowed them to accurately assess the potential noise impact and contribute to the design of the flight paths. This was contrary to best practice principles of community engagement and to Airservices' professed procedures on engagement with communities affected by aircraft noise.

7.18. In its response to a draft of this report, Airservices maintained that any obligation to engage and consult with affected communities was satisfied by the 2007 EIS process and that it was entitled to assume that community engagement requirements had been complied with. It may be the case that a public EIS process, where prospective flight paths are explained and the community engaged, will satisfy Airservices' obligations in this area. But when the final flight path design commenced with the

[38] Apr2020_ANO_Investigation_NewFlightPaths_SunshineCoast.pdf
[39] Apr2020_ReviewAirservices_SystemsCommunityEngagement.pdf (ano.gov.au)
[40] Aircraft noise management (airservicesaustralia.com)

Preliminary Design Review more than 10 years after the 2007 EIS, without assessment against the flight paths proposed in that EIS, and the flight path design development took advantage of new technologies that funnelled air traffic onto narrower flight paths, consultation under the 2007 EIS cannot be relied upon to satisfy Airservices' community engagement obligations.

Provision of noise information to the community

7.19. Airservices entered into a working group with BAC to provide information to the community affected by flight paths. BAC's Communication Plan (2018) cited its guiding principles regarding the provision of information to the community were truth, clarity, understanding and advocacy. Its updated Communications Plan (2019) described its purpose, in addition to informing the community impacted by flight paths, as "driving advocacy for the benefits of the runway on a macro and local economic scale, and the personal benefits."

7.20. Airservices' practice on community engagement generally in 2018-19 was characterised by keeping public engagement to a minimum, emphasising the positive aspects of flight path changes and downplaying the potentially adverse noise impacts. This has been amply demonstrated in previous ANO reports and is well illustrated in the Mobile Information Centre brief: there was significant relevant information that would have better informed residents of Bulimba, such as the discontinuation of the "river track" but the "talking points" gave prominence to over the bay operations, which would have minimised the prospective impact on Bulimba. BAC's role in taking the lead on the provision of noise information suited Airservices' then lack of capacity in effective community engagement.

7.21. BAC conducted a well-resourced and extensive campaign. When the ANO requested more detailed information from Airservices, it was unable to provide this information without requesting details from BAC. Although the extent of Airservices collaboration with BAC is not thoroughly documented, it appears that Airservices was not closely engaged in planning the campaign or in determining the suburbs and areas that would be targeted, despite its own environmental assessment identifying areas that would experience changes that residents would experience as significant. Airservices also provided a commitment in the ACP submission to CASA to "engage extensively with all areas within the updated EIS airspace under N70 and N60 day and night noise contours and potentially sensitive communities identified as overflown beyond these noise contours to approximately 10,000ft."[41]

7.22. It appears from the minutes of the PROSIG working group meetings that BAC's provision of aircraft noise information to the community was dominated by concern about the suburbs most heavily impacted - Bulimba, Hawthorne, Ascot etc. The minutes of the meeting of 12 September 2019 record discussion of a letter box drop of 36,000 to the Bulimba/Camp Hill areas. It does not appear that areas affected that were further from the airport received much attention, beyond BAC's presence at Brisbane community events such as Ekka.

7.23. The ANO received complaints from Upper Brookfield to the effect that they had never previously been overflown and had no notice at all of the impact of the new flight paths. Similar complaints were received from Samford. Based on the information provided by BAC to Airservices, Upper Brookfield was never visited by Mobile Information Centre although BAC did send the Mobile Information Centre to the Samford show on 13-14 July 2019. There is scant evidence that these areas were effectively engaged.

[41] Stakeholder Engagement Program for ACP submission – Brisbane's New Parallel Runway, v 1.1 (effective 3 July 2018), at page 8.

7.24. Airservices is a government owned corporation and its responsibilities are determined by law and government policy. Consequently, Airservices should independently assess whether its responsibilities are being met, particularly when in partnership with another entity which may not have, or even be aware of those responsibilities. Airservices advise that it was involved in BAC planning for engagement activities and assessed the suitability of these activities, as part of that process. However, there is no evidence that an independent assessment of sufficiency, taking into account the entirety of the community engagement activities was undertaken.

7.25. In addition to the Mobile Information Centre, BAC relied largely on the flight path tool and much of its public information urged potentially affected people to use it. Complaints were received about the accuracy of the tool. In particular, that the tool only showed jet aircraft numbers and did not include turboprops. Although the tool contained disclaimers regarding the accuracy of its numbers, the exclusion of non-jet flights underestimated the actual numbers and appears to have contributed to complainants' apprehension that they were misled. Turbo-prop flight paths may be less predictable than jet paths but the inclusion of more information about their impact may have helped to address this apprehension. Email exchanges between Airservices and BAC and the minutes of the PROSIG meetings through 2019 show that a great deal of attention was applied in attempts to ensure the accuracy of the data regarding jet flights.

7.26. Many complainants say they were assured that the impact on them would be minimal on the basis that most flights would take off and land over the bay. The 2007 EIS noted that one of the conditions under which the operation method allowing this (SODPROPS) was viable was where northerly winds did not exceed 5 knots. Despite the Mobile Information Centre brief prepared by Airservices noting that SODPROPS was viable with a tailwind of up to 10 knots, this appears to have been an error by Airservices. Arrivals over the bay on the single runway were viable with a 10 knot tailwind. There is insufficient evidence that any reassurance afforded to complainants about the extent of over the bay operations was promulgated with factually incorrect information.

7.27. Although the investigation did not find any contemporary documentation disseminated by the information campaign that contained inaccurate information, the complainants' accounts that they were misled are strikingly consistent and the shock they express at the actual impact appears genuine. Many complainants felt so deceived by the information they received and angry about the extent of the actual impact they experienced, that they suspected deliberate deception. The investigation found no evidence that would support this aspect of the complaints.

8. Findings

8.1. Airservices assessment of the environmental impact of the flight paths designed for the new runway at Brisbane Airport was largely compliant with its internal policies. There is insufficient evidence to find that it did not comply with the requirements of the Environmental Protection and Biodiversity Conservation Act.

8.2. Airservices failed to engage effectively with the communities potentially affected by the new flight paths in contravention of its then applicable policy and contrary to best practice for community engagement.

8.3. Airservices did not provide full and complete information regarding aircraft noise to potentially affected communities.

9. Recommendations

9.1. Airservices reviews the implementation of flight paths through its Post Implementation Review process. Following the ANO's recommendations in its report on the implementation of new flight paths at Sunshine Coast airport, and the engagement of an experienced community engagement director by Airservices, the PIR for Sunshine Coast includes the opportunity for people affected by aircraft noise to be constructively engaged in the review.

9.2. I recommend that Airservices Post Implementation Review of the Brisbane flight paths includes a community engagement process that provides reasonable opportunities for community contributions and the consideration of community suggested alternatives to the current flight paths.

9.3. The ANO finalised its report into changes to flight paths in Hobart in April 2018. Airservices did not fully implement its recommendations until March 2020. The first recommendation of that report was that Airservices should incorporate consideration of potential noise impacts from the commencement of flight path design and integrate that consideration throughout the design process. Recommendation 5 was that "Airservices should access…skilled and experienced subject matter expertise in the practice of community consultation. Leadership should give prominent support to this expertise so as to promote its influence and effect on Airservices better performance in community consultation."

9.4. These recommendations were deemed implemented in March 2020 by Airservices' recruitment of its Environment and Community Manager together with an internal restructure in which the various organizational units dealing with flight path design, environmental assessment and community engagement would all report to the Environment and Community Manager. In late 2020, however, Airservices completed an organisation-wide restructure that separated flight path design (under the Chief Service Delivery Officer), environmental assessment (under the Chief Safety & Risk Officer) and community engagement (under the Chief Customer Experience & Strategy Officer). Only community engagement now reports to the Community Engagement Head (previously Environment and Community Manager).

9.5. The process of flight path design, environmental assessment and community engagement in Brisbane employed the same process, and demonstrates the same problems, that occurred in Hobart. Flight paths are designed with little apparent consideration of the effect on communities; these paths are environmentally assessed in a separate section and community engagement is left to present the flight paths to the community with little prospect that they can be changed. The ANO's recommendations and Airservices response that the three roles would report to the same manager created the potential for noise impacts to be better anticipated and for community engagement to contribute to the flight path design and environmental assessment processes from the outset.

9.6. I recommend that Airservices review the effect of its managerial separation of flight path design, environmental assessment and community engagement and implement a management structure that includes these functions under the same manager or demonstrate how effective community engagement is incorporated into the flight path change process under the current structure.

9.7. In its report on the introduction of new flight paths for Sunshine Coast Airport, the ANO recommended that Airservices develop a third party framework to ensure its responsibilities regarding community engagement were met when it co-operated with third parties in the design and implementation of new flight paths. That recommendation was implemented in September 2020. The investigation of Airservices interaction with BAC in the process of implementing new flight paths, however, raises issues which suggest that framework could be improved.

9.8. **I recommend that Airservices update its Third Party Framework to ensure that Airservices' obligations regarding community engagement are properly acquitted when it enters into cooperative arrangements for community engagement with third parties.**

9.9. A key finding of this investigation was that Airservices were unable to demonstrate compliance with the EPBC Act. Specifically, Airservices was not in a position to assess whether or not the flight paths designed in 2018-19 deviated from the designs put forward for public consultation in the 2007 EIS, and whether or not the environmental impact was similar or significantly different to that estimated in the 2007 EIS. The method it chose to compare the final flight path designs by extracting a map from the EIS, rather than comparing its N60 contours with those which would have been produced by the EIS design, did not enable a like-for-like comparison of the designs and any changes which may have occurred.

9.10. Where possible, original EIS data should be utilised to produce the EIS equivalent metric, to enable comparison of the equivalent data in the determination of potentially significant environmental impact. It is however acknowledged that the passage of time, limitations in the detail of original design development and changes in technology may mean that it will not always possible to retrospectively produce the additional metric.

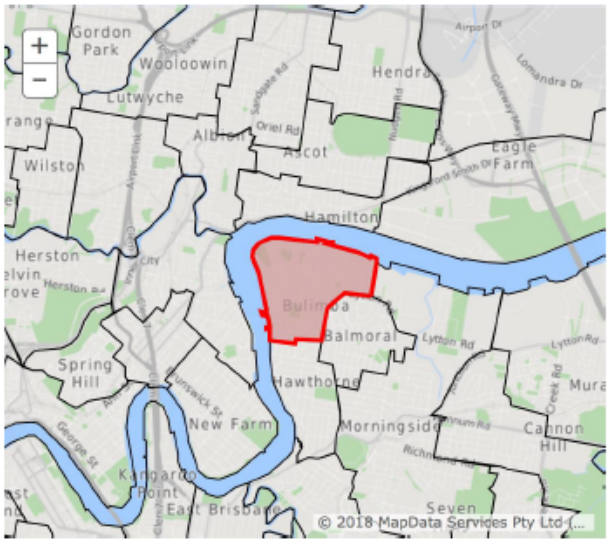
9.11. **I recommend that Airservices update its policies to ensure that if metrics for the assessment of significance have changed since initial EIS assessment and approval, the originally approved designs and data should be used to produce the relevant applicable metrics, retrospectively. If the original approved data does not support production of the additional metric, for comparison against the final flight path designs, the comparative assessment should clearly explain the reasons for the alternate assessment method selected.**

Annexure A – The Mobile Information Centre Brief[42]

Appendix B: 'Benny' Brief Location Specific Information for Bulimba 24 Nov 2018

Geographic and political representation

- Bulimba is located 4 kilometres north-east of the CBD, on the southern bank of the Brisbane River and borders Balmoral, Hawthorne, and Morningside.
- Bulimba is approximately 4.3 to 5.0 nautical miles (8.0 to 9.25 km) from the threshold of R01L, just to the west of the extended runway centreline.



- Bulimba is part of the Griffith federal electorate (Ms Terri Butler MP, ALP), Bulimba state electorate (Hon Di Farmer, ALP) and Morningside Ward (Councillor Kara Cook, ALP) within the Brisbane City Council.

Demographics

- ABS data shows Bulimba to have higher than average education, income and housing values, low unemployment, low percentage of children and retirement age people (65+), and a greater percentage of older, working-age people (established professionals aged 45-64), when compared to Greater Brisbane.
- These demographic factors suggest there could be heightened concerns about aircraft noise in Bulimba, even before operational changes are considered. Experience suggests highly educated residents may be positively influenced by access to comprehensive information about the changes that will affect them.

[42] Appendix B, BAC's New Parallel Runway, Community Update Program (November 2018-August 2020), Airservices Support Plan (effective 24 April 2019).

Main Operational Changes with Brisbane's New Runway

Arrivals

- Bulimba will experience an increase in aircraft overflights as a result of the opening of the new runway. In particular, the instrument landing approach to Runway 01L will directly overfly the eastern boundary of the suburb at a height of approximately 1,500 ft. Visual impacts will be experienced throughout the suburb. There will also be arrivals overflying the north-western part of the suburb using the new RNP AR arrival path onto R 01L.
- These approaches will generally be used for aircraft arriving from the north and west of Brisbane.
- They will not generally be used after 11pm and will not be used when the airport is operating in a southerly flow (i.e. less used in winter).
- It is estimated there will be an average of 50 jet arrivals per (24hr) day on this approach in summer, and less than 30 per day in winter. These will comprise approximately 50 per cent on the ILS and 50 per cent on the RNP AR.

Departures

- Although not directly overflying Bulimba, departures from R19R will overfly suburbs just to the east of Bulimba (Balmoral) at a height of approximately 2,000 ft to 3,000 ft. Visual impacts will be experienced throughout the suburb.
- This departure will generally be used for aircraft flying to the north and west of Brisbane.
- It will be used when the airport is operating in a southerly flow (more pronounced in winter).

River Track

- The RNP/AR track passing immediately to the north of Bulimba over the Brisbane River for aircraft arriving from the north and west approaching R01R will be far less frequently used once R01L is operating. Just before opening there could be up to 38 jet arrivals per day using the river track. After opening, there are not expected to be more than six. This reduction will be will be offset by the (average) 24 arrivals on the new RNP AR to R01L.

Bulimba specific talking points

For residents of Bulimba, the following design considerations have been used with the objective of reducing aircraft noise:

- Two kilometre spacing between the parallel runways allows for independent operation of the runways, so departures and arrivals can occur simultaneously over Moreton Bay in low demand times such as overnight, providing respite for residents south of the airport.
- Preferred operation during high demand periods is in a southerly direction, maintaining arrivals over the Bay. Note, this mode is not available when northerly wind exceeds 10 knots.
- When aircraft must arrive from the south at night time (11pm to 6am), they will use the existing runway R01R, avoiding overflying Bulimba. This is part of the objective of minimising introduction of noise to new areas where possible.

What Bulimba Residents Can Expect on Day of Brisbane's New Runway Opening

- Although the new runway doubles the capacity of Brisbane Airport, there will not be a doubling of aircraft using Brisbane Airport from the start of operations.
- The current number of aircraft movements will be distributed across two runways.
- There will be a general ebb and flow of traffic throughout the day with typical busy periods from 6am-7am, mid-morning and late afternoon /early evening. These busy periods occur approximately an hour earlier during southern states daylight savings time.

Arrivals

- Bulimba residents will be overflown by aircraft on their final approach to the new runway, R01L when the airport is operating in a northerly flow. These aircraft will be at a height of approximately 1,500 ft.
- The existing runway, R01R, will also be used in this operational mode and will accommodate most aircraft arriving from southern capitals.
- The estimated number of jet arrivals after the new runway opens is shown in Table 1, below. This table shows the figures for a summer weekday (Monday – Friday), the highest estimated impact.
- By comparison, arrivals on summer weekends will be around 80 per cent of that on weekdays, although people will tend to be home more, sleep later, and could be more sensitive to aircraft noise.
- Arrivals on winter weekdays will be less than 60 per cent of those in summer, due to the higher prevalence of southerly winds in winter. Arrivals on winter weekends will be just over 50 per cent of those on summer weekdays.

Departures

- Departing aircraft from R19R will overfly suburbs just east of Bulimba when the airport is operating in a southerly flow. These aircraft will be at a height of approximately 2,000 to 3,000 ft.
- The existing runway, R19L, will also be used in this operational mode and will accommodate most aircraft flying to southern capitals.
- The estimated number of jet departures after the new runway opens is shown in Table 2, below. This table shows the figures for a winter weekday (Monday – Friday), the highest estimated impact.
- By comparison, arrivals on winter weekends will be just less than 80 per cent of that on weekdays, although people will tend to be home more, sleep later, and could be more sensitive to aircraft noise.
- Arrivals on summer weekdays will be around 65 per cent of those in winter, due to the higher prevalence of northerly winds in summer. Departures on summer weekends will be 50 per cent of those on winter weekdays.

River Track

- The RNP/AR track passing immediately to the north of Bulimba over the Brisbane River for aircraft arriving from the north and west approaching R01R will be far less frequently used once R01L is operating. Just before opening there could be up to 38 jet arrivals per day using the river track. After opening, there are not expected to be more than six. Table 3 below shows before and after figures for the use of the River Track.
- The new RNP/AR track for arrivals to R01L will offset to some extent the reductions from the current River Track. An average of 24 jet arrivals is expected each summer weekday. These new arrivals are summarised in Table 1 as part of the overall impact of jet arrivals over Bulimba.

Flight Path Design and Approval

- The 2007 planning and environmental approvals followed extensive consultation on a range of issues including predicted noise impacts from aircraft overflights. The EIS/MDP flight path diagrams and noise contours have continued to inform community awareness over the intervening decade.
- BAC and Airservices Australia have been working on validating the final airspace design for more than three years which has included consultation with industry stakeholders such as airlines, general aviation operators and other airports in South East Queensland.
- The final design replicates as closely as possible the high-level design used for the EIS/MDP. This ensures people who have used the EIS/MDP since 2007 to inform decisions about housing purchases or related matters have not been disadvantaged.
- A peer review of the airspace design was completed by NATS, the major air navigation service provider for the United Kingdom. The peer review included assessments of safety, efficiency and noise management and confirmed that the best outcomes had been achieved within the approved EIS/MDP framework.