



Post Implementation Review

Perth Airport Roleystone Trial

February 2015

1. Summary of change

Airservices worked closely with the Aircraft Noise Ombudsman to identify potential noise improvement opportunities at Perth. Following consultation with the Perth Airport Community Aviation Consultation Group (CAGG) and Aircraft Noise Management Consultative Committee (ANMCC) community forums¹, Airservices undertook a 12-month trial of a modified flight path designed to reduce aircraft noise for some suburbs to the southeast of the city. The trial commenced on 22 August 2013, with the change remaining in place until a Post Implementation Review process had been undertaken and a decision made about whether or not to permanently implement the change.

Some aircraft arriving from the north to land at the southern end of the runways at Perth Airport fly over residential areas in the Perth Hills including Roleystone, Bickley, Byford, Carmel and Martin (see map at [Attachment 1](#)). During the trial, a portion of this flight path was moved further east to reduce the number of aircraft flying over residential areas. While potentially benefitting some 4,400 people, this change meant the flight path moved closer to about 250 people living in Karragullen, Pickering Brook and Bickley East.

2. Summary of environmental assessment

Prior to commencement of the trial, Airservices undertook an environmental assessment which is available at <http://www.airservicesaustralia.com/projects/flight-path-changes/trial-of-new-flight-path-roleystone-wa/>. The assessment noted the following.

Flight frequency

In the six months between 1 July and 31 December 2012 about 1700 jet aircraft arriving to Perth Airport from the north flew over Roleystone. The average altitude of these jets was around 6,000 feet and all flew above 5,000 feet. During the same period, around 500 turboprops arriving to Perth Airport from the north flew over Roleystone, at an average altitude of 7,000 feet.

During the trial, those aircraft would not fly over Roleystone, with a corresponding increase in movements over the Pickering Brook area. Pickering Brook was already regularly flown over by aircraft departing from Runways 21 and 24 for ports to the east. The trial would result in an increase in aircraft flying over this area.

Noise impact

The trial would result in the suburbs of Roleystone, Bickley, Carmel, Byford and Martin no longer being flown over by aircraft, reducing aircraft noise for approximately 4,400 people living in those areas.²

¹ The Aircraft Noise Management Consultative Committee was replaced with the Perth Aircraft Noise Technical Working Group in February 2014 and the Community Aviation Consultation Group was replaced with the Perth Airport Community Forum in September 2014.

² The methodology for determining the population counts for the environmental assessment is outlined in section 3.1 of the assessment. In summary, 2006 Census data was applied to the maximum width of single event 60 dBA noise contour for a Boeing 747 aircraft, being the loudest aircraft type operating into Perth Airport at that time.

However, around 250 people living in Bickley East, Karragullen and Pickering Brook will be overflown by aircraft arriving into Perth Airport during the trial. Those areas are at least 70km³ from the runway threshold (compared with Roleystone, which is 45km away) and aircraft would mostly be at a minimum altitude of 8,000 feet above ground level.

At that altitude, the noise experienced on the ground from jet aircraft would be well below 50dB(A), which is quieter than speech during a normal conversation.

The increased noise for some residents was not considered to be 'significant' under the terms of the *Environment Protection & Biodiversity Conservation Act 1999 (C'Wealth)*.

Emissions

The trial flight path would be about 12km longer than previously which meant, on average, each aircraft during the trial would use around 70kg more fuel. This would result in some 200kg of CO2 emissions, compared with aircraft using the existing flight path.

Natural environment

It was improbable the trial would have any impact on wildlife, due to the high altitude of aircraft flying over the new areas.

3. Summary of engagement undertaken

Industry consultation

Airline representatives attended Perth Airport's two community forums where the trial was discussed at meetings held before the trial in November 2012 and February, May and August 2013, and during the trial in November 2013 and February and May 2014.

Post-trial discussion with industry occurred at the Perth Aircraft Noise Technical Working Group meetings held in February, May, August and November 2014 and February 2015.

Feedback from airlines has consistently noted the increased track miles and resulting additional fuel cost with no offsets. It was also noted that Airservices had committed to undertake the trial prior to discussing the impacts with industry.

As a result, Airservices has committed to involving industry in discussion about potential noise improvements at all airport locations at an early stage of development and to incorporate feedback into the design of proposed changes. At Perth, such discussion is held at the Perth Aircraft Noise Technical Working Group.

³ The distance that aircraft travel between overflying these areas and then landing on Runway 03 at Perth Airport, not the straight line distance between these areas and the airport.

Community consultation

Airservices has presented information about the trial to all of Perth Airport's community meetings held since November 2012. These meetings were attended by various airlines, resident's groups, local councils, MPs (State and Federal) and Government departments (State and Federal).

Prior to the trial commencing, Airservices undertook the following community engagement activities:

- Letter to all residents relevant to the trial – totalling 6,800 households under the existing and trial flight path.
- Briefing and/or information provided to community representatives: Federal MPs (Judi Moylan, Don Randall, Steve Irons, Ken Wyatt), Senator Chris Back, WA State MPs (Troy Buswell, John Day, Tony Simpson) and local Councils (Armadale, Serpentine-Jarrahdale, Kalamunda, Gosnells).
- Community information sessions were held in Roleystone and Pickering Brook – two sessions at each location. These were informal in nature and held on a drop-in basis. One session at each location was attended by the Aircraft Noise Ombudsman. Approximately 90 people in total attended these sessions.
- Interviews on television channels 7 and 9, and ABC radio
- Newspaper advertising and articles (Armadale Examiner, Hills Gazette, Comment News, Echo News).
- Information was made available on Airservices website⁴, including an animation to illustrate the trial flight path.

During the trial, Airservices undertook the following community engagement activities:

- Follow-up community session at Pickering Brook in November 2013.
- Letter in May 2014 to those residents who had already provided feedback about the trial to give an update about community reaction received to date.

The community sessions held before the trial were the first time Airservices had used this consultation mechanism and proved to be effective. People were able to attend a session at a suitable time and speak with Airservices staff individually and ask multiple questions in reasonable privacy about their own situation. It also provided useful feedback, particularly:

- The information Airservices had presented leading up to the meetings highlighted what was going to change but did not include what would not be changed. This caused some confusion and some people considered the maps and information provided to them had been misleading. Airservices intention is to provide clear information to the community and additional maps and changes to web text to address this concern were quickly made. Airservices has subsequently ensured that information provided to the community about noise improvements is clear on this point.

⁴ <http://www.airservicesaustralia.com/projects/flight-path-changes/trial-of-new-flight-path-roleystone-wa/>

- This was the first time Airservices had used an animation to illustrate a proposed flight path change, being a newly purchased software program. People were able to enter their address or a location into the program and then view where the current or trial flight path was relevant to the location entered. This proved to be a very useful tool in explaining the trial. Airservices now regularly uses animations to illustrate noise improvements to the community; recent upgrades to the program allow a voice commentary that describes what the animation is showing as it plays.
- Including the Aircraft Noise Ombudsman at the community information sessions assisted the community's understanding of the information being provided to them.

4. Operations

Perth Air Traffic Control assisted design of the trial flight path. The main areas of operational concern during the design process were any potential impact on airspace safety and efficiency, however there was no evidence of any adverse impact in these areas during the trial period.

It was noted soon after the trial commenced that the modified flight path design could be improved. Arriving aircraft from the east which are making an instrument approach to Runway 03 (long straight-in approach to the southern end of the main runway) currently converge at a waypoint near Bedforddale at the most southeastern point of the existing flight path. This turning point of the trial flight path is approximately 10 km further to the east and sequencing aircraft arriving from the southeast in conjunction with those using the trial flight path was at times a minor issue for Air Traffic Control. Moving the converging waypoint to the same location as the trial flight path waypoint would address this issue and also reduce the number of aircraft impacting the Bedforddale area. This change is on schedule to be implemented in March 2015 in line with the AIRAC publishing cycle.

During the 12-month trial period, 5,935 aircraft used the modified flight path; this represents the number of overflights moved away from Roleystone residents and closer to those at Pickering Brook and Karragullen.

Notably, 357 aircraft during the trial flew over Roleystone. Airservices analysis shows these were predominantly aircraft using the visual arrival corridor over the Perth Hills to the southeast of the airport which is located a short distance to the north of Roleystone. For various reasons, primarily weather and traffic sequencing, these aircraft were unable to complete the visual turn towards the airport and continued over Roleystone at low altitudes before making their final turn to land on Runway 03. These flights were noted by the community in their feedback to Airservices about the trial.

The implementation of Smart Tracking (satellite-assisted navigation) was identified during this trial as a suitable future alternative to move the visual approach corridor (the Roleystone trial only helped some areas of the Perth Hills and feedback from the community indicated further change was desired). Airservices has been able to design a Smart Tracking procedure to meet this community expectation. This change is both an efficiency and noise improvement opportunity.

Aircraft arriving from the north and east of Perth to land on Runway 03 most often perform a visual turn in the vicinity of Carmel and Bickley in the Hills area. This is a standard procedure at airports and allows pilots to follow a shorter route to the airport

in good weather rather than a longer, 10 nautical mile, straight-in flight path using an instrument approach.

Pilots flying a visual approach are often required to use a stepped approach where the aircraft repeatedly descends then levels out with increased engine thrust - this generates more noise than performing a continuous descent. The proposed introduction of a Smart Tracking approach over the Perth Hills to the southeast of the airport and moving the visual approach to the same flight path corridor will allow most pilots to use minimal engine power on descent to the runway.

Smart Tracking is proposed to be permanently implemented on this arrival flight path in May 2015. Consultation for this will form part of the consultation activity on the 2015 Perth Noise Improvement Plan to commence in early March 2015.

Noise impacts

Airservices placed a noise monitor at the Roleystone Primary School for a period of four weeks before the trial (January 2012) and again during the trial period (April 2014). Reports for each recorded period are available on Airservices website at <http://www.airservicesaustralia.com/publications/noise-reports/short-term-monitoring/>.

When considering the information below, note that the outside noise level of 70 dBA is the threshold level beyond which interference will occur for most people with normal conversation or telephone, radio and television use inside a house (walls generally create a 10 dBA reduction in noise level and 60 dBA is the level of normal conversation between two people). A noise recorded at 65 dBA outdoors will generally be heard at 55 dBA inside a house and is widely accepted as the level which might cause sleep disturbance at night.

Noise monitoring analysis

- January 2012
 - ⇒ 375 aircraft were recorded by the monitor, 278 of which were Perth Airport operations.
 - ⇒ 15 flights exceeded 65 dBA (1 at night).
 - ⇒ There were no aircraft using a Perth Airport arrival flight path recorded above 70 dBA.

- April 2014
 - ⇒ 160 aircraft were recorded by the monitor, 79 of which were Perth Airport operations.
 - ⇒ 16 aircraft exceeded 65 dBA (nil at night).
 - ⇒ There were 3 aircraft using a Perth Airport arrival flight path recorded above 70 dBA.

The loudest aircraft recorded during both periods were departures from Jandakot Airport.

While the number of flights over 65 dBA during both periods were essentially the same, these were aircraft using the visual approach flight path as noted above in section 4. In comparison, the volume of aircraft noise for Roleystone residents was greatly reduced during the trial period.

5. Community response

In addition to receiving the views of those residents who attended the community information sessions, Airservices received feedback from 60 people during the trial period. Of those 39 people lived in an area relevant to the trial i.e. either under the existing or trial flight path.

Of those 39 people:

- 18 people supported the trial.
- 4 people opposed the trial.
- 2 people who opposed the trial lived near Bedforddale under the trial flight path and received more overflights.
- 2 people who opposed the trial lived in Roleystone and had previously enjoyed observing them in flight.

Airservices notes the additional noise impact for Bedforddale residents and will implement a change in March 2015 to address this as outlined in section 4 above.

6. Conclusion

Community feedback demonstrates there was a noticeable benefit from the trial and that the change should become permanently implemented. Airservices will action this immediately.

Airservices notes the noise impact of aircraft intended to use the visual approach flight path but overfly Roleystone at low altitude as discussed in section 4 above and will investigate to see if any options are available to better manage these aircraft.