

Submission: 287

Regional Aviation Association of Australia



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Via email:

AirspacePolicy@infrastructure.gov.au

To whom it may concern

The Regional Aviation Association of Australia (RAAA) welcomes the opportunity to provide a submission to the consultation on the *Potential future expansion of Automatic Dependent Surveillance Broadcast (ADS-B) Mandate in Australia*. The RAAA is fully supportive of the ADS-B mandate and the safety and operational benefits it will deliver.

About the RAAA

The Regional Aviation Association of Australia (RAAA) is a not-for-profit organisation formed in 1980 to protect, represent, and promote the combined interests of its regional aviation organisations across Australia.

Airline members include Alliance, Airnorth, Link Airways, Marooomba, Nexus, QantasLink, Rex, Sharp Airlines, SmartLynx, Skippers and Virgin Australia Regional Airlines (VARA). Other members include airports, engineering and flight training organisations, finance and insurance companies and government entities. RAAA's members operate successful, and in most cases, growing businesses providing employment and economic sustainability within regional and remote areas of Australia.

The RAAA has approximately 128 members who together directly employ over 10,000 people, many in regional areas. On an annual basis, the RAAA's Air Operator Certificate (AOC) members jointly turnover more than \$1.5 billion, carry well more than two million passengers and move over 23 million kilograms of freight. Our regional airport members also provide and manage critical infrastructure across Australia.¹

The RAAA's members provide vital connectivity services between regional communities and city centres which enable those living in remote and regional locations to access services such as healthcare and education. They also facilitate the delivery of services to regional communities including emergency medical or disaster relief services, transport of FIFO workers and the delivery of cargo and mail. Given the geography of Australia and the proportion of Australians residing in remote or regional locations, the regional aviation sector is essential to ensuring Australians can access the services they need.

In addition, regional aviation is critical to the Australian economy, acting as an enabler to the mining, oil and gas, construction, manufacturing, and higher education industries.

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¹ <https://raaa.com.au/>



More than 60,000 Australians work more than 350km from their usual place of residence, with many workers in the mining, oil and gas industries working in very remote areas.

ADS-B Technology

ADS-B technology is well known to the Australian aviation industry. The technology has been in use across many Aviation sectors assisting in the delivery of safe and reliable aviation operations. Specifically, the 2012 ADS-B mandates that required ADS-B fitment for all Instrument Flight Rules (IFR) aircraft have been successfully implemented and operationalised for many years.

Australia has a world-renowned reputation in the delivery and use of ADS-B for flight operations. Australia commissioned the world's first ADS-B network in 2009 and around the world mandates for the use of ADS-B began to be introduced from about 2010.

In 2013 in Australia, the Civil Aviation Safety Authority (CASA) mandated that all aircraft operating under Instrument Flight Rules (IFR) must be equipped with ADS-B OUT by February 2017.

However, since then not much progress has been made in utilising the full benefits ADS-B technology can bring to Australian aviation. We still do not have mandates for using ADS-B IN or for Visual Flight Rules (VFR) operations. It means we are missing a valuable opportunity to realise the full safety and operational benefits the technology can bring.

The benefits have long been documented and include improved safety, better air traffic services, enhanced search and rescue operations, better accident investigations and the ability to safely and effectively integrate new technologies such as drones and Advanced Air Mobility (AAM) into the aviation system. For pilots, the obvious selling point is that ADS-B maximises situational awareness, it gives you 'alerted see and avoid.'

The tragic mid-air collision at Mangalore in 2020 highlighted the way in which the full use of ADS-B can save lives in a difficult situation. The Australian Transport Safety Bureau (ATSB) report into the crash found the pilots of the two aircraft – a Travel Air and a Piper Seminole both in IFR operations – were unlikely to have been able to see each other due to weather conditions, the closing speed and the limited vision from each aircraft.

Both aircraft were fitted with ADS-B OUT but not ADS-B IN, with the ATSB concluding receiving as well as broadcasting ADS-B could have alerted the pilots to the imminent danger. Lives may have been saved.

A 2016 survey undertaken by the United States Aircraft Owners and Pilots Association (AOPA) asked 3000 pilots if they believed ADS-B had helped them avoid a mid-air collision,



with 456 answering in the affirmative. Other research in the US has calculated the wide use of ADS-B IN could cut the fatal mid-air accident rate by 89 per cent.

The Federal Government's 2024 aviation white paper gave a commitment to working towards an expansion of the ADS-B mandate and subsequently a working group was set up to develop options for progress. As a result, this consultation was issued by the Department of Infrastructure and Transport with recommendations to be given to the Federal Government with final policy decisions to follow.

Why the ADS-B Mandate is Important

The RAAA believes it is in the interests of everyone to keep the ADS-B issue front of mind and to now work towards the full utilisation of the technology in Australia. The ADS-B debate has been ongoing for years and under the current proposals the expanded mandates will have deadlines of 2028 and 2033, so there would still be plenty of time for equipment to be procured and fitted to aircraft. Allowing the issue to drift on further will inevitably push out the mandate deadlines, delaying the safety and operational benefits we can all reap.

In the past there have been arguments about the technical feasibility of getting and fitting the equipment, the costs of equipment and whether Australia was too far ahead of the rest of the world. Over the years these issues have receded as low-cost electronic conspicuity equipment has become available that is suitable for VFR operations, the government ADS-B subsidy program providing up to \$5000 for ADS-B fitment and other leading aviation nations have strengthened the commitment to ADS-B mandates.

For many members of the RAAA this issue is important as they operate at aerodromes outside of controlled airspace where there is a mix of air traffic. With drones an ever-growing sector and AAM getting closer to the skies, the complexity of traffic will only keep increasing, both in the regions and the major population centres.

Making full use of available technology such as ADS-B is common sense that will allow Australian aviation to keep developing and safely service the needs of people in our cities, towns, and the bush.

Significantly the safety and operational benefits of ADS-B fitment for all IFR aircraft are well understood and recognised for the improvements they have provided. These benefits have included a layer of safety assurance in addition to systems like Traffic Collision Avoidance Systems (TCAS), improved safety by facilitating accurate aircraft positioning to enable weather diversions, improved operational efficiencies through reduced fuel burn, enhanced safety through search and rescue, and accident investigations.



The Australian aviation industry is continuously evolving - the Australian aircraft fleet continues to change and the volumes of air traffic continues to grow. Airlines and other airspace users are utilising airspace differently as operators fly new or previously unserved routes, often in larger aircraft. These operations require a continued focus to maintain the safety and efficiency of operations and airspace management across Australia at all flight levels.

ADS-B Working Group Acknowledgement

The RAAA would like to acknowledge the detailed work already completed by the ADS-B working group established through the ADS-B initiative outlined in the Aviation White Paper.

The RAAA understands that working group involving participants from the Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (the Department), the Civil Aviation Safety Authority (CASA), Airservices Australia (Airservices), the Australian Transport Safety Bureau (ATSB), the Australian Maritime Safety Authority (AMSA) and the Department of Defence (Defence) intends to provide its final report and suggested policy actions to the Minister by the end of 2025.

The RAAA appreciates the recognition by the working group that any proposed ADS-B mandate will need to be considered carefully, noting the complexities of the GA sector and the challenges that exist if they were to be implemented. Any ADS-B mandate needs to be suitable, affordable, and commensurate with the safety risk that is being managed. It must also provide the greatest opportunity to deliver effective safety outcomes for all airspace users and the Australian community.

GA will be most likely to be impacted by a wider ADS-B mandate for ADS-B OUT for Visual Flight Rules (VFR). In addition to VFR the proposed mandates detail an expansion in current requirements to mandate ADS-B IN capability for operations in the medium term (2033). This proposal will impact most operators including IFR operations.



ADS-B Consultation Feedback

The ADS-B Consultation paper poses several questions for consideration. The RAAA provides feedback on those questions as follows.

Do you support an ADS-B mandate? Why or why not?

The RAAA is supportive of the proposed mandate. RAAA member organisations including Air Operator Certificate (AOC) holders are firmly in favour of the proposed ADS-B mandates.

The RAAA view is that the avionics (device) that is required should be suitable and appropriate to the nature of the operations and commensurate with the safety risk that is involved in those operations. As an example, air transport and commercial operations should be required to use approved ADS-B equipment whereas for private flying operations in a VH registered or recreational registered aircraft a lower cost approved EC device would be suitable.

If so, what airspace and/or aircraft types would you include in it?

In support of the proposed mandate all airspace and all aircraft types including remote and uncrewed aircraft should be included. In short, if it flies it should at least be ADS-B out capable to ensure 'alerted see and avoid' operations. Over time the use of ADS-B IN for all operations would be most desirable.

Can you provide feedback on the potential model (Figure 1 and Figure 2)? Do you consider the model to be sensible and achievable? Why or why not?

The RAAA is supportive and considers that the proposed model is sensible and achievable.

The RAAA is of the view that the main proposal should be applied in full. The VFR Alternatives also detailed in Figure 1. do provide a graduated implementation pathway if government decided on a phased implementation timeline, however this approach may be too hard to apply or administer operationally on an ongoing basis. Ultimately the mandate should be applied to all aircraft types and not be designed around specific locations, volumes of airspace or specific types of operations. The sky has no boundaries and an aircraft does not know what class of airspace it is flying in. An aircraft could be flying remotely in Glass G airspace one day and Class C under ATC surveillance in the near vicinity of a major aerodrome the next.

It must be noted that there is also a potential issue around avionics availability that would need to be explored further before the final implementation of a mandate. As it currently stands there are some larger regional aircraft like the Bombardier Q400 or SAAB 340 which, due to their age and existing avionics fitment, have no approved ADS-B-IN equipment



solution available. It may be that a ADS-B IN solution could be available by the 2033 deadline but this would need to be monitored and timelines adjusted or exemptions explored if required.

Consideration also needs to be given to the key technology enablers that will be required to ensure that the full benefit of the mandating of the technology can be realised. As outlined in the consultation paper there are some deficiencies in the existing ground-based ADS-B receiver network. The existing ADS-B ground station network owned and operated by Air Services would require the addition of new ground stations to ensure full ADS-B coverage from the surface up to the flight levels. Importantly there is a real opportunity here for government aviation agencies like CASA and Airservices to approve the use of newer ADS-B technologies like space based systems that will provide full continental coverage across Australia at all flight levels down to the surface.

Noting the relatively long time frame (2028 – 2033) it would also be appropriate for government and the relevant agencies to also be prepared to look at any other new technologies that may emerge that may also bring similar or comparable safety benefits.

[What aspects of the model would you retain, alter, or discard? Why or why not?](#)

Other than the issues around avionics, network availability and emerging technologies already discussed there are no other matters to alter or discard from what is proposed.

[What impact would the model have on your operations, if applicable?](#)

There are many positive safety and operational benefits to be achieved through appropriate and practical ADS-B mandates. Any mandate will need to ensure that there is adequate time to fit the Australian aircraft fleet. Central to this will be the availability of the necessary equipment as well as the availability of suitably qualified personnel to undertake the installation work. This may be best managed when aircraft are scheduled for major maintenance.

[What are the estimated costs that you might incur in complying with this mandate?](#)

The RAAA is not in a position to provide qualified advice on estimated costs due to the diversity of aircraft types that are flown by our members. It is important that the government ensure that any mandate is practical and affordable. One way the government can do this is ensure it continues to incentivise the uptake of ADS-B and encourage fitment through its ADS-B subsidy program. Furthermore the government should also consider the expansion of the rebate program if needed to ensure everyone is able to be fitted in a timely manner.



What are the potential benefits for your operation?

All operators would see a range of operational benefits depending on the location and nature of their operations. Importantly everyone will see an increase in the safety of their operations. The current system has relied for many years on 'see and avoid' particularly for operations outside controlled airspace. 'Alerted see and avoid' is provided through ADS-B OUT in the first instance but will be further enhanced through the use of ADS-B IN and OUT.

Were the model adopted as government policy, when should all VFR aircraft in all airspace be fitted with approved ADS-B equipment (currently 'beyond 2033')?

The proposed timeframe of 2033 for all VFR aircraft to be fitted with approved ADS-B equipment may need to be considered further. Whilst a 2033 timeframe is potentially achievable the question needs to be asked what level of conspicuity is required by some VFR aircraft in all airspace volumes for the purposes of aircraft separation and air traffic control, particularly when they may not need to interface with air traffic control (ATC).

Are the proposed weight and height limits for drones, above which an ADS-B OUT mandate would apply, appropriate?

The RAAA agrees with the proposed weight and height limits for drones - that is, small drones operating above 400 feet and medium and large drones regardless of altitude.

Are any of the alternate options outlined at Figure 1 a better way forward? Why or why not?

As previously discussed the VFR alternatives do provide a graduated implementation pathway if government decided on a phased implementation timeline, however they would be too hard to apply or administer on an ongoing basis. The mandate should be applied to all aircraft types and not necessarily designed around specific locations, volumes of airspace or types of operations.

Noting the Government's ADS-B rebate program, have you fitted ADS-B to your aircraft? Why or why not?

The RAAA notes that the AWP has facilitated an extension to the undersubscribed ADS-B rebate program which is welcomed. Many GA operators have already taken up the option to fit ADS-B OUT to their aircraft including upgrades to the aircraft GPS systems at the same time. On a personal note my aircraft syndicate partners have utilised the rebate scheme and have had ADS-B OUT fitted to our light aircraft.



Conclusion

The benefits of ADS-B have long been documented and include improved safety, better air traffic services, enhanced search and rescue operations, better accident investigations and the ability to safely and effectively integrate new technologies such as drones and Advanced Air Mobility (AAM) into the aviation system. For pilots, the obvious selling point is that ADS-B maximises situational awareness, it gives you 'alerted see and avoid.'

The RAAA is fully supportive of the proposed ADS-B mandate and encourages government and the aviation government agencies to move expeditiously, draft the required legislation and seek to implement the mandate in a timely and practical manner.

Thank you once again for the opportunity to provide feedback into the proposed ADS-B mandate. On behalf of the RAAA I am happy to provide additional detail or discuss further as required.

Kind regards

A handwritten signature in black ink, which appears to read 'Rob Walker', is positioned below the 'Kind regards' text.

Rob Walker

Chief Executive Officer
Regional Aviation Association of Australia (RAAA)