

ATSB Annual Report 2021–22



Australian Government
Australian Transport Safety Bureau

Publication details

Published by the Australian Transport Safety Bureau

ISBN: 978-1-74251-000-2 ISSN: 1838-2967

 $\ensuremath{\mathbb{C}}$ Commonwealth of Australia 2022



With the exception of the Coat of Arms, the ATSB logo, photos and graphics in which a third party has copyright, this work is licensed under the Creative Commons Attribution 3.0 Australia license. To view a copy of this license visit creativecommons.org/licenses/by/3.0/au

The Australian Transport Safety Bureau asserts the right to be recognised as the author of the original material in the following manner:

Specific acknowledgements for the use of data, photographs and other materials included throughout this report. Where the source of any material is not specifically named, ATSB is the originator.

Contact us

If you have any enquiries about any aspect of the report or any questions about the creative commons license, please contact:

Australian Transport Safety Bureau PO Box 967 Civic Square ACT 2608

Email: atsbinfo@atsb.gov.au

A copy of this report is available on the ATSB website: www.atsb.gov.au

Printing

CanPrint

LETTER OF TRANSMITTAL





Chief Commissioner

28 September 2022

The Hon Catherine King MP Minister for Infrastructure, Transport, Regional Development and Local Government Parliament House CANBERRA ACT 2600

Dear Minister

I am pleased to present the Annual Report of the Australian Transport Safety Bureau (ATSB), reporting on our operations for the year ended 30 June 2022.

This annual report has been prepared in accordance with the requirements for non-corporate Commonwealth entities under section 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and summarises the ATSB's performance for the year.

The report includes the ATSB's financial statements as required by section 42 of the PGPA Act and an audit report on those statements in accordance with section 43 of the same Act.

In addition to fulfilling the requirements of the PGPA Act, the report satisfies section 63A of the *Transport Safety Investigation Act 2003* (TSI Act).

I also certify that I am satisfied that the ATSB has prepared risk assessment and fraud control plans and has in place appropriate fraud prevention, detection, investigation, reporting and data collection procedures and processes that meet the specific needs of the ATSB and comply with the Commonwealth Fraud Control Framework.

Yours sincerely,

Angus Mitchell Chief Commissioner and Chief Executive Officer Australian Transport Safety Bureau

12 Moore Street Canberra ACT 2601 Australia PO Box 967 Civic Square ACT 2608 (+61) 02 6122 1677 angus.mitchell@atsb.gov.au www.atsb.gov.au @atsbgovau

Contents

Letter of Transmittal	1
List of tables	4
List of figures	5
Introduction	6

SECTION 1

Chief Commissioner's review 2021–22

Chief Commissioner's review 2021–22

SECTION 2

Agency overview

Agency overview	10
Organisational structure	19
Commission and Executive Management team	20
Outcome and program structure	23
How the ATSB reports	23

SECTION 3

Report on performance

Report on performance	26
Independent 'no-blame' investigation of transport accidents and other safety occurrences	35
Safety data recording, analysis and research	37
Influencing safety action	40
Financial performance update	47

SECTION 4

Significant safety investigations

Aviation	48
Rail	51
Marine	53

SECTION 5

Formal safety issues and actions

Formal safety issues and actions	. 54
Safety issues identified through ATSB investigations	. 55
KPI status of safety issues identified in 2021–22	. 55

Responses to safety issues identified in 2021–22	56
Safety actions	66
Safety recommendations closed in 2021–22	66
Safety recommendations released in 2021–22	71
Safety advisory notices released in 2021–22	72

SECTION 6

Financial statements

ancial statements

SECTION 7

Management and accountability

SECTION 8

Appendices

Appendix A: Other mandatory information	111
Appendix B: Entity resource statement 2021–22	116
Appendix C: Executive remuneration	117
Appendix D: Management of human resources	118
Appendix E: Australian Public Sector (APS) classification and gender	120
Appendix F: Employment type by full-time and part-time status	122
Appendix G: Employment type by location	123
Appendix H: Indigenous employment	123
Appendix I: Employment arrangements of SES and non-SES employees	124
Appendix J: Salary ranges by classification level	124
Appendix K: Performance pay by classification level	124
Appendix L: Accountability authority	124
Appendix M: Significant non-compliance with the finance law	125
Appendix N: Audit committee 2021–22	125
Appendix O: Reportable consultancy contracts	
Appendix P: Reportable non-consultancy contracts	
Appendix Q: Additional information about organisations receiving amounts under reportable consultancy contracts or reportable non-consultancy contracts	126
Appendix R: Aids to access	127
Appendix S: Report on financial performance summary	128
Appendix T: Financial statements summary	129
Appendix U: List of requirements	132

Appendix V: Glossary	
Index	

List of tables

Table 1:	Results against performance criteria	27
Table 2:	ATSB performance against KPIs	
Table 3:	Summary of financial performance and position	47
Table 4:	Number of safety issues identified in 2021–22	55
Table 5:	Status of other safety issues identified in 2021–22	55
Table 6:	Aviation – safety issues identified in 2021–22	56
Table 7:	Rail – safety issues identified in 2021–22	63
Table 8:	Number of safety actions released in 2021–22	66
Table 9:	Aviation – safety recommendations closed in 2021–22	66
Table 10:	Marine – safety recommendations closed in 2021–22	70
Table 11:	Aviation – safety recommendations released in 2021–22	71
Table 12:	Aviation – safety advisory notices released in 2021–22	72
Table 13:	Rail – safety advisory notices released in 2021–22	74
Table 14:	ATSB staffing profile at 30 June 2022	
Table 15:	ATSB salary rates at 30 June 2022	
Table 16:	Freedom of Information activity	
Table 17:	ATSB resource statement 2021–22	
Table 18:	Expenses for outcome	116
Table 19:	Information about remuneration for key management personnel	
Table 20:	Information about remuneration for other highly paid staff	117
Table 21:	All ongoing employees current report period (2021–22)	
Table 22:	All non-ongoing employees current report period (2021–22)	118
Table 23:	All ongoing employees previous report period (2020–21)	
Table 24:	All non-ongoing employees previous report period (2020–21)	
Table 25:	Australian Public Service Act ongoing employees current report period (2021–22)	
Table 26:	Australian Public Service Act non-ongoing employees current report period (2021–22)	
Table 27:	Australian Public Service Act ongoing employees previous report period (2020–21)	
Table 28:	Australian Public Service Act non-ongoing employees previous report (2020–21)	
Table 29:	Australian Public Service Act employees by full-time and part-time status current report period (2021–22)	
Table 30:	Australian Public Service Act employees by full-time and part-time status previous report period (2020–21)	122

Table 31:	Australian Public Service Act employment type by location current report period (2021–22)	123
Table 32:	Australian Public Service Act employment type by location previous report period (2020-21)	123
Table 33:	Australian Public Service Act Indigenous employment current report period (2021–22)	123
Table 34:	Australian Public Service Act Indigenous employment previous report period (2020–21)	123
Table 35:	Australian Public Service Act employment arrangements current report period (2021–22)	124
Table 36:	Australian Public Service Act employment salary ranges by classification level (minimum/maximur current report period (2021–22)	
Table 37:	Details of accountable authority during the reporting period current report period (2021–22)	124
Table 38:	Significant non-compliance with the finance law	125
Table 39:	Audit committee 2021–22	125
Table 40:	Expenditure on reportable consultancy contracts current report period (2021-22)	125
Table 41:	Expenditure on reportable non-consultancy contracts current report period (2021–22)	126
Table 42:	Organisations receiving a share of reportable consultancy contract expenditure current report period (2021–22)	126
Table 43:	Organisations receiving a share of reportable non-consultancy contract expenditure current report period (2021–22)	126
Table 44:	Aids to access details current report period (2021–22)	127
Table 45:	Entity resource statement subset summary current report period (2021–22)	128
Table 46:	Statement of comprehensive income current report period (2021-22)	129
Table 47:	Statement of financial position current report period (2021–22)	129
Table 48:	Statement of changes in equity current report period (2021–22)	130
Table 49:	Cash flow statement current report period (2021–22)	130
Table 50:	Current assets and liabilities	130
Table 51:	Commonwealth lessees – Departmental leases under AASB 16 (2021–22)	131
Table 52:	Regulatory charging summary note	132

List of figures

Figure 1:	Flight path of AEM and JQF, and location of the ground impact of both aircraft	48
Figure 2:	Reconstruction of pitot probe covers on 9M-MTK, showing pitot probe cover damage and contact marks on aircraft skin from the streamer	
Figure 3:	Recovered wreckage	50
Figure 4:	Helicopter inverted in reservoir	50
Figure 5:	Train M02712 wreckage near the crossover at Turner South	51
Figure 6:	Points set in reverse for the path of 1E65	52
Figure 7:	Damage to Sandgroper	53

Introduction

The Australian Transport Safety Bureau 2021–22 Annual Report outlines performance against the outcome and program structure in the Infrastructure, Transport, Regional Development and Communications Portfolio Budget Statements 2021–22.

Guide to the report

- **Section 1** Chief Commissioner's review 2021–22
- Section 2 Agency overview
- Section 3 Report on performance
- Section 4 Significant safety investigations
- Section 5 Formal safety issues and actions
- Section 6 Financial statements
- Section 7 Management and accountability
- Section 8 Appendices

Information about this report

Information about this report is available from:

The Annual Report Coordinator Telephone: 1800 020 616 Email: atsbinfo@atsb.gov.au

Other sources of information

Annual reports are available in printed form from a number of libraries around Australia under the Commonwealth Library Deposit and Free Issue Schemes. A list of participating libraries can be found on the Digital Transformation Agency website at www.dta.gov.au. This report is available from the ATSB website at www.atsb.gov.au and the Transparency Portal website at www.transparency.gov.au.

Before making decisions on the basis of information contained in this report, you are advised to contact the ATSB. This report was up to date at the time of publication, but details may change over time due to legislative, policy and other developments.

SECTION 1 – CHIEF COMMISSIONER'S REVIEW 2021–22

Chief Commissioner's review 2021–22

I am pleased to be able to introduce this annual report on the ATSB activities for 2021–22, a year that continued to present challenges not just for the agency but for the transport sectors we serve due to the ongoing COVID-19 pandemic as well as challenging economic circumstances.

I commenced my term as Chief Commissioner and Chief Executive Officer on 2 September 2021, amidst lockdowns that saw our Canberra, Sydney and Melbourne staff all working from home. It is testament to our staff resilience and flexibility, and the robustness of the ATSB IT systems, that we were able to continue operations with minimal disruptions despite lockdowns, working-from-home requirements, and travel restrictions across the country.

On joining the ATSB I was also well aware that the ATSB is highly respected internationally for its best-practice transport safety investigation, a reputation I will uphold and build upon.

During 2021–22, the ATSB completed and published 60 complex and industry-significant investigation reports into transport accidents and incidents that provided the relevant transport modes with wide-ranging safety learnings. Among the higher profile investigations concluded during the year were:

- The runaway and derailment of a loaded iron ore train south of Port Hedland, Western Australia, on 5 November 2018. The ATSB investigation established that the train operator's risk assessments had limited focus on the potential causes of, and critical controls for preventing, a runaway event.
- The evacuation of an A330 passenger aircraft at Sydney Airport, New South Wales, on 15 December 2019 our investigation highlighted the importance of clear passenger information and commands, and resulted in the airline amending its safety material, cabin crew training, and other procedures as a result of the incident.
- The near collision of passenger trains at Park Road Station, Brisbane, on 25 March 2019, following a signal passed at danger (SPAD). Our investigation found that change management relating to the moving or installation of signal aspect indicators, to facilitate the rollout of new rollingstock, did not provide sufficient detail to ensure consistent and conspicuous placement on platforms.
- The collision of a fishing vessel with a bulk carrier in darkness near the entrance to Port Adelaide Harbour, South Australia, on 29 February 2020, where we flagged our ongoing concern about collisions between trading ships and small vessels on the Australian coast.
- The mid-air collision of 2 twin-engine training aircraft near Mangalore Airport, Victoria, on 19 February 2020, fatally injuring four pilots. The accident was the first mid-air collision in Australia between 2 civilian aircraft operating under instrument flight rules procedures that have been in place for many decades, and our investigation highlighted the potential for 'ADS-B IN' technology to improve pilots' situational awareness in non-controlled airspace.

In addition to ATSB-led investigations, independent investigation agencies in New South Wales and Victoria conduct rail investigations in their jurisdictions on behalf of ATSB under the Commonwealth *Transport Safety Investigation Act 2003* (TSI Act). In 2021–22, the ATSB published and promoted 5 rail safety investigations conducted by the New South Wales Office of Transport Safety Investigations (OTSI) and one rail safety investigation conducted by Victoria's Chief Investigator, Transport Safety (CITS).

The investigations published in 2021–22 identified no fewer than 56 safety issues – factors that if unaddressed have the potential to adversely affect the safety of future operations. Safety issues are characteristic of an organisation or a system, rather than an individual or an operational environment at a specific point in time.

Further, I am pleased to confirm that no changes to published investigation findings were required in 2021–22, evidence of the ATSB central commitment that all published investigations are factually accurate, defendable and evidence-based.

In 2021–22, the ATSB also:

- initiated 51 new aviation occurrence investigations, 6 new marine occurrence investigations, and 5 rail occurrence investigations
- published 15 occurrence briefs, which are short reports that allow us to share safety learnings from a transport safety occurrence that did not meet the threshold of requiring investigation under the TSI Act
- received and processed 115 notifications under the REPCON confidential reporting scheme, of which 49 were assessed and classified as meeting the REPCON criteria during the year, 37 REPCON reports were completed, of which 22 (59%) resulted in safety action being taken by stakeholders
- commissioned our new ATSB Investigation Management System (AIMS), a cloud-based IT system used to manage all aspects of our investigations, including logging occurrence notifications, electronic evidence storage and record management for physical evidence, assigning tasks, and recording effort to manage report approvals and distributions
- commissioned purpose-built state-of-the-art technical facilities in our Canberra office that will enhance our ability to conduct detailed technical examination of evidence from accident sites.

Outlook

The upcoming 2022–23 period promises to be a year of consolidation as we plan for a more sustainable future for the ATSB. I am aware of the calls stemming from a number of inquiries and associated reports, seeking to extend the ATSB services through an expanded remit. The ATSB will provide input into those inquiries as required. However, any decisions to change the ATSB remit are a matter for government. It is my immediate priority to address the ATSB existing budgetary challenges – specifically the shortfalls in rail investigation resources resulting from unsustainable funding arrangements outside our core appropriations.

To better position the agency to face the challenges ahead, and to ensure we are making the most effective use of our resources, in 2021–22 I initiated the development of a new strategic plan for the ATSB. This plan, which I intend to publish in early 2023, will set out the ATSB priorities and the actions we will take to ensure we are best positioned to fulfil our responsibilities to government and deliver best practice transport safety investigations for the greatest public benefit.

It will focus on enhancing our best-practice approach to investigations, engaging with stakeholders and influencing improvements in transport safety, fostering our organisational resilience, and affirming our role as the national transport safety investigator.

I look forward to supporting our staff in delivering that plan.



Angus Mitchell Chief Commissioner and CEO

SECTION 2 – AGENCY OVERVIEW

Agency overview

The ATSB is Australia's national transport safety investigation agency. Its primary function is to improve aviation, rail and marine safety. It does this by receiving information about accidents and other safety occurrences, analysing data, and investigating occurrences and safety issues in order to identify and communicate factors that affect, or might affect, transport safety.

The ATSB is part of the Australian Government's Infrastructure, Transport, Regional Development, Communications and the Arts portfolio. Within the portfolio are other important transport agencies, with roles focused on delivering an efficient, sustainable, competitive, safe and secure transport system for all transport users, through regulation, financial assistance and safety investigations. These include:

- Civil Aviation Safety Authority (CASA)
- Airservices Australia
- > Australian Maritime Safety Authority (AMSA)
- > National Transport Commission.

Purpose

The ATSB is an independent statutory agency of the Australian Government. It is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. At the same time, it is required to cooperate with others who have a role in maintaining and improving transport safety. The ATSB purpose is defined by its mission statement:

Improve transport safety for the greatest public benefit through our independent investigations and influencing safety action.

The mission statement reflects the ATSB outcome and functions to improve the safety of aviation, rail, and interstate and overseas shipping through:

- > the independent investigation of transport accidents and other safety occurrences
- > safety data recording, analysis and research
- > influencing safety action.

The ATSB performs its functions in accordance with the provisions of the TSI Act and, where applicable, relevant international agreements. The TSI Act makes it clear that the ATSB cannot apportion blame, assist in determining liability or, as a general rule, assist in court proceedings. Its sole focus remains the prevention of future accidents and the improvement of transport safety.

The TSI Act also sets out the independence of the ATSB, in the interests of avoiding conflicts of interest and external interference in its role in transport safety investigations, safety data recording, analysis and research, and influencing safety action.

The ATSB maintains a national information dataset of all safety-related occurrences in aviation and accidents, and significant safety occurrences in the rail and marine sectors. The information it holds is essential to its capacity to analyse broad safety trends and to inform its investigation and safety education work.

The ATSB participates in overseas investigations involving Australian-registered aircraft and ships. ATSB has an active international program of cooperation with its overseas counterparts, with a particular focus on Papua New Guinea (PNG) and Indonesia.

The ATSB has a specific mandate to report publicly on its analysis and investigations, and to conduct public education programs to improve transport safety.

The ATSB role

While independent, the ATSB is accountable to Parliament through the Minister for Infrastructure, Transport, Regional Development and Local Government. Consistent with the Minister's Statement of Expectations, the ATSB gives primacy to transport safety investigations that have the potential to deliver the greatest public benefit. The ATSB does this through:

- receiving and assessing reports on transport safety matters, including notifications of safety occurrences and confidential reporting
- > independently conducting 'no-blame' investigation of transport accidents and other safety occurrences
- > conducting research into transport statistics and technical issues
- identifying factors that contribute to accidents and other safety occurrences that affect, or have the potential to affect, transport safety
- encouraging safety action in response to safety factors by acknowledging action taken by operators, and by issuing safety recommendations and advisory notices
- raising awareness of safety issues by reporting publicly on investigations and conducting educational programs
- assisting Australia to meet its international regulatory and safety obligations, and conducting an active program of regional engagement with other transport safety agencies.

The ATSB objectives

In fulfilling its role of improving transport safety and cooperating with others, the ATSB:

- > focuses its resources in the areas that are most likely to result in safety improvements
- > harnesses the expertise and information necessary to perform its safety role
- > conducts impartial, systemic and timely investigations
- > identifies safety issues clearly and objectively without attributing blame or liability
- > ensures the significance of safety issues are clearly understood by all concerned
- > promotes effective safety action.

Cooperation with the transport industry

The ATSB works cooperatively with the aviation, rail and marine industries, as well as with transport regulators and governments at state, national and international levels, to improve safety standards for all Australians.

The ATSB relies on its ability to build trust and cooperate with the transport industry and the community. The TSI Act requires the ATSB to cooperate with government agencies, private organisations and individuals with transport safety functions and responsibilities, or that may be affected by ATSB transport safety activities. The ATSB also cooperates with equivalent national bodies in other countries and international organisations with responsibilities for worldwide transport safety standards.

The ATSB actively targets communications to ensure that transport industry stakeholders understand the importance of no-blame investigations. In order to cultivate a strong reporting culture within the transport industry, the ATSB promotes an appropriate level of confidentiality and protection for sensitive safety information provided during the course of an investigation.



ATSB Chief Commissioner Angus Mitchell at the annual AusRAIL Plus 2022 conference in Sydney.

Mandatory occurrence reporting

The TSI Act requires any responsible person who has knowledge of any accident or serious incident (or any *immediately reportable matter*) to report it as soon as it is reasonably practicable. Immediately reportable matters also require a written notification within 72 hours, as do safety incidents (or routine reportable matters).

While the terms of this requirement may seem broad, the *Transport Safety Investigation Regulations 2021* (TSI Regulations) provide a list of persons who, by the nature of their qualifications, experience or professional association, would be likely to have knowledge of an immediate or routine reportable matter for their mode of transport.

In addition, responsible persons are not required to report a transport safety matter if they believe, on reasonable grounds, that another responsible person has already reported, or is in the process of reporting, that matter.

The ATSB maintains a 24-hour service to receive notifications, including a toll-free telephone number (for immediately reportable matters in all modes). In aviation, a secure online form for written notifications is available on the ATSB website. In rail, all immediately notifiable matters are reported to the Office of the National Rail Safety Regulator (ONRSR), which then report to the ATSB. The written notifications are provided to the ATSB via reporting to ONRSR. In marine, both immediately reportable and routine reportable matters are reported to the ATSB via AMSA.

Generally, the ATSB safety reporting team receives more than 17,000 notifications of safety occurrences per year. These are spread over aviation, marine and rail. Inevitably, there are duplicate notifications and many of the notifications submitted are about matters not required to be reported under the TSI Act. Nevertheless, each one is reviewed and recorded.

The ATSB safety reporting team received 5,934 aviation notifications,¹ 1,631 marine notifications and 712 rail notifications in the form of telephone calls, emails and website contact, relating to events in 2021–22. From those, the team has identified 3,682 aviation¹ and 200 marine accidents, serious incidents and incidents for the year. In rail, ONRSR was responsible for processing all notifications from industry into occurrences in the Australian national rail occurrence database shared with the ATSB.

While not all reported occurrences are investigated, the details of each occurrence are retained within the ATSB occurrence database. These records are a valuable resource, providing a detailed portrait of transport safety in Australia. The searchable public version of the aviation occurrence database is available on the ATSB website at www.atsb.gov.au and contains data from July 2003 onwards. The online database is used by industry, academics, the media and regulators to search and research past events.

Aviation

The ATSB investigates accidents and incidents involving civil aircraft in Australia and Australian-registered aircraft overseas. It does so in a manner consistent with the Convention on International Civil Aviation (Chicago Convention 1944) Aircraft Accident and Incident Investigation (Annex 13). The ATSB also assists with overseas agency investigations involving Australian-registered aircraft, and may assist with foreign aircraft if an overseas investigation authority seeks assistance and the ATSB has suitable resources available. The ATSB may also have observer status in important overseas investigations. This provides valuable opportunities to learn from overseas organisations and to benchmark knowledge and procedures against counterpart organisations.

The ATSB cooperates with organisations that are best placed to improve safety, such as CASA, Airservices Australia and the Defence Flight Safety Bureau (DFSB), as well as aircraft manufacturers and operators. The ATSB also works collaboratively with the Department of Infrastructure, Transport, Regional Development, Communications and the Arts and other safety agencies to assist the Australian Government in implementing transport safety initiatives.

¹ Due to delays with the introduction of AIMS, the count of aviation notifications, and the count of aviation accidents, serious incidents and incidents, will be understated.



ATSB investigators examine an engine cowling from an aircraft.

Marine

The ATSB investigates incidents and accidents involving Australian-registered ships anywhere in the world, and foreign ships in Australian waters or en route to Australian ports.

The ATSB works cooperatively with international regulatory authorities, AMSA and other transport safety investigation agencies, as well as ship owners and operators.

Marine investigations are conducted in a manner consistent with the International Maritime Organization's (IMO) Casualty Investigation Code.

The ATSB publishes and distributes a range of marine transport safety reports and safety educational material to the international maritime community, the IMO, educational institutions, and maritime administrators in Australia and overseas.

From 1 July 2018, the AMSA role as a regulator extended to include service delivery for all domestic commercial vessels (DCVs) as part of the Council of Australian Governments' 2011 national maritime reforms. The national reforms do not include funding for the ATSB to conduct DCV investigations, so the ATSB marine jurisdiction continues to be limited to interstate and overseas shipping.



ATSB investigators checking a vessel's life rafts.

Rail

As of 1 July 2017, the ATSB became the single national rail safety investigator for all states and territories in Australia.

This role includes collecting occurrence information, and investigating rail transport safety matters on the metropolitan, regional and freight networks.

The ATSB works cooperatively with organisations such as ONRSR and rail operators – all of whom share a responsibility to improve safety. The ATSB also has collaboration agreements with OTSI and CITS state safety investigation organisations.



ATSB investigators inspect a section of rail.

Specialist investigation capabilities

Material failure analysis

The ATSB maintains in-house capabilities for examining any physical evidence relating to transport safety investigations. The group of engineering specialists comprise experts across multidisciplinary engineering fields to conduct forensic analysis of components and structures from aviation, rail and marine occurrences at the ATSB engineering facility in Canberra. The experts collaborate with other ATSB investigators, external stakeholders and subject matter experts from similar agencies around the world to provide detailed insight into the often complex set of technical factors that contribute to transport safety occurrences.

Data and recorder recovery

The ATSB maintains a centre of excellence for aviation, marine and rail 'black box' data recovery and analysis. Flight data recorders, cockpit voice recorders, quick access recorders, ground proximity warning systems, voyage data loggers and train data loggers can all be downloaded and analysed at the ATSB. The data from other electronics installed in aircraft, such as GPS, mobile phones and digital cameras, can also be recovered using in-house chip recovery expertise.

Human factors

The ATSB has investigators with qualifications and specialist expertise in the capabilities and limitations of human performance in relation to the design, manufacture, operation and maintenance of products and systems. Human factors are a core component of every ATSB safety investigation, and this area includes the examination of elements such as decision-making, focus of attention, the role of workload and fatigue management.

Licensed aircraft maintenance engineers

The ATSB employs a number of investigators with a background as licensed aircraft maintenance engineers to undertake technical work necessary for investigations into aviation accidents and incidents. These investigators combine their extensive industry knowledge of the installation, maintenance and repair of aircraft, aircraft systems, structure and surfaces to determine whether any part of the aircraft system contributed to an occurrence.

Other transport specialists

ATSB investigators come from a variety of backgrounds and have a range of specialist skills, which are combined to ensure investigations are considered from multiple angles. In addition to those mentioned above, specialists on staff at the ATSB include:

- > pilots
- > aeronautical, mechanical and civil engineers
- ship captains and officers
- ship engineers
- train drivers
- > rail signal and system experts
- data scientists.

Site survey

The strength of the ATSB investigation analysis, and its findings, rests on the ability to collect as much data as possible about and from an accident. In addition to the expertise of its investigators, the ATSB incorporates technology to collect and process information about accident sites. This technology includes laser scanning and remotely piloted aircraft systems (RPAS) combined with high accuracy differential GPS data to produce a range of outputs from videos to 3-dimensional models of accident sites and vehicles.

Since 2010, the ATSB has used FARO Focus 3D laser site scanning equipment. This equipment has allowed accident sites and vehicles to be captured from ground level in high detail, enabling analysis of the accident site and for the development of accurate stakeholder engagement materials such as 3D models and re-creations of accident sequences.

Since 2017, the ATSB RPAS program has complemented laser scanning, allowing the capture of larger areas and angles that would not otherwise have been possible without a helicopter. Under a remotely piloted aircraft operator's certificate (ReOC), issued by CASA, the ATSB operates a fleet of 7 DJI Phantom 4 series aircraft. These aircraft, located in ATSB offices across Australia, assist in conducting initial site safety assessments, capture of photogrammetric site mapping data and other on-site evidence collection. 17 personnel have been trained to operate these aircraft and gather data.

To support both these technologies the ATSB makes use of a highly accurate differential GPS data unit, allowing personnel to record the location and dimensions of wreckage, ground scars and key points on the accident site more precisely. This data can also more accurately position images and models captured on an accident site.

The ATSB is able to post-process data using a variety of software applications, including Pix4DMapper, FARO Scene, Trimble GPS Pathfinder office and Google Earth Pro, facilitating access to highly accurate and usable information.

As new technologies, software and equipment become available, the ATSB seeks to embrace their use to provide investigators with the best available tools.



ATSB investigator, Lian Campbell discussed ATSB procedures and techniques for the reporting and investigation of RPAS occurrences, and ATSB learnings from investigations with other agencies who had similar and differing experiences, at the Fifth International Accident Investigation Forum hosted by Singapore Transport Safety Investigation Bureau (TSIB) and the Singapore Aviation Academy (SAA) from 18 to 20 May 2022.



ATSB investigator, Michael Dawes demonstrated the ATSB use of RPAS, scanners and other technology for site mapping, flight path recreation and 3D modelling at the Fifth International Accident Investigation Forum hosted by Singapore TSIB and the SAA from 18 to 20 May 2022.

Range of investigation and other products

The ATSB produces a final report for all its investigations. Reports communicate important safety issues, safety actions and information, and provide transparency into the ATSB investigation process.

The main products are occurrence investigations, occurrence briefs, safety studies, and statistical and educational reports. The ATSB also produces an up to date online searchable aviation occurrence database and summaries of concerns raised via the REPCON (confidential reporting) system and their resulting safety actions.

Occurrence investigations

Occurrence investigations typically examine a single accident or incident in detail. The sequence of events and factual background information are documented, and findings are presented along with a safety analysis to explain those findings. These investigations may identify safety issues – ongoing systemic risks to safety – and the safety actions taken by organisations to address these safety issues. The ATSB may also issue formal safety recommendations.

Safety studies

Safety studies typically investigate multiple occurrences of a similar nature, or a potential or emerging safety issue. Conducted as an investigation under the TSI Act, they aim to uncover safety issues through the analysis of occurrence and other data.

Occurrence briefs

Introduced in 2018, occurrence briefs are concise reports that detail the facts surrounding a transport safety occurrence, as received in the initial notification, and any follow-up enquiries. They provide an opportunity to share safety messages in the absence of an investigation. Occurrence briefs are not conducted under the TSI Act.

Investigation levels

The ATSB response to reported safety matters is classified by depth of the investigation into contributing safety factors. This generally also reflects the level of resources and/or time they require, as well as their complexity. The following safety investigation levels were used by the ATSB for occurrence investigations and safety studies in 2021–22. Each level presented below (in order) builds on the previous level.

Short investigations

Short investigations are limited-scope and generally office-based investigations conducted under the TSI Act. Investigation activities generally include sourcing photos and documentation of any transport vehicle damage and/or the accident site, interviews with involved parties, the collection of documents, such as procedures, and internal investigations by manufacturers and operators. Occurrences investigated are normally simple and usually for common accidents and incidents. A short summary report of up to 8 pages will be produced, which includes a description of the sequence of events, limited to contextual factual information, a short analysis and findings. Findings include safety factors (events and conditions that increase risk) which are limited to those relating to the occurrence. Any proactive safety actions taken by industry will also be reported. Short investigations usually require only one ATSB staff member.

Defined investigations

Defined investigations may involve in-the-field activity or may be conducted as an office-based investigation. They require numerous ATSB resources and result in an agreed-scope product with a limited set of findings and a defined-size report. Evidence collected for defined investigations can also include recorded information, multiple interviews, analysis of similar occurrences, and a review of procedures and other risk controls related to the occurrence or set of occurrences. Occurrences investigated are generally less complex accidents and incidents. Investigation reports are typically 10–20 pages, with an expanded analysis to support the broader set of findings that may also include safety factors not relating directly to or contributing to the occurrence(s). Defined investigations may also identify safety issues (safety factors with an ongoing risk) relating to ineffective or missing risk controls. Identified safety issues are documented in the investigation report, along with proactive safety action taken by industry and ATSB safety recommendations.

Systemic investigations

Systemic investigations generally involve in-the-field activity, and a range of ATSB and possibly external resources. They are less confined in scope and will involve a significant effort collecting evidence across many areas. The breadth of the investigation will often cover multiple organisations. Occurrences and sets of occurrences investigated normally involve very complex systems and processes. In addition to investigating failed and missing risk controls, systemic investigations also investigate the organisational processes, systems, cultures and other factors that relate to those risk controls, including from the operator, regulator, and certifying and standards authorities. Systemic investigations result in substantial reports, often with several safety issues identified.

Major investigations

Major investigations are reserved for very significant accidents and are likely to involve significant ATSB and external resources and additional one-off government funding. They result in a comprehensive report.

Confidential reporting

The ATSB operates the voluntary and confidential reporting scheme (REPCON) for the aviation, rail and marine industries. Any person within these industries, or member of the travelling public, may submit a REPCON report of a reportable safety concern. The scheme is designed to capture safety concerns, including unsafe practices, procedures and risk controls within an organisation or affected part of the industry.

Each reported safety concern is assessed and de-identified by the ATSB by removing all personal details concerning the reporter and any individual named in the report. This de-identified text is passed back to the reporter, who must authorise the content before the REPCON can proceed. The de-identified text is then forwarded to the relevant organisation that is best placed to address the safety concern. The organisation's response will then be forwarded to the relevant regulator for further action, as deemed necessary.

The aim of the REPCON scheme is to ensure safety action is taken to address the reported safety concerns. This can include variations to standards, orders, practices and procedures, or an education campaign. The ATSB may use the de-identified version of the reported safety concern to issue an information brief or alert bulletin to whichever person or organisation is best placed to take safety action in response to the safety concern. The ATSB publishes the outcome of each REPCON on its website.

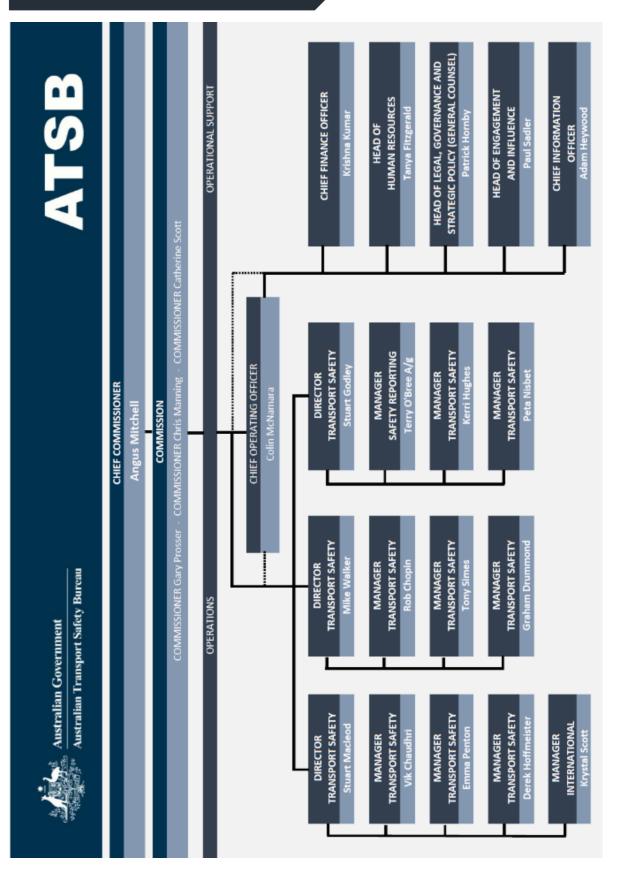
International cooperation

The ATSB is committed to close engagement with its international counterpart agencies and relevant multilateral organisations. In line with Australian Government policy, the ATSB places a specific emphasis on engagement with countries in the Asia Pacific region, particularly with Indonesia and PNG.

The ATSB is actively involved in the work of the International Civil Aviation Organization (ICAO), specifically the ICAO Asia Pacific (APAC) Accident Investigation Group (AIG) and the IMO. The ATSB is also an active member of the International Transportation Safety Association (ITSA).

The ATSB continues to make its expertise and resources widely available in support of transport safety. Every year, the ATSB cooperates with international state aviation investigation agencies, in accordance with clause 5.18 of Annex 13 to the Convention on International Civil Aviation, by appointing accredited representatives to their investigations that involve an Australian-registered aircraft, an Australian operator, or an Australian manufacturer.

Organisational structure



Commission and Executive Management team

CHIEF COMMISSIONER AND CHIEF EXECUTIVE OFFICER



Mr Angus Mitchell

Angus Mitchell has extensive experiences in organisational leadership and management, maritime operations and safety investigation.

He joined the ATSB from Maritime Safety Queensland, where as General Manager, he oversaw the safe and efficient movement of vessels into and out of Queensland's 21 ports, and was responsible for compliance activities and safety investigations for Australia's largest recreational maritime fleet.

During his tenure with Maritime Safety Queensland Mr Mitchell was recognised with the 2020 Australian Industry and Shipping Award for his role in managing international shipping throughout the COVID-19 pandemic, and supporting the welfare and safety of international seafarers.

Prior to leading Maritime Safety Queensland, Mr Mitchell was the Executive Director of NSW Maritime, where he oversaw Australia's largest state's primary maritime regulatory, investigative and compliance agency. He has

also served as Deputy Harbour Master – Operations for Sydney Ports, where he was responsible for managing day-to-day port operations for both Sydney Harbour and Port Botany.

Mr Mitchell served as an officer in the Royal Australian Navy for 17 years, undertaking a number of operational and Joint Operations Command roles both domestically and in overseas theatres. Mr Mitchell is an Indonesian linguist and commenced his 5-year term as ATSB Chief Commissioner and Chief Executive Officer on 2 September 2021.

COMMISSIONER



Mr Chris Manning

Chris Manning has over 40 years' experience in the aviation industry. Beginning his aviation career in the early 1970s, Mr Manning was a Qantas cadet pilot from 1970 until 1972. He then became an air traffic controller from 1973 until 1975 before returning to Qantas as a pilot.

During his Qantas career, Mr Manning gained his command on the Boeing 767 in 1989, and was a check and training captain throughout the 1990s. From 2003 until his retirement from the airline in 2008 he held the position of Chief Pilot and Group General Manager Flight Operations. He also held the position of president of the Australian and International Pilots' Association from 1999 until 2002.

Since retiring from flying, Mr Manning has been a Chair of The Australian Aviation Associations' Forum, is a Director of AMDA (organisers of the Avalon Airshow), a founding Director of the Australian Aviation Hall of Fame, Chair of Airport Coordination Australia (term finishing in September 2022),

and a Director of the Historical Aircraft Restoration Society Foundation.

Mr Manning was appointed as an ATSB Commissioner in March 2015.

COMMISSIONER



Mr Gary Prosser

Gary Prosser has over 40 years' experience in the maritime industry, coming from a seagoing career and serving on a wide variety of Australian ships in both the international and domestic trades. He was part of the inaugural intake to the Australian Maritime College (AMC) in 1980 and went on to lecture at the college.

For a number of years, Mr Prosser managed offshore supply vessel operations in Bass Strait prior to moving to Tasmania where he headed the Polar Division of P&O Australia managing Antarctic and Marine Science Vessels for the Australian Antarctic Division and the CSIRO.

Initially joining AMSA in 1997, Mr Prosser had a variety of senior management roles with the authority and was appointed Deputy Chief Executive Officer in 2007.

In 2009, Mr Prosser was elected as Secretary General of IALA, headquartered in Paris, prior to returning to AMSA in 2015 and retiring in 2019.

In addition to his maritime qualifications, Mr Prosser has a Bachelor of Education degree and is a member of the Australian Institute of Company Directors.

Mr Prosser was appointed as an ATSB Commissioner in October 2019.

COMMISSIONER



Ms Catherine Scott

Catherine Scott has extensive experience in rail safety, aviation and road transport, finance and risk management, and board directorships.

From 2012 to 2020, Ms Scott served as a non-executive director of ONRSR, and was previously Deputy Chair and Chair of the Committee of VLine Passenger Pty Ltd.

In her earlier professional career, she held senior positions in the investment banking and finance industries, including 5 years as a senior executive at Australian Airlines (which subsequently merged with Qantas Airways) as Treasurer Capital Markets.

Ms Scott also currently serves as a non-executive board member and Chair of the Finance, Risk and Audit Committee of the National Heavy Vehicle Regulator.

Ms Scott has held a board membership with VicWater, and has been Chairperson, Deputy Chair and Audit Committee Chair of the Goulburn Valley Region Water Corporation. She has served as a non-executive director, Deputy Chair and Chair of the Audit and Risk Committee at VicForests.

A Fellow of the Australian Institute of Company Directors, Ms Scott holds Bachelor of Science (Honours) and Bachelor of Commerce degrees from the University of Melbourne.

Ms Scott was appointed as an ATSB Commissioner in September 2020.

CHIEF OPERATING OFFICER



Mr Colin McNamara

Colin McNamara joined the Australian Public Service in 2004. Prior to this, he served as a General Service Officer in the Australian Army and was awarded the Australian Active Service Medal in 1999.

Prior to his appointment as the ATSB Chief Operating Officer, Mr McNamara managed a range of corporate functional areas including human resources, governance, finance, communications, ICT business services and major projects. Mr McNamara continues to play a critical role in contributing to the strategic direction of the ATSB, and in achieving relevant objectives of the Australian Government.

Mr McNamara holds a range of professional qualifications in personnel management and is a professional member of the Australian Human Resources Institute.

Mr McNamara has recently gained a graduate qualification in Transport

Safety Investigation through RMIT University.

Outcome and program structure

Program 1.1 objective

The ATSB will work actively with the aviation, marine and rail industries, transport regulators and governments at a local, state, national and international level to improve transport safety standards for the greatest public benefit. Investigations and related activities seek to raise awareness of identified safety issues and to encourage stakeholders to implement actions to improve future safety.

There are 3 core objectives which arise from the ATSB functions under the TSI Act:

1. Independent 'no-blame' investigation of transport accidents and other safety occurrences

Independent investigations that are selective and systemic, and which focus on future safety rather than on blame, increase stakeholder awareness and action on safety issues, and foster industry and public confidence in the transport system.

2. Safety data recording, analysis and research

Timely receipt and assessment of transport accident and other safety occurrence notifications allows the ATSB to identify and refer safety issues at the earliest opportunity. The maintenance and analysis of a body of safety information (including transport safety data, safety study and occurrence investigation reports) enables stakeholders and researchers to gain a better understanding of safety trends and safety issues.

3. Influencing safety action

Awareness and understanding of transport safety issues is increased through a range of activities, including consultation, education, and the dissemination of occurrence investigation and safety study findings and recommendations. These contribute to the national and international body of safety knowledge and foster action for the improvement of safety systems and operations.

How the ATSB reports

Section 63A of the TSI Act requires that:

The annual report prepared by the Chief Executive Officer and given to the Minister under section 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) for a period must include the following:

- > prescribed particulars of transport safety matters investigated by the ATSB during the period
- a description of investigations conducted by the ATSB during the period that the Chief Commissioner considers raise significant issues in transport safety.

The ATSB observes and complies with *Resource Management Guide No 135—Annual report for non-corporate Commonwealth entities* issued by the Department of Finance.

This annual report details ATSB performance against the program objectives, deliverables and key performance indicators (KPIs) published in the *Infrastructure, Regional Development and Communications Portfolio Budget Statements 2021–22.* The ATSB annual report also includes audited financial statements in accordance with the PGPA Act.

Priorities for investigation

The ATSB focuses on transport safety as the highest priority. In 2021–22, the ATSB gave priority to transport safety investigations that have the potential to deliver the best safety outcomes for the travelling public. A new Statement of Expectations from the Minister for Infrastructure, Transport and Regional Development, provided to the ATSB in June 2021, set the direction for the ATSB to give priority to transport safety investigations that have the highest risk or potential to deliver the greatest public benefit through systemic improvements to transport safety. The evolution in the ATSB mission from focusing on the travelling public to driving safety that is for the greatest public benefit is necessary to reflect the contribution the ATSB makes to preventing loss of life, as well as avoiding significant local, state and national economic costs that can be associated with an accident. The ATSB is not resourced to investigate every single accident or incident that is reported but allocates priorities within the

transport modes to ensure that investigation effort achieves the best outcomes for safety improvement. The ATSB recognises that there is often more to be learned from serious incidents and patterns of incidents, and gives focus to these investigations, as well as specific accident investigations.

Three ways to action

The TSI Act requires specified people and organisations to report to the ATSB on a range of safety occurrences (called 'reportable matters'). Reportable matters are defined in the TSI Regulations. In principle, the ATSB can investigate any of these reportable matters. In practice, they are actioned in one of 3 ways to contribute to ATSB functions:

- 1. A report of an occurrence that suggests a safety issue may exist will be investigated (occurrence investigation), and may involve an on-site component. Investigations may lead to the identification/confirmation of the safety issue and evaluation of its significance. It will then set out the case for safety action to be taken in response.
- 2. A report of an occurrence that does not warrant full investigation may benefit from an office-based short investigation or a factual occurrence brief report for safety education and promotion, and enable a richer dataset for future safety analysis, to identify safety issues or trends (such as inclusion in a safety study).
- 3. Basic details of an occurrence, based primarily on the details provided in the initial occurrence notification, will be recorded in the ATSB occurrence database to be used in future safety analysis to identify safety issues and trends (including safety studies), and in aviation, will be available in the online searchable occurrence database. These may be published individually as occurrence briefs.

Aviation broad hierarchy

The ATSB allocates its investigation resources to be consistent with the following broad hierarchy of aviation operation types:

- 1. passenger transport large aircraft
- 2. passenger transport small aircraft:
 a) regular public transport and charter of small aircraft
 b) humanitarian aerial work (for example, the Royal Flying Doctor Service, search and rescue flights)
- 3. commercial with passengers (fare-paying and recreation for example, joy flights)
- 4. aerial work with participating passengers (for example, news reporters, geological surveys)
- 5. flying training
- 6. other aerial work:

a) non-passenger carrying work (for example, agriculture, cargo)

b) private transport or personal business

7. higher-risk personal recreation/sports aviation/experimental aircraft operations.

The ATSB endeavours to investigate all fatal accidents involving VH-registered powered aircraft subject to the potential transport safety learnings and resource availability.

Marine broad hierarchy

The ATSB allocates its investigative resources to be consistent with the following broad hierarchy of marine operation types:

- 1. passenger operations
- 2. freight and other commercial operations
- 3. non-commercial operations.

Rail broad hierarchy

The ATSB allocates its investigative resources to be consistent with the following hierarchy of rail operation types:

- 1. mainline operations that impact on passenger services
- 2. freight and other commercial operations
- 3. non-commercial operations.

Level of response

The level of investigative response is determined by resource availability and factors such as those detailed below. These factors (expressed in no particular order) may vary in the degree to which they influence ATSB decisions to investigate and respond. Factors include:

- the anticipated safety value of an investigation, including the likelihood of furthering the understanding of the scope and impact of any safety system failures
- > the likelihood of safety action arising from the investigation, particularly of national or global significance
- the existence and extent of fatalities/serious injuries and/or structural damage to transport vehicles or other infrastructure
- the unique value an ATSB investigation will provide over any other investigation by industry, regulators or police
- > the obligations or recommendations under international conventions and codes
- the nature and extent of public interest in particular, the potential impact on public confidence in the safety of the transport system
- the existence of supporting evidence, or requirements, to conduct a special investigation based on trends
- > the relevance to identified and targeted safety programs
- > the extent of resources available, and projected to be available, in the event of conflicting priorities
- the risks associated with not investigating including consideration of whether, in the absence of an ATSB investigation, a credible safety investigation by another party is likely
- > the timeliness of notification
- the training benefit for ATSB investigators.



ATSB visit to Toll Helicopters – Canberra (Hume) Toll helicopter base.

SECTION 3 – REPORT ON PERFORMANCE



This section reviews ATSB results against the performance criteria set out in the *Portfolio Budget Statements* 2021–22 and the ATSB Corporate Plan 2021–22. Its effectiveness in achieving planned outcomes during 2021–22 is also reviewed here.

Annual performance statement

I, as the accountable authority of the Australian Transport Safety Bureau, present the annual performance statement of the Australian Transport Safety Bureau for the year ended 30 June 2022, as required under paragraph 39(1)(a) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). In my opinion, this annual performance statement is based on properly maintained records, accurately reflects the performance of the entity, and complies with subsection 39(2) of the PGPA Act.

Angus Mitchell Chief Executive Officer

28 September 2022

Results against performance criteria

Table 1: Results against performance criteria

Purpose

As set out in the *Portfolio Budget Statements 2021–22*, the ATSB purpose is defined by its mission statement: Improve transport safety for the greatest public benefit through our independent investigations and influencing safety action.

In reference to the public benefit:

- > The ATSB focuses on the public interest where the safety of passengers and workers on an aircraft, train or ship is concerned.
- > The ATSB focuses on the public interest when it comes to the significant costs that can result from an accident, particularly where there is significant damage to public infrastructure or an impact on the national economy.

Performance Criterion	Target for 2021–22	Result	Page
Number of safety issues that are addressed through safety action.	65% of safety issues addressed in the last financial year	76% of safety issues identified in 2021–22 adequately addressed through safety action	29
	85% of safety issues addressed in the previous financial year	74% of safety issues identified in 2020–21 adequately addressed through safety action	29
Number of systemic, defined, and safety study investigations completed by ATSB that identify safety issues.	65% of investigations identify a safety issue	56% of systemic, defined, and safety study investigations completed in 2021–22 identified safety issues	30
Percentage of all investigations that identify at least one safety issue not already identified by others.	Establish a baseline	53% of systemic, defined, and safety study investigations completed in 2021–22 had safety issues not identified by others	31
On an average annual basis, the ATSB will be conducting around twice the number of investigations as it has available investigators.	Projecting 90 active investigations	An average of 88.1 active investigations	32
Median time to complete	Short: 8 months	8.2 months	33
investigations.	Defined: 16 months	19.8 months	33
	Systemic: 22 months	38.3 months	33
Number of changes to the ATSB's published investigation findings over the previous financial year.	Zero	Zero	34

Performance at a glance

New performance criteria for the ATSB were introduced in 2020–21. The new criteria aim to:

- > better articulate the agency's evolving services and contributions to transport safety
- reflect the best practice recommendations from the Australian National Audit Office (ANAO) PGPA Act, Implementation and Corporate Planning audits – ANAO report 33 2017–18 and ANAO report 36 2017–18.

The revised criteria balance effectiveness, efficiency and outputs by demonstrating the safety action taken in response to ATSB investigations, ensuring that ATSB resources are being used efficiently and that our investigations deliver the greatest public benefit. Performance results against the new performance criteria will improve as the agency works to further refine and embed these into business processes.

In a challenging year for the transport industry, the ATSB continued to focus on improving transport safety through ongoing investigations into large-scale accidents. These investigations included:

- > Collision with terrain of the C-130 firefighting aircraft near Cooma, New South Wales, in January 2020.
- > Train derailment near Wallan, Victoria, in February 2020.
- Runaway and derailment of TasRail freight train number 604, Devonport, Tasmania, on 21 September 2018.
- > Controlled flight into terrain of a Cessna 402 aircraft at Lockhart River, New South Wales, in March 2020.

This number of investigations challenged the capacity of the ATSB to complete investigations in timeframes shorter than those outlined in its KPIs. There was also a significant effort made to complete older investigations during the financial year. Publication of a number of these in 2021–22 affected timeliness targets. These investigations included:

- Runaway and derailment of loaded ore train M02712, near the 211 km mark south of Port Hedland, Western Australia, on 5 November 2018.
- Airspeed indication failure on take-off involving Airbus A330, 9M-MTK, Brisbane Airport, Queensland, on 18 July 2018.
- Collision with water involving twin-engine EC135 helicopter, VH-ZGA, 37 km north-north-west of Port Hedland Heliport, Western Australia, on 14 March 2018.
- Mid-air collision involving Piper PA44-180 Seminole VH-JQF and Beech D95A Travel Air VH-AEM near Mangalore, Victoria, 8 km south of Mangalore Airport, Victoria, on 19 February 2020.
- In-flight break-up involving Cessna T210M, VH-SUX 25 km north-east of Mount Isa Airport, Queensland, on 26 May 2019.
- Signal DP29 passed at danger involving suburban passenger train DW17 and near collision with another suburban passenger train at Park Road Station, Queensland, on 25 March 2019.
- VFR into IMC and controlled flight into terrain involving Pilatus Britten-Norman BN2A, VH-OBL, 98 km west-south-west of Hobart Airport, Tasmania, on 8 December 2018.
- Collision with terrain involving Garlick Helicopters UH-1H, registered VH-HUE, 24 km south-east of Talbingo, New South Wales, on 17 April 2018.

In August 2021, the new ATSB Investigation Management System (AIMS) was launched. The build and support during 2021–22 for this system required the redirection of several investigator resources. This meant fewer investigators were available to progress investigations in the short-term, however, investigators are now able to access data, send requests and communications, and upload evidence to the new system anywhere on any device, while the removal of labour-intensive processes promises to improve productivity.

Key results

Table 2 summarises ATSB performance against key indicators published in the *Portfolio Budget Statements* 2021–22.

Table 2: ATSB performance against KPIs

Outcome

Improve transport safety for the greatest public benefit through independent investigations and influencing safety action.

Performance Criterion

Number of safety issues that are addressed through safety action.

Target	Result		Achieved	
65% of safety issues addressed in the last financial year	76% of safety issues identified in 20 adequately addressed through safe			•
85% of safety issues addressed in the previous financial year	74% of safety issues identified in 2 adequately addressed through safe			×
Detail				
Year	Number identified	Number ad	dressed	
2021–22	56			42.5
2020–21	59			43.5
2019–20	46			35.5
2018–19	54			45.5

To be effective against the ATSB purpose, safety action needs to be taken once safety issues are identified by ATSB investigations. This performance criterion measures the effectiveness of the ATSB to influence entities to address identified safety issues and therefore improve transport safety.

Safety issues:

- > can reasonably be regarded as having the potential to adversely affect the safety of future operations
- > are characteristic of an organisation or a system, rather than a characteristic of a specific individual, or characteristic of an operational environment at a specific point in time.

Some safety issues will take time to be actioned by stakeholders. We expect that some safety issues not actioned in the year they are identified will be addressed the ensuing year. There also needs to be some tolerance for a minority of safety issues identified not being actioned. The ATSB does not have powers to force operators, manufacturers and regulators to take action – the ATSB relies on its ability to influence.

Further details of the safety issues identified and actioned in 2021–22 are included in Section 5 – Formal safety issues and actions.

Data source: The ATSB investigation management system.

Methodology: Includes safety issues published in the financial year from occurrence and safety study investigations by the ATSB, and rail occurrence investigations conducted on behalf of the ATSB by OTSI NSW and CITS Victoria. The figures do not include safety issues which have been closed (no longer relevant). The number of safety issues addressed calculation includes safety issues that have been adequately addressed (count of 1), and partially addressed (count of 0.5). Previous annual reports did not include the half count of partially addressed safety issues, so numbers quoted here will be slightly higher than previously published.

Reference: 2021–22 Portfolio Budget Statements, page 241; 2021–22 Corporate Plan, page 12.

Identify safety issues additional to those identified by industry and government safety agencies for the greatest public benefit through ATSB occurrence investigations and safety studies.

Performance Criterion

Number of systemic and defined investigations completed by ATSB that identify safety issues.

Target		Result		Achieved
65% of investigations identify a safety issue		56% of systemic and defined investigations completed in 2021–22 identified safety issues		×
Detail				
Investigation type	Year	Number completed	Number with	afety issues
Defined investigations				
All modes	2021–22	24		10
	2020–21	32		1
	2019–20	34		10
	2018–19	19		
Systemic investigations				
All modes	2021–22	8		
	2020–21	7		
	2019–20	13		(
	2018–19	15		1:

To be effective against the ATSB purpose, the ATSB needs to demonstrate value through the identification of safety issues. This performance criterion measures the effectiveness of the ATSB in identifying safety issues so that others can act and therefore improve transport safety.

Safety issues can be identified in both occurrence investigations and safety studies when they are conducted at a defined or systemic level. Short investigations have a limited scope that do not include the investigation of safety issues. Defined investigations are likely to include safety issues, and systemic investigation will very likely identify several safety issues.

Improvements to investigation management processes in 2020–21 resulted in a 25% increase in the proportion of investigations which identify a safety issue compared with the level achieved in 2019–20. While this has been maintained for 2021–22, the ATSB will strive to increase the proportion of investigations identifying safety issues through careful scoping of investigations to ensure we are distributing most resources towards those that discover safety issues that lead to safety action to improve transport safety.

Examples of investigations published in the 2021–22 financial year with identified safety issues (AO-2020-012, AO-2018-053, AO-2018-078, RO-2018-018, RO-2019-009) are summarised in **Section 4 – Significant safety investigations**.

Further details of all the safety issues identified in 2021–22 are included in **Section 5 – Formal safety issues and safety actions**.

Data source: The ATSB investigation management system.

Methodology: Includes occurrence and safety study* investigations conducted by ATSB at the defined and systemic levels. The figures do not include rail investigations conducted on behalf of the ATSB by OTSI NSW and CITS Victoria, nor assistance to investigations conducted by an external party. Note, previous ATSB annual reports reported 'complex investigations' to refer to the combination of 'defined' and 'systemic' investigations.

* safety study investigations were previously referred to as research investigations conducted under the TSI Act.

Reference: 2021–22 Portfolio Budget Statements, page 241; 2021–22 Corporate Plan, page 12.

Identify safety issues additional to those identified by industry and government safety agencies for the greatest public benefit through ATSB occurrence investigations and safety studies.

Performance Criterion

Percentage of defined and systemic investigations that identify at least one safety issue not already identified by others.

Established a baseline 53% of systemic and defined investigations completed in 2021–22 identified safety issues not identified by others	Target	Result	Achieved
		completed in 2021–22 identified safety	-

Analysis

To be effective against the ATSB purpose, the ATSB needs to demonstrate value and relevance through the identification of safety issues not already identified by others. As an independent agency, the ATSB can investigate where others cannot. This performance criterion measures the effectiveness of the ATSB in identifying systemic safety issues across transport systems so that others can act and therefore improve transport safety.

As described above, 18 of the 32 defined and systemic investigations completed in 2021–22 identified at least one safety issue. Of those 18 investigations, 17 had at least one safety issue that was identified by the ATSB before the safety issue owner. This suggests that ATSB investigations finding safety issues are adding value to transport safety beyond what others in the industry can do for themselves.

Data source: The ATSB investigation management system.

Methodology: Includes occurrence and safety study* investigations conducted by ATSB at the defined and systemic levels. The figures do not include rail investigations conducted on behalf of the ATSB by OTSI NSW and CITS Victoria, nor assistance to investigations conducted by an external party. Analysis of investigations counts those containing at least one safety issue that was confirmed as being identified first by the ATSB.

* safety study investigations were previously referred to as research investigations conducted under the TSI Act.

Reference: 2021–22 Portfolio Budget Statements, page 241; 2021–22 Corporate Plan, page 12.

Efficiently use resources to conduct investigations through selective investigation processes and project management discipline.

Performance Criterion

On an average annual basis, the ATSB will be conducting around twice the number of investigations as it has available investigators.



Analysis

To be efficient against the ATSB purpose, the ATSB needs to ensure that limited resources are prioritised to investigations with the broadest safety effect on transport systems. This performance criterion measures the efficiency of the ATSB in balancing investigation demand (the number of investigations commenced each year) and capacity (resources available to complete investigations).

The target is consistent with resourcing and investigation output expectations for similar investigation agencies internationally.

The ATSB workload over the previous 3 reporting periods, with investigation numbers well in excess of 100 active investigations, demonstrates demand has been greater than capacity, resulting in a large volume of older investigations. The impact of COVID-19 on the transport industry has enabled a focus on completing older investigations to achieve an **average** of 2 active investigations per investigator conducted in 2020–21 and 2021–22.

Data source: The ATSB investigation management system and workforce planning records.

Methodology: Includes ATSB occurrence and safety study investigations. Excludes all investigations that are assistance to an investigation conducted by an external party. Also excludes educational, data, occurrence briefs and other published projects done by investigators. The number of active investigations is calculated for each day of the year and then averaged across the financial year. This is divided by the number of available ATSB investigators, calculated per month. Investigators may be unavailable due to extended leave, training or diversion to enabling projects.

Reference: 2020-21 Portfolio Budget Statements, page 241; 2020-21 Corporate Plan, page 13.

ATSB safety-related information is shared in a timely manner for the benefit of those needing awareness of relevant hazards, risks and trends or taking safety action, through publishing information in accordance with committed timeframes.

Performance Criterion

Median time to complete ATSB investigations.

Target		Result		Achieved
	0 m antha	Result	0.2	×
Short investigations	8 months		8.2 months	
Defined investigations	16 months		19.8 months	×
Systemic investigations	22 months		38.3 months	×
Detail				
Investigation type	Year	ATSB investigations Median time to co completed investigations (in		
Short investigations				
All modes	2021–22	28		8
	2020–21	23		11
	2019–20	22		12
	2018–19	34		1(
Defined investigations				
All modes	2021–22	24		19
	2020–21	32		20
	2019–20	34		22
	2018–19	19		18
Systemic investigations	·	•	•	
All modes	2021–22	8		38
	2020–21	7		36
	2019–20	13		33
	2018–19	15		29

Analysis

This performance criterion focuses on the timeliness of the final ATSB investigation products. Where there is relevant confirmed information available earlier than the final report, the ATSB also strives to publish preliminary and interim investigation reports (not measured in this KPI). Timely sharing of safety information is important for our stakeholders with responsibility for managing risk.

The result indicates the concerted efforts made across 2020–22 and 2021–22 to clear the backlog of older systemic investigations, and this is reflected in the median times taken to complete systemic and defined investigations being above the targets. However, the median short investigation time did meet the 2021–2022 target of 8 months. For both short and defined investigations, didn't quite meet the targets but it is worthy to note that the median time to publish the final report has reduced for 2 years in a row. The ATSB will continue to put in processes next financial year to reduce the median publishing time further for all levels of investigations.

Data source: The ATSB investigation management system.

Methodology: Includes occurrence and safety study* investigations conducted by ATSB. The figures do not include rail investigations conducted on behalf of the ATSB by OTSI NSW and CITS Victoria, nor assistance to investigations conducted by an external party. Calculation of median time (from decision to investigate to publication).

* safety study investigations were previously referred to as research investigations conducted under the TSI Act.

Reference: 2020–21 Portfolio Budget Statements, page 241; 2021–22 Corporate Plan, page 13.

Investigations of transport occurrences, safety studies are defendable, to ensure industry and government confidence in ATSB work, through the use of evidence-based and systemic investigation processes.

Performance Criterion				
Number of changes to t	he TSI Act published investigatio	n findings over the previous fi	nancial year.	
Target		Result		Achieved
Zero		Zero		v
Detail				
Investigation type	Year	TSI Act investigations completed	Number of o published fi	
Short investigations				
All modes	2021–	22	29	
	2020–	21	25	
	2019–	20	26	
	2018–	19	35	
Defined investigations				
All modes	2021–	22	26	
	2020–	21	38	
	2019–	20	37	
	2018–	19	20	
Systemic investigations				
All modes	2021–	22	10	
	2020–	21	9	
	2019–	20	19	
	2018–	19	19	

The ATSB is committed to ensuring that all published investigations are factually accurate, defendable and evidence-based, with the accuracy of the public record for all investigation findings continuing to be maintained. Accuracy of investigation findings remain integral to ensuring industry and government confidence in ATSB safety information in order to take action to improve transport safety.

Data source: The ATSB investigation management system.

Methodology: Includes occurrence and safety study* investigations conducted by ATSB and rail investigations conducted on behalf of the ATSB by OTSI NSW and CITS Victoria. Analysis includes the review of any changes to findings after the final investigation report was published during the previous financial years.

* safety study investigations were previously referred to as research investigations conducted under the TSI Act.

Reference: 2020–21 Portfolio Budget Statements, page 241; 2021–22 Corporate Plan, page 13.

Independent 'no-blame' investigation of transport accidents and other safety occurrences

This section describes ATSB performance relating to its role as the independent 'no-blame' transport safety investigator, as published on page 7 of the ATSB Corporate Plan 2021–22.

Aviation investigations

In 2021–22, the ATSB initiated 15 defined safety investigations (including one safety study) and 37 short investigations. In addition, 3 external investigations commenced.

During this reporting period, the ATSB completed 6 systemic and 21 defined occurrence investigations, 4 external investigations and one defined safety study. The ATSB also completed 25 short aviation occurrence investigations.

As at 30 June 2022, there were 6 ongoing systemic, 21 ongoing defined and 33 ongoing short investigations, and 3 external investigations.

Marine investigations

In 2021–22, the ATSB initiated 3 defined investigations, 3 short occurrence investigations and no external investigations.

During this reporting period, the ATSB completed one defined and one external investigation.

As at 30 June 2022, the ATSB continues to investigate 10 marine occurrences (one systemic, 6 defined and 3 short investigations).



Chief Commissioner Angus Mitchell travelled to Devonport for a media conference following the collision involving the bulk carrier Goliath and 2 tugboats at the Port of Devonport, Tasmania, on 28 January 2022.

Rail investigations

In 2021–22, the ATSB initiated 4 defined rail occurrence investigations and one short rail occurrence investigation. In addition, CITS initiated one defined investigation, and OTSI initiated one defined and 3 short investigations.

During this reporting period, the ATSB completed 2 systemic, one defined and 3 short rail occurrence investigations. CITS completed one defined investigation. OTSI completed 2 systemic, one defined and one short investigation.

As at 30 June 2022, the ATSB continues to investigate 13 rail safety occurrences (2 systemic, 9 defined and 2 short investigations). In addition, CITS has 5 active investigations (one defined and 4 systemic), and OTIS has a further 8 active investigations (3 short, 3 defined, one systemic and one yet to be determined).

Preparedness for a major accident

Being prepared to respond quickly and effectively to a major aviation, rail or marine accident is a key function of the ATSB. To maintain preparedness, the ATSB actively participates in practical exercises to test the effectiveness of response arrangements. The ATSB also has a *Major Investigation Preparedness Plan* (MIPP). The MIPP includes a comprehensive suite of procedures and information. The MIPP and preparedness activities ensure that the ATSB is ready to respond effectively to a major transport accident.



ATSB participated in Brisbane Airport's Full-Scale Aerodrome Emergency Exercise – Practical Field Exercise on 11 May 2022.

Safety data recording, analysis and research

This section describes ATSB performance relating to its role in safety data recording, analysis and research, as published on page 7 of the *ATSB Corporate Plan 2021–22*.

Data analysis capability

The ATSB continued a data analysis capability expansion program in 2021–22 by:

- participating in feasibility planning with the Bureau of Infrastructure and Transport Research Economics for a shared multi-agency aviation data warehouse
- > rebuilding external data reports based on the new AIMS
- > building Bi reports into AIMS to allow easy access to data by all ATSB staff.

Occurrence data held by the ATSB continued to support active aviation occurrence investigations. During 2021–22, data analysis helped to determine the investigation scope, inform investigation conclusions and safety issue risk assessments, and document past occurrences of similar incidents.

Data and recorder recovery

The ATSB data and recorder recovery staff maintain support and readiness for the recovery and download of recorded data from a variety of damaged and undamaged sources across the aviation, rail and marine transport modes.

Over this reporting period, the ATSB continued to support external agencies by providing assistance to Recreational Aviation Australia to conduct audio analysis, the Civil Aviation Authority of the Philippines – Aircraft Accident Investigation and Inquiry Board to recover and analyse data from a damaged recording device, and the Indonesian National Transportation Safety Committee with analysis of recoded data. The ATSB also continued preparations to assist the Ministry of Transport, Thailand – Office of the Aircraft Accident and Incident Investigation Commission to download flight data and a cockpit voice recorder in the near future when shipment of the recorders is arranged.

Material failure analysis

The ATSB has expertise and specialised facilities to enable the detailed examination of physical evidence, allowing for significant insights into the causes of factors of transport safety occurrences. During 2021–22, transport safety investigators with engineering specialist backgrounds provided technical input and analysis across a variety of investigations. A selection of tasks included:

- A review of the available evidence related to determination of the origin and cause of the engine room fire on board MPV Everest, Southern Ocean (MO-2021-003).
- Examination of components from the ongoing investigation into the in-flight break-up involving a Stolp Acroduster, Caboolture, Queensland (AO-2021-032), including the release of a safety advisory notice (AO-2021-032-SAN-01).
- > Analysis of 2 propeller separation occurrences involving Jabiru aircraft (AO-2022-004 and AO-2022-013).
- Examination of components from the ongoing investigation into the in-flight tail rotor drive shaft fracture involving Robinson R22 Beta helicopter, near Mitchell, Queensland (AO-2022-005).
- Release of safety advisory notice (AO-2022-006-SAN-001) in support of ongoing investigation into the collision with terrain involving Garlick Helicopters UH-1H, near Launceston, Tasmania (AO-2022-006)
- Assistance to organisations including CASA, Recreational Aviation Australia and Sports Aviation Federation of Australia (SAFA) in the examination of various components.



ATSB investigations lab, Canberra.

Reporting

The ATSB target for assessing, classifying and publishing summaries of accidents and incidents is:

- > one day for occurrences being investigated (all modes)
- > 10 days for summaries of other incidents (aviation).

In 2021–22, 47% of aviation occurrence notifications were processed and ready for publication within 10 working days.

In 2021–22, the ATSB completed 15 occurrence briefs (14 aviation occurrences and one marine occurrence). None of the briefs were completed within one month.

Confidential reporting

In 2021–22, the ATSB confidential reporting scheme (REPCON) received 115 notifications (of which 49 were classified as REPCONs). Of these 115 notifications, 60 concerned aviation (25 REPCONs), 51 concerned rail (24 REPCONs) and 4 concerned marine (zero REPCONs).

Of the 37 REPCON reports completed in 2021–22, 22 (59%) resulted in safety action by stakeholders.

The following summaries provide examples of safety concerns that were raised, along with the safety action taken after the concerns were reported through REPCON. Some information has been redacted to preserve confidentiality.

Aviation REPCON example

The reporter expressed concern around the awareness of Aviation Security Inspectors (ASIs) to potential hazards in the airside environment. The reporter stated that on one occasion they witnessed ASI's operate mobile phones to take photos of ASIC cards in close proximity to a refuelling aircraft, and that ASI personnel were observed to walk through the 'no-go area' around a helicopter's stationary tail rotor as the flight crew were conducting preflight activities. The reporter queried whether ASIs are provided with specific training around the aviation hazards that may be present when conducting their duties airside, and if there are policies in place around the use of electronic devices around refuelling aircraft or equipment.

As a result of the REPCON, the Department of Home Affairs advised that they have alerted all regional operational offices to the concerns raised in the REPCON. The department also commenced an immediate review of their approach to aviation safety training for all ASI's, and their standard procedures governing such training.

Rail REPCON example

The reporter advised that safety check rails were specifically fitted to ensure rolling stock remains on a bridge if derailed. While the check rails have limitations for lower speed and more minor derailments, the check rails are intended to keep the wheels on the sleepers and prevent the rolling stock from departing the track. The reporter states that the removal of the rails at [location bridge] is a safety concern, particularly because this section of track is quite rough and on a curved bridge. The reporter further stated that this section of track also frequently carries high speed passenger services, and should a rail vehicle derail on, or before crossing the bridge, there is now nothing stopping the rail traffic from plunging into the river below, which obviously has potentially catastrophic consequences.

The operator advised the ATSB that following take-up of the [location] networks in 2004, [operator] considered the benefits and adverse consequences of safety check rails in 2008. The original intent of check rails was to provide a restraint on derailed wheels so that derailed trains could be prevented from falling from bridges. With increasing train speeds and axle loading it was identified that check rails generally fail to restrain the derailed wheels at normal track speeds. Check rails create maintenance difficulties with loosening fastenings affecting structural integrity and creating a hazard to rail traffic, whilst restricting ballast tamping at bridge ends and across ballast top bridges.

An expert risk assessment was conducted in November 2008 which determined that safety risks were lowered for bridges without check rails, compared to bridges with check rails. [Operator] has subsequently worked on the progressive removal of bridge check rails and clarifying that new or replacement bridges do not need check rails fitted. A copy of the Risk Assessment and the resultant letter notifying the then Rail Safety Regulator were provided to the ATSB and Office of the National Rail Safety Regulator (ONRSR). [Clauses in documents] outline the structural standard that check rails are not fitted to bridges on the [operator] rail network. [Operator] stated that they are working within the requirements of their Safety Management System (SMS) as accredited by ONRSR, and [operator] regards their existing standards on bridge check rails as lowering risks So Far As Is Reasonably Practicable (SFAIRP).

ATSB provided the REPCON to the rail regulator, ONRSR for their review. ONRSR advised that upon review of the reporter's concern and the operator's response, including supporting documentation, that ONRSR would be making further enquiries with the rail transport operator to seek additional information and assurances that risks are being managed so far as is reasonably practicable.

Influencing safety action

This section describes ATSB performance relating to its role in influencing safety action, as published on page 8 of the ATSB Corporate Plan 2021–22.

Industry engagement and events

The ATSB works to build awareness of its functions and enhance its reputation through its communication and stakeholder engagement activities. This is vital to ensure the industry is receptive to safety messaging and that the ATSB meets its aim of fostering public awareness of transport safety. The ATSB continues its strong record of engagement with industry through:

- > participation in consultative forums with industry and other safety agencies
- representation at conferences and events
- > bilateral engagement with operators, associations and other stakeholders
- > active involvement in safety education forums.

The ATSB regularly participates in national and international conferences and industry events where doing so presents an opportunity to share safety messages and engage with relevant stakeholders. In 2021–22, participation was again impacted by the COVID-19 pandemic, which saw a number of planned industry engagements cancelled or postponed.

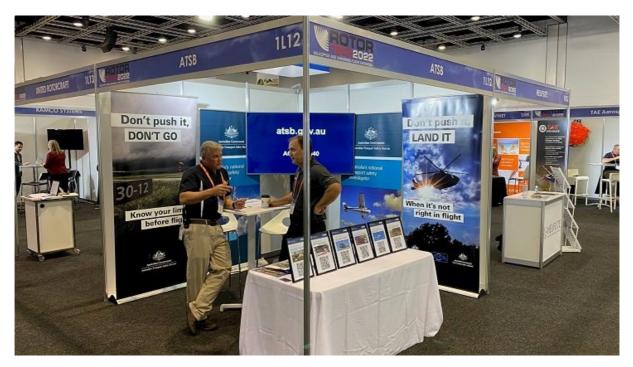
Rotortech 2022

The ATSB had a significant presence at the Australian Helicopter Industry Association's Rotortech 2022 conference and exposition in Brisbane, where staff engaged with this significant sector of the aviation industry through a presentation as well as a display booth.

The ATSB Chief Commissioner, along with its Aviation Commissioner, presented on occurrence statistics involving helicopter incidents and accidents in Australia over the past decade, before providing a briefing on several high-profile helicopter investigations.



ATSB Chief Commissioner Angus Mitchell and Aviation Commissioner Chris Manning at Rotortech 2022.



The display booth (the first ATSB has had since Rotortech back in 2018) proved to be very popular over the 3-day event with lots of engagements with key industry representatives.

CASA forums

The ATSB continues to be a regular participant at several CASA aviation safety forums.

In joining with CASA, Airservices Australia, Bureau of Meteorology, and Department of Defence, the ATSB presented to a wide range of aviation industry participants at its FlySafe forums held in 2021–22. The ATSB continued its focus on influencing the fitment of active carbon monoxide detectors in piston-engine aircraft, and strongly encouraged the fitment and use of Automatic Dependent Surveillance Broadcast (ADS-B) transmitting, receiving and display devices in all general and recreational aviation aircraft.

The ATSB again presented alongside CASA, Airservices Australia, and the Bureau of Meteorology in Darwin at the annual Wet Season Seminar in October 2021. The ATSB continued to highlight the dangers of flying near thunderstorms for both general aviation and commercial pilots.

Other industry engagement

Due to the continued pandemic, the ATSB harnessed video conferencing and other digital technology to continue its engagement with industry at conferences and forums, where practicable.

In 2021–22, the ATSB participated in 23 external industry engagement events, including:

- > Airservices Airline/Air Traffic Services Safety Forum
- Australian Airports Association Emergency Management Forum
- > Australian Airports Association Airport Safety Week activities
- > Australian Association for Unmanned Systems' RPAS in Australian Skies Conference
- International Transportation Safety Association Annual Conference
- International Confidential Aviation Safety Systems Forum
- Ports Australia Working Group
- > Regional Aviation Association of Australia Regional Roadshow
- > Rail Industry Safety and Standards Board Rail Safety Conference
- Rail Industry Safety and Standards Board Rail Safety webinar
- Safeskies Australia Aerial Firefighting webinars
- TrackSafe Level Crossing Safety Forum.

The ATSB also hosted a number of industry visitors to its office in Canberra throughout the year, providing an opportunity for representatives from the aviation, marine and rail sectors to meet key staff, and tour the technical facilities and media studio.

SafetyWatch

In 2021–22, the ATSB continued to promote its SafetyWatch initiative. SafetyWatch highlights the broad safety concerns that come from ATSB investigation findings and occurrence data reported by industry.

The ATSB encourages the transport industry to give heightened attention to the following priority areas (where more can be done to improve safety):

- too low on approach
- fatigue
- in-flight decision-making
- safe work on track
- data input errors
- non-controlled airspace
- safety risk of RPAS
- marine pilotage.

Throughout the year, the ATSB undertook a range of communication activities (website news stories, social media and general media) to raise awareness of these issues within the transport industry.

To remain contemporary, the ATSB has reviewed its SafetyWatch priority areas and the effectiveness of the initiative during 2021–22. The ATSB will launch a revised SafetyWatch initiative in 2022–23.

Social media

The ATSB continued to make effective use of its social media platforms to engage with the transport industry, the media and the travelling public during 2021–22. The ATSB continued to focus on measuring the overall number of engagements with its published content.

During the reporting period, overall engagement with the suite of ATSB social media channels increased by about 10%, compared with 2020–21 engagement figures.

On Facebook, the post with the highest level of engagement during the reporting period amplified the safety messaging from the final investigation report into the separation occurrence involving Airbus A320-232, VH-VGP and Jabiru J230D, 24-7456 near Ballina Byron Gateway Airport, New South Wales, on 28 November 2020 (AO-2020-062). The post had an engagement rate² of more than 35%.

On LinkedIn, the post with the highest engagement rate during the reporting period promoted the final investigation report release into the stick shaker activation involving Saab 340B, VH-ZLJ, south-west of Perth Airport, Western Australia, on 6 July 2021 (AO-2021-027). The post had an engagement rate of more than 9%.

On Instagram, the post with the highest engagement rate during the reporting period promoted the final investigation report release into the runway overrun involving Fokker F100, VH-NHY at Newman Airport, Western Australia, on 9 January 2020 (AO-2020-002). The post had an engagement rate of more than 8%.

On Twitter, the post with the highest engagement rate during the reporting period promoted the final investigation report into the aircraft flight preparation occurrence involving Boeing 787-9, VH-ZNJ at Melbourne Airport, Victoria, on 22 September 2021 (AO-2021-040). The post had an engagement rate of almost 15%.

The ATSB produced 5 new educational videos during the reporting period and were published on its YouTube channel. The most viewed new video highlighted the importance of conducting regular helicopter underwater escape training for those flight crew and passengers who conduct regular overwater operations. The video, titled *HUET – 'Without a doubt saved my life'* has been viewed more than 2,200 times on YouTube.

As of 30 June 2022, ATSB social media followers included:

- Facebook: 22,965 (an increase of 15%)
- LinkedIn: 16,682 (an increase of 15%
- Instagram: 2,217 (an increase of 10%)

² Engagement rate measures the amount of interaction a social media post earns relative to reach or followers or audience size. Interactions can include reactions, likes, comments, shares, saves, direct messages, mentions, click-throughs.

- Twitter: 9,328 (an increase of 2%)
- YouTube: 1,565 (an increase of 16%)

Traditional media

The ATSB undertakes proactive and responsive media activities in conjunction with media outlets to inform the transport industry and travelling public of its investigations and safety messaging. During the year, the ATSB worked closely with local, state, national and international media to promote community and industry awareness of its transport safety messages.

Proactive media management activities include media conferences, interviews, media statements, pitches to journalists, opinion pieces and the distribution of pre-recorded content.

Throughout the year, the ATSB utilised its in-house media studio facility to produce and distribute 28 pieces of pre-recorded audio, video and video overlay content for distribution to national radio and television outlets.

The ATSB also managed responses to more than 500 media enquiries during 2021–22.

During the reporting period, more than 2,000 individual stories about the ATSB and its investigation activities were published or aired by mainstream and transport industry media outlets. Of these, around 70% included the safety messaging relating to a final investigation report.

Communication and education

As Australia's national transport safety investigator, the ATSB is committed to communicating the safety lessons from its investigation findings, research activities and occurrence reports. This information has valuable safety messages which can help improve transport safety and, ultimately, save lives.

In 2021–22, the ATSB continued to highlight emerging safety issues and trends, using a range of communication channels and activities, for the benefit of industry and the travelling public.

During the year, the ATSB continued to focus on promoting the use of active warning carbon monoxide detectors, following the release of its final report into the collision with water involving a de Havilland Canada DHC-2 Beaver aircraft, VH-NOO, at Jerusalem Bay, Hawkesbury River, New South Wales, on 31 December 2017 (AO-2017-118). The 'Know CO – Use an active warning carbon monoxide detector' safety promotion activity encouraged pilots as operators of piston-engine aircraft to carry and use a detector, while alerting them to the dangers of exposure to the insidious gas.

In June 2022, the ATSB published its aircraft performance and cockpit visibility study to support its investigation into the February 2020 mid-air collision of two training aircraft near Mangalore, Victoria (AO-2020-012) and to determine when each aircraft may have been visible to the pilots of the other aircraft. A supporting video which used internal and external 3D animations, produced as part of the study, clearly illustrated the limitations of visual acquisition and the significant additional alerting time ADS-B IN displays would have provided the pilots of both aircraft. Since the video was published it has been viewed more than 2,000 times across ATSB social media channels.

The ATSB will continue to promote the benefits of fitting and using ADS-B transmitting, receiving and display devices in all general and recreational aviation aircraft during 2022–23.

The ATSB found several opportunities to continue promoting its 'Don't Push It, DON'T GO – Know Your Limits Before Flight' safety messaging, which was originally launched in December 2019.

The ATSB was also involved in supporting the TrackSAFE Foundation Rail Safety Week in August 2021 to promote safety for passengers when on station platforms.

Website

The atsb.gov.au website continues to be the principal communication channel for the ATSB. In 2021–22, the ATSB website supported 1,961,603 page views and 1,621,916 user sessions.

The ATSB continually evolves its website to meet audience needs and allow for new and emerging technologies and is a central element of the ATSB response to the Australian Government 'digital first' agenda.

During 2021–22, the ATSB established a project to transfer its website onto the GovCMS content management system website platform. A new ATSB website is anticipated to go live during 2022–23.

Online aviation database

The ATSB National Aviation Occurrence Database contains de-identified information on aviation accidents and incidents in a searchable format. The database has been designed to fulfil searches for information involving the most common requests received by the ATSB, including date range, aircraft and operation type, injury level, occurrence category and type, location, and airspace type and class. Users are able to search aviation occurrence statistics from the ATSB website at www.atsb.gov.au/avdata.

In 2021–22, the National Aviation Occurrence Database had 4,674 page views.

Partnership with the RMIT University

The ATSB partnership with RMIT University continues to provide industry bodies across Australia and the Asia Pacific region with access to quality training in transport accident investigation. The ATSB had 5 staff complete the graduate certificate this year.

Even though COVID-19 conditions remain unpredictable, there has been an increase in queries about the Graduate Certificate in Transport Safety Investigation. Next year, the ATSB hopes to offer the graduate certificate face-to-face and online to create better interactions with the students.

The ATSB and RMIT University continued to develop a new Graduate Diploma in Transport Safety Investigation, and the pilot program will be delivered in 2022–23.



Hands-on session at the RMIT University Transport Safety Investigation training course.

Regional cooperation

The ATSB has a program of regional engagement, underpinned by the ATSB reputation as a world-leading transport safety investigation agency. This content addresses the deliverable to produce a report on the transport safety contribution of this engagement.

In support of the Australian Government transport safety agenda in the Asia Pacific region, the ATSB takes a leading role in the ICAO Asia Pacific Accident Investigation Group and the Marine Accident Investigators Forum in Asia. Australia was re-elected as the Vice-Chair of the ICAO Asia Pacific Accident Investigation Group and continued in this role during 2021–22.

The ATSB places a specific emphasis on engagement with Indonesia, through the ongoing involvement in the Australian Government Indonesia Transport Safety Assistance Package (ITSAP), and with PNG consistent with the Memorandum of Understanding on Cooperation in the Transport Sector. COVID-19 continued to affect planned international programs during 2021–22.

Indonesia

Under the ITSAP program, funded by the Department of Foreign Affairs and Trade, the ATSB aims to provide capability development to the National Transportation Safety Committee (NTSC), the Indonesian agency responsible for the investigation of aviation, rail, marine and land transport accidents and incidents.

The main strands of the ATSB–NTSC program are centred on:

- > provision of NTSC investigator training and professional development
- > guiding and mentoring of NTSC investigators by ATSB investigators.

In April 2022, an ATSB delegation, led by the ATSB Chief Commissioner travelled to Jakarta for high-level meetings with the NTSC Chairman, Deputy Chief of the NTSC, Head of the Aviation Accident Investigation Sub-Committee and the Head of the Rail Accident Investigation Sub-Committee to discuss the ITSAP program and areas of cooperation going forward.



Meeting between ATSB and the NTSC in Jakarta on building a program of bilateral cooperation for 2022–23.

Papua New Guinea

In March 2022, the ATSB and the PNG Accident Investigation Commission (AIC), signed a Transport Safety Investigation Annex to the new Memorandum of Understanding on Cooperation in the Transport Sector between the Government of Australia and the Government of Papua New Guinea. The Annex sets out areas of cooperation, including:

- > participation in investigations conducted by either agency and assistance in the examination of evidence
- > sharing of transport safety investigation methods and techniques
- > participation on training courses and orientation visits
- > promotion of the development of effective investigation laws, policies, and procedures.



On 30 March 2022, Chief Commissioner Angus Mitchell signed the Transport Safety Investigation Annex to the Memorandum of Understanding (MoU) between the Government of Australia and the Government of Papua New Guinea on Cooperation in the Transport Sector.

International Civil Aviation Organisation

In 2020–21, ATSB staff continued to be involved in ICAO meetings and working groups. This included membership of the Accident Investigation Panel, which met at the European ICAO office in Paris during May 2022. The panel meets annually to advance the contents of Annex 13 and associated guidance material for the benefit of all ICAO member states.

It also included participation in the Asia Pacific Accident Investigation group meeting and workshop in October 2021. This was a virtual meeting hosted by PNG, and provided an opportunity for ATSB to share learnings with other independent aviation investigation agencies in the region.

Financial performance update

This section should be read in conjunction with the ATSB audited financial statements for 2021–22 that appear in **Section 6** of this report.

The ATSB operates as a separate non-corporate Commonwealth entity, having been established on 1 July 2009. The main assets of the ATSB were transferred from the (then) Department of Infrastructure and Regional Development, and include plant and equipment, specialised technical assets and intangible software assets.

The ATSB recorded a deficit after income tax on continuing operations of \$0.66 million (2020–21: \$0.34 million) as reported within the Statement of Comprehensive Income (page 80); and the operating surplus was \$0.51 million (2020–21: \$0.48 million) as reported within Note 3.2 Net Cash Appropriation Arrangements of the financial statements (page 97). This includes adjustments for depreciation, amortisation, principal repayments for leased assets and changes in the asset revaluation reserve. The operating surplus of \$0.51 million also includes an amount of \$0.46 million technical gain arising out of lease termination accounted under Australian Accounting Standards.

The ATSB's new capital requirements are detailed in its Departmental Capital Budget published in the 2021–22 *Portfolio Budget Statements*. Over time, ATSB estimated capital injections fall short of the deficits associated with the non-funding of depreciation and amortisation. Without adequate capital injections by the government, this presents a challenge to the ATSB in maintaining its underlying equity and asset capability going forward.

The government no longer provides appropriation funding to cover non-cash expenses of depreciation and amortisation to non-corporate Commonwealth entities. In the absence of revenue for depreciation and amortisation, the ATSB and other non-corporate entities are more likely to deliver a negative operating result or deficit, and these will accumulate. Offsetting this build-up of retained deficits requires a commitment by the government to provide annual capital injections to meet new capital requirements.

	2021–22 \$M	2020–21 \$M
Revenue from government	20.9	20.9
Own-source income	4.2	4.4
Total income	25.1	25.3
Employee expenses	16.0	16.0
Supplier expenses	7.3	7.3
Depreciation and amortisation	2.3	2.3
Finance costs	0.1	0.1
Total expenses	25.7	25.7

Table 3: Summary of financial performance and position

		2021–22 \$M	2020–21 \$M
Operating surplus/(deficit)		(0.6)	(0.4)
Financial assets	A	9.4	9.5
Non-financial assets	В	14.7	13.6
Liabilities	С	14.7	13.6
Net Assets – A + B – C		9.4	9.5

SECTION 4 – SIGNIFICANT SAFETY INVESTIGATIONS

Significant safety investigations

The following is a summary of the significant safety investigations that were completed and published during 2021–22 across aviation, marine and rail.

Aviation

Mid-air collision involving Piper PA-44-180 Seminole, VH-JQF and Beech D95A Travel Air, VH-AEM 8 km south of Mangalore Airport, Victoria, on 19 February 2020 (AO-2020-012)

Around midday on 19 February 2020 a Beech D95A Travel Air, registered VH-AEM, and a Piper PA44-180 Seminole, VH-JQF, collided mid-air approximately 8 km south of Mangalore Airport, Victoria. The Travel Air was approaching Mangalore Airport from the south, on descent to conduct a practice instrument approach, while the Seminole was southbound on climb from Mangalore to Essendon Airport.

Both aircraft were operating under the instrument flight rules (IFR) in non-controlled airspace. The pilots of each aircraft had been provided with traffic information about the other aircraft prior to the collision, in accordance with procedures. Both aircraft were fitted with dual radios. Other pilots monitoring the common traffic advisory frequency (CTAF) associated with Mangalore Airport reported hearing pilots from both aircraft broadcast but had no recollection of hearing them speaking directly to each other.

The 2 aircraft collided with no evasive manoeuvring identified in recorded flight data. All 4 pilots were fatally injured and both aircraft were destroyed.

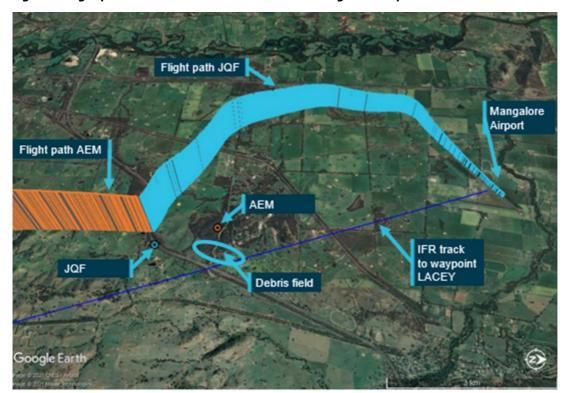


Figure 1: Flight path of AEM and JQF, and location of the ground impact of both aircraft

Source: Google Earth and Airservices, annotated by the ATSB

The full ATSB investigation report (AO-2020-012) is available on the ATSB website at www.atsb.gov.au.

Airspeed indication failure on take-off involving Airbus A330, 9M-MTK Brisbane Airport, Queensland, on 18 July 2018 (AO-2018-053)

On the night of 18 July 2018, a Malaysia Airlines Airbus A330, registered 9M-MTK, took off on a regular public transport flight from Brisbane, Queensland, to Kuala Lumpur, Malaysia. There were 14 crew and 215 passengers on board. Covers had been left on the aircraft's 3 pitot probes (airspeed sensors). The instruments showed a red speed flag in place of the airspeed indication from early in the take-off, and unrealistically low airspeeds afterwards.

The flight crew did not respond to the speed flags until the aircraft's speed was too high for a safe rejection of the take-off, and the take-off was continued. The flight crew's initial radio announcement of an urgency situation was not heard by the air traffic controller.

The flight crew climbed to 11,000 ft and circled while performing troubleshooting and other procedures, which led to the shutting down of the aircraft's air data systems. Doing so activated the back up speed scale (BUSS), a safety function that displayed safe flight envelope information to the flight crew in lieu of airspeed. Using this system, airspeed management procedures, and assistance from air traffic control, the flight crew conducted an approach and landing at Brisbane.

For technical reasons, the main landing gear doors did not retract and were slightly damaged on landing. Also, nose wheel steering was not available, and the aircraft remained on the runway for a short period before being towed to the gate.

Contact mark Burnt hole from Dir hole from Isreamer Left side pitor

Figure 2: Reconstruction of pitot probe covers on 9M-MTK, showing pitot probe cover damage and contact marks on aircraft skin from the streamer

Source: ATSB

The full ATSB investigation report (AO-2018-053) is available on the ATSB website at www.atsb.gov.au.

VFR into IMC and controlled flight into terrain involving Pilatus Britten-Norman BN2A, VH-OBL, 98 km west-south-west of Hobart Airport, Tasmania, on 8 December 2018 (AO-2018-078)

On 8 December 2018, the pilot of a Pilatus Britten-Norman BN2A-20 Islander, registered VH-OBL and operated by Airlines of Tasmania, was conducting a positioning flight from Cambridge Airport to Bathurst Harbour, Tasmania, under the visual flight rules. The aircraft departed Cambridge and was scheduled to arrive at Bathurst Harbour about 45 minutes later to pick up 5 passengers for the return flight. The aircraft did not arrive, and the Australian Maritime Safety Authority received advice that an emergency locator transmitter allocated to VH-OBL had activated. That evening, the wreckage was located near the Western Arthur Range in the Southwest National Park. The pilot was fatally injured, and the aircraft was destroyed.

Figure 3: Recovered wreckage

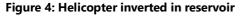


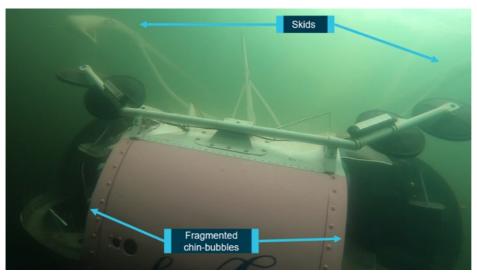
Source: ATSB.

The full ATSB investigation report (AO-2018-078) is available on the ATSB website at www.atsb.gov.au.

Engine failure and collision with water involving Garlick Helicopters UH-1H, VH-ONZ Ben Boyd Reservoir, New South Wales, on 9 January 2020 (AO-2020-003)

On 9 January 2020, the pilot of a Garlick Helicopters UH-1H, registered VH-ONZ, was tasked at Moruya, New South Wales, to assist fire ground crews with a bush-fire clean-up operation near the town of Eden. After arriving in the hover overhead the Ben Boyd Reservoir to uplift water, the helicopter's engine failed, resulting in a rapid descent, and impact with the water followed by sinking and rollover. The pilot conducted an underwater escape and sustained a minor injury. The helicopter was substantially damaged and later recovered from the reservoir.





Source: Department of Defence, annotated by the ATSB.

The full ATSB investigation report (AO-2020-003) is available on the ATSB website at www.atsb.gov.au.

Rail

Runaway and derailment of loaded ore train M02712 near the 211 km mark south of Port Hedland, Western Australia, on 5 November 2018 (RO-2018-018)

On 5 November 2018, train M02712, loaded with iron ore, was being operated by BHP on its Newman to Port Hedland railway, Western Australia. The train consisted of 2 locomotives, a rake of 134 wagons, 2 remote locomotives and a second rake of 134 wagons. It was fitted with an electronically controlled pneumatic braking (ECPB) overlay system.

At about 0337, M02712 was travelling at 60 km/h on a downhill grade on the west track, approaching the BHP access road level crossing at the 211.6 km mark. Shortly after, trainline communication between the lead locomotive and the combined end of train monitor was lost, triggering an automated 120% ECPB emergency brake command, stopping the train as it approached Garden South.

Following confirmation with train control of the location of the train and receiving instruction on the number of handbrakes required to secure the loaded train on the falling track grade at Garden, the driver left the locomotive cab to commence applying the brakes from the front of the train. The controller also tasked a support team to attend M02712 and help the driver with applying the handbrakes.

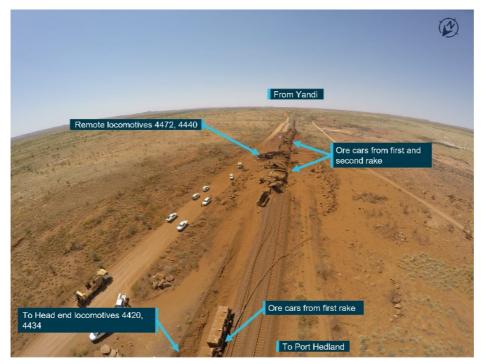
About 60 minutes after the loss of trainline communication, as the driver continued to apply handbrakes to the first rake of ore cars, the train began to move forward. Shortly after, train control received an emergency call from the driver of M02712 alerting that the brakes had 'bled off' and the train was now a 'runaway'.

Train M02712 continued, reaching a speed of 162 km/h before slowing on the rising grades toward Woodstock. After Woodstock, the track grade again began to fall toward Port Hedland and M02712 gained speed to about 130 km/h approaching Abydos.

At about 0520, Hedland control set the crossovers at Turner South and Turner North to switch train M02712 between adjacent tracks to derail the train as it traversed the crossover at speed. About 6 minutes later, the head end locomotives travelling at 144 km/h traversed the crossover at the 119.4 km mark at Turner South.

The locomotives and the first ore car separated from the rest of the train but remained coupled, travelling about 1.6 km further before stopping. The derailment destroyed the 2 remote locomotives, 245 ore cars and 2 km of track infrastructure at Turner South. There was no injury to any person from the runaway or derailment.

Figure 5: Train M02712 wreckage near the crossover at Turner South



Source: BHP, annotated by the ATSB.

The full ATSB investigation report (RO-2018-018) is available on the ATSB website at www.atsb.gov.au.

Signal DP29 passed at danger involving suburban passenger train DW17 and near collision with another suburban passenger train at Park Road Station, Queensland, on 25 March 2019 (RO-2019-009)

On 25 March 2019, a suburban passenger train (DW17), operated by Queensland Rail (QR) Citytrain, exceeded its limit of authority by passing signal DP29 at Park Road Station, Brisbane, while it displayed a stop indication. The SPAD occurrence resulted in a near collision with another suburban passenger train (1E65), which was proceeding in the same direction on an adjacent line to a merging conflict point.

The potential of collision was prevented by the actions of a tutor driver in the driving cab of 1E65, and a network control officer who transmitted an emergency stop command after receiving a SPAD alarm. DW17 exceeded its limit of authority by 305 m and stopped 55 m past the conflict point, while 1E65 stopped about 70 m prior to the conflict point. There were no injuries, however DW17 ran through the points, which were set for 1E65, resulting in minor infrastructure damage.



Figure 6: Points set in reverse for the path of 1E65

Source: QR, modified by the ATSB.

The full ATSB investigation report (RO-2019-009) is available on the ATSB website at www.atsb.gov.au.

Marine

Collision between *Accolade II* and *Sandgroper* off Port Adelaide, South Australia, on 29 February 2020 (MO-2020-001)

At about 0438 local time on 29 February 2020, in darkness and clear visibility, the inbound fishing vessel *Sandgroper* collided with the outbound self-discharging bulk carrier *Accolade II*, off the entrance to Port Adelaide, South Australia. The collision occurred within port limits shortly after *Accolade II* had exited the Port Adelaide channel and resulted in significant structural damage to *Sandgroper* and minor damage to *Accolade II*. There were no injuries reported on either vessel.

Figure 7: Damage to Sandgroper



Source: AMSA and Inco Ships.

The full ATSB investigation report (MO-2020-001) is available on the ATSB website at www.atsb.gov.au.

SECTION 5 – FORMAL SAFETY ISSUES AND ACTIONS

Formal safety issues and actions

ATSB investigations primarily improve transport safety by identifying and addressing safety issues. Safety issues are events or conditions that increase safety risk and:

- > can reasonably be regarded as having the potential to adversely affect the safety of future operations
- are characteristics of an organisation or a system, rather than of a specific individual, or operational environment at a specific point in time.

Safety issues will usually refer to an organisation risk controls, or to a variety of internal and external organisational influences that impact the effectiveness of its risk controls. They are factors for which an organisation has some level of control and responsibility and, if not addressed, will increase the risk of future accidents.

The ATSB prefers to encourage stakeholders to take proactive safety action to address safety issues identified in its reports. Nevertheless, the ATSB may use its powers under the TSI Act to make a formal safety recommendation either during or at the end of an investigation – depending on the level of risk associated with a safety issue and the extent of corrective action already taken.

When safety recommendations are issued, they clearly describe the safety issue of concern, but they do not provide instructions or opinions on a preferred corrective action. Like equivalent overseas organisations, the ATSB has no power to enforce the implementation of its recommendations. It is a matter for the organisation to which an ATSB recommendation is directed to assess the costs and benefits of any means of addressing a safety issue, and act appropriately.

When the ATSB issues a safety recommendation to a person, organisation or agency, they must provide a written response within 90 days. That response must indicate whether they accept the recommendation, any reasons for not accepting part or all of the recommendation, and details of any proposed safety action to give effect to the recommendation.

The ATSB can also issue a safety advisory notice (SAN) suggesting that an organisation, or an industry sector, consider a safety issue and take appropriate action. There is no requirement for a formal response to a SAN.

Safety issues are broadly classified in terms of their level of risk:

- Critical safety issue associated with an intolerable level of risk and generally leading to the immediate issue of a safety recommendation unless corrective safety action has already been taken.
- Other safety issue associated with a risk level regarded as unacceptable unless it is kept as low as reasonably practicable. Where there is a reasonable expectation that safety action could be taken in response to reduce risk, the ATSB will issue a safety recommendation to the appropriate agency when proactive safety action is not forthcoming.

All ATSB safety issues and associated safety actions, along with the most recent status, are published on the ATSB website for all investigation reports released since July 2010.

Safety issues identified through ATSB investigations

All safety issues are risk assessed by the ATSB. In 2021–22, the ATSB (and OTSI NSW and CITS Victoria on behalf of the ATSB) identified the following number of safety issues.

Table 4: Number of safety issues identified in 2021–22

Safety issue risk	Aviation	Marine	Rail	Total
Critical	0	0	0	0
Other	40	0	16	56
Total	40	0	16	56

Safety action is sought to address any safety issues when proactive safety action is not forthcoming. Once safety action has been undertaken, the ATSB conducts another risk assessment of the safety issue. When the post-action risk assessment results in either an acceptable level of risk or a risk as low as reasonably practicable, the safety issue status is categorised as 'adequately addressed'.

The Portfolio Budget Statements 2021–22 specify, as 2 of the ATSB KPIs, that:

- > 65% of safety issues are addressed in the last financial year
- > 85% of safety issues are addressed in the previous financial year.

KPI status of safety issues identified in 2021–22

There were no critical safety issues identified through ATSB investigations in 2021–22.

The breakdown of other safety issues, by transport mode, is summarised in Table 5.

Table 5: Status of other safety issues identified in 2021–22

Status of safety issues	Aviation	Marine	Rail	Percentage
Adequately addressed	30	0	12	75%
Partially addressed	0	0	1	2%
Not addressed	0	0	0	0%
No longer relevant	0	0	0	0%
Safety action still pending	10	0	3	23%
Total	40	0	16	100%

Responses to safety issues identified in 2021–22

The tables below document each safety issue identified in 2021–22 and its current status assigned by the ATSB, along with the justification for that status.

Aviation

Table 6: Aviation – safety issues identified in 2021–22

Safety issue	Status	Status justification
AO-2018-022 Collision with water involving twin-engine EC Hedland Heliport, Western Australia, on 14 March 2018	135 helicopter, VH-ZGA,	37 km north-north-west of Port
AO-2018-022-SI-01: The sleep log tool used by the operator contained a coding error and it also pre-loaded sleep periods of future nights by default. This combination of factors reduced the likelihood pilots would identify fatigue risks associated with insufficient sleep and extended wakefulness.	Closed – Adequately addressed	The ATSB is satisfied that the proactive safety action taken by the operator appropriately addresses this issue.
AO-2018-022-SI-02: The operator's fatigue risk management system relied extensively on a sleep reporting spreadsheet (sleep log) that was based on the prior sleep wake model, and the spreadsheet had a transparent rule set that made the recorded data easy to modify to achieve results that met the operator's minimum sleep and wake requirements. In the context of perceived pressure to present as fit for duty, multiple pilots on multiple occasions had entered unrealistic or inaccurate sleep times and there were limited effective controls in place to assure that the sleep times being entered by pilots was accurate.	Closed – Adequately addressed	The ATSB is satisfied that the proactive safety action taken by the operator appropriately addresses this issue.
AO-2018-022-SI-03: The instrument panels fitted to VH-ZGA and the operator's other EC135 helicopter at Port Hedland were equipped for single-pilot operation under the instrument flight rules. When used for flight training or checking in a degraded visual cueing environment, this configuration has a detrimental effect on the ability of an instructor or training/check pilot to monitor the helicopter's flight path and take over control if required.	Closed – Adequately addressed	The ATSB is satisfied that the proactive safety action taken by the operator and CASA appropriately addresses this issue.
AO-2018-022-SI-04: The operator's circuit and approach procedures for marine pilot transfer operations did not minimise pilot workload or provide the recommended stabilised approach criteria with mandatory go-around policy. These procedures could allow a combination of conditions that increased the risk of a sustained abnormal flight path and collision with terrain/water.	Closed – Adequately addressed	The ATSB is satisfied that the proactive safety action taken by the operator appropriately addresses this issue.
AO-2018-022-SI-05: The operator's training and assessing procedures for marine pilot transfer operations did not provide assurance that pilot under training experience, helicopter instrumentation, and instructor capability were suitable for line training at night in a degraded visual cueing environment.	Closed – Adequately addressed	The ATSB is satisfied that the proactive safety action taken by the operator appropriately addresses this issue.
Safety issue	Status	Status justification
AO-2018-031 Collision with terrain involving Garlick Helico South Wales, on 17 April 2018	pters UH-1H, VH-HUE, 2	
AO-2018-031-SI-01: Encore Aviation's maintenance practices and processes related to inspections, record keeping and trend monitoring, were likely inadequate to detect the potential impending failure of safety critical components.	Closed – Adequately addressed	The ATSB notes that Encore Aviation has now provided a framework to allow records of maintenance actions to be kept for each aircraft. This included the provision to record specific values from maintenance assessments conducted, such as vibration tests. It was also noted that Encore has incorporated trend analysis processes to review previous

Safety issue	Status	Status justification
		maintenance records. This included the assessment of changes between present and previously recorded values, and further investigation of recurring events to detect potential emerging problems. These actions were expected to reduce the risk of Encore not detecting an impending failure of safety critical components to a level that is as low as reasonably practicable.
AO-2018-031-SI-02: GHD's documented risk assessment for helicopter operations did not consider the hazard of an emergency landing at the drill site. This increased the risk that ground personnel were not clear of the load pickup area in the event an emergency landing was required.	Closed – Adequately addressed	The ATSB is satisfied that providing pilots and ground crew with a documented plan to mitigate the hazard of an emergency landing during lifting operations will reduce the risk of this safety issue.
Safety issue	Status	Status justification
AO-2018-053 Airspeed indication failure on take-off involv 18 July 2018	ing Airbus A330, 9M-M ⁻	FK, Brisbane Airport, Queensland, on
AO-2018-053-SI-01: Some Aircraft Maintenance Services Australia (AMSA) engineers extended the use of pitot probe covers (to mitigate the threat of wasp infestation) to operators that did not explicitly require it, including Malaysia Airlines. This increased likelihood of error associated with the use of pitot probe covers was because AMSA engineers were not controlling the engineering activities and were not permitted to make technical log entries.	Closed – Adequately addressed	Heston MRO has implemented a mandatory procedure to use, record, and remove pitot probe covers for all aircraft handled while transiting Brisbane.
AO-2018-053-SI-02: Malaysia Airlines did not clearly specify the division of engineering responsibilities between Malaysia Airlines and Aircraft Maintenance Services Australia engineers at Brisbane, leading to ambiguity with regard to who should conduct the final walk-around portion of the transit check. This risk was increased by the operator commencing and continuing flights to Brisbane with interim ground handling and engineering arrangements that varied from usual industry practice.	Closed – Adequately addressed	There is no longer a need to clearly specify the division of engineering responsibilities with the use of a single engineering services provider.
AO-2018-053-SI-03: The Lido airport operational information did not include the Australian Aeronautical Information Publication (AIP) advice to fit pitot probe covers at Brisbane Airport (related to significant mud wasp activity), as well as other safety related AIP information.	Closed – Adequately addressed	The amendments made to the airport operational information (AOI) resolve the safety concerns identified by the ATSB. In addition, the amendments to the guidance manual for AOI content provide greater assurance for the accurate and complete reproduction of other safety information for airports worldwide.
AO-2018-053-SI-05: Malaysia Airlines' processes for the management of change did not follow recommended industry practices, and its risk and change management processes were not detailed and clear enough to assure: • the appropriate level of involvement of subject matter expertise and safety groups • that risk controls were implemented and monitored.	Closed – Adequately addressed	Malaysia Airlines' proactive safety action is a significant step in ensuring that risks identified through the change management process are promulgated to relevant safety oversight bodies, and to assure that risk management activities have appropriate review, oversight, and continual monitoring. Work is underway to address a number of other change and risk management issues identified by the investigation.

Safety issue	Status	Status justification
AO-2018-053-SI-07: Aircraft Maintenance Services Australia did not have a reliable method to account for tooling and equipment (such as pitot probe covers) prior to aircraft dispatch when providing non-certifying engineering support.	Closed – Adequately addressed	The proactive safety action taken by Heston MRO should ensure that tools are accounted for prior to aircraft dispatch in all circumstances.
AO-2018-053-SI-09: Although suitable for use in most situations, the streamers attached to the pitot probe covers supplied and used for A330 operations by Aircraft Maintenance Services Australia provided limited conspicuity due to their overall length, position above eye height, and limited movement in wind. This reduced the likelihood of incidental detection of the covers, which is important during turnarounds.	Closed – Adequately addressed	The action taken by Heston MRO and Malaysia Airlines to use placards and technical log entries are likely to provide sufficient assurance of pitot probe cover removal before flight, so more conspicuous covers are not likely to be needed.
AO-2018-053-SI-10: In the Airbus A330, there was no auditory alert associated with nil or unreliable airspeed from 2 or more sources during take-off (a high workload, critical phase of flight). Comparatively, other critical failures provide both visual and auditory indications.	Open – Safety action pending	The ATSB welcomes the Airbus safety action to develop improved detection of erroneous airspeed during take-off that will be associated with an alert and/or display. The ATSB will monitor the progress of this development.
AO-2018-053-SI-12: Malaysia Airlines flight crew and engineers did not fully complete the required aircraft inspections.	Closed – Adequately addressed	The action taken by Malaysia Airlines adequately addresses the issue of inconsistent flight crew walk-arounds. With regard to the inconsistent engineering walk-arounds, the engineering arrangements in Brisbane were changed after the occurrence so that the same engineers now conducted dispatch coordination as well as certification. This makes the engineering arrangements more conventional and less susceptible to error and miscommunication. Accordingly, the ATSB is satisfied that the safety action adequately addresses the safety issue.
AO-2018-053-SI-14: Malaysia Airlines did not develop and disseminate guidance and procedures about the use of pitot probe covers to flight crews and engineers, and there was limited awareness among those groups of the need for pitot probe covers at Brisbane Airport.	Closed – Adequately addressed	The proactive safety actions provide sufficient information to flight crews and engineers about the need for pitot probe covers at Brisbane Airport.
AO-2018-053-SI-16: The Airbus guidance provided in the flight crew techniques manual and other manuals for helping A330 flight crews to decide whether to continue or reject a take-off did not discuss unreliable airspeed indication scenarios.	Closed – Adequately addressed	The safety action should improve pilot monitoring of airspeed indications, increasing the likelihood that unreliable airspeed indications would be detected as early as possible during the take-off. It should also help rapid decision-making to some extent as a result of improved flight crew awareness and understanding of the characteristics of unreliable airspeed indications. While there continues to be no guidance on decision-making for unreliable airspeed indications detected after 100 kt, the Airbus approach emphasises detection and action prior to 100 kt rather than relying on decision-making after that point. Accordingly, it is important to ensure that all flight crews will both detect and understand the indications

Safety issue	Status	Status justification
		before reaching 100 kt, which is the principle that underpins another safety issue (AO-2018-053-SI-10). Accordingly, the ATSB considers AO- 2018-053-SI-16 to be adequately addressed.
AO-2018-053-SI-18: Menzies Aviation staff did not consistently carry out the required arrival and pre-departure aircraft checks of Malaysia Airlines aircraft, and Menzies Aviation audit processes were not effective at evaluating compliance with these requirements.	Closed – Adequately addressed	The ongoing oversight of audit activities will help ensure that audits are effective in maintaining adherence to required dispatch coordination tasks.
Safety issue	Status	Status justification
AO-2018-078 VFR into IMC and controlled flight into terrain west-south-west of Hobart Airport, Tasmania, on 8 Decemb		n-Norman BN2A, VH-OBL, 98 km
AO-2018-078-SI-01: Airlines of Tasmania did not provide any documented guidance for the south-west operations, despite encouraging pilots to commence the flight, even when forecasts indicated they may be likely to encounter adverse weather en route. This resulted in the pilots having varied understanding of the expectations regarding in-flight weather-related decision-making at the Arthur Range saddle, and increased the risk that some pilots continued into an area of high terrain in marginal conditions, where options to escape were limited.	Closed – Adequately addressed	Airlines of Tasmania has substantially increased the amount of documented evidence provided to the pilots operating to the south-west. This includes a new procedure added to the operations manual, additional documented requirements into the training syllabus, additional tools to assist the pilots with planning, and further guidance in the safety management system around weather assessment criteria and seeking further guidance when required.
AO-2018-078-SI-02: Airlines of Tasmania's safety management processes for identifying hazards extensively relied on safety reports. This limited the opportunity to proactively identify the risks in all operational activities, and assess the effectiveness of any controls in place.	Closed – Adequately addressed	Safety actions taken by Airlines of Tasmania removes the safety issue.
AO-2018-078-SI-03: The CASA acquittal process for repeat safety findings was not effective in ensuring that all previous findings of a similar nature were also appropriately assessed prior to the current and all associated safety findings being acquitted.	Open – Safety action pending	
Safety issue	Status	Status justification
AO-2019-026 In-flight break-up involving Cessna T210M, V on 26 May 2019	H-SUX 25 km north-east	of Mount Isa Airport, Queensland,
AO-2019-026-SI-02: Following an assessment of historical data, the aircraft manufacturer replaced a flight hour based repetitive eddy current inspection for cracking of the carry- through structure with a 3-yearly visual corrosion inspection for all operation types. This significantly limited the opportunities to identify fatigue cracking within the carry- through structure of low-level survey aircraft prior to a crack reaching a critical size.	Open – Safety action pending	The services letters, supporting Air Worthiness Bulletin (AWB) and Airworthiness directive are all aimed at addressing issues currently in the field. These are adequate to identify cracks in aircraft currently in service. The findings of these inspections will guide further action to address any inadequacy in ongoing inspection requirements. The United States Federal Aviation Administration (FAA) and Textron have stated that further action is forthcoming in this area.
Safety issue	Status	Status justification
AO-2019-039 Landing gear malfunction involving Airbus A 1 August 2019	320, VH-VFN, Sydney Air	port, New South Wales, on
AO-2019-039-SI-01: During the manufacture of the apex pin, the initial machined profile led to unintended stress concentrations at the quench stage of the material heat treatment process that resulted in the part cracking. The crack was not removed by the final machining process.	Closed – Adequately addressed	Manufacturing process corrected and existing parts checked for airworthiness.

Safety issue	Status	Status justification
AO-2019-063 Airspeed management event involving a Fokl	ker F28-0100, VH-UQN, a	t Rockhampton Airport, Queensland,
on 10 November 2019		
AO-2019-063-SI-01: The operator's safety management reporting system did not enable the effective prioritisation of submitted safety reports.	Closed – Adequately addressed	The ATSB is satisfied that the amendments to the new safety reporting system will increase the likelihood that immediate and routine reportable matters will be notified to the ATSB within the required timeframe.
AO-2019-063-SI-02: The operator's training for the Fokker F28-Mk0100 did not prepare pilots for alpha mode activation during critical phases of flight.	Closed – Adequately addressed	The ATSB notes that Alliance Airlines has taken safety action to reduce the risk of this safety issue.
AO-2019-063-SI-03: Changes in the operator's key safety post holder positions, safety reporting systems and internal processes reduced effective safety assurance.	Closed – Adequately addressed	The ATSB notes that Alliance Airlines has taken action to standardise internal process and strengthened safety assurance.
Safety issue	Status	Status justification
AO-2019-073 Hydraulic system malfunction, return and eva west of Sydney Airport, New South Wales, on 15 December		s A330, VH-EBC, 94 km west-north-
AO-2019-073-SI-01: Qantas cabin crew primary evacuation commands did not include phrases such as 'leave everything behind' and 'jump and slide'; instead, these phrases were optional. Consequently, passengers would generally not receive specific guidance until they reached an exit, which would likely slow down the evacuation.	Open – Safety action pending	
AO-2019-073-SI-02: Qantas cabin crew recurrent training did not include any situation whereby a disarmed door would have to be rearmed in an emergency. This increased the likelihood that a door would be opened without the escape slide deployed, reducing the number of available exits.	Closed – Adequately addressed	The ATSB is satisfied that the safety action undertaken by the operator has addressed this safety issue.
AO-2019-073-SI-03: Qantas method of briefing passengers provided limited and inconsistent information about how to use the escape slides safely and what to do with cabin baggage in an emergency.	Closed – Adequately addressed	The ATSB is satisfied that the safety action undertaken by the operator has reduced the risk of this safety issue.
AO-2019-073-SI-05: Qantas did not have a procedure for a rapid disembarkation, or other similar procedure that would effectively enable rapid deplaning at a slower and more controlled pace than an emergency evacuation. Therefore, the only option for rapid deplaning was an emergency evacuation utilising slides, which unnecessarily increased the risk of injuries in some situations.	Open – Safety action pending	
Safety issue	Status	Status justification
AO-2020-002 Runway overrun involving Fokker F100, VH-N	NHY, Newman Airport, W	/estern Australia, on 9 January 2020
AO-2020-002-SI-01: The operator's documentation required crew to consider contamination of runways at the departure and destination airports. However, the provided definition and guidance did not include the means to identify water contamination from active rainfall.	Closed – Adequately addressed	The safety action provides flight crews with clear information to assess and mitigate the hazard of contaminated runways.
AO-2020-002-SI-02: CASA advisory publications did not include information regarding the potential for reduction in braking performance resulting from active rainfall.	Closed – Adequately addressed	The revised advisory publication includes detail on the hazardous effect of rainfall on aeroplane braking.

Safety issue	Status	Status justification
AO-2020-010 Collision with water involving Textron Aviation	on Inc. (Cessna) 206, VH	
Island, Queensland, on 29 January 2020		
AO-2020-010-SI-01: The Cessna 206 procedure for ditching and forced landing states that the flaps are to be extended to 40°. While that permits the aircraft to land at a slower speed, it also significantly restricts emergency egress via the cargo door. However, there is no warning about that aspect in the ditching or forced landing pilot's operating handbook emergency procedures.	Open – Safety action pending	Textron has not addressed the safety issue in their submission.
AO-2020-010-SI-02: Cessna 206 aircraft that feature a rear double cargo door do not meet the aircraft certification basis for the design of cabin exits. Wing flap extensions beyond 10° will block the forward portion of the rear double cargo door, significantly hampering emergency egress. This has previously resulted in fatalities.	Open – Safety action pending	The ATSB notes and disagrees with the view of the United States FAA that the certification design of the emergency exit cabin doors does not constitute an unsafe condition. However, given the view of the FAA that no further action will be taken, the ATSB has closed the safety issue as not addressed.
Safety issue	Status	Status justification
AO-2020-012 Mid-air collision involving Piper PA44-180 Se	minole, VH-JQF and Bee	ech D95A Travel Air, VH-AEM, 8 km
south of Mangalore Airport, Victoria, on 19 February 2020	T	
AO-2020-012-SI-01: The En-Route Supplement Australia included a requirement to add 1,000 ft to the prescribed practice instrument approach 'altitude' at Mangalore Airport. The procedure did not detail whether this height was to be applied to the minimum descent altitude or to all approach altitudes, resulting in varied application and an increased risk of traffic conflicts.	Open – Safety action pending	
Safety issue	Status	Status justification
AO-2020-013 Rescue hoist cable failure involving AS 350 B 5 February 2020		<u> </u>
AO-2020-013-SI-01: It is likely that specific post-flight inspection requirements for the Breeze-Eastern rescue hoist listed in Airworthiness Directive AD/SUPP/10 were not adequately completed by the operator. The inspections were targeted at ensuring correct stowage of the hook assembly at the end of each flight.	Closed – Adequately addressed	The ATSB considers that the safety action undertaken by the New South Wales National Parks and Wildlife Service (ParkAir) adequately addresses the safety issue. The operator's compliance with Airworthiness Directive AD/SUPP /10 provides confirmation to personnel involved in winching operations that the hook assembly has been adequately stowed, and further limits the potential for the load cable to become damaged during helicopter operations.
Safety issue	Status	Status justification
AO-2020-027 Aircraft loading and in-flight controllability is Airport, Queensland, on 11 May 2020	ssue involving Fairchild	SA227, VH-HPE, Rockhampton
AO-2020-027-SI-02: The operator's ground handling manual did not contain detailed procedural guidance for facilitating accurate redistribution of freight and ensure that an aircraft would be correctly loaded.	Closed – Adequately addressed	The amendments to the ground handling training program and ground handling manual included increased direction to ensure that freight would be accurately redistributed in the event of a last-minute change. The ATSB, in consultation with Toll, contacted the new Metro aircraft operator to discuss the potential risk of a lack in procedural guidance for
		of a lack in procedural guidance for ground handling. Although the safety issue was not directly related to them,

Safety issue	Status	Status justification
		the new operator has reviewed their ground handling manual and incorporated amendments to address the safety issue. The ATSB is satisfied that this, combined with the amendments to the training program and manual, will reduce the risk of this safety issue.
Safety issue	Status	Status justification
AO-2020-038 Loss of control and near collision with terrain of Goulburn Airport, New South Wales, on 24 July 2020	involving Leonardo Heli	copters AW139, VH-TJO, 26 km east
AO-2020-038-SI-01: The external aircraft white lighting was inadequate to illuminate the terrain below and to the side of the aircraft at the required operating height. This delayed the identification and recovery from the unsafe aircraft state resulting in the pilot not identifying the developing rate of descent during the incident, delaying the recovery from the descent.	Open – Safety action pending	The external aircraft white lighting was inadequate to illuminate the terrain below and to the side of the aircraft at the required operating height. This delayed the identification and recovery from the unsafe aircraft state resulting in the pilot not identifying the developing rate of descent during the incident, delaying the recovery from the descent. At the aircraft's operating height the external aircraft white lighting was inadequate to illuminate the terrain below the aircraft, resulting in the pilot not identifying the developing rate of descent. This was a search profile that was not unique to this particular flight and could reasonably be expected to occur in future NVIS search and rescue missions. Had more powerful external lighting been fitted to the aircraft, which is reasonably available on the market and already fitted by other operators to their SAR helicopters, the pilot may have maintained visual references at the height they were operating at, and/or the pilot and aircrew officer would likely have identified the rate of descent sooner and initiated recovery sooner.
Safety issue	Status	Status justification
AO-2020-062 Separation occurrence involving Airbus A320, Gateway Airport, New South Wales, on 28 November 2020	,	
AO-2020-062-SI-01: The CASA review of the airspace surrounding Ballina Byron Gateway Airport did not include data for aircraft transiting the airspace without using the airport. Therefore, the risk associated with occurrences such as this one were not specifically considered when assessing the appropriate airspace classification.	Open – Safety action pending	

Safety issue	Status	Status justification	
AO-2021-023 Airborne collision alert involving Augusta-Westland AW139, VH-YXH and Piper PA-44-180, VH-HMQ near Mangalore Airport, Victoria, on 6 June 2021			
AO-2021-023-SI-01: The helicopter operator's traffic alert and collision avoidance system knowledge was inadequate with respect to resolution advisory alert terrain considerations and the required intensity of response manoeuvring.	Closed – Adequately addressed	The ATSB found that the helicopter operator's traffic alert and collision avoidance system (TCAS) knowledge was inadequate with respect to resolution advisory alert terrain considerations and the required intensity of response manoeuvring. TCAS is a complex system which serves as a 'last line of defence' in airborne collision avoidance which requires prompt and correct pilot responses to resolve conflict occurrences. Thorough pilot knowledge of the system is critical in ensuring that crews respond appropriately to TCAS resolution advisories.	

Marine

There were no marine safety issues identified in 2021–22.

Rail

Table 7: Rail – safety issues identified in 2021–22

Safety issue	Status	Status justification	
RO-2018-018 Runaway and derailment of loaded ore train M02712, near the 211 km mark south of Port Hedland, Western Australia, on 5 November 2018			
RO-2018-OI8-SI-01: Although BHP's risk assessment for a rail- mounted equipment interaction incident identified numerous causes and critical controls for such an incident, it was broad in scope and had limited focus on the causes and critical controls for a train runaway event. In addition, the risk assessment did not include the procedure for responding to brake pipe emergencies and penalties as a critical control and BHP's material risk control assessments did not test the effectiveness of this procedural control for preventing an uncommanded movement of a train during main line operations.	Closed – Adequately addressed	BHP has completed the review of the rail mounted equipment interaction risk assessment and implemented additional controls and control effectiveness tests in relation to the potential for a train rollaway event.	
RO-2018-018-SI-02: The task of responding to brake pipe emergencies or penalties relied extensively on a driver's memory, with limited processes in place to facilitate or cross- check a driver's performance to ensure all safety-critical actions were completed.	Closed – Adequately addressed	The ATSB is satisfied that the action being taken by BHP has reduced the risk of this safety issue.	
RO-2018-018-SI-03: Although operating instructions OI 17-11 (5 April 2017) and then OI 18-72 (3 November 2018) contained a safety-critical action (to apply the automatic brake handle to the pneumatic emergency position), BHP did not clearly communicate the importance and reasons for the safety-critical action to drivers, reducing the potential for the drivers to correctly recall this procedural action.	Closed – Adequately addressed	The ATSB is satisfied that the action being taken by BHP has reduced the risk of this safety issue.	
RO-2018-018-SI-04: The automatic train protection and electronically controlled pneumatic braking (ECPB) systems on BHP's trains could not interface to dump brake pipe pressure if an ECPB emergency or penalty brake application became ineffective in arresting an uncommanded train movement.	Closed – Adequately addressed	The ATSB is satisfied that the action being taken by BHP has reduced the risk of this safety issue.	
RO-2018-018-SI-05: BHP's fatigue management processes required its train drivers to be rostered on 7 12-hour shifts, followed by a 24-hour break and then 7 12-hour shifts, with the roster pattern commencing at a wide variety of times of	Open – Safety action pending	The ATSB notes that BHP has recognised that its roster design (at the time of the accident) was not conducive to minimising fatigue.	

Safety issue	Status	Status justification
day. Such roster patterns were conducive to result in cumulative sleep restriction and levels of fatigue likely to adversely influence performance on a significant proportion of occasions, and BHP had limited processes in place to ensure that drivers actually obtained sufficient sleep when working these roster patterns.		The ATSB also notes the significant amount of action that BHP has undertaken since 2018 and continues to undertake to evaluate and improve its fatigue management processes, and that due to the COVID-19 situation there has been some constraints on progress. Overall, the ATSB is satisfied that the risk of this safety issue is reducing, and the ATSB will monitor further developments in addressing this safety issue.
Safety issue	Status	Status justification
RO-2019-009 Signal DP29 passed at danger involving subu suburban passenger train Park Road Station, Queensland, o		17 and near collision with another
RO-2019-009-SI-01: Queensland Rail's process for the installation of signal aspect indicators (SAIs) did not provide sufficient detail to ensure consistent and conspicuous placement at station platforms. This problem, combined with an SAI's non-salient indication when the platform departure signal displayed a stop indication, increased the risk that an SAI would not be correctly perceived by a guard.	Closed – Partially addressed	The ATSB notes that, although limited additional procedures or guidance has been developed to assist with the placement of SAIs, the risk of this safety issue has been reduced to some extent.
RO-2019-009-SI-03: Limitations in Queensland Rail's application of risk management and change management processes relevant to the introduction of the new generation rollingstock (NGR) increased the risk of a start against signal SPAD (signals passed at danger). Specifically, multiple processes did not effectively consider the risk of station staff at suburban platforms providing the allright signal for all NGR trains even when the platform departure signal displayed a stop indication, which was in contrast to how allright signals were being provided in practice for all trains at the 3 central business district stations and 2 other designated stations.	Closed – Adequately addressed	The ATSB recognises that Queensland Rail has ensured more focus is placed on safety change management being conducted as part of its operational readiness framework. The extent to which this will increase focus on safety change management processes when conducting changes such as the change to the allright procedure for station staff in January 2019 is unclear. Nevertheless, the ATSB recognises that the risk of this specific safety issue has decreased as guards and drivers have become more familiar with the new processes at suburban station platforms, and the rate of start against signal SPADs has decreased. The ATSB will continue to examine change management issues in current and future investigations.
RO-2019-009-SI-04: QR's fatigue management processes for Citytrain train crew had limited processes in place to actively identify and manage the risk of restricted sleep opportunity resulting from late-notice roster changes.	Open – Safety action pending	The ATSB acknowledges that QR has taken action to address the issue and will monitor QR's further revision of MD-10-178 later this year.
Safety issue	Status	Status justification
RO-2019-018 Near hit with workers on track using Absolute 15 October 2019	e Signal Blocking, Westm	ead, New South Wales, on
RO-2019-018-SI-01: The Absolute Signal Blocking rule NWT 308 and procedure NPR 703 did not provide sufficient description for the task of using protecting signals for an alternative route.	Closed – Adequately addressed	Network Rules changes brought in December 2020 prohibit the clearing of the absolute controlled signal immediately protecting the worksite.
RO-2019-018-SI-02: Sydney Trains did not provide supervision at Granville signal box to ensure there was adequate coverage on both signalling panels.	Closed – Adequately addressed	The safety action taken appears to address the safety issue.

Safety issue	Status	Status justification
RO-2019-018-SI-03: There were inconsistences with Sydney Trains' application of their fatigue management system, in particular the use of a bio-mathematical model to predict individual fatigue risk.	Closed – Adequately addressed	Action taken by Sydney Trains appears to address the safety issue.
Safety issue	Status	Status justification
RO-2020-008 Uncontrolled runaway and derailment of ban 3 June 2020	king locomotives, near K	Cankool, New South Wales, on
RO-2020-008-SI-01: The park brakes were ineffective in holding the locomotives on the grade in Ardglen Yard.	Closed – Adequately addressed	Aurizon has completed modifications on the locomotive classes involved in the derailment to improve alignment in the braking system, resulting in improved park brake force. The modifications made by the operator to improve park brake
		force have proven to be effective.
RO-2020-008-SI-02: Aurizon did not ensure train crews have a consistent understanding of how to safely change ends on banking locomotives.	Closed – Adequately addressed	Aurizon has modified its procedure for changing ends and continues to monitor the correct application of the procedure through regular analysis of locomotive downloads.
RO-2020-008-SI-03: The train crew had not been trained to use Forced Lead Function which would likely have allowed the train crew to have control of the locomotives.	Closed – Adequately addressed	Aurizon has developed training resources to enable more effective training in emergency situations.
		This included instruction to train crew on how and when to use the forced lead function.
		Changes to the bank locomotive working Chilcotts Creek to Ardglen procedure noted all drivers should be aware of the forced lead function, how to activate it and what happens when it is activated.
Safety issue	Status	Status justification
RO-2020-017 Defective axle bearing leading to fire on pass 13 October 2020	enger train SN68 at Yerr	inbool, New South Wales, on
RO-2020-017-SI-01: The axle bearing installation process was not sufficient to ensure the tabs on the locking plate were installed correctly.	Closed – Adequately addressed	The ATSB notes that the actions taken to address the installation and maintenance of bearings should address the safety issue.
Safety issue	Status	Status justification
RO-2020-019 Signal Passed at Danger (SPAD) by passenger	train at Docklands, Mel	bourne, on 23 November 2020
RO-2020-019-SI-01: The absence of authority-overrun protection (such as Train Protection and Warning System) at signal SST535 increased the potential consequences of a SPAD.	Open – Safety action pending	Confirmation of funding for the installation of TPWS at signal SST535 has been provided.

Safety actions

Table 8: Number of safety actions released in 2021–22

Safety action type	Aviation	Marine	Rail	Total
Proactive safety action ³	37	0	11	48
Safety advisory notice	4	0	1	5
Safety recommendation	6	0	0	6
Total	47	0	12	59

Safety recommendations closed in 2021–22

Aviation

Table 9: Aviation – safety recommendations closed in 2021–22

Investigation	AO-2011-115 Flight control system event involving Cessna 210N, VH-JHF, 48 km west of Bourke Airport, New South Wales, on 12 September 2011	
Safety issue	The <i>Civil Aviation Regulations 1988</i> allow class B aircraft registration holders to maintain their aircraft using the CASA maintenance schedule in situations where a more appropriate manufacturer's maintenance schedule exists.	
Number	AO-2011-115-SR-050	
Organisation	CASA	
Recommendation	The ATSB recommends that CASA proceed with its program of regulatory reform to ensure that all aircraft involved in general aviation operations are maintained using the most appropriate maintenance schedule for the aircraft type.	
Released	16 August 2013	
Final action date	21 September 2021	
Final action	Since the issue of the recommendation, CASA's Airworthiness Branch has initiated a General Aviation / Aerial Work continuing airworthiness (maintenance) regulatory reform project under the title of CASR Part 43. This project will transition CAR 42 based maintenance to the CASRs which includes a policy alignment to FAA Part 43. Part 43 has progressed through the Aviation Safety Advisory Panel (ASAP) and Technical Working Group consultation phases and the continuing airworthiness policy was approved by executive management in January 2021. CASA submitted Part 43 to Office of Parliamentary Council (OPC) for legislative drafting in August 2021, where it is currently being drafted prior to final industry consultation.	
	 Additionally, updated guidance has been provided around the use of CASA maintenance schedules and continuing airworthiness, including: CASA Ruling 1/2014, released 18 December 2015, made clear that even when following CAR 42 CASA maintenance schedule, 'maintenance actions must always be carried out in accordance with approved maintenance data in accordance with CAR 42V, and therefore compliance with SIDs and other manufacturer's supplemental or structural inspection documents is mandatory.' Additionally, CAAP 42B-1(1.1) was updated in January 2016 and clarified that 'Before the Certificate of Registration holder elects to use the CASA Maintenance Schedule, however, it is recommended that a study be made of the manufacturer's schedule as it is considered that the manufacturer's schedule is generally more appropriate for the maintenance of the aeroplane.' AWB 02-048 Issue 7, 'Compliance with Cessna Supplemental Inspection Documents (SIDs)' was updated in July 2021. 	

³ Only includes proactive safety action taken by industry linked to an ATSB-identified safety issue.

Investigation	AO-2014-190 Further investigation of AO-2009-072 Ditching involving Israel Aircraft Industries Westwind 1124A, VH-NGA, 6.4 km west-south-west of Norfolk Island Airport, on 18 November 2009
Safety issue	Although passenger-carrying charter flights to Australian remote islands were required to carry alternate fuel, there were no explicit fuel planning requirements for other types of passenger-carrying flights to remote islands. There were also no explicit Australian regulatory requirements for fuel planning of flights to isolated aerodromes. In addition, Australia generally had fewer conservative requirements than other countries regarding when a flight could be conducted without an alternate aerodrome.
Number	AO-2014-190-SR-042
Organisation	CASA
Recommendation	The ATSB recommends that CASA continue its work in reviewing fuel planning requirements and guidance and address the limitations associated with requirements and guidance for fuel planning of flights for all types of passenger operations to isolated aerodromes in Australia and internationally.
Released	23 November 2017
Final action date	25 July 2021
Final action	The Part 121 Manual of Standards (MOS) was issued on 9 December 2020. It included a definition of an isolated aerodrome that was consistent to that in the draft MOS released in 2018. Accordingly, the isolated aerodrome requirements for Australian operations under CASR Part 121 are now broadly consistent with those in ICAO Annex 6 Part I. Part 121 operations include air transport operations in aeroplanes with a maximum operational passenger seat configuration of more than 9 or a maximum take-off weight of more than 8,618 kg.
Investigation	AO-2017-118 Collision with water involving a de Havilland Canada DHC-2 Beaver aircraft, VH-NOO, at Jerusalem Bay, Hawkesbury River, New South Wales, on 31 December 2017
Safety issue	There was no regulatory requirement from CASA for piston-engine aircraft to carry a carbon monoxide detector with an active warning to alert pilots to the presence of elevated levels of carbon monoxide in the cabin.
Number	AO-2017-118-SR-050
Organisation	CASA
Recommendation	The ATSB recommends that CASA takes further safety action to enable it to consider mandating the carriage of carbon monoxide detectors in piston-engine aircraft, particularly passenger-carrying operations.
Released	29 January 2021
Final action date	8 October 2021
Final action	CASA has reviewed the ATSB recommendation since the last time CASA provided a response on this matter. CASA is not aware of any additional information or data that was not reviewed by CASA in its initial review on this matter. Barring any new information, CASA believes its current position to strongly encourage fitment but not mandate it is the most appropriate action at this point in time. As outlined in AWB 02-064 and its subsequent issues. Should new information become available CASA will review in the context of this matter.
Investigation	AO-2018-006 Rotor RPM decay and hard landing involving Robinson R44, VH-HGX, 5 km south of Ayers Rock Airport, Northern Territory, on 17 January 2018
Safety issue	The Robinson R44 pilot's operating handbook low rotor RPM recovery procedure did not include reference to the minimum power airspeed for the helicopter as a consideration, which may assist a pilot to recover from a low rotor RPM condition.
Number	AO-2018-006-SR-053
Organisation	Robinson Helicopter Company (RHC)
Recommendation	The ATSB recommends that RHC reviews the R44 pilot's operating handbook low rotor RPM recovery procedure for consideration to include a reference to the minimum power airspeed (Vy) for pilot awareness.
Released	7 October 2020

Final action date	9 August 2021
Final action	RHC has had multiple internal reviews of various Safety Notice drafts. The common feedback was that low-RPM recovery is unrelated to minimum-power airspeed. Our former chief instructor noted that power required versus airspeed is a topic that is well covered during instruction. We were unable to create a Safety Notice that we thought would have a significant safety impact. Therefore, we do not intend to issue anything at this time.
Investigation	AO-2018-026 Loss of control and collision with water involving Eurocopter EC120B, VH-WII, Hardy Reef, 72 km north-north-east of Hamilton Island Airport, Queensland, on 21 March 2018
Safety issue	 Due to multiple factors, the design of the rear left sliding door (emergency exit) on the EC120B helicopter was not simple and obvious to use unless the occupant was provided with specific instructions about how to operate the exit. In particular: > the door required 3 actions to open (pull handle up, push door out, slide door back), and the second action was not indicated in either the design of the handle or the placard next to the handle > the design of the inside handle was such that its purpose may not have been readily apparent to many users.
Number	AO-2018-026-SR-073
Organisation	Airbus Helicopters
Recommendation	The ATSB recommends that Airbus Helicopters takes safety action to address the safety issue associated with the design of the rear left sliding door on the EC120B helicopter to ensure that, as best as possible, the door is simple and obvious to use and/or passengers are provided with sufficient instructions so that it is simple and obvious to use.
Released	16 June 2021
Final action date	31 May 2022
Final action	 Response from Airbus Helicopters: Please be informed that the here above Safety recommendation AO-2018-026-SR-073 has been taken into consideration and this topic has been analysed within our continued Airworthiness process. As a first step of this analysis Airbus Helicopters has initiated a Human Factor Analysis to assess the different aspect of the door opening including the marking but also the door operation itself. Two groups of population have been observed, without experience or background on helicopters: 10 participants received a pre-flight briefing and 10 participants did not receive any information. All participants did not know the reason and objective of this observation. The goal was to observe the behaviour when the order was given to evacuate the helicopter. Some parameters were measured: Reaction time (including the duration taken to identify the actions to be conducted to exit the vehicle). Duration to perform physically the exit manoeuvre. Perception (evacuation, effort, usability and understanding of markings). The results of this analysis, from a Human Factors perspective showed: That the majority of the population manage to open the door in less than 8 seconds (in a moderate level of stress situation). Nevertheless the manoeuvre was not obvious for 2 persons and the current markings do not help to ease the understanding of the users.

These additional markings provide the sufficient instructions for a simple and obvious use of the door.
These decided modifications are presently in the certification process and as soon as available an Alert Service Bulletin (ASB) will be issued to mandate their application (this ASB will integrate the new marking and how to apply it). We will keep you informed as soon as these ASB will be available.
AO-2018-049 Uncommanded engine shutdown involving De Havilland Aircraft of Canada DHC-8, VH-LQD, 77 km north-north-west of Brisbane Airport, Queensland, on 26 June 2018
The procedures in the aircraft maintenance manual relating to chip detector debris analysis were written in a way that could cause confusion and error. This probably influenced the actions of the maintenance personnel to release the aircraft to service with a deteriorating bearing.
AO-2018-049-SR-050
Pratt & Whitney Canada (P&WC)
The ATSB recommends that P&WC takes safety action to improve the clarity of procedures within the chip detector debris analysis section of the aircraft maintenance manual.
16 September 2020
20 October 2021
P&WC advised that the procedures within the chip detector debris analysis section have been clarified to remove the ambiguity on what actions should be taken in response to debris being detected on the chip detector.
AO-2019-060 Engine failure during take-off involving Bombardier Dash 8, VH ZZE, at Darwin Aerodrome, Northern Territory, on 11 November 2019
The power turbine shaft in P&WC PW100 series engines operating in certain marine environments is susceptible to corrosion pitting, which can grow undetected between scheduled inspections. This increases the risk of shaft fracture resulting in engine failure.
AO-2019-060-SR-043
P&WC
The ATSB recommends that P&WC takes safety action to address the risk of corrosion- related fracture of the power turbine shaft in its PW100 series engines.
10 March 2021
11 March 2022
 P&WC conducted a safety assessment of the PW100 fleet relating to the failure of the power turbine (PT) shaft from corrosion. The most severe outcome of such an event was an inflight shutdown (IFSD). The entire PT shaft population was taken into consideration for the assessment as the historical overhaul experience showed that there was no specific distinction between the removal of the PT shafts with corrosion in benign environments compared with those in corrosive environments. Based on PW100 field experience, the rate of IFSD associated with the corrosion failure mode was within the FAA Advisory Circular 39-8 guidelines for acceptable risk and does not require corrective action. In addition, the failure rate was below the P&WC Reliability Group recommended rate. Nonetheless, P&WC evaluated the possibility of performing a borescope inspection during a Hot Section Inspection to address potential power turbine shaft corrosion, but the inspection was not considered practical due to: > The shaft corrosion had not been fully characterised and more work was required to properly define the borescope inspection requirements and thresholds. > The method of corrosion measurement using a borescope had not been validated. > P&WC cannot perform any proper cleaning of the PT shaft internal surface to assist the corrosion inspection. > There are difficulties in accessing the entire internal shaft area with a borescope. P&WC acknowledged that the lack of a statistical difference between environments affecting PT shaft corrosion was not perfect as the historical corrosion was not quantified. For that

Marine

Table 10: Marine – ATSB recommendations closed in 2021–22

Investigation	MO-2018-011 Fire on board <i>Iron Chieftain</i> , Port Kembla, New South Wales, on 18 June 2018
Safety issue	The cargo handling spaces of specialised self-unloading bulk carriers continue to present a very high fire risk due to the inadequacy of standards or regulations for self-unloading systems, including for conveyor belts, and dedicated fire detection/fixed fire-extinguishing systems. This has been a factor in at least 3 major fires over a 25-year period, including <i>Iron Chieftain</i> 's constructive total loss.
Number	MO-2018-011-SR-015
Organisation	AMSA
Recommendation	The ATSB recommends that AMSA takes steps to formally raise this safety issue with the IMO to seek safety action aimed at addressing the risk of fire in the cargo handling spaces of self-unloading bulk carriers due to the inadequacy of the current associated standards/regulations.
Released	11 May 2021
Final action	18 May 2022
Final action	On 7 March 2022, AMSA advised the ATSB that a draft information paper on inadequate standards and regulations for cargo handling spaces of specialised self-unloading bulk carriers had been prepared for circulation to the ATSB and other interested member states. On 16 March 2022, AMSA circulated the draft information paper, seeking input from the ATSB and interested member states including Canada, the Bahamas, the United Kingdom and New Zealand. The ATSB reviewed the paper and provided input for AMSA consideration, following which AMSA reviewed all feedback received and amended the paper as appropriate.
	On 18 May 2022, AMSA submitted Australia's information paper on inadequate standards and regulations for cargo handling spaces of specialised self-unloading bulk carriers to the IMO for consideration at the eighth session of the Sub-Committee on Implementation of IMO Instruments (III) in July 2022.

Rail

No rail safety recommendations closed in 2021–22.

Safety recommendations released in 2021–22

Aviation

Table 11: Aviation – safety recommendations released in 2021–22

Investigation	AO-2018-078 VFR into IMC and controlled flight into terrain involving Pilatus Britten- Norman BN2A, VH-OBL, 98 km west-south-west of Hobart Airport, on 8 December 2018
Safety issue	The CASA acquittal process for repeat safety findings was not effective in ensuring that all previous findings of a similar nature were also appropriately assessed prior to the current and all associated safety findings being acquitted.
Number	AO-2018-078-SR-01
Organisation	CASA
Recommendation	The ATSB recommends that CASA amend its acquittal process for repeat safety findings to ensure it is effective in ensuring that all previous findings of a similar nature are also appropriately assessed prior to the current and all associated safety findings being acquitted.
Released	20 December 2021
Investigation	AO-2019-026 In-flight break-up involving Cessna T210M, VH-SUX 25 km north-east of Mount Isa Airport, Queensland, on 26 May 2019
Safety issue	Following an assessment of historical data, the aircraft manufacturer replaced a flight hour based repetitive eddy current inspection for cracking of the carry-through structure with a 3-yearly visual corrosion inspection for all operation types. This significantly limited the opportunities to identify fatigue cracking within the carry-through structure of low-level survey aircraft prior to a crack reaching a critical size.
Number	AO-2019-026-SR-01
Organisation	Textron Aviation
Recommendation	The ATSB recommends that Textron Aviation takes further safety action to address the risk of fatigue cracking within the carry-through structure of Cessna 210 aircraft operating in low-level geophysical survey roles.
Released	23 November 2021
Investigation	AO-2020-010 Collision with water involving Textron Aviation Inc. (Cessna) 206, VH-AEE, near Happy Valley, Fraser Island, Queensland, on 29 January 2020
Safety issue	The Cessna 206 procedure for ditching and forced landing states that the flaps are to be extended to 40°. While that permits the aircraft to land at a slower speed, it also significantly restricts emergency egress via the cargo door. However, there is no warning about that aspect in the ditching or forced landing pilot's operating handbook emergency procedures.
Number	AO-2020-010-SR-017
Organisation	Textron Aviation
Recommendation	The ATSB recommends that Textron Aviation takes safety action to address the procedure for ditching and forced landing in the pilot operating handbook to ensure pilots are aware that extending the flaps beyond 10° will significantly restrict emergency egress via the cargo door.
Released	8 July 2021
Investigation	AO-2020-010 Collision with water involving Textron Aviation Inc. (Cessna) 206, VH-AEE, near Happy Valley, Fraser Island, Queensland, on 29 January 2020
Safety issue	Cessna 206 aircraft that feature a rear double cargo door do not meet the aircraft certification basis for the design of cabin exits. Wing flap extensions beyond 10° will block the forward portion of the rear double cargo door, significantly hampering emergency egress. This has previously resulted in fatalities.
Number	AO-2020-010-SR-018
Organisation	CASA
Recommendation	The ATSB recommends that CASA takes safety action to address the certification basis for the design of the cabin doors in the Cessna 206, as wing extension beyond 10° will block the forward portion of the rear double door, significantly hampering emergency egress.

Investigation	AO-2020-010 Collision with water involving Textron Aviation Inc. (Cessna) 206, VH-AEE, near Happy Valley, Fraser Island, Queensland, on 29 January 2020		
Safety issue	Cessna 206 aircraft that feature a rear double cargo door do not meet the aircraft certification basis for the design of cabin exits. Wing flap extensions beyond 10° will block the forward portion of the rear double cargo door, significantly hampering emergency egress. This has previously resulted in fatalities.		
Number	AO-2020-010-SR-019		
Organisation	FAA		
Recommendation	The ATSB recommends that the US FAA takes safety action to address the certification basis for the design of the cabin doors in the Cessna 206, as wing flap extension beyond 10° will block the forward portion of the rear double door, significantly hampering emergency egress.		
Released	8 July 2021		
Investigation	AO-2020-012 Mid-air collision involving Piper PA44-180 Seminole, VH-JQF and Beech D95A Travel Air, VH-AEM, 8 km south of Mangalore Airport, Victoria, on 19 February 2020		
Safety issue	The En-Route Supplement Australia included a requirement to add 1,000 ft to the prescribed practice instrument approach 'altitude' at Mangalore Airport. The procedure did not detail whether this height was to be applied to the minimum descent altitude or to all approach altitudes, resulting in varied application and an increased risk of traffic conflicts.		
Number	AO-2020-012-SR-06		
Organisation	CASA		
Recommendation	The ATSB recommends that CASA addresses the ambiguity in the En Route Supplement Australia requirement relating to practice instrument approach altitudes at Mangalore Airport to reduce the variation in application and risk of traffic conflicts.		
Released	31 March 2022		

Marine

No marine safety recommendations released in 2021–22.

Rail

No rail safety recommendations released in 2021–22.

Safety advisory notices released in 2021–22

Aviation

Table 12: Aviation – safety advisory notices released in 2021–22

Investigation	AO-2018-053 Airspeed indication failure on take-off involving Airbus A330, 9M-MTK, Brisbane Airport, Queensland, 18 July 2018
Safety issue	In the Airbus A330, there was no auditory alert associated with nil or unreliable airspeed from 2 or more sources during take-off (a high workload, critical phase of flight). Comparatively, other critical failures provide both visual and auditory indications. The Airbus guidance provided in the flight crew techniques manual and other manuals for helping A330 flight crews to decide whether to continue or reject a take-off did not discuss unreliable airspeed indication scenarios.
Number	AO-2018-053-SAN-004
Organisation	Manufacturers and operators of larger air transport aeroplanes
Safety advisory notice	The ATSB encourages all manufacturers and operators of larger air transport aeroplanes to consider what types of unreliable airspeed events can occur, how the information is presented to flight crews, and what responses are the safest in different phases of the take-off and in a range of potential situations. Aircraft alerting systems, flight crew procedures, and flight crew training should be designed to provide sufficient assurance that flight crews become aware of and understand how to appropriately respond to unreliable airspeed on take-off in a timely manner.

Released	16 March 2022
Investigation	AO-2020-040 Wirestrike and collision with terrain involving Robinson R44, VH-HNF, 69 km south-east of Hay Airport (Steam Plains), New South Wales, on 31 July 2020
Safety issue	N/A
Number	AO-2020-040-SAN-01
Organisation	Helicopter pilots
Safety advisory notice	 The ATSB strongly encourages all pilots conducting low-level operations to wear a flight helmet, ensuring that it is: fit for purpose custom fitted to the pilot's head properly secured by using the chin strap maintained in accordance with the manufacturer's recommendations.
Released	4 March 2022
Investigation	AO-2021-032 In-flight break-up involving Stolp Acroduster II SA-750, VH-YEL, 16 km north-east of Caboolture Airfield, Queensland, on 18 August 2021
Safety issue	N/A
Number	AO-2021-032-SAN-01
Organisation	Owners of Stolp Acroduster SA-700/750 aircraft
Safety advisory notice	The ATSB advises all owners, operators and maintainers of Stolp Acroduster SA 700/750 aircraft to consider the safety implications of the initial findings of this investigation regarding the fatigue cracking on forward cabane strut upper-wing centre-section attachment eye bolts, and take action where considered appropriate to ensure that their aircraft remain airworthy.
Released	3 November 2021
Investigation	AO-2022-006 Collision with terrain involving Garlick Helicopters UH-1H, VH-UHX, 36 km north of Launceston, Tasmania, on 14 February 2022
Safety issue	N/A
Number	AO-2022-006-SAN-01
Organisation	Operators and maintainers of UH-1H helicopters
Safety advisory notice	 The ATSB advises operators of UH-1H helicopters to note the preliminary details of this accident, the content of AD 2021-26-16 and CASA AWB 63-004, and to look for the presence of: corrosion fretting frame cracking missing or damaged flex-frame attaching hardware during all inspections of the KAflex drive shaft. Any identified defects should be notified to CASA and the ATSB. Additionally, operators should be aware of Kamatics concern of a certain serial number range of shafts for the UH-1H helicopter that may be fitted with legacy flex-frame attachment hardware. Kamatics (chris.prain@kaman.com) should be contacted if a shaft in the affected serial number range (0635 and below) is identified.
Released	15 June 2022

Marine

No marine safety advisory notices released in the 2021–22.

Rail

Table 13: Rail – safety advisory notices released in 2021–22

Investigation	RO-2020-022 Derailment involving loaded grain train 3966 near Dombarton, New South Wales, on 15 December 2020
Safety issue	It is very likely a general misunderstanding about locomotive braking functionality configuration was present throughout the rail industry.
Number	RO-2020-022-SAN-02
Organisation	Rail Transport Operators
Safety advisory notice	The ATSB advises that all Rollingstock Operators (RSOs) should review the specifications and test the locomotives under their control to understand how the braking systems are configured. RSOs must communicate this knowledge through the organisation's procedures and training material to ensure train crew knowledge and competence in operating locomotive braking systems.
Released	28 June 2022

SECTION 6 – FINANCIAL STATEMENTS



Australian Government

Australian Transport Safety Bureau

Financial Statements 2021-22

Australian Transport Safety Bureau

CONTENTS

Certification

Primary Financial Statement

Statement of Comprehensive Income Statement of Financial Position Statement of Changes in Equity Cash Flow Statement Budget Variances Commentary

Overview

Notes to the Financial Statements:

1. Financial Performance

- 1.1 Expenses
 - 1.2 Own-Source Revenue and Gains

2. Financial Position

- 2.1 Financial Assets
- 2.2 Non-Financial Assets
- 2.3 Payables
- 2.4 Interest Bearing Liabilities

3. Funding

- 3.1 Appropriations
- 3.2 Net Cash Appropriation Arrangements

4. People and Relationships

- 4.1 Employee Provisions
- 4.2 Key Management Personnel Remuneration
- 4.3 Related Party Disclosures

5. Managing Uncertainties

- 5.1 Contingent Assets and Liabilities
- 5.2 Financial Instruments
- 5.3 Fair Value Measurement

6. Other Information

6.1 Current / non-current distinction for assets and liabilities





INDEPENDENT AUDITOR'S REPORT

To the Minister for Infrastructure, Transport, Regional Development and Local Government

Opinion

In my opinion, the financial statements of the Australian Transport Safety Bureau (the Entity) for the year ended 30 June 2022:

- (a) comply with Australian Accounting Standards Simplified Disclosures and the Public Governance, Performance and Accountability (Financial Reporting) Rule 2015; and
- (b) present fairly the financial position of the Entity as at 30 June 2022 and its financial performance and cash flows for the year then ended.

The financial statements of the Entity, which I have audited, comprise the following as at 30 June 2022 and for the year then ended:

- Statement by the Chief Commissioner and Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement; and
- Notes to the financial statements, comprising a summary of significant accounting policies and other explanatory information.

Basis for opinion

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Entity in accordance with the relevant ethical requirements for financial statement audits conducted by the Auditor-General and his delegates. These include the relevant independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) to the extent that they are not in conflict with the *Auditor- General Act 1997*. I have also fulfilled my other responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Accountable Authority's responsibility for the financial statements

As the Accountable Authority of the Entity, the Chief Commissioner is responsible under the *Public Governance*, *Performance and Accountability Act 2013* (the Act) for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards – Simplified Disclosures and the rules made under the Act. The Chief Commissioner is also responsible for such internal control as the Chief Commissioner determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Chief Commissioner is responsible for assessing the ability of the Entity to continue as a going concern, taking into account whether the Entity's operations will cease as a result of an administrative restructure or for any other reason. The Chief Commissioner is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless the assessment indicates that it is not appropriate.

GPO Box 707, Canberra ACT 2601 38 Sydney Avenue, Forrest ACT 2603 Phone (02) 6203 7300

Auditor's responsibilities for the audit of the financial statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian National Audit Office Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with the Australian National Audit Office Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are
 appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of
 the Entity's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Accountable Authority;
- conclude on the appropriateness of the Accountable Authority's use of the going concern basis of accounting
 and, based on the audit evidence obtained, whether a material uncertainty exists related to events or
 conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If I conclude
 that a material uncertainty exists, I am required to draw attention in my auditor's report to the related
 disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My
 conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future
 events or conditions may cause the Entity to cease to continue as a going concern; and
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Accountable Authority regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Australian National Audit Office

Mark Vial Executive Director

Delegate of the Auditor-General

Canberra 28 September 2022

STATEMENT BY THE CHIEF COMMISSIONER AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the year ended 30 June 2022 comply with subsection 42(2) of *the Public Governance, Performance and Accountability Act 2013* (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA Act.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Australian Transport Safety Bureau will be able to pay its debts as and when they fall due.

nlo)

Angus Mitchell Chief Commissioner

28 September 2022

Krishna Kumar Chief Financial Officer

28 September 2022

Statement of Comprehensive Income

for the period ended 30 June 2022

Notes\$'000Netr COST OF SERVICESExpensesEmployee benefits1.1ASuppliers1.1BDepreciation and amortisation2.2A2.334Finance costs1.1CWrite-down and impairment of other assets1.1D154Total expenses25,723Own-source income500Own-source income500	\$'000	
ExpensesEmployee benefits1.1A15,963Suppliers1.1B7,188Depreciation and amortisation2.2A2,334Finance costs1.1C84Write-down and impairment of other assets1.1D154Total expenses25,723Own-source incomeUOwn-source revenueU		\$'000
Employee benefits1.1A15,963Suppliers1.1B7,188Depreciation and amortisation2.2A2,334Finance costs1.1C84Write-down and impairment of other assets1.1D154Total expenses25,723Own-source incomeUOwn-source revenueU		
Employee benefits1.1A15,963Suppliers1.1B7,188Depreciation and amortisation2.2A2,334Finance costs1.1C84Write-down and impairment of other assets1.1D154Total expenses25,723Own-source incomeUOwn-source revenueU		
Depreciation and amortisation 2.2A 2,334 Finance costs 1.1C 84 Write-down and impairment of other assets 1.1D 154 Total expenses 25,723 Own-source income United with the second secon	15,972	16,086
Finance costs 1.1C 84 Write-down and impairment of other assets 1.1D 154 Total expenses 25,723 Own-source income 0wn-source revenue	7,208	7,513
Write-down and impairment of other assets 1.1D 154 Total expenses 25,723 Own-source income 0wn-source revenue	2,297	2,447
Total expenses 25,723 Own-source income Own-source revenue	86	68
Own-source income Own-source revenue	119	(iii)
Own-source revenue	25,682	26,114
D () 11		
Revenue from contracts with customers 1.2A 978	1,121	1,439
Other revenue 1.2B 2,760	3,280	2,829
Total own-source revenue 3,738	4,401	4,268
Gains		
Other gains 1.2C 460	4	-
Total gains 460	4	12
Total own-source income 4,198	4,405	4,268
Net cost of services (21,525)	(21,277)	(21,846)
Revenue from government 1.2D 20,863	20,933	20,863
(Deficit) from continuing operations (662)	(344)	(983)
OTHER COMPREHENSIVE INCOME		
Items not subject to subsequent reclassification		
to net cost of services		
Changes in asset revaluation surplus (7)	(18)	
Total comprehensive (loss) (669)		-

The above statement should be read in conjunction with the accompanying notes.

Statement of Financial Position

as at 30 June 2022

		2022	2021	Origina Budge
	Notes	\$'000	\$'000	\$'000
ASSETS				
Financial assets				
Cash and cash equivalents	2.1A	348	336	145
Trade and other receivables	2.1B	9,057	9,033	8,391
Accrued revenue		12	90	68
Total financial assets	_	9,417	9,459	8,604
Non-financial assets ¹				
Buildings	2.2A	8,898	7,724	5,459
Heritage and cultural	2.2A	16	16	16
Plant and equipment	2.2A	2,713	2,730	2,913
Computer software	2.2A	2,555	2,641	3,029
Prepayments		575	536	225
Total non-financial assets		14,757	13,647	11,642
Total assets		24,174	23,106	20,246
LIABILITIES				
Payables				
Suppliers	2.3A	335	288	1,035
Other payables	2.3B	477	354	4
Total payables	-	812	642	1,039
Interest bearing liabilities				
Leases	2.4A	9,171	8,118	5,894
Total interest bearing liabilities		9,171	8,118	5,894
Provisions				
Employee provisions	4.1A	4,747	4,811	4,609
Total provisions		4,747	4,811	4,609
Total liabilities		14,730	13,571	11,542
Net assets		9,444	9,535	8,704
EQUITY				
Contributed equity		5,517	4,939	5,517
Reserves		514	521	539
Retained surplus	8	3,413	4,075	2,648
Total equity		9,444	9,535	8,704

The above statement should be read in conjunction with the accompanying notes.

Right-of-use assets are included in the buildings and plant and equipment asset categories.

Statement of Changes in Equity

for the period ended 30 June 2022

		2022	2021	Original Budget
	Notes	\$'000	\$'000	\$'000
CONTRIBUTED EQUITY				
Opening balance				
Balance carried forward from previous period		4,939	204	4,939
Transactions with owners				
Contributions by owners				
Departmental capital budget		578	4,735	578
Total transactions with owners	10 10	578	4,735	578
Closing balance as at 30 June		5,517	4,939	5,517
RETAINED EARNINGS				
Opening balance				
Balance carried forward from previous period		4,075	4,419	3,631
Adjusted opening balance	_	4,075	4,419	3,631
Comprehensive income				
Deficit for the period	_	(662)	(344)	(983)
Total comprehensive income		(662)	(344)	(983)
Closing balance as at 30 June	_	3,413	4,075	2,648
ASSET REVALUATION RESERVE				
Opening balance				
Balance carried forward from previous period		521	539	539
Adjusted opening balance	1	521	539	539
Comprehensive income				
Other comprehensive income	2 <u></u>	(7)	(18)	
Total comprehensive income		(7)	(18)	H
Closing balance as at 30 June	-	514	521	539
Total Equity as at 30 June	_	9,444	9,535	8,704

The above statement should be read in conjunction with the accompanying notes.

Budget Variances Commentary

The explanations provide a comparison of the original budget as presented in the 2021-22 Portfolio Budget Statements (PBS) to the 2021-22 final outcome as presented in accordance with Australian Accounting Standards for the Australian Transport Safety Bureau (ATSB). The Budget is not audited.

Variances are considered to be 'major' based on the following criteria:

- the variance between budget and actual is greater than 10%: and
- the variance between budget and actual is greater than 2% of total expenses or total own-source revenues: or
- the variance between budget and actual is below this threshold but is considered important for the reader's understanding or is
- relevant to an assessment of the discharge of accountability and to an analysis of performance of the agency.

In some instances, a budget has not been provided for in the PBS, for example non-cash items such as asset revaluations and sale of assets adjustments. Unless the variance is considered to be 'major' no explanation has been provided.

Explanations of major variances	Affected line items (and statement)		
The varince between the budget and 2021-22 actual is mainly related to the AASB 16 impact of the new Canberra Office lease accounted for in this financial year.	Statement of Comprehensive Income Expenses - Suppliers Expenses - Depreciation and amortisation Expenses - Finance costs		
	Statement of Financial Position Non-financial assets - Buildings Interest-bearing liabilities - Leases		
Income A decrease in funding received in relation to the ATSB's international projects occurred after the original budget was set.	Statement of Comprehensive Income Own-source revenue - Revenue from contracts with customers		
Other Revenue A decrease in other revenue is as a result of lower than projected investigation services completed during the financial year. The ATSB receives the services free of charge from the Chief Investigator Transport Safety, Victoria and the NSW Office of Transport Safety Investigations.	Statement of Comprehensive Income Own source revenue - Other revenue		
Financial Assets The budgeted estimate for cash and accrued revenue is made on a rolling three-year historical trend, which has resulted in an estimate being less than the 2021-22 actual.	Statement of Financial Position Financial assets - Cash and cash equivalents Financial assets - Accrued revenue		
Non-Financial Assets The varince between the budget and 2021-22 actual is mainly related to the impact of the new Canberra Office lease accounted for in this financial year.	Statement of Financial Position Non-financial assets - Buildings		

Budget Variances Commentary (continued)

Explanations of major variances	Affected line items (and statement)
Suppliers Payables	Statement of Financial Position
The variance between the budget within the PBS and the actual outcome for	Payables - Suppliers
the 2021-22 financial year, is mainly attributable to the less than expected	
suppliers compared to the original budget.	
Liabilities	Statement of Financial Position
The varince between the budget and 2021-22 actual is mainly related to the	Liabilities - Interest Bearing Liabilities
AASB 16 impact of the new Canberra Office lease accounted for in this financial	
year.	u
Statement of Changes in Equity	Statement of Changes in Equity
Total equity is greater than projected in the budget mainly due to the	
differences between the actual and budgeted operating result, with the larger	
variance identified above.	
Cash Flow Statement	Cash Flow Statement
Variances in the Cash Flow Statement are broadly consistent with the variances	
explained above for income and expenses.	

Cash Flow Statement

for the period ended 30 June 2022

		2021	Budget
Notes	\$'000	\$'000	\$'000
			3
	20,429	20,935	20,863
	1,108	1,176	1,439
	513	726	14
	177	156	
0 <u></u>	22,227	22,993	22,302
	15,951	15,852	16,086
	4,789	5.326	4,684
	84	86	68
	165	150	-
	20,989	21,414	20,838
8 	1,238	1,579	1,464
	-	11	
	1	11	
	471	2,151	578
	644	1,862	-
5. 	1,115	4,013	578
69	(1,115)	(4,002)	(578)
U	1,056	4,088	578
-	1,056	4,088	578
	1,167	1,474	1,464
			1,464
	(111)	2,614	(886)
	12	191	12
6. 6.	336	145	145
2.1A	348	336	145
	2.1A	1,108 513 177 22,227 15,951 4,789 84 165 20,989 1,238 	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

The above statement should be read in conjunction with the accompanying notes.

Overview

The ATSB is an Australian Government controlled not-for-profit entity. The objective of the entity is to improve transport safety in Australia through: independent 'no blame' investigation of transport safety accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action. ATSB's central office is located at 12, Moore Street, Canberra, Australian Capital territory. It has field offices in Sydney, Melbourne, Brisbane, Adelaide and Perth.

The Basis of Preparation

The financial statements have been prepared in accordance with:

- a) Public Governance, Performance and Accountability (Financial Reporting) Rule 2015 (FRR); and
- b) Australian Accounting Standards and Interpretations including simplified disclosures for Tier 2 Entities under AASB 1060 issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars.

New Accounting Standards

The following new standard was issued prior to the signing of the statement by the Chief Commisioner and Chief Financial Officer, was applicable to the current reporting period and did not have a material effect on the ATSB's financial statements:

Standard/Interpretation	Nature of change in accounting policy, transitional provisions, and adjustment to financial statements
States and the state of a subsection of the second	AASB 1060 applies to annual reporting periods beginning on or after 1 July 2021 and replaces the reduced
Financial Statements -	disclosure requirements (RDR) framework.
Simplified Disclosures for For-	The application of AASB 1060 involves some reduction in disclosure compared to the RDR with no impact on
Profit and Not-for-Profit Tier 2	the reported financial position, financial performance and cashflows of the entity.
Entities	

Taxation

The entity is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

Events After the Reporting Period

There were no events subsequent to 30 June 2022 that had the potential to significantly effect the ongoing structure and financial activities of the ATSB.

Financial Performance

This section analyses the financial performance of the Australian Transport Safety Bureau for the year ended 30 June 2022.

1.1 Expenses		
	2022	2021
	\$'000	\$'000
1.1A: Employee benefits		
Wages and salaries	12,414	12,187
Superannuation		
Defined contribution plans	1,462	1,744
Defined benefit plans	747	393
Leave and other entitlements	1,214	1,309
Separation and redundancies	¥.	237
Other employee expenses	126	102
Total employee benefits	15,963	15,972

Accounting Policy Accounting policies for employee related expenses is contained in the People and Relationships section. 1.1B: Suppliers Goods and services supplied or rendered Investigation services 2,778 3,291 Information technology 2,601 1,903 Services from the Department of Infrastructure, Transport, Regional Development, Communications and the Arts 487 270 **Contracted Services** 151 318 Travel 246 120 Training and conferences 149 90 Communications 138 168 Audit fees 149 82 Office rent 35 35 Publications and printing 17 17 Consultants 296 206 25 Legal 24 Other 390 227 Total goods and services supplied or rendered 7,095 7,118 Goods supplied 631 222 Services rendered 6,464 6,896 Total goods and services supplied or rendered 7,095 7,118 Other suppliers Workers compensation expenses 90 93 Total other suppliers 93 90 Total suppliers 7,188 7,208

The above lease disclosures should be read in conjunction with the accompanying notes 1.1C, 1.2C, 2.2A, 2.4A and 3.2.

	2022	2021
	\$'000	\$'000
1.1C: Finance costs		
Interest on lease liabilities	84	86
Total finance costs	84	86
	100	

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.2C, 2.2A, 2.4A and 3.2.

Accounting Policy All borrowing costs are expensed as incurred.		
1.1D: Write-down and impairment of other assets		
Impairment of property, plant and equipment	154	119
Total write-down and impairment of other assets	154	119

	2022	202
	\$'000	\$'00
wn-Source Revenue		
2A: Revenue from contracts with customers		
endering of services	978	1,12
otal revenue from contracts with customers	978	1,121
Accounting Policy		
Revenue from the sale of goods is recognised when control has been transfe	rred to the buyer.	
AASB 15 Revenue from Contracts with Customers has been applied to all new from the date of initial application.	and uncompleted contr	acts
The following is a description of principal activities from which the ATSB gene	erates its revenue:	
 Government appropriations 		
International programmes of work		
 Cost recovery rail investigations 		
The ATSB's revenue in relation to its international programmes and cost reco based and within scope for AASB 15. There are separate agreements, with sep performance over time obligations and point in time obligations.		ment
The transaction price is the total amount of consideration to which the ATSB	expects to be entitled in	ı
exchange for transferring promised goods or services to a customer. The cor		а
contract with a customer may include fixed amounts, variable amounts, or bo	oth.	
Receivables for goods and services, which have 30 day terms, are recognised	at the nominal amounts	s due
less any impairment allowance account. Collectability of debts is reviewed at Allowances are made when collectability of the debt is no longer probable.	end of the reporting pe	eriod.

Resources received free of charge 51 51 Remuneration of auditors¹ Investigation Services 2,709 3,229 2,760 3,280

¹ The ANAO does not provide any other services other than an audit of the Financial Statements.

Accounting Policy

Total other revenue

Resources Received Free of Charge

Resources received free of charge are recognised as revenue when, and only when, a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense. Resources received free of charge are recorded as either revenue or gains depending on their nature.

1.2 Own-Source Revenue and gains (continued)

	2022	2021
	\$'000	\$'000
Gains		2
1.2C: Other gains		
Sale proceeds	•	4
Other ¹	460	
Total other gains	460	4

¹ The Other Gain is related to the lease termination accounted for under AASB 16.

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 2.2A, 2.4A and 3.2.

Accounting Policy Sale of Assets		
Gains from disposal of assets are recognised when control o	f the asset has passed to the buyer.	
1.2D: Revenue from government		
1.2D: Revenue from government Departmental appropriations	20,863	20,933

Revenue from Government

Amounts appropriated for departmental appropriations for the year (adjusted for any formal additions and reductions) are recognised as Revenue from Government when the ATSB gains control of the appropriation, except for certain amounts relating to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned. Appropriations receivable are recognised at their nominal amounts.

Financial Position

This section analyses the Australian Transport Safety Bureau's assets used to conduct its operations and the operating liabilities incurred as a result. Employee related information is disclosed in the People and Relationships section.

2.1 Financial Assets		
	2022	202
	\$'000	\$'00
2.1A: Cash and cash equivalents		
Cash on hand or on deposit	348	336
Total cash and cash equivalents	348	336
Accounting Policy		
Cash is recognised at its nominal amount. Cash and cash equivaler a) cash on hand; and	nts includes:	
 b) demand deposits in bank accounts with an original maturity convertible to known amounts of cash and subject to insign 		
2.1B: Trade and other receivables		
	97	14
Goods and services receivables Goods and services	<u>97</u> 97	14 14
Goods and services receivables Goods and services Total goods and services receivables	10	0.805
Goods and services receivables Goods and services Total goods and services receivables	10	0.805
Goods and services receivables Goods and services Total goods and services receivables Appropriations receivables Appropriation receivable	97	14
Goods and services receivables Goods and services Total goods and services receivables Appropriations receivables Appropriation receivable Total appropriations receivables	<u>97</u> 8,911	14 8,955
Goods and services receivables Goods and services Total goods and services receivables Appropriations receivables Appropriation receivable Total appropriations receivables	<u>97</u> 8,911	14 8,955
Goods and services receivables Goods and services Total goods and services receivables Appropriations receivables Appropriation receivable Total appropriations receivables Other receivables Statutory receivables	97 8,911 8,911	14 8,955 8,955
Goods and services receivables Goods and services Total goods and services receivables Appropriations receivables Appropriation receivable Total appropriations receivables Other receivables	97 8,911 8,911 49	14 8,955 8,955 8,955

Trade and other receivables have been assessed for impairment and none was identified.

Accounting Policy

Financial assets

Trade receivables and other receivables that are held for the purpose of collecting the contractual cash flows where the cash flows are solely payments of principal and interest, that are not provided at below-market interest rates, are subsequently measured at amortised cost using the effective interest method adjusted for any loss allowance.

2.2 Non-Financial Assets

Other movements of right-of-use assets 4

Total as at 30 June 2022

	Buildings		Plant and equipment	Contraction of the second second	Other Intangibles	Tota
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
As at 1 July 2021						
Gross book value	10,753	16	3,128	8,759	18	22,656
Accumulated depreciation, amortisation and impairment	(3,029)	1	(398)	(6,118)		(9,545)
Total as at 1 July 2021	7,724	16	2,730	2,641	Q.	13,111
Additions						
Purchase	14	-	471		-	471
Internally developed				644		644
Right-of-use assets ²	8,464		90			8,554
Revaluations and impairments recognised in other comprehensive income ³	-		(7)			(7)
Write-downs and Impairments recognised in net cost of services ³	-	-	(72)	(82)		(154)
Depreciation and amortisation	0.00	-	(359)	(648)	×	(1,007)
Depreciation on right-of-use assets	(1,309)	2	(18)	-	2	(1,327)
Other movements	(L_)		(37)			(37)

(6,066)

14,182

	Buildings	Heritage & Cultural	Plant and equipment	Computer Software	Other Intangibles	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Total as at 30 June 2022 represented by						
Gross book value	10,405	16	3,422	4,329	17	18,172
Accumulated depreciation, amortisation and impairment	(1,507)		(709)	(1,774)	1.	(3,990)
Total as at 30 June 2022	8,898	16	2,713	2,555	12	14,182
Carrying amount of right-of-use assets	8,898		85		2	8,983

(5,981)

8,898

(85)

2,555

2,713

16

¹ The carrying amount of computer software included \$2,484k internally generated and \$71k purchased software.

² The carrying amount of buildings ROU assets represents the value of new Canberra lease signed during the financial year.

³ The ATSB Management ensured that the appropriate assessments were made for impairment, useful lives and the valuation of non-financial assets at 30 June 2022.

⁴ The carrying amount of other movements of ROU assets represents the value of early termination of old Canberra lease.

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 1.2C, 2.4A and 3.2.

Revaluations of non-financial assets and intangible assets

All revaluations were conducted in accordance with the revaluation policy stated at Note 5.3. The ATSB previously engaged Jones Lang LaSalle Public Sector Valuations Pty Ltd (JLL) to undertake a revaluation of all plant and equipment assets with effect at 30 June 2020.

Accounting Policy

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor's accounts immediately prior to the restructuring.

Asset Recognition Threshold

Purchases of property, plant and equipment are recognised initially at cost in the statement of financial position, except for purchases costing less than \$5,000 excluding GST, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

Leased Right of Use (ROU) Assets

the lease and comprise of the initial lease liability amount, initial direct costs incurred when entering into the lease less any lease incentives received. These assets are accounted for by $% \left({{{\rm{D}}_{\rm{B}}}} \right)$ Commonwealth lessees as separate asset classes to corresponding assets owned outright, but included in the same presented if they were owned-

On initial adoption of AASB 16 the ATSB has adjusted the ROU assets at the date of initial application by the amount of any provision for onerous leases recognised immediately before the date of initial application. Following initial application, an impairment review is undertaken for any ROU lease asset that shows indicators of impairment and an impairment loss is recognised against any ROU asset that is impaired. Leased ROU assets continue to be measured at cost after initial recognition in Commonwealth agency, GGS and Whole of Government financial Heritage and Cultural Assets statements

Revaluations

Following initial recognition at cost, property, plant and equipment (excluding ROU assets) are carried at fair value (or an amount not materially different from fair value) less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets did not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depended upon the volatility of movements in market values for the relevant assets

Revaluation adjustments are made on a class basis. Any reveluation increment is credited to equity under the heading of Software is amortised on a straight-line basis over its anticipated asset revaluation reserve except to the extent that it reversed a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset restated to the revalued amount.

Depreciation

Depreciable property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the ATSB using, in all cases, the straight-line method of depreciation

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

		2022	2021
	Plant & Equipment	3-10 years	3-10 years
1	Computer Equipment	4 years	4 years
	Office Equipment	3-10 years	3-10 years
	Heritage & Cultural	100 years	100 years

The ATSB has items of property, plant and equipment that are eritage and cultural assets that have limited useful lives and are depreciated.

The depreciation rates for ROU assets are based on the commencement date to the earlier of the end of the useful life of the ROU asset or the end of the lease term.

Impairment

All assets were assessed for impairment at 30 June 2022. Where indications of impairment exist, the asset's recoverable Leased ROU assets are capitalised at the commercement date of amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use. Value in use is the resent value of the future cash flows expected to be derived column as where the corresponding underlying assets would be from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the ATSB were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of property, plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

The ATSB has a Pegasus Mark II Propellor from a Supermarine Walrus aircraft. The Supermarine Walrus was a British singleengine amphibious biplane reconnaissance aircraft first flown in 1933

The ATSB has classified this item as a heritage and cultural asset. as its primary purpose relates to its heritage and cultural significance.

Intanaibles

The ATSB's intangibles comprise of purchased software and internally developed software for internal use. These assets are carried at cost less accumulated amortisation and accumulated impairment losses

useful life. The useful lives of the ATSB's software is five years.

All software assets were assessed for indications of impairment as at 30 June 2022.

2.3 Payables

	2022	2021
	\$'000	\$'000
2.3A: Suppliers		
Trade creditors and accruals	128	84
Accrued expenses	207	204
Total suppliers	335	288
Settlement is usually made within 31 days.		
2.3B: Other payables		
Salaries and wages	391	312
Superannuation	50	42
Unearned income	36	35
Total other payables	477	354

Accounting Policy

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (irrespective of having been invoiced).

Parental Leave Payments Scheme

Amounts received under the Parental Leave Payments Scheme by the ATSB not yet paid to employees were presented gross as cash and a liability (payable). The total amount received under this scheme was nil (2021: \$1,000).

2.4 Interest Bearing Liabilities		
	2022 \$'000	2021 \$'000
2.4A: Leases		
Lease Liabilities		
Buildings	9,086	8,020
Plant and equipment	85	98
Total leases	9,171	8,118
Maturity analysis - contractual undiscounted cash flows		
Within 1 year	1,177	1,679
Between 1 to 5 years	4,956	6,556
More than 5 years	3,315	72
Total leases	9,448	8,235

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 1.2C, 2.2A and 3.2.

The ATSB signed one new 10 year lease in Canberra as at 30 June 2022. The ATSB has in total four operating leases and one Memorandum of Understanding (MOU) arrangements with other government entities for property. The ATSB has applied AASB 16 for all leases and the cash outflow for leases for the year ended 30 June 2022 was \$1.251m.

Accounting Policy

For all new contracts entered into, the ATSB considers whether the contract is, or contains a lease. A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'.

Once it has been determined that a contract is, or contains a lease, the lease liability is initially measured at the present value of the lease payments unpaid at the commencement date, discounted using the interest rate implicit in the lease, if that rate is readily determinable, or the department's incremental borrowing rate.

Subsequent to initial measurement, the liability will be reduced for payments made and increased for interest. It is remeasured to reflect any reassessment or modification to the lease. When the lease liability is remeasured, the corresponding adjustment is reflected in the right-of-use asset or profit and loss depending on the nature of the reassessment or modification.

Funding

3.1 Appropriations

3.1A: Annual appropriations ('recoverable GST exclusive')

Annual Appropriations for 2022

	Annual appropriation \$'000	Adjustments to appropriation ¹ \$'000	Total appropriation \$'000	Appropriation applied in 2022 (current and prior years) \$'000	Variance ² \$'000
Departmental					
Ordinary annual services	20,863	1,285	22,148	21,559	589
Capital Budget	578	5994 52055	578	1,115	(537)
Total departmental	21,441	1,285	22,726	22,674	52

¹ PGPA Act Section 74 receipts.

² The variance between appropriations and appropriations applied in 2021-22 is due to a combination of underspends within supplier expenses, accrued supplier invoices and a delay with the finalisation of capital projects.

Annual Appropriations for 2021

				Appropriation applied in 2021	
	Annual appropriation	Adjustments to appropriation ¹	Total appropriation	(current and prior years)	Variance ²
	\$'000	\$'000	\$'000	\$'000	\$'000
Departmental					
Ordinary annual services	20,933	1,255	22,188	22,083	105
Capital Budget	4,735		4,735	4,013	722
Total departmental	25,668	1,255	26,923	26,096	827

¹ PGPA Act Section 74 receipts.

^{2.} The variance between appropriations and appropriations applied in 2020-21 is due to a combination of underspends within supplier expenses, accrued supplier invoices and a delay with the finalisation of capital projects.

3.1B: Unspent annual appropriations ('recoverable GST exclusive')

	2022 \$'000	2021
		\$'000
Departmental		
Appropriation Act (No. 1) 2018-19 ¹	13 - 1	14,000
Appropriation Act (No. 1) 2020-21	8,112	7,677
Appropriation Act (No. 1) 2020-21 (DCB)	799	1,278
Appropriation Act (No. 1) 2020-21 (Cash at Bank - 30 June)	348	336
Total departmental	9,259	23,291

¹ An unspent amount of \$14.0m relating to missing Malaysia Airlines Flight 370 was quarantined under section 51 during 2019-20.

3.2 Net Cash Appropriation Arrangements

	2022	2021
	\$'000	\$′000
Total comprehensive loss as per the Statement of Comprehensive Income	(669)	(362)
Plus: depreciation/amortisation expenses previously funded through revenue appropriation	1,007	703
Plus: depreciation right-of-use assets	1,327	1,594
Less: principal repayments - leased assets	(1,167)	(1,474)
Net Cash Operating Surplus/(Deficit)	498	461
Changes in Asset Revaluation Reserve	7	18
Operating Surplus/(Deficit) ¹	505	479

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 1.2C, 2.2A and 2.4A.

¹ The operating surplus of \$505k includes an amount of \$460k technical gain arising out of AASB 16 lease termination.

From 2010-11, the Government introduced net cash appropriation arrangements where revenue appropriations for depreciation/amortisation expenses ceased. Entities now receive a separate capital budget provided through equity appropriations. Capital budgets are to be appropriated in the period when cash payment for capital expenditure is required.

The inclusion of depreciation/amortisation expenses related to ROU leased assets and the lease liability principal repayment amount reflects the cash impact on implementation of AASB 16 *Leases*, it does not directly reflect a change in appropriation arrangements.

People and Relationship

This section describes a range of employment and post-employment benefits provided to our people and our relationships with other key people.

4.1 Employee Provisions		
	2022	2021
	\$'000	\$'000
4.1A: Employee provisions		
Leave	4,747	4,811
Total employee provisions	4,747	4,811

Accounting policy

Liabilities for 'short-term employee benefits' (as defined in AASB 119 *Employee Benefits*) and termination benefits expected within twelve months of the end of reporting period are measured at their nominal amounts.

Other long-term employee benefits are measured as net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

Leave

The liability for employee benefits includes provisions for annual leave and long service leave. The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including the entity's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long service leave has been determined by reference to the Australian Government. Shorthand Method outlined in the FRR as at 30 June 2022. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy

A provision is made for separation and redundancy benefit payments. The entity recognises a provision for termination when it has developed a detailed formal plan for the terminations and has informed those employees affected that it will carry out the terminations.

Superannuation

The ATSB's staff are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS), the PSS accumulation plan (PSSap), or other superannuation funds held outside the Australian Government.

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance's administered schedules and notes.

The ATSB makes employer contributions to the employees' defined benefit superannuation scheme at rates determined by an actuary to be sufficient to meet the current cost to the Government. The ATSB accounts for the contributions as if they were contributions to defined contribution plans.

4.2 Key Management Personnel Remuneration

Key management personnel (KMP) are those persons having authority and responsibility for planning, directing and controlling the activities of the ATSB, directly or indirectly, including any director (whether executive or otherwise) of that entity.

The ATSB has determined the KMP to be the Chief Commissioner and Chief Operating Officer who the Chief Commissioner considers to be KMP because of their responsibilities and the nature of their work. KMP is reported in the table below:

	2022	2021
	\$'000	\$'000
Short-term employee benefits	617	716
Post-employment benefits	70	69
Other long-term employee benefits	61	70
Total key management personnel remuneration expenses ¹	748	855

The total number of KMP that are included in the above table is 2 individuals (2021: 3 individuals).

^{1.} The above key management personnel remuneration excludes the remuneration and other benefits of the Portfolio Minister. The Portfolio Minister's remuneration and other benefits are set by the Remuneration Tribunal and are not paid by the ATSB.

4.3 Related Party Disclosures

Related party relationships:

The ATSB is an Australian Government controlled entity. Related parties to this entity are KMP including the Portfolio Minister and Executive, their close family members, and other Australian Government entities.

Transactions with related parties:

Given the breadth of Government activities, related parties may transact with the government sector in the same capacity as ordinary citizens. Such transactions include the payment or refund of taxes, receipt of a Medicare rebate or higher education loans. These transactions have not been separately disclosed in this note.

Significant transactions with related parties can include:

- the payments of grants or loans;
- purchases of goods and services;
- asset purchases, sales transfers or leases;
- debts forgiven; and
- guarantees.

Giving consideration to relationships with related entities, and transactions entered into during the reporting period by the ATSB, it has been determined that there are no related party transactions to be separately disclosed (2021: Nil).

This section analyses how the Australian Transport Safety Bureau manages financial risks within its operating environment.

5.1 Contingent Assets and Liabilities

Quantifiable contingencies

At 30 June 2022, the ATSB had no quantifiable contingencies (2021: Nil).

Unquantifiable contingencies

At 30 June 2022, the ATSB had no unquantifiable contingencies (2021: Nil).

Accounting Policy

Contingent liabilities and contingent assets are not recognised in the statement of financial position but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

	2022	2021
	\$'000	\$'000
5.2A: Categories of financial instruments		
Financial assets at amortised cost		
Cash and cash equivalents	348	336
Trade and other receivables	97	14
Total financial assets at amortised cost	445	350
Total financial assets	445	350
Financial liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	128	84
Total financial liabilities measured at amortised cost	128	84
Total financial liabilities	128	84

Accounting Policy **Financial assets**

classifies its financial assets in the following categories:

- financial assets at fair value through profit or loss; a)
- financial assets at fair value through other b)
- comprehensive income; and c) financial assets measured at amortised cost.

The classification depends on both the ATSB's business model for managing the financial assets and contractual cash flow characteristics at the time of initial recognition. Financial assets are recognised when the ATSB becomes a party to the contract and, as a consequence, has a legal right to receive or a legal obligation to pay cash and derecognised when the contractual rights to the cash flows from the financial asset expire or are transferred upon trade date.

Financial Assets at Amortised Cost

Financial assets included in this category need to meet two criteria:

1. the financial asset is held in order to collect the contractual cash flows; and

2. the cash flows are solely payments of principal and interest (SPPI) on the principal outstanding amount.

Amortised cost is determined using the effective interest method.

Effective Interest Method

Income is recognised on an effective interest rate basis for financial assets that are recognised at amortised cost.

Impairment of Financial Assets

Financial assets are assessed for impairment at the end of each reporting period based on Expected Credit Losses, using the general approach which measures the loss allowance based on an amount equal to lifetime expected credit losses where risk has significantly increased, or an amount equal to 12-month expected credit losses if risk has not increased.

The simplified approach for trade, contract and lease In accordance with AASB 9 Financial Instruments, the ATSB receivables is used. This approach always measures the loss allowance as the amount equal to the lifetime expected credit losses.

> A write-off constitutes a derecognition event where the write-off directly reduces the gross carrying amount of the financial asset.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial Liabilities at Amortised Cost

Financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective interest basis.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

5.3 Fair Value Measurement

	Fair value measurements at the end of the reporting period	
	2022	2021
	\$'000	\$'000

Non-financial assets

Non-Interior 035ets		
Heritage and cultural	16	16
Property, plant and equipment	2,713	2,730
	2,729	2,746
		i Sue

Accounting Policy

The ATSB has Heritage and Cultural, and Property, Plant and Equipment assets and the fair value for each asset is measured at market selling price, or depreciated replacement cost in isolated instances where no market prices or indicators are available for specialised, diagnostic equipment.

Following initial recognition at cost, property, plant and equipment are carried at fair value. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the asset's fair value as at the reporting date. The regularity of independent valuations depends on the volatility of movements in market values for the relevant assets.

The ATSB previously engaged Jones Lang LaSalle Public Sector Valuations Pty Ltd (JLL) to undertake a revaluation of all plant and equipment assets with effect at 30 June 2020 and confirm that the models developed comply with AASB 13 *Fair Value Measurement*.

Revaluation adjustments were made on a class basis. Any revaluation increment was credited to equity under the heading of asset revaluation reserve except to the extent that it reversed a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets were recognised directly in the surplus/deficit except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date was eliminated against the gross carrying amount of the asset and the asset was restated to the revalued amount.

The ATSB's property, plant and equipment assets under the fair value hierarchy, are valued at Level 3.The ATSB Management ensured that the appropriate assessments were made for impairment, useful lives and the valuation of non-financial assets at 30 June 2022.

Other information

6.1 Current/non-current distinction for assets and liabilities

6.1A: Current/non-current distinction for assets and liabilities

	2022 \$'000	202 \$'00
Assets expected to be recovered in:		
No more than 12 months		
Cash and cash equivalents	348	336
Trade and other receivables	9,069	9,123
Prepayments	564	527
Total no more than 12 months	9,981	9,986
More than 12 months		
Land & Building	8,898	7,724
Heritage and cultural	16	16
Plant and equipment	2,713	2,730
Computer software	2,555	2,641
Prepayments	11	ç
Total more than 12 months	14,193	13,120
Total assets	24,174	23,106
Liabilities expected to be settled in:		
No more than 12 months		
Suppliers	335	288
Other payables	477	354
Leases	1,603	1,501
Employee Provision	1,655	1,627
Total no more than 12 months	4,070	3,770
More than 12 months		
Leases	7,568	6,617
Employee Provision	3,092	3,184
Total more than 12 months	10,660	9,801
Total liabilities	14,730	13,57

SECTION 7 – MANAGEMENT AND ACCOUNTABILITY

Management and accountability

The Commission



ATSB commissioners with Chief Operating Officer.

The ATSB is governed by a Commission, comprising a Chief Commissioner and 3 part-time Commissioners.

The Commission provides guidance on the selection of accidents and other safety incidents to be investigated. The Commission is responsible for exercising the power to publish reports of accident investigations. It also supports the ATSB in encouraging safety action ahead of final reports, thus reducing the need to issue safety recommendations.

The Commission operates within the corporate governance framework of the *ATSB Commission Governance Manual*. The manual sets out the Commission's legislative requirements, parliamentary and ministerial accountability, membership and functions, administrative policies and procedures, and reporting obligations.

The Commission meets at least 4 times a year and manages ATSB business through regular teleconferences and electronic communications in accordance with its obligations under the TSI Act and its agreed policies.

Senior Leadership Team

During 2021–22, the ATSB Senior Leadership Team (SLT) met fortnightly to discuss strategic management issues and priorities. The SLT consisted of the Chief Commissioner, the Chief Operating Officer, the Directors Transport Safety and the Heads of Operational Support.

Audit and Risk Committee

The Audit and Risk Committee provides independent assurance and advice to the Chief Commissioner (and to the Commission and SLT) on ATSB financial and performance reporting responsibilities, risk oversight and management, and system of internal control. The Audit and Risk Committee consists of an independent chair and 2 independent members. The Committee held 4 meetings throughout the financial year, in September and December 2021, and March and June 2022.

In 2021–22, the Committee advised and provided assurance on a range of matters including the ATSB:

- Internal Audit Annual Program
- > enterprise risk management, fraud control and business continuity frameworks
- performance reporting
- financial statement preparations
- work health and safety management
- > compliance with the PGPA Act and the associated Rule
- > internal audit governance framework including the Internal Audit Charter.

The internal audit program for 2021–22 focused on assuring ATSB legislative compliance and performance against its core functions, for example a review of ATSB payroll functions.

The Audit and Risk Committee Charter is available on the ATSB website at www.atsb.gov.au.

Business planning and reporting

Each year, the ATSB develops an Annual Plan to set business objectives for the financial year. The Annual Plan is consistent with the strategic direction provided through the Corporate Plan, published on the ATSB website. The Annual Plan incorporates the operational priorities, activities, deliverables and KPIs for the financial year.

The ATSB Annual Plan 2021-22 gave priority to:

- > independent investigation of transport accidents and other safety occurrences, and research
- > implementing systems and programs enabling greater efficiency and effectiveness
- strategic projects
- further embedding governance and assurance processes
- > enhancing stakeholder engagement.



ATSB Strategic Plan workshop.

Risk management

Consistent with the PGPA Act, the ATSB maintains a risk management framework. The framework includes a Risk Management Policy, Risk Management Strategy, Risk Management Plan and Enterprise Risk Register. The framework is an integral element of the broader ATSB governance, planning and management framework. The ATSB has integrated risk assessment and mitigation into business practices, planning and performance reporting – at both corporate and business unit levels.

The ATSB is committed to a comprehensive, coordinated and systematic approach to the management of risk – directed towards supporting managers at all levels to anticipate and plan for risk, and to respond appropriately. For 2021–22, the ATSB focused on risks related to financial sustainability, reputation, health and safety, and jurisdictional reach.

During 2021–22, the ATSB developed new risk management training in support of its risk management framework.

Business continuity plan

The ATSB business continuity management framework details the policies and procedures for the agency to respond to a business disruption. The framework ensures the ATSB is well placed to implement recovery processes and return to business-as-usual as quickly as possible while preserving the safety of staff and limiting the damage and disruption to business operations.

Fraud control

In accordance with the PGPA Act, the ATSB maintains a fraud management framework which includes a Fraud Policy and Strategy Statement and a Fraud Control Plan.

The ATSB manages a fraud risk register to identify potential fraud risks and subsequently minimise the incidence of fraud. This process is accompanied by development, implementation and regular assessment of fraud prevention, detection and response strategies.

The ATSB staff awareness program incorporates activities for existing and new staff.

The Audit and Risk Committee and the Commission receives reports on fraud risks and the implementation of controls and treatments.

Ethical standards

The ATSB is committed to promoting exceptional performance and standards of behaviours in and across our workplaces.

During 2021–22, the ATSB improved its induction packages and training sessions to increase awareness and promote the APS Values, Employment Principles and Code of Conduct.

The ATSB investigated one potential breach of the Code of Conduct, which resulted in a minor sanction being issued.

Staff management

The ATSB workforce planning processes provide an integrated approach to decision-making, prioritisation of resources and identification of critical capabilities.

The ATSB recruitment process is designed to enhance the capabilities and experience required to meet workforce capability requirements. During 2021–22, the ATSB conducted several recruitment processes to fill specialised transport safety investigation roles, and a range of enabling services roles in the Operational Support Group.

Staffing profile

The ATSB staffing profile has shifted slightly, from 109 at the end of June 2021 to 108 by the end of June 2022. The associated staff turnover rate was approximately 14%. Table 14 displays the ATSB staff numbers, by classification, as at 30 June 2022.

Table 14: ATSB staffing profile at 30 June 2022

Substantive Classification	Gender x (full- time)	Female (full- time)	Female (part- time)	Male (full- time)	Male (part- time)	Non-ongoing	Total
Statutory office holders	-	-	1	1	2	-	4
Senior Executive Service (SES)	-	-	-	1	-	-	1
EL 2	-	5	3	30	4	*5	42
EL 1	-	9	2	20	-	1	31
APS 6	-	5	2	10	-	2	17
APS 5	-	4	2	7	-	4	13
APS 4	-	-	-	-	-	-	-
Total	-	23	10	69	6	12	108

*The figures outlined in Table 14 include 5 casual employees, employed by the ATSB on irregular and intermittent non-going contracts as at 30 June 2022.

This total is comprised of the following employment arrangements:

- > 98 staff (representing all non-SES employees) covered by the enterprise agreement
- one SES employee covered by section 24(1) determinations, established in accordance with the ATSB SES remuneration policy
- > 4 statutory office holders (representing the Commissioners) determined by the remuneration tribunal.

There are no other employment arrangements in place and there is no provision for performance pay.

Of the 104 SES and non-SES employees, 70 employees were based in Canberra, 17 based in Brisbane, 3 based in Adelaide, 6 based in Perth, 6 based in Melbourne and 2 based in Sydney.

Non-salary benefits provided to employees under the enterprise agreement include:

- > flexible working arrangements, including part-time and working from home
- > access to various leave, supporting work/life balance
- influenza vaccinations, and annual health checks
- > access to the Employee Assistance Program.

Indigenous employees

At 30 June 2022, the ATSB had no employees who identified as Indigenous.

Salary rates

Table 15 displays the salary rates supporting the above employment arrangements as at 30 June 2022.

Table 15: ATSB salary rates at 30 June 2022

Substantive classification	Lower(\$)	Upper(\$)
Statutory office holders	As determined	by the remuneration tribunal
EL 2	126,021	154,885
EL 1	106,006	128,513
APS 6	82,753	98,436
APS 5	76,321	82,409
APS 4	68,364	74,287

Maximums include transport safety investigator and respective supervisor salaries, representing a \$2,161–\$6,050 increase on standard APS 6–EL 2 rates.

Senior executive remuneration for the 2021–22 financial year is captured and presented in Table 19: Information about remuneration for key management personnel.

Training and development

The ATSB is committed to building a strong, capable and resilient workforce. It does so by embracing greater opportunities for learning through on-the-job activities, relational learning through peers and networks, and blended training.

During 2021–22, the ATSB focus was to better target learning opportunities to training needs. Drawing on work level standards and leadership expectations, a comprehensive competency framework was implemented, along with a learning and development framework, enabling ATSB to design and deliver targeted training programs aligned to high priority organisational needs.

Other key training and development initiatives in 2021–22 included:

- the implementation of the ATSB leadership program, with 17 participants having either commenced or completed the program in 2021–22 and another 16 participants identified to complete the program in 2022–23
- the implementation of regular continuing professional development sessions for transport safety investigators, and monthly lunchtime learning sessions targeting core skills and knowledge for all ATSB staff
- a redesign of the ATSB induction program, including both essential knowledge for all new starters as well as specialised induction training for new transport safety investigators
- > the development and implementation of a suite of eLearning courses to support AIMS implementation.

Purchasing

The ATSB purchases goods and services in accordance with the Commonwealth Procurement Rules (CPRs). These rules are applied through the accountable authority instructions. The ATSB procurement policies and processes have been developed to ensure that:

- it undertakes competitive, non-discriminatory procurements
- > it uses resources efficiently, effectively, economically and ethically
- > it makes all procurement decisions in an accountable and transparent manner.

Consultants

The ATSB engages consultants when it lacks specialist expertise, or when independent research, review or assessment is required. Consultants are typically engaged to:

- > investigate or diagnose a defined issue or problem
- > carry out defined reviews or evaluations
- > provide independent advice, information or creative solutions to assist ATSB decision-making.

The ATSB policies on selection and engagement of consultants are in accordance with the CPRs. Before engaging consultants, the ATSB considers the skills and resources required for the task, the skills available internally and the cost effectiveness of engaging an external contractor.

During 2021–22, 3 new reportable consultancy contracts were entered into involving total actual expenditure of \$99,609 (GST inclusive). There were 3 ongoing consultancy contracts totalling \$100,871 carried over from 2020–21.

During 2021–22, 15 new reportable non-consultancy contracts were entered into involving total actual expenditure of \$722,428 (GST inclusive). There were 34 ongoing non-consultancy contracts totalling \$5,056,371 (GST inclusive) carried over from 2020–21.

Annual reports contain information about actual expenditure on reportable contracts for consultancies and nonconsultancies. Information on the value of contracts and consultancies is available from the AusTender website at www.tenders.gov.au.

Australian National Audit Office access clauses

There were no contracts during 2021–22 that did not provide for the Auditor-General to have access to the contractors' premises.

Exempt contracts

No contracts were exempted on public interest grounds from publication on AusTender during 2021–22.

Procurement initiatives to support small business

The ATSB supports small business participation in the Commonwealth Government procurement market. Small and medium enterprises (SME) and small enterprise participation statistics are available on the Department of Finance website at www.finance.gov.au.

The ATSB seeks to support SMEs, consistent with paragraph 5.4 of the CPRs. It ensures that its communications are expressed in clear and simple language. Its finance system is set up to ensure prompt payments to all contractors and suppliers, and it makes use of credit cards.

Legal services and expenditure

Paragraph 11.1(a) of the Legal Services Directions 2017, issued by the Attorney-General under the *Judiciary Act 1903*, requires chief executives of departments and agencies to ensure that legal services expenditure is appropriately recorded and monitored. Chief executives must also ensure that their agencies make records of their legal services expenditure for the previous financial year, available by 30 October in the following financial year. The following amounts are exclusive of GST.

ATSB expenditure on legal services for 2021–22 was \$261,297 comprising:

- > \$240,314 on external legal services
- > \$20,983 on internal legal services.

External scrutiny and participation

Senate Rural and Regional Affairs and Transport Legislation Committee

Report into the importance of a viable, safe, sustainable and efficient road transport industry

In August 2021, the Senate Committee handed down its report from the above inquiry. The report included the following recommendation to the government to:

Expand the powers of the Australian Transport Safety Bureau to carry out independent, no-blame safety investigations of road crashes involving commercial heavy vehicles.

The Australian Government's response to this inquiry in March 2022 noted the recommendation and acknowledged it was consistent with recent recommendations from the Productivity Commission. The Department of Infrastructure, Transport, Regional Development, Communications and the Arts has been undertaking consultation with industry in response to these recommendations.

Independent Review of Australia's Domestic Commercial Vessel Safety Legislation, Delivery Costs and Charging Options

In December 2021, the Australian Government commissioned an independent review of Australia's domestic commercial vessel safety legislation, and costs and charging arrangements. The review includes consideration of whether the ATSB should have responsibility for DCVs, and if so, how that would be best implemented. The ATSB met with the independent reviewers and provided a submission to the first phase. The ATSB will continue to work productively with the reviewers.

Coronial inquests

The ATSB is required to participate in coronial investigations and inquests. The ATSB participated in 6 coronial matters during 2021–22 relating to ATSB investigations:

- Fatal collision with terrain involving US-registered C130 air tanker near Peak View, New South Wales, on 23 January 2020.
- Fatal collision with water involving Yak 52 aircraft conducting low level aerobatics near South Stradbroke Island, Queensland, on 5 June 2019.
- Fatal collision with water involving DHC02 aircraft (Sydney Seaplanes) at Jerusalem Bay, New South Wales, on 31 December 2017.
- Fatal mid-air collision between Beech Travel Air twin-engine aircraft and Piper Seminole twin-engine aircraft south of Mangalore Airport, Victoria, on 19 February 2020.
- Loss of control and fatal collision with terrain involving Cessna 411, west of Renmark Airport, South Australia, on 30 May 2017.
- Loss of control and fatal collision with terrain involving B200 King Air at Essendon Airport, Victoria, on 21 February 2017.

The matters above are yet to be completed by the responsible coroners.

SECTION 8 – APPENDICES

Appendix A: Other mandatory information

Work health and safety

The ATSB meets its obligations under the *Work Health and Safety Act 2011* (WHS Act) by maintaining a safe and healthy work environment and promoting strategies to enhance personal wellbeing.

The ATSB is committed to taking all reasonably practicable steps to eliminate or minimise risks to the health, safety and welfare of staff, contractors and visitors.

The ATSB has taken a number of steps to respond to the ongoing challenges of the COVID-19 pandemic by providing staff with resources to enable them to maintain professional and social connections whether working from home or in the office.

During 2021–22, the ATSB implemented a number of WHS initiatives to support the physical and mental health and wellbeing of staff, including:

- presentations on critical incident stress management (CISM), resilience and good mental health in the workplace
- supporting hybrid working arrangements
- > monitoring and implementing both government and expert health advice
- > providing staff with early intervention support and promoting the Employee Assistance Program
- > health assessments and influenza vaccinations available to all staff.

Strengthening our WHS management systems remains a key focus as demonstrated by the procurement of a new online WHS management system to be implemented throughout 2022–23.

In accordance with the WHS Act, the ATSB WHS and Wellbeing Committee met approximately every 6 weeks throughout 2021–22. The ATSB currently has health and safety representatives in every office and representing 3 transport modes (aviation, marine and, rail).

Notifiable incidents

In 2021–22, no notifiable incidents occurred under Part 3 or Part 5 of the WHS Act.

Work health and safety investigations

No investigations were conducted, and no notices were given in relation to incidents at ATSB workplaces during 2021–22.

Advertising and market research

During 2021–22, the ATSB spent \$1,468 (GST inclusive) on advertising for recruitment. There were no further payments for advertising or market research.

Ecologically sustainable development and environmental performance reporting

(Section 516A of the Environment Protection and Biodiversity Conservation Act 1999)

The ATSB is fully committed to the principles of ecologically sustainable development. The nature of its work as Australia's national transport safety investigator – with a focus on the investigation of transport accidents, research into transport safety and dissemination of safety information – means that the ATSB commitment is expressed through its day-to-day activities within its offices.

The ATSB operates under the Energy Efficiency in Government Operations (EEGO) Policy, and through its office accommodation leasing arrangements, the ATSB environmental management system complies with ISO 14001:2004 – the international standard for environmental management systems. The system is focused on ATSB office-based activities in Canberra. Initiatives are applied at regional office premises, where appropriate.

The ATSB has contracted out its data centres to private providers, with the result that servers and information and communication technology (ICT) infrastructure are located outside the ATSB premises. This produced a significant saving in energy use. The ATSB has limited its energy use through various initiatives that focus on improving the energy efficiency of the property portfolio, for example:

- > operating a virtualised and cloud IT infrastructure environment
- using 7% green energy
- ensuring that desktop IT equipment uses energy-saving policies, such as automatic turn-off for monitors and hard drives after periods of inactivity
- > reducing the number of printers in the network
- > setting each printer default to mono (black) and double-sided printing
- > using photocopy paper containing 60% recycled paper for internal use
- conserving energy, water, paper and other natural resources while still maintaining a comfortable work environment
- > actively recycling paper waste
- > promoting the separation of general waste into recyclable and non-recyclable items before disposal
- > promoting video conferencing as an alternative to travel, where practicable
- using motion-sensor lighting in offices
- reducing the effect of direct sunlight on air conditioning systems by installing blinds or tinting, where appropriate.

Grant programs

The ATSB did not administer any grant programs during 2021–22.

Diversity and inclusion

Diversity and inclusion are critical to the ATSB organisational culture. The ATSB values and embraces the diverse skills and experience of staff to foster a diverse and inclusive workplace. The ATSB partners with portfolio agencies to provide staff with greater access to diversity networks and support. During 2021–22, the ATSB focused on:

- > implementing a Domestic and Family Violence procedure and promoting supports for staff
- > raising awareness of diversity events and supporting staff attendance both in person and online.

Disability reporting mechanism

The National Disability Strategy 2010–2020 is Australia's overarching framework for disability reform. It acts to ensure the principles underpinning the United Nations Convention on the Rights of Persons with Disabilities are incorporated into Australia's policies and programs that affect people with a disability, their families and carers.

All levels of government will continue to be held accountable for the implementation of the strategy through biennial progress reports to the Council of Australian Governments. Progress reports can be found at www.dss.gov.au.

Disability reporting is included in the Australian Public Service Commission's State of the Service reports and APS Statistical Bulletin. These reports are available at www.apsc.gov.au.

Freedom of Information

The following information explains how to request access to documents held by the ATSB under the *Freedom of Information Act 1982* (FOI Act). It also explains what records the ATSB holds, and what arrangements the ATSB has in place for outside participation.

Entities subject to the FOI Act are required, under Part II of the Act, to publish information as part of the information publication scheme. Information including an Agency Plan showing what information it published, is available on the ATSB website at www.atsb.gov.au.

Detailed information about the FOI Act is available via the Office of the Australian Information Commissioner (OAIC) website at www.oaic.gov.au and the Federal Register of Legislation website at www.legislation.gov.au.

How to lodge a request for information

Information about how to make an application under the FOI Act can be found on the ATSB website at www.atsb.gov.au.

A request under the FOI Act for access to documents must:

- ➢ be in writing
- > state that the request is an application for the purposes of the FOI Act
- > provide enough information to enable the documents sought to be identified
- > give details of how notices under the FOI Act may be sent.

Submission of FOI requests, or enquiries about access, should be directed to:

Freedom of Information Coordinator Australian Transport Safety Bureau PO Box 967 CIVIC SQUARE ACT 2608

Email: FOI-ATSB@atsb.gov.au

Charges

There are no application fees payable to lodge an FOI request.

The ATSB may impose a charge for the work involved in providing access to documents required through a request under the FOI Act. These charges are imposed in accordance with the FOI Act and the *Freedom of Information (Charges) Regulations 2019.* These charges may relate to the time spent searching for and retrieving relevant documents, decision-making time, photocopying and other costs. The FOI Act also provides that the first 5 hours of decision-making time is waived. The applicant will be notified as soon as possible with an estimate of the charges associated with the processing of the request. The request will not be processed until the applicant responds to such notification.

In some circumstances, charges associated with the processing of the request may be remitted. Should the applicant wish to seek remission of the charges, the criteria considered by the ATSB include whether:

- payment of the charges, or part of the charges, would cause financial hardship to the applicant or a person on whose behalf the application was made
- giving access to documents is in the general public interest, or in the interest of a substantial section of the public.

The applicant would need to contact the ATSB in writing, or by email, to explain why they meet the criteria, or to inform the agency of overall circumstances which justify non-payment of charges. Requests for the remission of the charges should be forwarded to the Freedom of Information Coordinator.

It may not be possible to obtain access to all the documents sought in an FOI request. Access is limited by exemptions, such as section 38 – secrecy provisions of the FOI Act.

The ATSB is required to perform its functions under section 12AA of the TSI Act. A significant amount of information gathered by the ATSB during the course of its investigations is defined as *restricted information* under section 3 of the TSI Act, and access to such information is exempt from release in accordance with subparagraph 38(1)(b)(i) of the FOI Act.

Freedom of Information requests

In 2021–22, the ATSB received 19 FOI requests.

Table 16: Freedom of Information activity⁴

2021–22	Numbers
Requests	
On hand at 1 July 2021 (A)	3
New requests received (B)	19
Requests withdrawn (C)	5
Requests transferred in full to another agency (D)	0
Requests on hand at 30 June 2022 (E)	3
Total requests completed at 30 June 2022 (A+B-C-D-E)	14
Action on requests	
Access in full	0
Access in part	8
Access refused	6
Access transferred in full	0
Request withdrawn	5
Response times (excluding withdrawn)	
0–30 days	13
31–60 days	1
61–90 days	0
90+ days	0
Internal review	
Requests received	0
Decision affirmed	0
Decision amended	0
Request withdrawn	0
Information Commissioner review	
Applications received	0
Decision affirmed	0
Decision amended	15
Application withdrawn	0
Administrative Appeals Tribunal (AAT) review	
Applications received	0

 ⁴ These statistics cannot be compared directly with the deadlines set in the FOI Act, as the FOI Act provides for extensions of time to allow for consultation with third parties, negotiation of charges and other issues.
 ⁵ Information Commissioner review decision 'ABH' and Australian Transport Safety Bureau (Freedom of Information) [2022] AlCmr27 (25 March 2022) is available on the Australasian Legal Information Institute website at www.austlii.edu.au.

Records the ATSB holds

The ATSB holds records such as:

- human and financial resource management records
- briefing papers and submissions prepared for ministers, parliamentary secretaries, parliamentary committees, the Cabinet and the Executive Council (most of these are classified documents)
- business papers, briefing notes and meeting records for committees, and conferences in which the ATSB services or participates
- documents prepared by international agencies
- > documents relating to the development of legislation
- internal administration documents
- > internal treaties, memoranda of understanding and international conventions
- > legal documents, including legislation, contracts, leases and court documents
- > maps and other geographical information
- ministerial responses to parliamentary questions, interdepartmental and general correspondence and papers
- > policy documents, recommendations and decisions
- > registers of documents, agreements and approvals
- statistics and databases
- > technical standards, guidelines, specifications, charts, photographs, drawings and manuals
- > accident and incident investigation and notification records.

To view a list of manuals and other documents the ATSB uses when making decisions or recommendations that affect the public, visit the ATSB website at www.atsb.gov.au.

Under section 8C of the FOI Act, an exempt matter is not required to be published. The ATSB reserves the right to delete exempt matter from its information prior to providing access.

To find out more about the types of personal information the ATSB holds, please refer to the ATSB Privacy Policy on the ATSB website at www.atsb.gov.au.

For further information, please contact the ATSB either by telephone on 1800 020 616 or by email at atsbinfo@atsb.gov.au.

Functions and decision-making powers

The ATSB functions are detailed in section 12AA of the TSI Act and are further described throughout this report.

Certain officers exercise decision-making powers under portfolio legislation and other matters. These responsibilities are set out in the *Administrative Arrangements Order (AAO)* for the Commonwealth of Australia and relate to transport safety, including investigations.

For a complete and up-to-date copy of the AAO, visit the Federal Register of Legislation website at www.legislation.gov.au.

To assist ATSB employees in exercising their powers appropriately, and enable access to their decision-making authorities, the ATSB uses an intranet site which allows employees to view delegations online. It also allows employees to check information about the powers and authorities assigned under the legislation set out in the AAO and by-laws, such as the PGPA Act and the *Public Service Act 1999*. Powers delegated under the TSI Act are recorded on the back of identity cards for all investigators.

Arrangements for outside participation

The ATSB consults widely to gain the views of its stakeholders and clients about future policy directions and program delivery. This includes consulting with other Australian state and territory government departments and agencies, as appropriate, and with foreign governments – particularly in the context of transport safety investigations. The ATSB may also contact a very broad range of stakeholders for particular policy issues.

Appendix B: Entity resource statement 2021–22

Table 17: ATSB resource statement 2021–22

	Actual available appropriation 2021–22 \$'000 (a)	Payments made 2021–22 \$'000 (b)	Balance remaining 2021–22 \$'000 (a) - (b)
Ordinary Annual Services ¹			
Departmental appropriation ²	31,681	22,674	9,007
Total	31,681	22,674	9,007
Total ordinary annual services A	31,681	22,674	9,007
Other services			
Departmental non-operating			
Equity injections	-	-	-
Total	-	-	-
Total other services B	-	-	-
Total net resourcing and payments for the Australian Transport Safety Bureau	31,681	22,674	9,007

1 Appropriation Act (No. 1) 2021–22 and includes prior year departmental appropriation and section 74 Retained Revenue Receipts.

2 Includes an amount of \$0.578 million in 2021–22 for the Departmental Capital Budget. For accounting purposes, this amount has been designated as 'contributions by owners'.

Expenses for Outcome 1

Outcome 1: Improved transport safety in Australia including through independent 'no-blame' investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and influencing safety action.

Table 18: Expenses for outcome

	Budget* 2021–22 \$'000 (a)	Actual Expenses 2021–22 \$'000 (b)	Variation 2021–22 \$'000 (a) - (b)
Program 1.1: Australian Transport Safety Bureau			
Departmental expense			
Departmental appropriation ¹	22,302	22,148	154
Expenses not requiring appropriation in the Budget year	3,812	3,575	237
Total for Program 1.1	26,114	25,723	391
Total expenses for Outcome 1	26,114	25,723	391

* Full year budget, including any subsequent adjustment made to the 2021-22 Budget at Additional Estimates.

1 Departmental Appropriation combines Ordinary annual services (Appropriation Act No. 1 and No. 5) and Retained Revenue Receipts under section 74 of the PGPA Act.

	2021–22	2020–21
Average Staffing Level (number)	101	101

		Short-ter	m benefi	ts	Post- employment benefits	2		Termination benefits	Total remuneration
Name	Position title	Base salary	Bonuses	Other benefits and allowances	Superannuation contributions	Long service leave	Other long-term benefits		
A Mitchell*	Chief Commissioner	346,113	-	-	19,500	7,788	26,539	-	399,940
C McNamara	Chief Operating Officer	267,645	-	3,607	50,317	6,022	20,522	-	348,113

Table 19: Information about remuneration for key management personnel⁶

* Remuneration paid to Chief Commissioner since his appointment, 2 September 2021.

Table 20: Information about remuneration for other highly paid staff

		Short-ter	m benefit	S	Post- employment benefits	Other long- benefits	term	Termination benefits	Total remuneration	
Total remuneration bands	Number of other highly paid staff	Average base salary	Average bonuses	Average other benefits and allowances	Average superannuation contributions	Average long service leave	Average other long- term benefits	Average termination benefits	Average total remuneration	
\$235,001- \$245,000	2	154,885	-	41,612	28,034	3,485	11,876	-	239,892	
\$245,001- \$270,000	1	154,885	-	67,392	28,034	3,485	11,876	-	265,672	
\$270,001- \$295,000	-	-	-	-	-	-	-	-	-	
\$295,001- \$320,000	-	-	-	-	-	-	-	-	-	
\$320,001- \$345,000	-	-	-	-	-	-	-	-	-	
\$345,001- \$370,000	-	-	-	-	-	-	-	-	-	
\$370,001- \$395,000	-	-	-	-	-	-	-	-	-	
\$395,001- \$420,000	-	-	-	-	-	-	-	-	-	
\$420,001- \$445,000	-	-	-	-	-	-	-	-	-	
\$445,001- \$470,000	-	-	-	-	-	-	-	-	-	
\$470,001- \$495,000	-	-	-	-	-	-	-	-	-	
\$495,001- 	-	-	-	-	-	-	-	-	-	

⁶ An additional table about remuneration for senior executives (including total remuneration bands) is not required, as all senior executive remuneration within the ATSB has been detailed in Tables 19 and 20.

Appendix D: Management of human resources

	Male			Female			Indetermin	nate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
NSW	2	-	2	-	-	-	-	-	-	2
Qld	13	-	13	3	-	3	-	-	-	16
SA	3	-	3	-	-	-	-	-	-	3
Tas	-	-	-	-	-	-	-	-	-	-
Vic	5	-	5	-	1	1	-	-	-	6
WA	5	-	5	-	1	1	-	-	-	6
ACT	34	-	34	19	6	25	-	-	-	59
NT	-	-	-	-	-	-	-	-	-	-
External Territories	-	-	-	-	-	-	-	-	-	-
Overseas	-	-	-	-	-	-	-	-	-	-
Total	62	-	62	22	8	30	-	-	-	92

Table 21: All ongoing employees current report period (2021–22)

Table 22: All non-ongoing employees current report period (2021–22)

	Male			Female			Indetermir	nate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
NSW	-	-	-	-	-	-	-	-	-	-
Qld	-	1	1	-	-	-	-	-	-	1
SA	-	-	-	-	-	-	-	-	-	-
Tas	-	-	-	-	-	-	-	-	-	-
Vic	-	-	-	-	-	-	-	-	-	-
WA	-	-	-	-	-	-	-	-	-	-
ACT	6	3	9	1	1	2	-	-	-	11
NT	-	-	-	-	-	-	-	-	-	-
External Territories	-	-	-	-	-	-	-	-	-	-
Overseas	-	-	-	-	-	-	-	-	-	-
Total	6	4	10	1	1	2	-	-	-	12

Table 23: All ongoing employees previous report period (2020–21)

	Male			Female			Indetermin	nate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
NSW	1	-	1	-	-	-	-	-	-	1
Qld	13	-	13	-	1	1	-	-	-	14
SA	3	-	3	-	-	-	-	-	-	3
Tas	-	-	-	-	-	-	-	-	-	-
Vic	6	-	6	1	-	1	-	-	-	7
WA	5	-	5	-	1	1	-	-	-	6
ACT	34	-	34	23	5	28	-	-	-	62
NT	-	-	-	-	-	-	-	-	-	-
External Territories	-	-	-	-	-	-	-	-	-	-
Overseas	-	-	-	-	-	-	-	-	-	-
Total	62	-	62	24	7	31	-	-	-	93

Table 24: All non-ongoing employees previous report period (2020–21)

	Male			Female			Indetermin	Total		
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
NSW	-	-	-	-	-	-	-	-	-	-
Qld	-	-	-	-	1	1	-	-	-	1
SA	-	-	-	-	-	-	-	-	-	-
Tas	-	-	-	-	-	-	-	-	-	-
Vic	-	-	-	-	-	-	-	-	-	-
WA	-	-	-	-	-	-	-	-	-	-
ACT	7	-	7	4	-	4	-	-	-	11
NT	-	-	-	-	-	-	-	-	-	-
External Territories	-	-	-	-	-	-	-	-	-	-
Overseas	-	-	-	-	-	-	-	-	-	-
Total	7	-	7	4	1	5	-	-	-	12

Appendix E: Australian Public Sector (APS) classification and gender

	Male			Female			Indetermin	ate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
SES 3	-	-	-	-	-	-	-	-	-	-
SES 2	1	-	1	-	-	-	-	-	-	1
SES 1	-	-	-	-	-	-	-	-	-	-
EL 2	29	-	29	5	3	8	-	-	-	37
EL 1	19	-	19	9	2	11	-	-	-	30
APS 6	9	-	9	5	1	6	-	-	-	15
APS 5	4	-	4	3	2	5	-	-	-	9
APS 4	-	-	-	-	-	-	-	-	-	-
APS 3	-	-	-	-	-	-	-	-	-	-
APS 2	-	-	-	-	-	-	-	-	-	-
APS 1	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Total	62	-	62	22	8	30	-	-	-	92

Table 25: Australian Public Service Act ongoing employees current report period (2021–22)

Table 26: Australian Public Service Act non-ongoing employees current report period (2021–22)

	Male			Female			Indetermin	ate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
SES 3	-	-	-	-	-	-	-	-	-	-
SES 2	-	-	-	-	-	-	-	-	-	-
SES 1	-	-	-	-	-	-	-	-	-	-
EL 2	1	4	5	-	-	-	-	-	-	5
EL 1	1	-	1	-	-	-	-	-	-	1
APS 6	1	-	1	-	1	1	-	-	-	2
APS 5	3	-	3	1	-	1	-	-	-	4
APS 4	-	-	-	-	-	-	-	-	-	-
APS 3	-	-	-	-	-	-	-	-	-	-
APS 2	-	-	-	-	-	-	-	-	-	-
APS 1	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
TOTAL	6	4	10	1	1	2	-	-	-	12

Table 27: Australian Public Service Act ongoing employees previous report period (2020–21)

	Male			Female			Indetermin	ate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
SES 3	-	-	-	-	-	-	-	-	-	-
SES 2	1	-	1	-	-	-	-	-	-	1
SES 1	-	-	-	-	-	-	-	-	-	-
EL 2	28	-	28	4	2	6	-	-	-	34
EL 1	19	-	19	10	4	14	-	-	-	33
APS 6	11	-	11	6	1	7	-	-	-	18
APS 5	3	-	3	4	-	4	-	-	-	7
APS 4	-	-	-	-	-	-	-	-	-	-
APS 3	-	-	-	-	-	-	-	-	-	-
APS 2	-	-	-	-	-	-	-	-	-	-
APS 1	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Total	62	-	62	24	7	31	-	-	-	93

Table 28: Australian Public Service Act non-ongoing employees previous report period (2020–21)

	Male			Female			Indetermin	ate		Total
	Full- time	Part- time	Total Male	Full- time	Part- time	Total Female	Full-time	Part-time	Total Indeterminate	
SES 3	-	-	-	-	-	-	-	-	-	-
SES 2	-	-	-	-	-	-	-	-	-	-
SES 1	-	-	-	-	-	-	-	-	-	-
EL 2	1	-	1	-	-	-	-	-	-	1
EL 1	-	-	-	-	-	-	-	-	-	-
APS 6	1	-	1	1	1	2	-	-	-	3
APS 5	5	-	5	2	-	2	-	-	-	7
APS 4	-	-	-	1	-	1	-	-	-	1
APS 3	-	-	-	-	-	-	-	-	-	-
APS 2	-	-	-	-	-	-	-	-	-	-
APS 1	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
TOTAL	7	-	7	4	1	5	-	-	-	12

Appendix F: Employment type by full-time and part-time status

 Table 29: Australian Public Service Act employees by full-time and part-time status current report period

 (2021–22)

	Ongoing			Non-Ongoin	Non-Ongoing			
	Full-time	Part-time	Total Ongoing	Full-time	Part-time	Total Non-Ongoing	Total	
SES 3	-	-	-	-	-	-	-	
SES 2	1	-	1	-	-	-	1	
SES 1	-	-	-	-	-	-	-	
EL 2	37	3	40	1	4	5	45	
EL 1	29	2	31	1	-	1	32	
APS 6	10	1	11	1	1	2	13	
APS 5	7	2	9	4	-	4	13	
APS 4	-	-	-	-	-	-	-	
APS 3	-	-	-	-	-	-	-	
APS 2	-	-	-	-	-	-	-	
APS 1	-	-	-	-	-	-	-	
Other	-	-	-	-	-	-	-	
Total	84	8	92	7	5	12	104	

Table 30: Australian Public Service Act employees by full-time and part-time status previous report period(2020–21)

	Ongoing			Non-Ongoin	g		Total
	Full-time	Part-time	Total Ongoing	Full-time	Part-time	Total Non-Ongoing	Total
SES 3	-	-	-	-	-	-	-
SES 2	1	-	1	-	-	-	1
SES 1	-	-	-	-	-	-	-
EL 2	32	2	34	1	-	1	35
EL 1	29	4	33	-	-	-	33
APS 6	17	1	18	2	1	3	21
APS 5	7	-	7	7	-	7	14
APS 4	-	-	-	1	-	1	1
APS 3	-	-	-	-	-	-	-
APS 2	-	-	-	-	-	-	-
APS 1	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Total	86	7	93	11	1	12	105

Appendix G: Employment type by location

Table 31: Australian Public Service Act employment type by location current report period (2021–22)

	Ongoing	Non-Ongoing	Total
NSW	2	-	2
Qld	16	1	17
SA	3	-	3
Tas	-	-	-
Vic	6	-	6
WA	6	-	6
ACT	59	11	70
NT	-	-	-
External Territories	-	-	-
Overseas	-	-	-
Total	92	12	104

Table 32: Australian Public Service Act employment type by location previous report period (2020–21)

	Ongoing	Non-Ongoing	Total
NSW	1	-	1
Qld	14	1	15
SA	3	-	3
Tas	-	-	-
Vic	7	-	7
WA	6	-	6
ACT	62	11	73
NT	-	-	-
External Territories	-	-	-
Overseas	-	-	-
Total	93	12	105

Appendix H: Indigenous employment

 Table 33: Australian Public Service Act Indigenous employment current report period (2021–22)

	Total
Ongoing	-
Non-Ongoing	-
Total	-

Table 34: Australian Public Service Act Indigenous employment previous report period (2020–21)

	Total
Ongoing	-
Non-Ongoing	-
Total	-

Appendix I: Employment arrangements of SES and non-SES employees

Table 35: Australian Public Service Act employment arrangements current report period (2021–22)

	SES	Non-SES	Total
Enterprise Agreement & s.24(1) Salary Determination	-	103	103
s.24(1) Determination (SES)	1	-	1
Total	1	103	104

Appendix J: Salary ranges by classification level

Table 36: Australian Public Service Act employment salary ranges by classification level(minimum/maximum) current report period (2021–22)

	Minimum Salary (\$)	Maximum Salary (\$)
SES 3	-	-
SES 2	277,267	281,981
SES 1	-	-
EL 2	123,914	154,885
EL 1	104,234	128,513
APS 6	81,369	98,436
APS 5	75,045	82,409
APS 4	67,221	74,287
APS 3	60,669	66,622
APS 2	53,175	59,705
APS 1	46,954	52,597
Other	-	-
Minimum/Maximum range	46,954	281,981

Appendix K: Performance pay by classification level

Australian Public Service Act employment performance pay by classification level current report period (2021-22)

A table detailing performance pay by classification level for the reporting period (2021–22) has been removed as it is not applicable for the ATSB.

Appendix L: Accountable authority

Table 37: Details of accountable authority during the reporting period current report period (2021–22)

		Period as the accountable authority or member within the reporting period		
Name	Position Title/Position held	Date of Commencement	Date of Cessation	
Angus Mitchell	Chief Commissioner	1 September 2021	Not applicable	

Appendix M: Significant non-compliance with the finance law

Table 38: Significant non-compliance with the finance law

Description of non-compliance	Remedial Action
N/A	-

Appendix N: Audit committee 2021–22

Table 39: Audit committee 2021–22

Member name	Qualifications, knowledge, skills or experience (include formal and informal as relevant)	Number of meetings attended / total number of meetings	Total annual remuneration \$ (GST inc.)	Additional information
Clare Kitcher (Chair)	 GAICD CPRM BSc (Hons) Dunelm Experienced public sector executive and non-executive director specialising in risk management and business transformation Prequalified independent member of Audit and Risk Committees in NSW 	4/4	15,584	N/A
Cheryl-Anne Navarro	 Certified Practising Accountant with over 21 years of public sector experience, including 16 years in senior finance roles FCPA MBA, Deakin University Bachelor of Commerce, Australian National University 	4/4	0	N/A
Ken Kanofski	 Bachelor of Business MBA GAICD FCPA Experienced company director and chair More than 20 years' CEO experience in the public sector Extensive experience in transport and safety 	2/2	11,013	N/A

Appendix O: Reportable consultancy contracts

Table 40: Expenditure on reportable consultancy contracts current report period (2021–22)

	Number	Expenditure \$ (GST inc.)
New contracts entered into during the reporting period	3	99,609
Ongoing contracts entered into during a previous reporting period	3	100,871
Total	6	200,480

Appendix P: Reportable non-consultancy contracts

Table 41: Expenditure on reportable non-consultancy contracts current report period (2021–22)

	Number	Expenditure \$ (GST inc.)
New contracts entered into during the reporting period	15	722,428
Ongoing contracts entered into during a previous reporting period	34	5,056,371
Total	49	5,778,799

Appendix Q: Additional information about organisations receiving amounts under reportable consultancy contracts or reportable non-consultancy contracts

Table 42: Organisations receiving a share of reportable consultancy contract expenditure current report period (2021–22)

Name of Organisation (ABN)	Expenditure \$ (GST inc.)
Apollo Law Pty Ltd (36635631622)	5,380
Link4 Australia Pty Ltd (57614728979)	3,850
Taradel Consulting Pty Ltd (28145327224)	90,379
Chartsmart Consulting Pty Ltd (88133375112)	55,276
ProAllied Australia Pty Ltd (50631285651)	15,840
Puzzle Partners Consulting Pty Ltd (69107246926)	29,755
Total new consultancy expenditure 2021–22	200,480

Table 43: Organisations receiving a share of reportable non-consultancy contract expenditure current report period (2021–22)

Name of Organisation (ABN)	Expenditure \$ (GST inc.)
Acronymit Pty Ltd (68096077422)	70,683
Aurion Corporation Pty Ltd (63050431868)	84,162
Chartsmart Consulting Pty Ltd (88133375112)	55,276
Data#3 Ltd (31010545267)	819,366
Donesafe Pty Ltd (31165144767)	36,388
Edge Integration Pty Ltd (89074677311)	68,021
ELMO Software Ltd (13102455087)	17,600
Human Synergistics Australia Pty Ltd (11093428098)	11,900
Investa Asset Management (QLD) Pty Ltd (35098527167)	282,702
Ionize Pty Ltd (62132569941)	4,538
Kitcher Risk Solutions (85983112392)	15,584
Konica Minolta Business Solutions Australia Pty Ltd (50001065096)	2,760
MasterDocs Pty Ltd (33164120861)	13,200
MicroWay Pty Ltd (56129024825)	10,098
NTT Australia Digital Pty Ltd (31100103268)	1,064,549
NTT Australia Pty Ltd (65003371239)	911,964
Office Partners International Pty Ltd (80096130040)	51,711
ProAllied Australia Pty Ltd (50631285651)	15,840
Protiviti Pty Ltd (27108473909)	7,000
Puzzle Partners Consulting Pty Ltd (69107246926)	29,755

Name of Organisation (ABN)	Expenditure \$ (GST inc.)
Randstad Pty Limited (28080275378)	11,946
Roy Weston Corporate Pty Ltd (81075243006)	36,973
Sententia Consulting Pty Ltd (85639580662)	78,805
Sliced Tech Pty Ltd (53165997008)	676,033
Sofrina Pty Ltd (63157232513)	8,996
Telstra Corporation Ltd (33051775556)	99,936
THE TRUSTEE FOR DEXUS WHOLESALE PROPERTY TRUST 1 (75942337384)	162,960
Ventia Property Pty Ltd (16618028676)	1,084,459
5.11 Australia Pty Ltd (81635493373)	23,543
SG Fleet Australia Pty Ltd (15003429356)	22,051
Total non-consultancy contract expenditure 2021–22	5,778,799

Appendix R: Aids to access

Table 44: Aids to access details current report period (2021-22)

Annual report Contact Officer (Title/Position held)	Annual Report Coordinator
Contact Phone Number	1800 020 616
Contact Email	atsbinfo@atsb.gov.au
Entity website (URL)	www.atsb.gov.au

Appendix S: Report on financial performance summary

	Actual Available appropriation – current year (a) <u>\$'000</u>	Payments made (b) <u>\$'000</u>	Balance remaining (a) - (b) <u>\$'000</u>
Departmental			
Annual appropriations – ordinary annual services	31,681	22,674	9,007
Annual appropriations – other services – non-operating	-	-	-
Total departmental annual appropriations	31,681	22,674	9,007
Departmental special appropriations	-	-	-
Total special appropriations	-	-	-
Special accounts	-	-	-
Total special accounts	-	-	-
less departmental appropriations drawn from annual/special appropriations and credited to special accounts	-	-	-
Total departmental resourcing (A)	31,681	22,674	9,007
Administered			
Annual appropriations – ordinary annual services	-	-	-
Annual appropriations – other services – non-operating	-	-	-
Annual appropriations – other services – specific payments to states, ACT, NT and local government	-	-	-
Annual appropriations – other services – new administered expenses	-	-	-
Total administered annual appropriations	-	-	-
Administered special appropriations	-	-	-
Total administered special appropriations	-	-	-
Special accounts	-	-	-
Total special accounts receipts	-	-	-
less administered appropriations drawn from annual/special appropriations and credited to special accounts	-	-	-
less payments to corporate entities from annual/special appropriations	-	-	-
Total administered resourcing (B)	-	-	-
Total resourcing and payments for entity (A + B)	31,681	22,674	9,007

Table 45: Entity resource statement subset summary current report period (2021–22)

Appendix T: Financial statements summary

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>	Budget 30 June 2022 <u>\$'000</u>	
NET COST OF SERVICES				
Expenses				
Employee Benefits Expense	15,963	15,972	16,086	
Suppliers Expense	7,426	7,413	7,581	
Depreciation and Amortisation Expense	2,334	2,297	2,447	
Total Expenses	25,723	25,682	26,114	
Income				
Total Own-Source Income	4,198	4,405	4,268	
Net cost of services				
Net cost of services	-21,525	-21,277	-21,846	
Revenue from Government				
Revenue from Government	20,863	20,933	20,863	
Surplus/(Deficit) after Tax				
Surplus/(Deficit) after Tax	-662	-344	-983	
OTHER COMPREHENSIVE INCOME				
Total comprehensive Income/(Loss)	-669	-362	-983	

Table 46: Statement of comprehensive income current report period (2021–22)

Table 47: Statement of financial position current report period (2021–22)

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>	Budget 30 June 2022 <u>\$'000</u>
ASSETS			
Total Financial Assets	9,417	9,459	9,459
Total Non-Financial Assets	14,757	13,647	11,778
Total Assets	24,174	23,106	21,237
LIABILITIES			
Total Payables	812	642	642
Total Interest-Bearing Liabilities	9,171	8,118	6,654
Total Provisions	4,747	4,811	4,811
Total Liabilities	14,730	13,571	12,107
Net Assets	9,444	9,535	9,130
EQUITY			
Total Equity	9,444	9,535	9,130

Table 48: Statement of changes in equity current report period (2021–22)

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>	Budget 30 June 2022 <u>\$'000</u>
Opening balance			
Balance Carried Forward from Previous Period	9,535	5,162	9,535
Adjusted Opening Balance	9,535	5,162	9,535
Comprehensive income			
Total Comprehensive Income	-669	-362	-983
Closing balance as at 30 June	9,444	9,535	9,130

Table 49: Cash flow statement current report period (2021-22)

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>	Budget 30 June 2022 <u>\$'000</u>
OPERATING ACTIVITIES			
Total Cash Received (OPERATING ACTIVITIES)	22,227	22,993	22,302
Total Cash Used for (OPERATING ACTIVITIES)	20,989	21,414	20,838
Net Cash from OPERATING ACTIVITIES	1,238	1,579	1,464
INVESTING ACTIVITIES			
Total Cash Received (INVESTING ACTIVITIES)	-	11	-
Total Cash Used (INVESTING ACTIVITIES)	1,115	4,013	578
Net Cash from INVESTING ACTIVITIES	-1,115	-4,002	-578
Purchase of Property, Plant and Equipment	471	2,151	578
Purchase of Intangibles	644	1,862	-
FINANCING ACTIVITIES			
Total Cash Received (FINANCING ACTIVITIES)	1,056	4,088	578
Total Cash Used (FINANCING ACTIVITIES)	1,167	1,474	1,464
Net Cash from FINANCING ACTIVITIES	-111	2,614	-886
Cash at the End of the Reporting Period			
Cash at the End of the Reporting Period	348	336	336

Table 50: Current assets and liabilities

	30 June 2022 <u>\$'000</u>		Budget 30 June 2022 <u>\$'000</u>
Assets – No more than 12 months	9,981	9,986	9,995
Liabilities – No more than 12 months	4,070	3,770	3,899

Table 51: Commonwealth lessees – Departmental leases under AASB 16 (2021–22)

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>	Budget 30 June 2022 <u>\$'000</u>
Note to Depreciation – Depreciation on right-of-use assets	1,327	1,594	1,337
Cash Flow – Operating Activities – Interest Payments on Lease Liabilities	84	86	68
Cash Flow – Financing Activities – Principal Payments of Lease Liabilities	1,167	1,474	1,464

Table 52: Regulatory charging summary note

	30 June 2022 <u>\$'000</u>	30 June 2021 <u>\$'000</u>
Expenses		
Total expenses	0	0
External revenue		
Total external revenue	0	0

Appendix U: List of requirements

The list below outlines compliance with key annual performance reporting information, as required in section 17AJ(d) of the *Public Governance, Performance and Accountability Rule 2014*.

PGPA Rule Reference	Part of Report	Description	Requirement	Page
17AD(g)	Letter of transmittal			
17AI	Letter of transmittal	A copy of the letter of transmittal signed and dated by accountable authority on date final text approved, with statement that the report has been prepared in accordance with section 46 of the Act and any enabling legislation that specifies additional requirements in relation to the annual report.	Mandatory	1
17AD(h)	Aids to access			
17AJ(a)	Contents	Table of contents (print only).	Mandatory	2–3
17AJ(b)	Index	Alphabetical index (print only).	Mandatory	143–147
17AJ(c)	Appendix V: Glossary	Glossary of abbreviations and acronyms.	Mandatory	138–142
17AJ(d)	Appendix U: List of requirements	List of requirements.	Mandatory	132–137
17AJ(e)	Introduction	Details of contact officer.	Mandatory	7
17AJ(f)	Introduction	Entity's website address.	Mandatory	7
17AJ(g)	Introduction	Electronic address of report.	Mandatory	7
17AD(a)	Review by accountab	le authority		
17AD(a)	Chief Commissioner's Review 2021–22	A review by the accountable authority of the entity.	Mandatory	8–9
17АD(b)	Overview of the entit	у		
17AE(1)(a)(i)	Agency overview	A description of the role and functions of the entity.	Mandatory	10–18
17AE(1)(a)(ii)	Organisational structure	A description of the organisational structure of the entity.	Mandatory	19
17AE(1)(a)(iii)	Outcome and program structure	A description of the outcomes and programmes administered by the entity.	Mandatory	23
17AE(1)(a)(iv)	Agency overview	A description of the purposes of the entity as included in corporate plan.	Mandatory	10
17AE(1)(aa)(i)	Appendix L: Accountability authority	Name of the accountable authority or each member of the accountable authority	Mandatory	124
17AE(1)(aa)(ii)	Appendix L: Accountability authority	Position title of the accountable authority or each member of the accountable authority	Mandatory	124
17AE(1)(aa)(iii)	Appendix L: Accountability authority	Period as the accountable authority or member of the accountable authority within the reporting period	Mandatory	124
17AE(1)(b)	-	An outline of the structure of the portfolio of the entity.	Portfolio departments - mandatory	N/A

PGPA Rule Reference	Part of Report	Description	Requirement	Page
17AE(2)	-	Where the outcomes and programs administered by the entity differ from any Portfolio Budget Statement, Portfolio Additional Estimates Statement or other portfolio estimates statement that was prepared for the entity for the period, include details of variation and reasons for change.	lf applicable, Mandatory	N/A
17AD(c)	Report on the perfor	mance of the entity		
	Annual performance st	tatements		
17AD(c)(i); 16F	Report on performance	Annual performance statement in accordance with paragraph 39(1)(b) of the Act and section 16F of the Rule.	Mandatory	26–34
17AD(c)(ii)	Report on financial p	performance		
17AF(1)(a)	Financial performance update	A discussion and analysis of the entity's financial performance.	Mandatory	47
17AF(1)(b)	Appendix B: Entity resource statement 2021–22	A table summarising the total resources and total payments of the entity.	Mandatory	116
17AF(2)	Financial performance update	If there may be significant changes in the financial results during or after the previous or current reporting period, information on those changes, including: the cause of any operating loss of the entity; how the entity has responded to the loss and the actions that have been taken in relation to the loss; and any matter or circumstances that it can reasonably be anticipated will have a significant impact on the entity's future operation or financial results.	lf applicable, Mandatory.	47
17AD(d)	Management and ac	countability	l	
174 (2)(2)	Corporate governance	Information on compliance with costion 10 (froud	Mandatan	100
17AG(2)(a)	Fraud control	Information on compliance with section 10 (fraud systems)	Mandatory	106
17AG(2)(b)(i)	Letter of transmittal	A certification by accountable authority that fraud risk assessments and fraud control plans have been prepared.	Mandatory	1
17AG(2)(b)(ii)	Letter of transmittal	A certification by accountable authority that appropriate mechanisms for preventing, detecting incidents of, investigating or otherwise dealing with, and recording or reporting fraud that meet the specific needs of the entity are in place.	Mandatory	1
17AG(2)(b)(iii)	Letter of transmittal	A certification by accountable authority that all reasonable measures have been taken to deal appropriately with fraud relating to the entity.	Mandatory	1
17AG(2)(c)	Management and accountability	An outline of structures and processes in place for the entity to implement principles and objectives of corporate governance.	Mandatory	104–110
				Г
17AG(2)(d) – (e)	-	A statement of significant issues reported to Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with Finance law and action taken to remedy non-compliance.	lf applicable, Mandatory	N/A
17AG(2)(d) – (e)	- Audit committee	Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with Finance law and		N/A
17AG(2)(d) – (e) 17AG(2A)(a)		Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with Finance law and		N/A 105

PGPA Rule Reference	Part of Report	Description	Requirement	Page
17AG(2A)(c)	Appendix N: Audit committee 2021–22	The qualifications, knowledge, skills or experience of each member of the entity's audit committee.	Mandatory	125
17AG(2A)(d)	Appendix N: Audit committee 2021–22	Information about the attendance of each member of the entity's audit committee at committee meetings.	Mandatory	125
17AG(2A)(e)	Appendix N: Audit committee 2021–22	The remuneration of each member of the entity's audit committee.	Mandatory	125
	External scrutiny			
17AG(3)	External scrutiny and participation	Information on the most significant developments in external scrutiny and the entity's response to the scrutiny.	Mandatory	109–110
17AG(3)(a)	-	Information on judicial decisions and decisions of administrative tribunals and by the Australian Information Commissioner that may have a significant effect on the operations of the entity.	lf applicable, Mandatory	N/A
17AG(3)(b)	-	Information on any reports on operations of the entity by the Auditor-General (other than report under section 43 of the Act), a Parliamentary Committee, or the Commonwealth Ombudsman.	lf applicable, Mandatory	N/A
17AG(3)(c)	-	Information on any capability reviews on the entity that were released during the period.	lf applicable, Mandatory	N/A
	Management of humar	n resources	•	
17AG(4)(a)	Staff management	An assessment of the entity's effectiveness in managing and developing employees to achieve entity objectives.	Mandatory	108
17AG(4)(aa)	Appendix D: Management of human resources	Statistics on the entity's employees on an ongoing and non-ongoing basis, including the following: (a) statistics on full-time employees; (b) statistics on part-time employees; (c) statistics on gender; (d) statistics on staff location.	Mandatory	118–119
17AG(4)(b)	Appendix E:Australian PublicSector (APS)classification andgenderAppendix F:Employment type byfull-time and part-time statusAppendix G:Employment type bylocationAppendix H:Indigenousemployment	Statistics on the entity's APS employees on an ongoing and non-ongoing basis; including the following: - Statistics on staffing classification level; - Statistics on full-time employees; - Statistics on part-time employees; - Statistics on gender; - Statistics on gender; - Statistics on staff location; - Statistics on employees who identify as Indigenous.	Mandatory	120-123
17AG(4)(c)	Staff management	Information on any enterprise agreements, individual flexibility arrangements, Australian workplace agreements, common law contracts and determinations under subsection 24(1) of the <i>Public Service Act 1999</i> .	Mandatory	106–107
17AG(4)(c)(i)	Appendix I: Employment arrangements of SES and non-SES employees	Information on the number of SES and non-SES employees covered by agreements etc identified in paragraph 17AG(4)(c).	Mandatory	124

PGPA Rule Reference	Part of Report	Description	Requirement	Page
17AG(4)(c)(ii)	Appendix J: Salary ranges by classification level	The salary ranges available for APS employees by classification level.	Mandatory	124
17AG(4)(c)(iii)	Staff management	A description of non-salary benefits provided to employees.	Mandatory	107
17AG(4)(d)(i)	Staff management	Information on the number of employees at each classification level who received performance pay.	lf applicable, Mandatory	107
17AG(4)(d)(ii)	Staff management	Information on aggregate amounts of performance pay at each classification level.	lf applicable, Mandatory	107
17AG(4)(d)(iii)	Staff management	Information on the average amount of performance payment, and range of such payments, at each classification level.	lf applicable, Mandatory	107
17AG(4)(d)(iv)	Staff management	Information on aggregate amount of performance payments.	lf applicable, Mandatory	107
	Assets management			
17AG(5)	-	An assessment of effectiveness of assets management where asset management is a significant part of the entity's activities	lf applicable, mandatory	N/A
	Purchasing			
17AG(6)	Purchasing	An assessment of entity performance against the Commonwealth Procurement Rules.	Mandatory	108–109
	Reportable consultanc	y contracts		
17AG(7)(a)	Purchasing	A summary statement detailing the number of new reportable consultancy contracts entered into during the period; the total actual expenditure on all such contracts (inclusive of GST); the number of ongoing reportable consultancy contracts that were entered into during a previous reporting period; and the total actual expenditure in the reporting period on those ongoing contracts (inclusive of GST).	Mandatory	108–109
17AG(7)(b)	Purchasing	A statement that "During [reporting period], [specified number] new reportable consultancy contracts were entered into involving total actual expenditure of \$[specified million]. In addition, [specified number] ongoing reportable consultancy contracts were active during the period, involving total actual expenditure of \$[specified million]".	Mandatory	108
17AG(7)(c)	Purchasing	A summary of the policies and procedures for selecting and engaging consultants and the main categories of purposes for which consultants were selected and engaged.	Mandatory	108
17AG(7)(d)	Purchasing	A statement that "Annual reports contain information about actual expenditure on reportable consultancy contracts. Information on the value of reportable consultancy contracts is available on the AusTender website."	Mandatory	108
	Reportable non-consu	ltancy contracts		
17AG(7A)(a)	Purchasing	A summary statement detailing the number of new reportable non-consultancy contracts entered into during the period; the total actual expenditure on such contracts (inclusive of GST); the number of ongoing reportable non-consultancy contracts that were entered into during a previous reporting period; and the total actual expenditure in the reporting period on those ongoing contracts (inclusive of GST).	Mandatory	108

PGPA Rule Reference	Part of Report	Description	Requirement	Page
17AG(7A)(b)	Purchasing	A statement that "Annual reports contain information about actual expenditure on reportable non-consultancy contracts. Information on the value of reportable non-consultancy contracts is available on the AusTender website."	Mandatory	108
17AD(daa)		about organisations receiving amounts under reportabl non-consultancy contracts	e consultancy	
17AGA	Appendix Q: Additional information about organisations receiving amounts under reportable consultancy contracts or reportable non-consultancy contracts	Additional information, in accordance with section 17AGA, about organisations receiving amounts under reportable consultancy contracts or reportable non-consultancy contracts.	Mandatory	126–127
	Australian National Au	udit Office Access Clauses		
17AG(8)	Purchasing	If an entity entered into a contract with a value of more than \$100 000 (inclusive of GST) and the contract did not provide the Auditor-General with access to the contractor's premises, the report must include the name of the contractor, purpose and value of the contract, and the reason why a clause allowing access was not included in the contract.	lf applicable, Mandatory	109
	Exempt contracts			
17AG(9)	Purchasing	If an entity entered into a contract or there is a standing offer with a value greater than \$10 000 (inclusive of GST) which has been exempted from being published in AusTender because it would disclose exempt matters under the FOI Act, the annual report must include a statement that the contract or standing offer has been exempted, and the value of the contract or standing offer, to the extent that doing so does not disclose the exempt matters.	lf applicable, Mandatory	109
	Small business			
17AG(10)(a)	Purchasing	A statement that "[Name of entity] supports small business participation in the Commonwealth Government procurement market. Small and Medium Enterprises (SME) and Small Enterprise participation statistics are available on the Department of Finance's website."	Mandatory	109
17AG(10)(b)	Purchasing	An outline of the ways in which the procurement practices of the entity support small and medium enterprises.	Mandatory	109
17AG(10)(c)	-	If the entity is considered by the Department administered by the Finance Minister as material in nature—a statement that "[Name of entity] recognises the importance of ensuring that small businesses are paid on time. The results of the Survey of Australian Government Payments to Small Business are available on the Treasury's website."	lf applicable, Mandatory	N/A
	Financial statements			
17AD(e)	Financial statements	Inclusion of the annual financial statements in accordance with subsection 43(4) of the Act.	Mandatory	75–103

PGPA Rule Reference	Part of Report	Description	Requirement	Page
	Executive remuneration	n		
17AD(da)	Appendix C: Executive remuneration	Information about executive remuneration in accordance with Subdivision C of Division 3A of Part 2-3 of the Rule.	Mandatory	117
17AD(f)	Other mandatory in	formation		
17AH(1)(a)(i)	Appendix A: Other mandatory information	If the entity conducted advertising campaigns, a statement that "During [reporting period], the [name of entity] conducted the following advertising campaigns: [name of advertising campaigns undertaken]. Further information on those advertising campaigns is available at [address of entity's website] and in the reports on Australian Government advertising prepared by the Department of Finance. Those reports are available on the Department of Finance's website."	lf applicable, Mandatory	111
17AH(1)(a)(ii)	Appendix A: Other mandatory information	If the entity did not conduct advertising campaigns, a statement to that effect.	lf applicable, Mandatory	111
17AH(1)(b)	Appendix A: Other mandatory information	A statement that "Information on grants awarded by [name of entity] during [reporting period] is available at [address of entity's website]."	lf applicable, Mandatory	112
17AH(1)(c)	Appendix A: Other mandatory information	Outline of mechanisms of disability reporting, including reference to website for further information.	Mandatory	112
17AH(1)(d)	Appendix A: Other mandatory information	Website reference to where the entity's Information Publication Scheme statement pursuant to Part II of FOI Act can be found.	Mandatory	113
17AH(1)(e)	-	Correction of material errors in previous annual report	If applicable, mandatory	N/A
17AH(2)	Appendix A: Other mandatory information	Information required by other legislation	Mandatory	111–115

Appendix V: Glossary

Term	Description
AAO	Administrative Arrangements Order.
AAT	Administrative Appeals Tribunal.
Accident	 An investigable matter involving a transport vehicle occurs when: a person dies, or suffers serious injury, as a result of an occurrence associated with the operation of the vehicle the vehicle is destroyed, or seriously damaged, as a result of an occurrence associated with the operation of the vehicle any property is destroyed, or seriously damaged, as a result of an occurrence associated with the operation of the vehicle.
Accident Investigation	The Papua New Guinea Government institution responsible for the investigation of safety
Commission (AIC)	deficiencies in aviation transport.
ADS-B	Automatic Dependent Surveillance Broadcast.
Aerial work	Aircraft operations – including ambulance and emergency medical services, agriculture, mustering, search and rescue, fire control, surveying and photography.
Agricultural operations	Operations involving the carriage and/or spreading of chemicals, seed, fertiliser or other substances for agricultural purposes – including the purposes of pest and disease control.
AIG	Accident Investigation Group.
AIMS	ATSB Investigation Management System.
AIP	Aeronautical Information Publication.
Airworthiness directive	A notification to owners and operators of certified aircraft that a known safety deficiency with a particular model of aircraft, engine, avionics or other system exists and must be corrected. If a certified aircraft has outstanding airworthiness directives that have not been complied with, the aircraft is not considered airworthy.
Amateur-built aircraft	Aircraft not built in a factory but for the user's personal use or recreation. May include ultra-light, original design, plans built, kit built or experimental aircraft.
AMC	Australian Maritime College.
AMSA	Australian Maritime Safety Authority.
ANAO	Australian National Audit Office.
AOI	Airport operational information.
APAC	ICAO Asia Pacific.
APS	Australian Public Service.
APSC	Australian Public Service Commission.
ATSB	Australian Transport Safety Bureau.
ATSB safety action	Formal activities conducted by the ATSB to initiate safety action by relevant organisations to address a safety issue. Includes safety recommendations and safety advisory notices.
ASB	Alert Service Bulletin.
ASIs	Aviation Security Inspectors.
AWB	Air Worthiness Bulletin.
AWS	Automatic warning system.
CASA	Civil Aviation Safety Authority.
Catastrophic accident	A sudden disastrous investigable matter involving a transport vehicle.
Charter	Operations that involve the carriage of cargo or passengers, but do not involve scheduled flights. The lack of scheduled flights, and fixed departure and arrival points, distinguishes charter operations from regular public transport operations.
CISM	Critical incident stress management.
CITS	Victorian Office of Chief Investigators.
Collective	The collective pitch control, or collective lever, in a helicopter changes the pitch angle of all the main rotor blades at the same time, independent of their position. Therefore, if a collective input is made, all the blades change equally. The result is that the helicopter increases or decreases its total lift derived from the rotor.

Term	Description
Commercial air transport	High-capacity regular public transport (RPT) flights, low-capacity RPT flights, charter flights and medical transport.
Complex investigations	Investigations rated at level 1, level 2 or level 3 in accordance with the ATSB's rating system.
Contributing safety factor	 A safety factor that, if it had not occurred or existed at the relevant time, then: the occurrence would probably not have occurred adverse consequences associated with the occurrence would probably not have occurred or have been as serious another contributing safety factor would probably not have occurred or existed.
CPRs	Commonwealth Procurement Rules.
CPRM	Certified Practising Risk Manager.
Critical safety issue	Associated with an intolerable level of risk and generally leading to the immediate issue of a safety recommendation, unless corrective safety action has already been taken.
CTAF	Common traffic advisory frequency.
CVR (black box)	Cockpit voice recorder.
DCV	Domestic Commercial Vessel as defined by the Marine Safety (Domestic Commercial Vessel) National Law Act 2012.
DFSB	Defence Flight Safety Bureau
DRWA	Drivers Working and Rostering Arrangements.
Directly Involved Party (DIP)	Those individuals or organisations that were directly involved in a transport safety occurrence or may have influenced the circumstances that led to an occurrence. This also includes those whose reputations are likely to be affected following the release of the investigation report.
ECPB	Electronically controlled pneumatic braking.
EEGO	Energy Efficiency in Government Operations.
EL	Executive Level.
FAA	Federal Avaition Administration (United States).
Fatal accident	A transport accident in which at least one fatality results within 30 days of the accident.
Fatality/Fatal injury	Any injury acquired by a person involved in a transport accident which results in death within 30 days of the accident.
FCPA	Fellow of CPA Australia.
Flight data recorder (FDR) (black box)	A recorder placed in an aircraft for the purpose of facilitating the investigation of an aircraft accident or incident.
Flying training	Flying under instruction for the issue or renewal of a licence, rating, aircraft type endorsement or any other type of flying aimed at upgrading an individual's flight qualification – including solo navigation exercises conducted as part of a course of applied flying training, or check and training operations conducted by RPT operators.
FMCS	Fatigue Management Control System.
FOI Act	Freedom of Information Act 1982.
GAICD	Graduate of the Australian Institute of Company Directors.
General aviation	 General aviation covers: aerial work operations (including aerial agriculture, aerial mustering, search and rescue, and aerial survey) flying training private aviation business and sports (including gliding) aviation – VH, or foreign-registered.
GovCMS	Content management system platform.
GPS	Global Positioning System.
Hours flown	Calculated from the time the wheels start, with the intention of flight, to the time the wheels stop after completion of the flight.
Human factors	Human factors is the multidisciplinary science that applies knowledge about the capabilities and limitations of human performance to all aspects of the design operation and maintenance of products and systems. It considers the effect of physical, psychological and environmental factors on human performance in different task environments – including the role of human operators in complex systems.
IACS	International Association of Classification Societies.
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities

Term	Description
IAS	Integrated automation system.
ICARAS	International Convention of Aviation Regulation and Safety.
ICAO	International Civil Aviation Organization.
Immediately reportable matter	A serious transport safety matter that covers occurrences such as: accidents involving death
matter	 serious injury
	 destruction or serious damage of vehicles or property
	when an accident nearly occurs.
ICT	Information and Communications Technology.
IFR	Instrument flight rules.
IFSD	In-flight shutdown.
IMO	International Maritime Organization.
Incident	An occurrence, other than an accident, associated with the operation of transport vehicle that affects, or could affect, the safety of the operation
ITSA	International Transportation Safety Association.
ITSAP	The Australian Government's Indonesia Transport Safety Assistance Package
КРІ	Key Performance Indicator.
Less complex investigations	Those rated at level 4 or level 5 under the ATSB rating scheme.
Minor injury	An injury sustained by a person, in an accident, that was not fatal or serious and does not require
 	hospitalisation.
MIPP	Major Investigation Preparedness Plan.
MOS	Manual of Standards.
MoU	Memorandum of Understanding.
MRCA	Material risk control assessment.
Multi-modal	Across the three 3 modes of transport covered by the ATSB: aviation, marine and rail.
National Transportation	An Indonesian Government institution responsible for the investigation of safety deficiencies in
Safety Committee (NTSC)	aviation, maritime and land transport.
NGR	New generation rollingstock.
NM	Nautical miles.
NVIS	Night Vision Imaging System.
OAIC	Office of the Australian Information Commissioner.
Occurrences accidents and incidents	Occurrences are reportable matters – either an immediately reportable matter (IRM) or a routine reportable matter (RRM). They comprise accidents, serious incidents and incidents.
ONRSR	Office of the National Rail Safety Regulator.
Other aerial work	 Other aerial work includes: operations conducted for the purposes of serial work other than 'flying training' and 'agricultural operations' operations classified as other aerial work – including aerial surveying an photography, spotting,
	aerial stock mustering, search and rescue, ambulance, towing (including glider, target and banner towing), advertising, cloud seeding, firefighting, parachute dropping and coastal surveillance.
Other safety issue	Associated with a risk level regarded as unacceptable unless it is kept as low as reasonably practicable. Where there is a reasonable expectation that safety action could be taken in response to reduce risk, the ATSB will issue a safety recommendation to the appropriate agency when proactive safety action is not forthcoming.
OTSI	New South Wales Office of Transport Safety Investigations.
P&WC	Pratt & Whitney Canada.
PGPA Act	Public Governance, Performance and Accountability Act 2013.
Pilotage	Use of licensed coastal pilots to guide ships through designated areas.
PNG	Papua New Guinea.
Portfolio Budget	These statements explain the provisions of the appropriation bills (budget bills); that is, where the
Statements (PBS)	appropriate funds are going to be spent.
Private/business	Private flying is conducted for recreational or personal transport without revenue. Business flying refers to the use of aircraft as a means of transport to support a business or profession.

PT Power turbine. QR Oueensland Rail. RAAF Rayd Laxtarlian Air Force. RAAirs Recreational Aviation Australia. Recreational aviation Aricraft being used for recreational flying that are registered by a recreational aviation administratic organisation. Regular public transport Refers to avicraft that transport passengers and/or cargo according to fixed schedules and fixed (RPT) Linex- and high-capacity aircraft: Iow- and high-capacity aircraft: Iow- and high-capacity aircraft: P high-capacity BPT - an PT aircraft that provides a maximum of 38 passenger seats, or a maximum payload orgerater than 4.200 kilograms. ReCC A remotely piloted aircraft operator's certificate. REPCON The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or cauld endanger a transport vehicle. RHC Robinson Helicotter Company. RFAS Remotely piloted aircraft operator is actificate. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: P ATSB safety action Safety advisory notice Formal advice by the ATSB to an organisation and is used for less significant safety issue, order to	Term	Description
QR Queensland Rail. RAAL Royal Australian Air Force. RAAus Recreational Aviation Australia. Recreational aviation Aircraft being used for recreational flying that are registered by a recreational aviation administratic organisation. Regular public transport Refers to aircraft that transport passengers and/or cargo according to fixed schedules and fixed departure/arrival points, in exchange for monetary reward. These services can be further divided int low- and high-capacity aircraft. RPT Iow-capacity RPT – an RPT aircraft that provides more than 38 passenger seats, or a maximum payload greater than 4,200 klograms. RECC A remortely piloted aircraft operator's certificate. REPCON The aviation confidential reporting scheme. Reportable safety concer Any matter that endopares or could endager a transport vehicle. RHC Robinson Helicopter Company. SAA Singapore Aviation Academy. SAA Singapore Aviation Academy. SAA Singapore Aviation Academy. Safety action The things that organisations and individuals do in response to the identification of safety issue, in order to prevent acidents and inclements. There are two main types: > ATS safety action Onter to prevent acidedins and inclemits. There are two main types:		
RAAF Royal Australian Air Force. RAAus Recreational Aviation Australia. Recreational aviation Aircraft heing used for recreational flying that are registered by a recreational aviation administratic organisation. Regular public transpot Refers to aircraft that transpot passengers and/or cargo according to fixed schedules and fixed departur/arrival points, in exchange for monetary reward. These services can be further divided int low- and high-capacity Brit an RPT aircraft that provides a maximum of 3B passenger seats, or a maximum payload orgeter than 4.200 kilograms. ReOC A remotely piloted aircraft opartor's certificate. REPCON The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or could endanger a transport vehicle. RHC Rebinson Helicopter Company. RAA Singapore Aviation Academy. SAA Singapore Aviation Academy. SAA Singapore Aviation Academy. SAFA Singapore Aviation Academy. SAFA Singapore Aviation refeoration of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > A fiss fasty action Safety action non-		
RAAus Recreational Aviation Australia. Recreational aviation Aircraft being used for recreational flying that are registered by a recreational aviation administration organisation. Regular public transport Refers to aircraft that transport passengers and/or cargo according to fixed schedules and fixed intow- and high-capacity aircraft. Instrument and transport passengers and/or cargo according to fixed schedules and fixed intow- and high-capacity aircraft. Instrument and the approximation of the assenger seats, or a maximum payload present than 4200 kilograms. ReCC A remotely piloted aircraft pertoring scheme. Reportable safety concern Ary matter that endagers or could endager a transport vehicle. RPCO The aviation confidential reporting scheme. Reportable safety concern Ary matter that endagers or could endager a transport vehicle. RPCA Remotely piloted aircraft systems. SAA Singapore Aviation Acdemy. SAA Singapore Aviation Acdemy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals to in response to the identification of safety issue of take action where it believes it is appropriate. A safety astrops notice is a 'soffer' output than a safety recommendation and is usef for tess significant safety issue of take action where it believes it is appropriate. A safety active issue of take action where it believess it is aprecific organisation.		
Recreational aviation Aircraft being used for recreational flying that are registered by a recreational aviation administratic organisation. Regular public trapport Reference to aircraft that transport passengers and/or cargo according to fixed schedules and fixed departure/arrival points, in exchange for monetary reward. These services can be further divided int low- and high-capacity aircraft. > low-capacity RPT – an RPT aircraft that provides a maximum of 34 passenger seats, or a maximum paydoad orgetter that A200 klograms. REOC A remotely ploted aircraft operator's certificate. REPCN The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or could endanger a transport vehicle. RHC Robinson Helicopter Company. RPAS Remotely ploted aircraft systems. SAA Singapore Aviation Academy. SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent acidents and incidents. There are two main types: > ATSB safety action Safety sactor Anewent or condition that increase safety risk - appropriate. A safety diskon notice is a 'softer' output than a safety recommendation and is used for leaviation industry, that it should consider the safety riske. There are two main types: > ATSB safety s		
organisation Regular public transpot (RPT) Refers to aircraft that transpot passengers and/or cargo according to fixed schedules and fixed intervariate points. In exchange for monetary reward. These services can be further divided int low- and high-capacity aircraft. P Indy-capacity aircraft. ReOC A remotely piloted aircraft operator's certificate. REPCON The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or could endanger a transport vehicle. RHC Robinson Helicopter Company. RPAS Remotely piloted aircraft systems. SAA Sports Aviation Federation of Australia. Safety action For Ba safety action. Norder to prevent accidents and incidents. There are two main types: > ATSB safety action. Safety action Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it sould consider the asylety issue and take action where it believes it is appropriate. A safety advisor, notice is a 'soffer output than a safety recommendation and is used for less significant safety issue - when the aviable evelowe ithe adverse consequences associated with an occurrence. </td <td></td> <td></td>		
Regular public transport Refers to aircraft that transport passengers and/or cargo according to fixed schedules and fixed departural points, in exchange for monetary reward. These services can be lurther divided int low-and high-capacity servert. Period Construction I ow-capacity RPT – an RPT aircraft that provides a maximum of 38 passenger seats, or a maximum payload greater than 4200 kilograms. RECC A remotely piloted aircraft operator's certificate. REPON The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or could endanger a transport vehicle. RAC Robinson Helicopter Company. RPAS Remotely piloted aircraft systems. SAFA Singapore Aviation Acdemy. SAFA Singapore Aviation Acdemy. SAFA Singapore Aviation facturatia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action non-ATSB safety action. Safety advisory notice Formal advice by the XPS to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. Astery advisory out than a safety recommendation and is used for less significant safety issues. Safety factor An event or condition that increases safety		
REPCON The aviation confidential reporting scheme. Reportable safety concern Any matter that endangers or could endanger a transport vehicle. RHC Robinson Helicopter Company. RPAS Remotely piloted aircraft systems. SAA Singapore Aviation Academy. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action non-ATSB safety action Safety advisory notice Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'soffer' output than a safety recommediation and is used for less significant safety issue – when the available evidence is an safety recommediation and is used for less significant safety issue – when the available evidence is an safety recommediation and is used for less significant safety issue – when the available evidence is an safety recommediation and is sued for less significant safety issue – when the available evidence is a soft an astery recommediation and issued for less significant safety issue – when the available evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety reisk – something that increases the likelihood of an occurrence and/or the servity of the adverse consequences associated with an occurrence. Safety recom		 departure/arrival points, in exchange for monetary reward. These services can be further divided into low- and high-capacity aircraft: low-capacity RPT – an RPT aircraft that provides a maximum of 38 passenger seats, or a maximum payload no greater than 4,200 kilograms high-capacity RPT – an RPT aircraft that provides more than 38 passenger seats, or a maximum
Reportable safety concer Any matter that endangers or could endanger a transport vehicle. RHC Robinson Helicopter Company. RPAS Remotely piloted aircraft systems. SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types:	ReOC	A remotely piloted aircraft operator's certificate.
RHC Robinson Helicopter Company. RPAS Remotely piloted aircraft systems. SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues in order to prevent accidents and incidents. There are two main types: > ATSB safety action non-ATSB safety action Safety advisory notice Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'soffer' output than a safety recommendation and is used for less significant safety issue when the available evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual. or issue. Asafety recommendations are formal recommendations from the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do no	REPCON	The aviation confidential reporting scheme.
RPAS Remotely piloted aircraft systems. SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issue and take action where it believes it is appropriate. A safety forcor output than a safety recommendation and is used for less significant safety issue and take action where it believes it is appropriate. A safety forcor which can reasonably be regarded as having the potential to adversely affect the safety factor Safety factor An event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of sture operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time. Safety recommendations ATSB safety recommendations are formal recommendations from the ATSB to an organisation for it to	Reportable safety concern	Any matter that endangers or could endanger a transport vehicle.
SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action The things that organisation, and individuals do in response to the identification of safety issue, in order to prevent accidents and incidents. There are two main types: > ATSB safety action Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issue — when the avialiable evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an organisation for in time. Safety recommendation ATSB safety recommendations for reducing risk. Sals Signal aspect indicators. <td>RHC</td> <td>Robinson Helicopter Company.</td>	RHC	Robinson Helicopter Company.
SAA Singapore Aviation Academy. SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action Tore things that organisation, and individuals do in response to the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issue - when the avialiable evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time. Safety recommendation ATSB safety recommendations for reducing risk. Salu Signal aspect indicators. Serious incident An incident involving circumstances indicating an accident nearly occurred. Safety recommendation in which is sustained by a person in an accident anairy occurred.<	RPAS	
SAFA Sports Aviation Federation of Australia. Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action > ATSB safety action. Safety divisory notice Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issue - when the available evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety risk - something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety factor An event or condition that increases safety risk - something the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time. Safety recommendation ATSB safety recommendations for reducing risk. Safety recommendation Gadres a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do not identify specific solutions for reducing risk. Safety section individu	SAA	
Safety action The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: > ATSB safety action non-ATSB safety action. Safety advisory notice Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issue - when the available evidence is more limited or when the target audience is not a specific organisation. Safety factor An event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time. Safety recommendation ATSB safety recommendations for reducing risk. Sals Signal aspect indicators. Serious injury An incident involving circumstances indicating an accident nearly occurred. Serious injury An injury which is sustained by a person in an accident and involves one or more of the following: > requ		
(SAN)should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issues - when the available evidence is more limited or when the target audience is not a specific organisation.Safety factorAn event or condition that increases safety risk – something that increases the likelihood of an occurrence and/or the severity of the adverse consequences associated with an occurrence.Safety issuesA safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time.Safety recommendationATSB safety recommendations are formal recommendations from the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do not identify specific solutions for reducing risk.SalsSignal aspect indicators.Serious incidentAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn ingrup which is sustained by a person in an accident and involves ore or more of the following: > requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received > involves second- or third-degree burns, or any burns affecting more than 5% of the body surface involves verified exposure to infectious substances or injurious radiation.SES <t< td=""><td></td><td>The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: ATSB safety action</td></t<>		The things that organisations and individuals do in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: ATSB safety action
occurrence and/or the severity of the adverse consequences associated with an occurrence. Safety issues A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: > is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time. Safety recommendation ATSB safety recommendations are formal recommendations from the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do not identify specific solutions for reducing risk. SAIs Signal aspect indicators. Serious incident An incident involving circumstances indicating an accident nearly occurred. Serious injury An incident involving circumstances indicating an accident nearly occurred. Serious injury An incident involving circumstances indicating an accident nearly occurred. Serious injury An injury which is sustained by a person in an accident and involves one or more of the following: > requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received > involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage > involves second- or third-degree burns, or any burns affecting more than 5% of the body surface involves verified expos		should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output than a safety recommendation and is used for less significant safety issues – when the available evidence is more limited or when the target audience is not a specific
safety of future operations and:>is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or is characteristic of an operational environment at a specific point in time.Safety recommendationATSB safety recommendations are formal recommendations from the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do not identify specific solutions for reducing risk.SAIsSignal aspect indicators.Serious incidentAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn incident involving circumstances indicating an accident and involves one or more of the following: > requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received > results in a fracture of any bone (except simple fractures of fingers, toes or nose) > involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage > involves injury to any internal organ > involves second- or third-degree burns, or any burns affecting more than 5% of the body surface involves verified exposure to infectious substances or injurious radiation.SESSenior Executive Service.SFAIRPSo far as is reasonably practicable.Short investigationShort, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme.SIDsSupplemental Inspection Documents.SLTSenior Leadership Team.	Safety factor	
to address a specific safety issue. They focus on stating the problem (i.e. the description of the safet issue). They do not identify specific solutions for reducing risk.SAIsSignal aspect indicators.Serious incidentAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn injury which is sustained by a person in an accident and involves one or more of the following: requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was receivedresults in a fracture of any bone (except simple fractures of fingers, toes or nose)involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage involves injury to any internal organinvolves second- or third-degree burns, or any burns affecting more than 5% of the body surface involves verified exposure to infectious substances or injurious radiation.SESSenior Executive Service.SFAIRPSo far as is reasonably practicable.Short investigationShort, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme.SIDsSupplemental Inspection Documents.SLTSenior Leadership Team.	Safety issues	 A safety factor which can reasonably be regarded as having the potential to adversely affect the safety of future operations and: is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or
Serious incidentAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn injury which is sustained by a person in an accident and involves one or more of the following: 	Safety recommendation	ATSB safety recommendations are formal recommendations from the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safety issue). They do not identify specific solutions for reducing risk.
Serious incidentAn incident involving circumstances indicating an accident nearly occurred.Serious injuryAn injury which is sustained by a person in an accident and involves one or more of the following:> requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received> results in a fracture of any bone (except simple fractures of fingers, toes or nose)> involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage> involves injury to any internal organ> involves second- or third-degree burns, or any burns affecting more than 5% of the body surface involves verified exposure to infectious substances or injurious radiation.SESSenior Executive Service.SFAIRPSo far as is reasonably practicable.Short, investigationShort, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme.SIDsSupplemental Inspection Documents.SLTSenior Leadership Team.	SAIs	
Serious injuryAn injury which is sustained by a person in an accident and involves one or more of the following: 	Serious incident	
SFAIRP So far as is reasonably practicable. Short investigation Short, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme. SIDs Supplemental Inspection Documents. SLT Senior Leadership Team.		 An injury which is sustained by a person in an accident and involves one or more of the following: requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received results in a fracture of any bone (except simple fractures of fingers, toes or nose) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage involves injury to any internal organ involves second- or third-degree burns, or any burns affecting more than 5% of the body surface
Short investigation Short, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme. SIDs Supplemental Inspection Documents. SLT Senior Leadership Team.	SES	
Short investigation Short, factual, office-based investigations of less complex safety occurrences rated at level 5 under the ATSB rating scheme. SIDs Supplemental Inspection Documents. SLT Senior Leadership Team.	SFAIRP	So far as is reasonably practicable.
SIDs Supplemental Inspection Documents. SLT Senior Leadership Team.		Short, factual, office-based investigations of less complex safety occurrences rated at level 5 under
SLT Senior Leadership Team.	SIDs	
SME Small and medium enterprises.		

Term	Description
SMS	Safety Management System.
SPAD	Signal passed at danger.
Sports aviation	Aircraft excluded from the RPT, GA or military aircraft categories – including ultralights, gliders, hang gliders, rotorcraft and balloon aviation. Most, if not all sport aviation craft are registered with various sporting bodies rather than with the CASA, although exceptions to this rule occur. Sports aviation also includes parachute operations and acrobatics. Sports aviation in this report does not include Australian nonVH registered aircraft.
Statutory agency	A body or group of persons declared by an Act to be a statutory agency for the purposes of the <i>Public Service Act 1999</i> .
Systemic failure	A breakdown in the system as a whole.
TCAS	Traffic alert and collision avoidance system.
TPWS	Train Protection and Warning System.
Transport safety matter	 As defined by the <i>Transport Safety Investigation Act 2003</i>, these matters consist of occurrences in which: the transport vehicle is destroyed the transport vehicle is damaged the transport vehicle is abandoned, disabled, stranded or missing in operation a person dies as a result of an occurrence associated with the operation of the transport vehicle a person is injured or incapacitated as a result of an occurrence associated with the operation of the transport vehicle any property is damaged as a result of an occurrence associated with the operation of the transport vehicle the transport vehicle is involved in a near accident the transport vehicle is involved in an occurrence that affected, or could have affected, the safety of the operation of the transport vehicle something occurred that affected, is affecting, or might affect transport safety.
TSI Act	Transport Safety Investigation Act 2003.
TSIB	Transport Safety Investigation Bureau (Singapore).

Index

A

abbreviations, 138-142 accountability and management, 104-110 accountable authority, 124 statement by, 26 see also Chief Commissioner and Chief Executive Officer achievements, 8-9, see also performance active warning carbon monoxide detectors, 41, 43, 67 address and contact details, 1 annual report contact officer, 127 FOI, 113 Administrative Appeals Tribunal reviews (FOI activity), 114 advertising and market research, 111 aircraft maintenance engineers, 15 aircraft material failure analysis, 14, 37 Airservices Australia, 12, 41 airside environment safety procedures, 39 alert bulletins, 18 annual performance statement, 26, see also performance Annual Plan, 105 annual report contact officer, 127 ATSB Investigation Management System (AIMS), 9, 28 Audit and Risk Committee, 105, 106, 125 audits financial statements, 77-78 internal, 105 AusTender, 109 Australian Airports Association safety forums and activities, 41 Australian Maritime Safety Authority (AMSA), 12, 13 Australian National Audit Office (ANAO) access clauses, 109 financial statements audit, 77-78 Australian Transport Safety Bureau (ATSB) accountable authority, 124 Chief Commissioner's review, 8-9 Commission, 10, 104 Commissioners, 20-22, 104 decision-making powers, 115 Minister's Statement of Expectations, 23 mission, 10, 23 objectives, 11, 23 organisational structure, 19 overview, 10-25 priorities, 23-24 purpose statement, 10 remit, 9 role and functions, 10-18, 104, 115 Australian-registered aircraft and ships or Australian operators involved in overseas incidents see overseas investigations Automatic Dependent Surveillance Broadcast (ADS-B) transmitting, receiving and display devices, 8, 41, 43 aviation occurrence database, 12, 17, 44 aviation safety accidents, serious incidents and incidents, 8, 12 airspeed indication failure, 57-59 ATSB recommendations closed, 66-70

ATSB recommendations released, 71-72 ATSB role, 12 broad hierarchy of operations, 24 carbon monoxide detectors, 41, 43, 67 confidential reporting, 18, 38, 39 coronial inquests, 110 datasets, 10, 12, 17, 44 flight data recordings, 37 forums, 40-41 investigations, 9, 28, 35, 48-50, 66-73 material failure analysis, 14, 37 mid-air collisions, 8, 43, 48, 61, 72, 110 occurrence briefs, 9, 17, 38 occurrence notifications, 12 reporting targets and performance, 38 safety actions released, 66 safety advisory notices, 72-73 safety issues, 8, 55, 56-63 safety recommendations closed, 66-70 safety recommendations released, 66, 71-72 terrain collisions, 28, 37, 50, 56-57, 59, 62-63, 71, 73, 110 water collisions, 28, 43, 50, 56, 61, 67, 68, 71, 72, 110 aviation safety training for Aviation Security Inspectors, 39

В

'black box' data recovery and analysis, 14–15, 37–39 bridge safety check rails, 39 Bureau of Meteorology, 41 business planning and reporting, 9, 105, 106

С

Campbell, Lian, 16 carbon monoxide detectors, 41, 43, 67 Chicago Convention 1944 see Convention on International **Civil Aviation** Chief Commissioner and Chief Executive Officer, 20, 104, 117 accountable authority, 26, 124 review by, 8-9 Chief Investigator, Transport Safety (CITS, Victoria), 8, 14 Chief Operating Officer, 22, 104, 117 Civil Aviation Authority of the Philippines, Aircraft Accident Investigation and Inquiry Board, 37 Civil Aviation Safety Authority (CASA), 12, 37, 41 forums, 41 collaboration see international engagement; stakeholder engagement Commission, 10, 104, 106 Commissioners, 20-22, 104 Commonwealth Procurement Rules, 108 communication and education, 43 conferences participated in, 40-41 confidential reporting scheme (REPCON), 9, 17, 18, 38-39 consultants, 108, 125 contact officer annual report, 127 FOI, 113 contracts, 108-109, 125-127 Convention on International Civil Aviation

Aircraft Accident and Incident Investigation (Annex 13), 12, 18 coronial inquests, 110 corporate governance, 104–105, *see also* senior executives Corporate Plan performance measures *see* performance Council of Australian Governments national maritime reforms, 13 COVID-19 pandemic impact and response, 8, 32, 40, 41, 45,

111

D

data analysis capacity, 37 data and recorder recovery, 14-15, 37 data recording, analysis and research, 37-39 datasets, 10, 12, 17, 44 Dawes, Michael, 16 decision-making powers of ATSB, 115 Defence Flight Safety Bureau (DFSB), 12 defined investigations, 17, 27, 30-31, 33, 34, 35-36 definitions (glossary), 138-142 Department of Defence, 41 Department of Foreign Affairs and Trade, 45 Department of Home Affairs, 39 Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 12 disability reporting, 112 diversity and inclusion, 112 domestic commercial vessels, 13, 109

Ε

ecologically sustainable development, 111–112 education and communication, 43 employees *see* staff management energy use, 112 enterprise agreement, 107, 124 entity resource statement, 116 summary, 128 environmental performance, 111–112 ethical standards, 106 exempt contracts, 109 expenses for outcome, 116 external scrutiny, 109–110, 114

F

finance law compliance, 125 financial performance, 47 entity resource statement, 116, 128 financial statements, 75–85, 129–131 financial statements, notes to, 87–103 overview, 86 FlySafe forums, 41 fraud control, 1, 106 freedom of information, 113–114 functions *see* role and functions of ATSB funding, 9, 13 resourcing for investigations, 9, 17–18, 23–24

G

glossary, 138–142 governance, 104–105, *see also* senior executives 2021–22 Annual Report GPS data, 15 Graduate Certificate in Transport Safety Investigation (RMIT University), 44 grain trains, 74 grant programs, 112

Η

health and safety *see* work health and safety heavy vehicles, 109 helicopter incidents and accidents, 28, 40, 50, 62, 73 human factors, 15 human resources *see* staff management

I

independent 'no-blame' investigations, 35-36 Indigenous employees, 107, 123 Indonesia Transport Safety Assistance Package, 45 industry see transport industry information and communication technology, 112 investigation management systems, 9, 28 information briefs, 18 Information Commissioner reviews (FOI activity), 114 Information Publication Scheme, 113 inquiries referencing ATSB remit, 9 internal audit arrangements, 105 International Accident Investigation Forum, 5th, Singapore, 2022.16 International Civil Aviation Organization (ICAO), 46 Asia Pacific Accident Investigation Group, 18, 45, 46 international engagement, 11, 18, 41, 45, 115 International Maritime Organization, 18 Casualty Investigation Code, 13 International Transportation Safety Association (ITSA), 18 internet address, 127 investigation management systems, 9, 28 investigations, 8-9, 27, 66-74 active, 27, 32, 35, 36 allocation of resources (broad hierarchies), 24 ATSB role and functions, 10-18 completion of older investigations, 28, 33 confidential reporting, 9, 17, 18, 38-39 defined investigations, 17, 27, 30-31, 33, 34, 35-36 definition adjustments, 33 external, 35 independent 'no-blame', 35-36 international cooperation, 18 large-scale accidents, 28 level of response, 25 levels of resources/time, 17-18, 23-24 major, 18 occurrence briefs, 9, 38 occurrence investigations, 9, 17-18, 30-31, 35-36 overseas investigations, 10, 12, 13 priorities, 23-24 publication changes, 27, 34 published, 8, 30 reports and products, 17 safety advisory notices released, 72-74 safety recommendations closed, 66-70 safety recommendations released, 71-72 safety studies, 17, 30-31, 35

short, 17, 33, 34, 35–36 significant safety investigations, 48–53 site survey tools, 15 specialist capabilities, 14–15 statistics, 29–34 systemic, 18, 27, 30–31, 33, 34, 35–36 timeliness, 27, 28, 33 workload, 32 *see also* aviation safety; marine safety; rail safety; safety issues investigators, 28, 32, 115 specialist skills, 14–15 training, 44 iron ore trains, 8

К

key management personnel, 117 key performance indicators, 27, 28 performance against, 27, 29–34 *see also* performance

L

large-scale accidents, 28 laser scanning, 15 learning and development *see* training and development legal services and expenditure, 109 legislative framework, 12, *see also Transport Safety Investigation Act 2003* letter of transmittal, 1 licensed aircraft maintenance engineers, 15

Μ

major accident preparedness, 36 major investigations, 18 management and accountability, 104-110 Manning, Chris, 21 Marine Accident Investigators Forum in Asia, 45 marine safety, 13, 39, 109 accidents, serious incidents and incidents, 12 ATSB recommendations closed, 70 ATSB recommendations released, 72 ATSB role, 13 broad hierarchy of operations, 24 confidential reporting, 18, 38 data recording, analysis and research, 37 investigations, 8, 9, 35, 53, 70 material failure analysis, 14, 37 occurrence notifications, 12, 38 reporting targets and performance, 38 safety actions released, 66 safety advisory notices, 66, 74 safety issues, 8, 55, 63 safety recommendations closed, 70 safety recommendations released, 66, 72 maritime reforms, 13 market research, 111 material failure analysis, 14, 37 media content and responses, 43 Memoranda of Understanding, 45, 46 mid-air collisions, 8, 43, 48, 61, 72, 110

Minister responsible, 11 Statement of Expectations, 23 Ministry of Transport (Thailand) Office of the Aircraft Accident and Incident Investigation Commission, 37 mission statement, 10 Mitchell, Angus, 20, *see also* Chief Commissioner and Chief Executive Officer

Ν

National Aviation Occurrence Database, 12, 17, 44 New South Wales Office of Transport Safety Investigations (OTSI), 8, 14 non-salary benefits, 107 notifiable incidents (work health and safety), 111

0

objectives of ATSB, 11 occurrence briefs, 9, 17, 38 occurrence datasets see datasets occurrence investigations, 9, 17-18, 30-31, 35-36, see also investigations occurrence notifications, 9, 12, 38 office accommodation office locations, 107 technical facilities, 9 Office of the National Rail Safety Regulator, 12, 39 Office of Transport Safety Investigations (OTSI, New South Wales), 8, 14 ore trains, 8, 28, 51 organisational structure, 19 outcome and program, 9, 23 expenses for outcome, 116 performance results see performance outlook, 9 outside participation see international engagement; stakeholder engagement overseas investigations, 10, 12 overview of ATSB, 10-25

Ρ

Papua New Guinea, 45, 46 parliamentary committees, 109 performance at a glance, 28 accountable authority statement, 26 achievements, 8-9 ATSB role in influencing safety action, 40-41 data recording, analysis and research, 37-39 financial see financial performance formal safety issues and actions, 54-74 independent 'no-blame' investigations, 35-36 against KPIs, 27, 29-34 significant safety investigations, 48-53 performance criteria, 27, 28 performance pay, 107, 124 Philippines, 37 plans and planning Annual Plan, 105 business continuity plan, 106 major investigation preparedness plan, 36

strategic plan, 9 Portfolio Budget Statements, 23 performance results *see* performance portfolio membership and agencies, 10 preparedness for a major accident, 36 procurement *see* purchasing productivity improvements, 28 programs *see* outcome and program Prosser, Gary, 21 *Public Governance, Performance and Accountability Act 2013*, 1, 23, 26, 106, 115 *Public Service Act 1999*, 115 publications *see* reports and products purchasing, 108–109 purpose statement, 10

R

rail safety, 14 accidents, serious incidents and incidents, 8 ATSB recommendations closed, 70 ATSB recommendations released, 72 bridge check rails, 39 broad hierarchy of operations, 24 confidential reporting, 18, 38, 39 data recording, analysis and research, 37 derailments, 8, 28, 39, 51, 63, 65, 74 forums and events, 41 investigation resources shortfalls, 9 investigations, 8, 9, 28, 36, 51-52, 74 occurrence notifications, 12 passenger safety on platforms, 43 safety actions released, 66 safety advisory notices, 74 safety issues, 8, 55, 63-65 safety recommendations closed, 70 safety recommendations released, 66, 72 signal passed at danger, 8, 52, 64, 65 records held by ATSB, 115 Recreational Aviation Australia, 37 recruitment, 106, 111 regional cooperation, 18, 37, 45-46 remotely piloted aircraft systems (RPAS), 15 remuneration, 107 highly paid staff, 117 non-salary benefits, 107 performance pay, 107, 124 salary ranges by classification level, 107, 124 senior executives, 117 REPCON, 9, 17, 18, 38-39 reportable matters, 12, 24 reporting obligations ATSB, 23-25 safety matters, 12 reports and products, 13, 17-18 confidential reports, 9, 17, 18, 38-39 publication changes, 27, 34 reporting targets and performance, 38 response arrangements, 36 response level, 25 risk management, 106

RMIT University Graduate Certificate and Diploma in Transport Safety Investigation, 44 road transport industry, 109 role and functions of ATSB, 10–18, 104, 115 Rotortech 2022 conference, 40

S

safety actions, 29, 66 ATSB influence on, 40-46 safety advisory notices (SANs), 54, 72-74 safety at work see work health and safety safety education campaigns and messaging, 43 safety issues, 54-74 addressed through action, 27, 29, 66 ATSB recommendations closed, 66-70 ATSB recommendations released, 71-72 classification, 54 identified, 8, 30-31, 55 KPI status of, 55 responses to, 56-65 safety studies, 17, 27, 30-31 SafetyWatch, 42 salaries see remuneration Scott, Catherine, 22 Senate Rural and Regional Affairs and Transport Legislation Committee Report into the policy, regulatory, taxation, administrative and funding priorities for Australian shipping, 109 senior executives, 107, 124 key management personnel, 117 Senior Leadership Team, 104 shipping safety see marine safety short investigations, 17, 33, 34, 35-36 site surveys, 15 small business participation in procurement, 109 social media, 42-43 Sports Aviation Federation of Australia, 37 staff management, 106–108 average staffing level, 116 decision-making authorities, 115 diversity and inclusion, 112 employment arrangements, 107, 124 location of staff, 107, 123 recruitment, 106, 111 remuneration, 107, 117, 124 staff profile and statistics, 106-107, 118-124 training and development, 106, 108 see also investigators stakeholder engagement, 40-41, 115, see also collaboration; international engagement Statement of Expectations, 23 strategic plan, 9 systemic investigations, 18, 27, 30-31, 33, 34, 35-36

Т

technical facilities, 9 terminology (glossary), 138–142 Thailand, 37 thunderstorm danger, 41 timeliness, 27, 28, 33, 38 TrackSAFE Foundation Rail Safety Week, 43 training (investigators), 44 training and development (staff), 106, 108 trains *see* rail safety transport agencies, 10, *see also* Australian Transport Safety Bureau (ATSB) transport industry cooperation with, 11, 12 engagement with, 40–42 priority areas for attention, 42 road transport industry, 109 specialists, 15 *Transport Safety Investigation Act 2003*, 1, 8, 10, 12, 23, 115 *Transport Safety Investigation Regulations 2021*, 12

V

Victoria's Chief Investigator, Transport Safety (CITS), 8, 14

W

waste management, 112 website, 44 address, 127 Wet Season Seminars, 41 work health and safety, 111 workforce *see* staff management workload, 32

Australian Transport Safety Bureau

PO BOX 967, Civic Square ACT 2608 1800 020 616 www.atsb.gov.au

ABN: 65 061 156 887