



Australian Government
**Department of Transport
and Regional Services**



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AUSTRALIAN TRANSPORT SAFETY BUREAU



The Australian Transport Safety Bureau is an operationally independent body within the Department, and is Australia's prime transport safety investigator.



All sectors rely on transport to move people and products and to provide services. A growing economy brings increased transport activity and with it, increasing the risk of accidents and incidents.

The independent safety investigator

Australia is one of the world's largest countries—a vast landmass comprising millions of square kilometres surrounded by thousands of kilometres of coastline. One third of Australians live in regional areas outside our capital cities.

The Australian Government, through the Department of Transport and Regional Services, contributes to the wellbeing of Australians by supporting an efficient, safe transport system and strong, vital regions.

The Australian Transport Safety Bureau (ATSB) is an operationally independent body within the Department, and is Australia's prime transport safety investigator.

Safe skies, oceans, roads and railways

With a landmass of more than 7,600,000 square kilometres, and a coastline stretching some 25,700 kilometres, many Australians travel vast distances by air, sea, rail and road.

All sectors rely on transport to move people and products and to provide services. A growing economy brings increased transport activity and with it, increasing the risk of accidents and incidents.

Recognising this, the Australian, state and territory governments, industry and other stakeholders work collaboratively on transport safety.

In particular, the ATSB contributes to transport safety by independently investigating, analysing data and openly reporting on transport safety matters. All ATSB investigations are 'no blame'—the emphasis is on learning to improve future safety.



ACHIEVEMENT In 2005–06 the ATSB released 32 statistical and research safety publications, 22 on road safety and 10 on aviation safety. A further eight safety research reports were published under the aviation safety grants programme including the application of DNA technology to identify bird species involved in birdstrikes and a study of the effectiveness of child restraints in aircraft.



ATSB reports cover the facts and conclusions of investigations, safety research material, statistics such as national road fatalities, and often also include recommendations for safety improvements.

Improving transport safety and public confidence

The ATSB operates separately from transport regulators and service providers. Its prime objective is safe transport and its mission is to maintain and improve transport safety and public confidence through excellence in:

- independent investigation of transport accidents and other safety occurrences;
- safety data recording, analysis and research; and
- raising safety awareness and knowledge.

Reporting on the National Road Safety Strategy and biennial action plans for approval by transport Ministers are also coordinated by the ATSB.

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Trends or patterns of accidents and incidents are identified and analysed and used to prevent other accidents and incidents.

As required under the *Transport Safety Investigation Act 2003*, no one can use an ATSB report for civil or criminal proceedings. This is critical to ensuring the free flow of safety information.

Aviation

Any accident or incident involving civil aircraft in Australia or by Australian-registered aircraft overseas must be reported to the ATSB.

While the ATSB does not investigate all of these, it still needs to be notified so that data can be recorded for future safety analysis.

The ATSB works with police, emergency services, air traffic control, coroners and aircraft operators to ensure evidence associated with the accident is secured pending the investigation.

All investigations are carried out professionally and sensitively. ATSB investigators typically visit the accident site, examine wreckage and documentation, and interview witnesses. If appropriate the final report will include safety recommendations. The ATSB is not a regulatory authority so cannot enforce its recommendations. Rather, it relies on its reputation and wide dissemination of findings for recommendations to be adopted.

Aviation work also extends beyond domestic borders. Australia is a member of the Council of the International Civil Aviation Organization (ICAO) and has frequently assisted with international investigations, including through analysis of flight recorder ('black box') data.



ACHIEVEMENT Over the last 10 years, the total number of reported Australian aviation accidents (fatal and non-fatal) has declined by nearly 50 per cent from 228 to 129. Importantly, the number of fatal accidents has remained relatively low.

ACHIEVEMENT In 2005-06 the ATSB released 93 final aviation reports and issued 22 aviation safety recommendations, including 18 formal recommendations and four safety deficiency notices. Aviation regulators and industry fully or partly accepted 11 ATSB aviation recommendations and are considering others.

In addition, the ATSB's aviation safety stakeholders undertook 129 separately identified safety actions linked to 45 ATSB aviation investigations. The ATSB also undertook 13 separate safety actions relating to these aviation investigations.



REAR (left to right): John Robbins (REPCON Manager, Panel Secretary), Jim Barden (Manager, Safety Systems - Virgin Blue, Panel Member), Bill McIntyre (GAPAN, Panel Member), Captain Ian Woods (President, AIPA, Panel Member). **FRONT** (left to right): Ros Twigg-Patterson (Assistant REPCON Manager, Panel Observer), Chris Sullivan (Team Leader NCR, Panel Chairman), Robert Butcher (Manager, Human Factors and Analysis–Airservices Australia, Panel Member).

Any accident or incident involving civil aircraft in Australia or by Australian-registered aircraft overseas must be reported to the ATSB.

The Australian Government has recently introduced a new confidential reporting scheme called REPCON (short for report confidentially) to be administered by the ATSB. Since the discontinuation of the former Confidential Aviation Incident Reporting (CAIR) scheme in 2004, the aviation industry has been keen to see a new confidential reporting scheme introduced but with legislative coverage. The ATSB has consulted closely with concerned members of the industry to ensure that the legislation contains the elements required for a successful confidential reporting scheme that can be trusted.

The benefits of the new REPCON scheme include legal protections to ensure confidentiality for the reporter and, importantly, similar protections for individuals who may be reported on. The ATSB is interested in uncovering safety

concerns: we are not seeking to damage an individual's reputation. Following an extensive consultative process, the REPCON scheme has now received acceptance from industry members who worked to provide input into the development of the scheme.

To provide an industry oversight of the scheme, REPCON operates in consultation with an advisory panel consisting of four senior aviation industry representatives and chaired by the ATSB. The panel meets annually for discussion and to provide advice that will ensure the scheme continues to meet its objectives regarding safe aviation. The panel will actively promote and encourage reporting to the scheme; monitor selected REPCON responses to de-identified reports; and monitor REPCON's contribution to aviation safety.

Case Study

FATAL PIPER CHEYENNE ACCIDENT NEAR BENALLA, VICTORIA

Airservices Australia improved training and instructions for air traffic controllers and upgraded air traffic system software following the recommendations of an ATSB investigation into the fatal crash of a Piper Cheyenne aircraft near Benalla Aerodrome in Victoria. The pilot and five passengers died when the plane crashed nearly 30 kilometres off-course.

The changes will help controllers better respond to alerts if an aircraft is deviating from its cleared route. Also as a result of the investigation the ATSB urged pilots not to rely on a single source of navigation information and to pay careful attention to automated flight systems.

The ATSB was unable to determine the exact cause of the crash because the aircraft's instruments were destroyed in the accident. As a result, the ATSB also recommended that the Civil Aviation Safety Authority review requirements for on-board recorders on smaller aircraft that could assist future investigations and improve safety.



ACHIEVEMENT The ATSB's 40 marine recommendations in 2005–06 from 13 completed investigations included those on the Malu Sara investigation, which led to significant safety improvements regarding the operation and certification of vessels in the Torres Strait.

The ATSB's Marine Investigation Unit helps promote safety at sea by investigating accidents and marine casualties and by raising international industry awareness for future safety.



Marine

Marine transport accounts for the majority of imports and exports of cargo in and out of Australia and plays a significant role through coastal trade. Passenger ferries operate between Tasmania and the mainland. Cruise ships are also a growth industry.

The ATSB's Marine Investigation Unit (MIU) helps promote safety at sea by investigating accidents and marine casualties and by raising international industry awareness to prevent similar events in the future.

Reporting of maritime accidents and serious incidents to the ATSB is usually done via the Australian Maritime Safety Authority (AMSA).

Marine investigations are conducted into accidents and serious incidents involving Australian-registered ships anywhere in the world. The ATSB also investigates accidents and casualties involving foreign flag ships within Australian waters, or where evidence relating to an accident involving ships is found in Australia. Depending on the occurrence, the ATSB may simply enter details into its database, request more information, or conduct an onsite investigation.

The ATSB also operates Australia's Confidential Marine Reporting Scheme (CMRS). This offers seafarers the opportunity to report unsafe conditions, practices or procedures aboard ships without fear of being identified.

Case Study

LOSS OF THE MALU SARA IN THE TORRES STRAIT

An ATSB investigation into a fatal marine accident has led to tougher safety requirements for all Australian Government vessels.

Five people were aboard the Malu Sara—a six-metre Australian Immigration vessel—when it was lost in the Torres Strait.

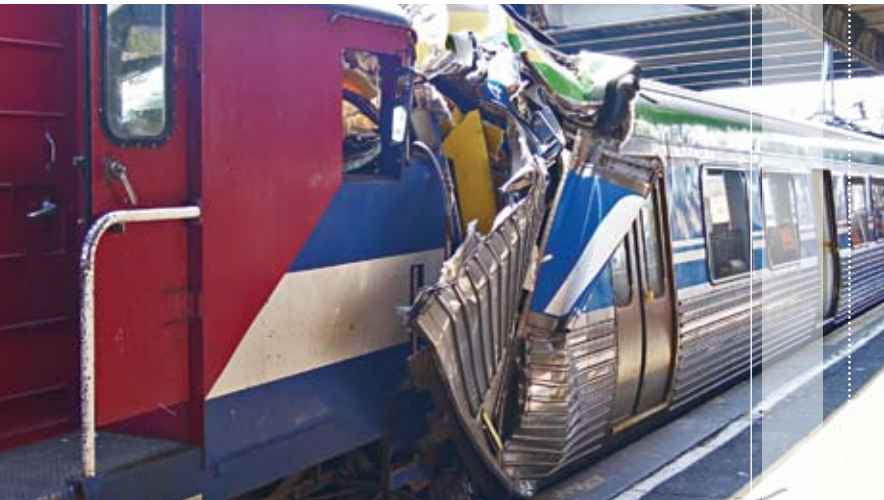
The ATSB's investigation found the vessel was not seaworthy in design or construction and did not meet basic safety standards. Other contributing factors were the lack of safety equipment such as a navigation chart, as well as the skipper's insufficient training and fatigue, which contributed to disorientation and poor decision making.

The investigation led to the (AMSA) tightening safety requirements and Department of Immigration and Multicultural Affairs (DIMA) making major changes to its North Queensland operations. In addition, AMSA and Maritime Safety Queensland implemented a Torres Strait Maritime Safety Strategy to strengthen the maritime safety culture in the region.



ACHIEVEMENT The ATSB released 11 rail safety reports in 2005–06, together with a joint Queensland Transport/ATSB investigation report on a serious Tilt Train accident and the Benalla rail level crossing collision investigation for the Victorian Government. Eighty-three rail safety recommendations were issued in the ATSB reports ranging from medical standards for safety-critical workers to track ‘fitness for purpose’, inspection and maintenance and shunting procedures.

A further six Tilt Train investigation recommendations included on the vigilance systems, advance warning systems, risks of a co-driver vacating the co-driver position, emergency communications and train evacuation. The 18 Benalla investigation recommendations related to level crossing safety particularly in relation to B-double trucks.



There are now more national rail operators that have entered the market, and the Australian Government has significantly improved interstate rail safety through funding the Australian Rail Track Corporation and the ATSB's independent investigations and safety findings.

Rail

The Defined Interstate Rail Network (DIRN) is a nationally vital transport system, providing an important alternative to road transport for Australian freight. There are now more national rail operators that have entered the market, and the Australian Government has significantly improved interstate rail safety through funding the Australian Rail Track Corporation and the ATSB's independent investigations and safety findings.

Accidents and serious incidents on the DIRN must be reported to the relevant state or territory rail safety regulator, which in turn notifies the ATSB.

Resources are concentrated on in-depth investigations considered most likely to enhance rail safety. When an investigation is conducted, the ATSB invites relevant parties to form an investigation team representing the relevant state/territory rail safety regulator, the vehicle operator and track access provider. Evidence from the accident site is examined, witnesses are interviewed and relevant documents such as maintenance and control records are checked. If appropriate the report will include safety recommendations.

The ATSB is also working with state and territory regulators to establish and broaden publicly available rail safety data on a nationally comparable basis.



ACHIEVEMENT Australia recorded 1,605 road deaths during 2006. This was a 1.4 per cent drop since 2005 and close to the 2004 total of 1,583 deaths, which was the lowest in more than 50 years. These figures reflect an underlying downward trend in road deaths since the introduction of the National Road Safety Strategy in 2001. However the Australian Government is encouraging jurisdictions and other stakeholders to achieve further improvement through major initiatives, such as a large-scale research trial of a driver education scheme for P-plate holders.

On average, four to five people are killed every day in crashes on Australian roads. A great many more are seriously injured and permanently incapacitated. Since record keeping began in 1925, there have been more than 171,000 road fatalities nationally. In addition to the burden of personal suffering, the monetary cost of road crashes is an estimated \$18 billion annually (2005 data).



The ATSB commissions research on road safety issues of national importance, to help formulate and review road safety policies.

Road

Individual states and territories are directly responsible for road traffic regulation and enforcement, driver training and licensing, road construction and maintenance, and road safety education campaigns.

The Australian Government's national role encompasses research, strategic transport infrastructure and black spot improvements, and regulating new vehicle standards and monitoring vehicle safety recalls.

The ATSB collects, analyses and publishes national statistics on road trauma including statistics on road deaths, comparisons with other Organisation for Economic Co-operation and Development (OECD) countries and information on specific road safety issues.

The ATSB commissions research on road safety issues of national importance, to help formulate and review road safety policies. The findings may also contribute to vehicle safety standards. Research topics have included speed management, community attitudes to road safety, novice driver education, and driver fatigue in the transport industry.

National Road Safety Strategy

The National Road Safety Strategy 2001–2010 provides a framework for road safety initiatives of Australian, state, territory and local governments, as well as other major organisations with road safety responsibilities. The ATSB has a coordination role in the Strategy and related Action Plans and assesses progress.

The overall goal is to reduce yearly road fatalities by 40 per cent by the end of 2010. The framework to do so is a safe system approach involving safer roads, safer speeds and safer vehicles. Individual responsibility is also critical.

After a comprehensive review of national road safety progress and priorities, the ATSB worked with state and territory governments and a broad range of organisations to develop the National Road Safety Action Plan for 2007 and 2008, the fourth action plan, under the National Road Safety Strategy 2001–10.



The ATSB has a coordination role in the National Road Safety Strategy 2001–2010.



The ATSB has initiated safety awareness education, targeting a range of people from young drivers to commercial fishermen.

Responding to needs

The ATSB has initiated cost-effective safety awareness education, targeting a range of people from young drivers to commercial fishermen.

The fishing industry campaign is an example of the way the ATSB addresses a problem area that came to light through the data collected. Since 1990 there have been investigations into 24 collisions between fishing boats and much larger cargo vessels, prompting an education campaign to draw attention to the issue.

In road safety, ATSB-sponsored research on speed and fatigue has been used in major education campaigns in states and territories.

Evidence also revealed a need to remind inexperienced drivers of their own limitations and to give them an insight into driver risk factors. This prompted the development of an innovative driver education programme to be tested in a large-scale trial in New South Wales and Victoria. The trial is being implemented in partnership with the NSW and Victorian Governments, the Federal Chamber of Automotive Industries, Insurance Australia Limited and the Royal Automobile Club of Victoria.

The ATSB also produces education kits for learner drivers and their instructors and a range of other material to help improve safety among vulnerable road user groups.



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