

Sector Insight Report

September 2026

Airborne conflict in uncontrolled Class G airspace

Insights period: 1 January 2025 to 31 May 2026

The Civil Aviation Authority (CAA) produces targeted Sector Insight Reports to provide a deeper examination of specific safety issues and emerging risks identified through occurrence reporting and other information sources. While sector dashboards will provide ongoing visibility of system-level trends, these insight reports are intended to explore particular topics in greater detail, highlighting key risk factors, lessons learned, and opportunities for safety improvement across the aviation sector.

This sector insight report follows the [Safety Message: Airborne conflict in uncontrolled Class G airspace](#) which was released by the CAA in July 2026. It provides an overview of airborne conflicts in Class G airspace reported between 1 January 2025 to 31 May 2026. It highlights emerging patterns and system-level risks to support proactive safety management.

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Key system insights

- > Situational awareness is often compromised by fragmented information, limited visibility, and communication gaps
- > Aerodrome environments present the highest risk because of high traffic density and workload
- > Mixed aircraft operations increase complexity and reduce shared situational awareness
- > Training environments can increase risk exposure, but they also include additional safeguards such as instructor oversight
- > The system relies heavily on recovery, with many conflicts resolved through late detection and avoiding action

Bottom line

Class G operations continue to depend on communication, visual separation, and pilot judgement. These controls are effective in preventing escalation - but are often applied late. The data shows a system that is strong in recovery, but less consistent in preventing airborne conflicts before they develop.



How to read this report

We highlight selected examples and patterns that provide the greatest value for understanding emerging system risks. These insights are indicative, not exhaustive, and are intended to support early awareness and proactive risk management.

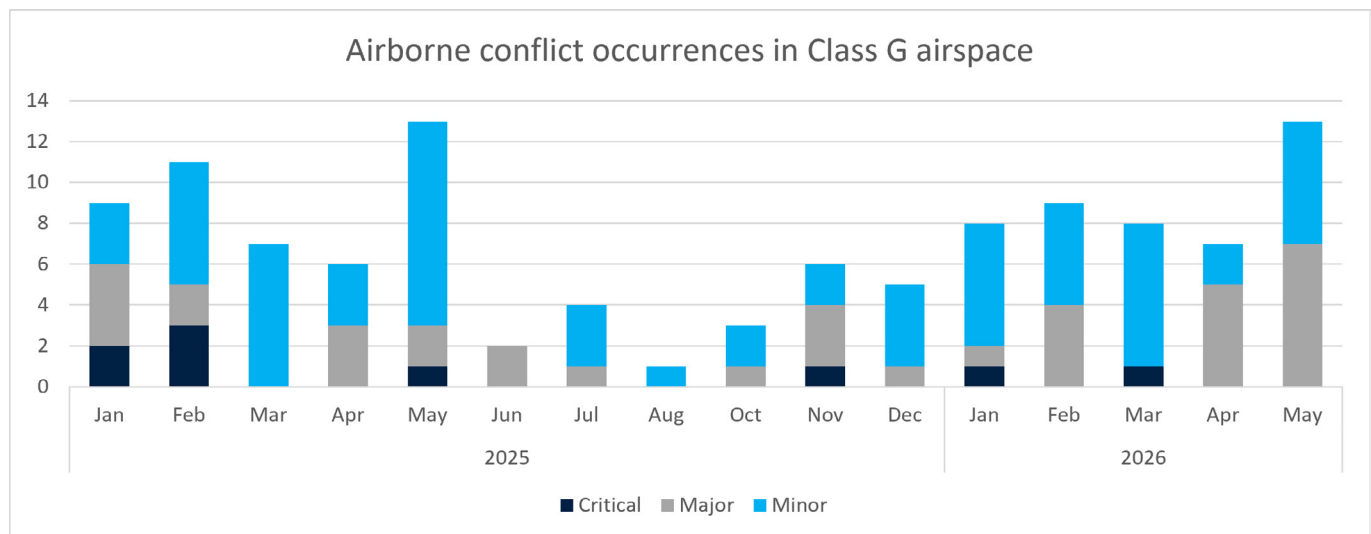
The insights provided are high level and may not yet be fully analysed. They are not shared to attribute blame, but to reinforce that aviation safety depends on shared responsibility and collaboration across the system. It is also expected that these insights may assist you in identifying or mitigating potential risks within your own aviation activities.

Please note that the data referred to in this insight report was pulled on 17 June 2026 and reflects the reported information available at that time.

Occurrence breakdown

1. Airborne conflict occurrences

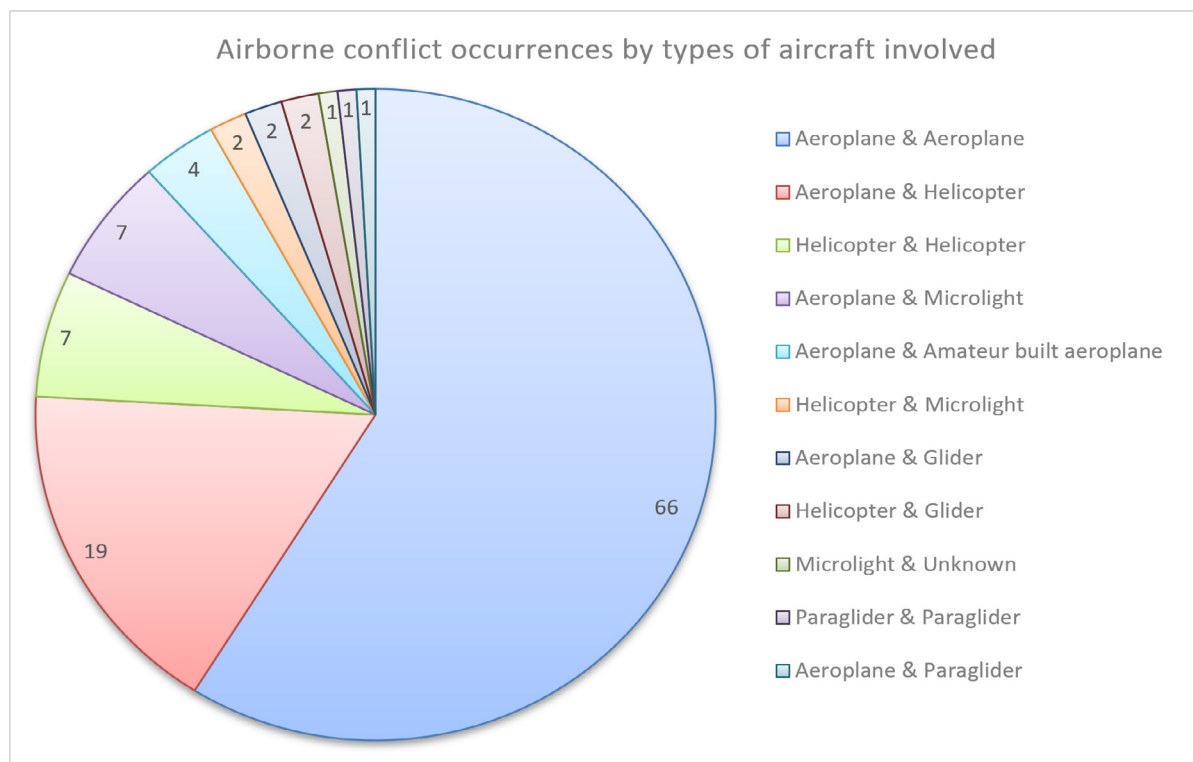
From 1 January 2025 to 31 May 2026 there were 112 occurrences involving airborne conflict in class G airspace. These occurrences are made up of 67 minor, 36 major, and 9 critical occurrences. Majority were classed as airspace incidents (107 or 95.5 percent) and the remainder were aviation related concerns (5 or 4.5 percent).



The majority of events occurred close to aerodromes, where traffic complexity, communication, and predictability are critical to maintaining separation. Of the reported occurrences, 86 (76.8 percent) happened close to aerodromes while 26 (23.2 percent) were classified as enroute.

The May and February occurrence peaks do not appear to be driven by any single location. Instead, they coincide with periods of relatively high general aviation and training activity. For aerodromes where flight movement data was available, movement volumes were slightly higher than average during these months, suggesting that increased activity (particularly training) may have contributed to the higher number of occurrences.

The graph below shows the distribution of aircraft types involved in the occurrences. The majority involved two aeroplanes operating in close proximity, accounting for 66 occurrences (58.9 percent). The next most common event was an aeroplane in conflict with a helicopter, with 19 occurrences (17 percent).



A smaller proportion of occurrences (10 events or 8.9 percent) involved conflicts between more than two aircraft. Of these:

- seven involved three aircraft, and
- three involved larger groups of four, five, and eight aircraft.

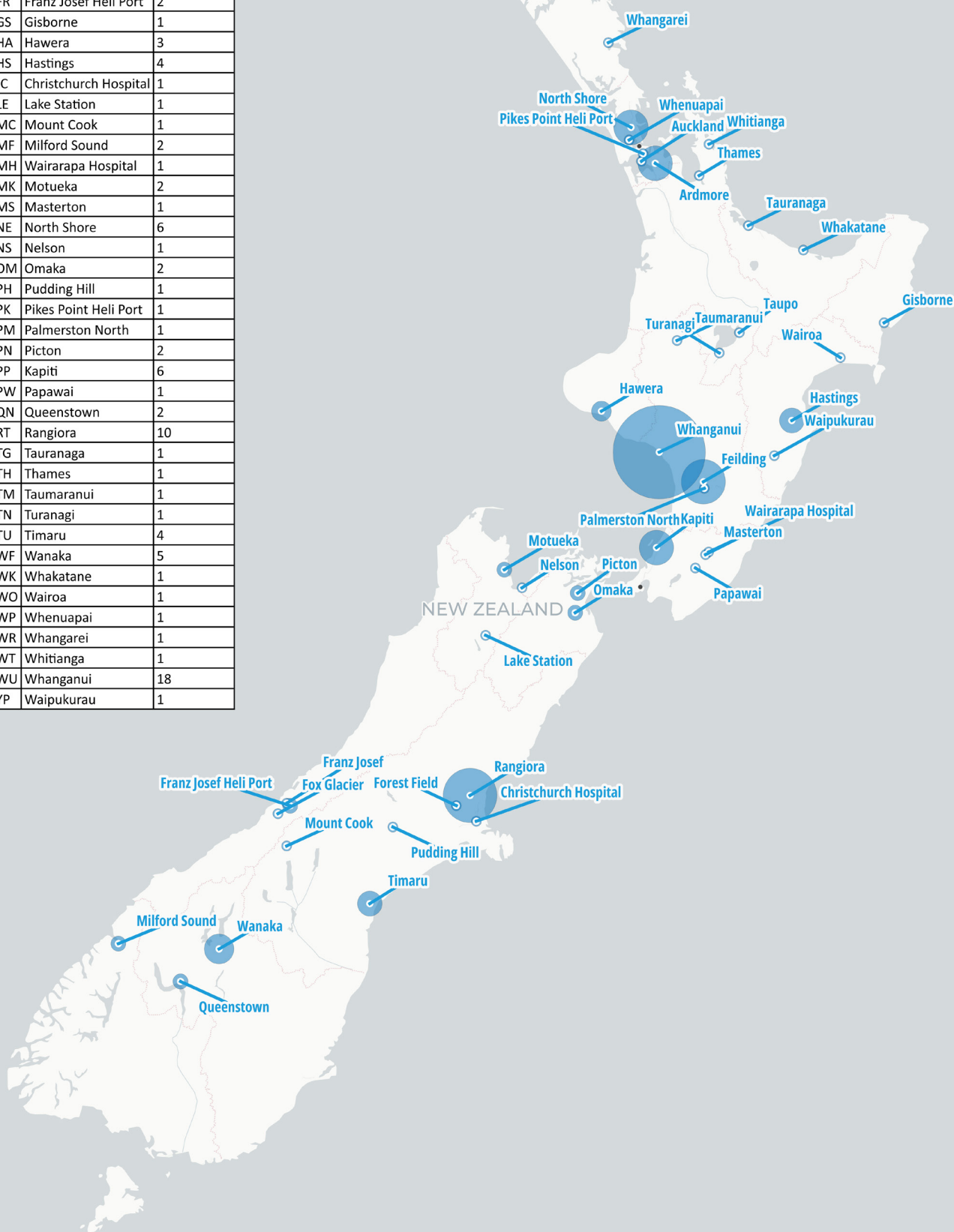
One example involved a formation of helicopters flying at an airfield that resulted in a conflict with two training aircraft, requiring a go-around and pilot intervention to maintain safe separation.

2. Occurrence distribution map

The maps below illustrate the geographic distribution of reported occurrences across New Zealand between 1 January 2025 and 31 May 2026. In the first map, larger circles represent a higher number of reports from a given location. A greater concentration of reports does not necessarily indicate poorer safety performance. Instead, it may reflect higher levels of operational activity and a positive reporting culture, both of which contribute to a stronger understanding of safety risks. The second map shows flight movements for applicable aerodromes. By presenting the data visually, the maps help to identify patterns and areas of interest, supporting more targeted analysis and informed decision-making.

Many events occurred at aerodromes with significant training activity, including Ardmore, Feilding, Kapiti, North Shore, Rangiora, and Whanganui. These environments often involve multiple aircraft simultaneously conducting circuits, overhead joins, departures, arrivals and training exercises. The data suggests that many of these conflicts arise from the complexity of managing multiple aircraft and concurrent training activities, highlighting the importance of effective communication, situational awareness, and adherence to standard operating procedures.

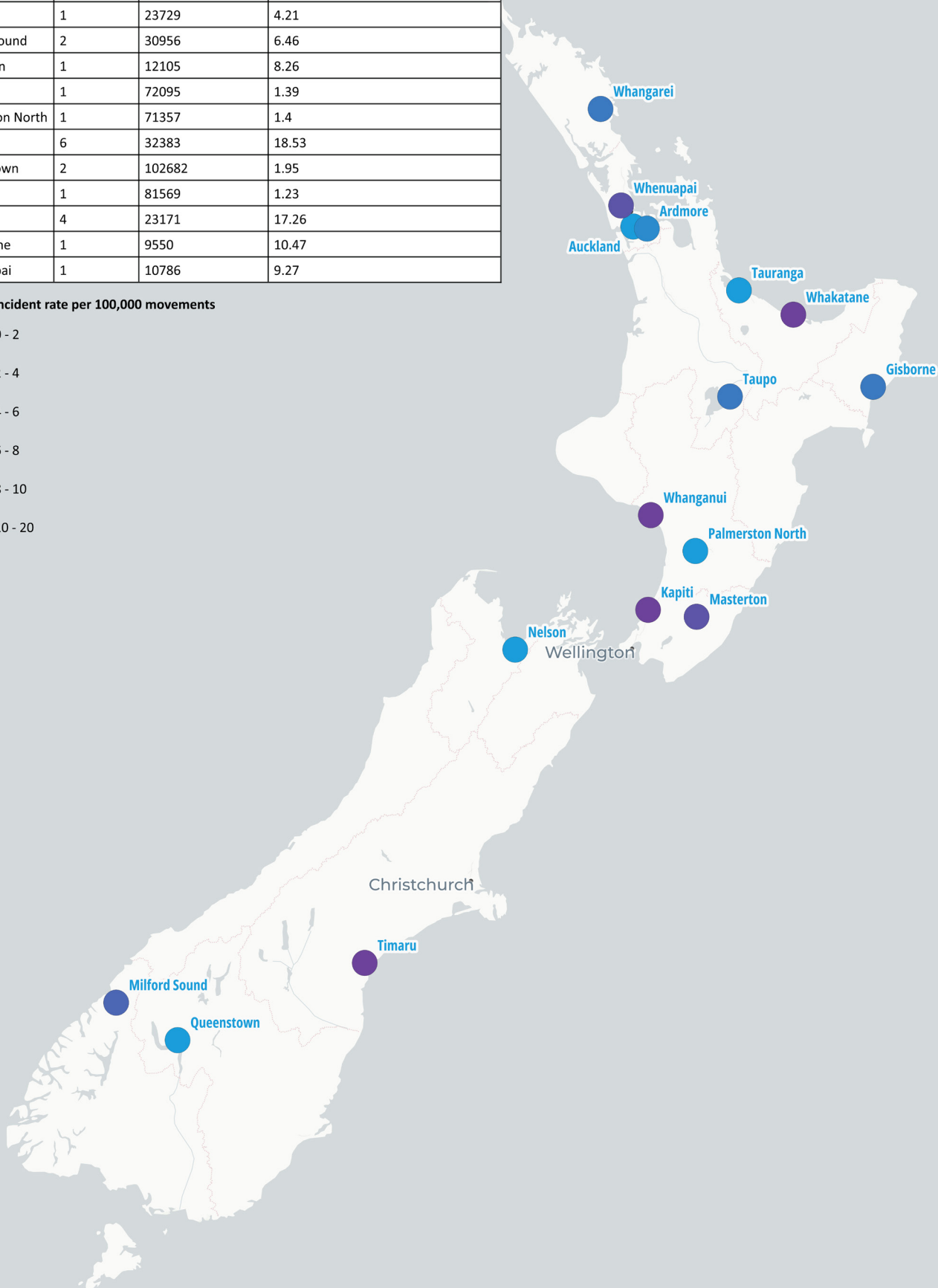
ICAO	Location Name	Occurrences
NZAA	Auckland	1
NZAP	Taupo	1
NZAR	Ardmore	6
NZFF	Forest Field	1
NZFI	Feilding	8
NZFJ	Franz Josef	1
NZFO	Fox Glacier	1
NZFR	Franz Josef Heli Port	2
NZGS	Gisborne	1
NZHA	Hawera	3
NZHS	Hastings	4
NZJC	Christchurch Hospital	1
NZLE	Lake Station	1
NZMC	Mount Cook	1
NZMF	Milford Sound	2
NZMH	Wairarapa Hospital	1
NZMK	Motueka	2
NZMS	Masterton	1
NZNE	North Shore	6
NZNS	Nelson	1
NZOM	Omaka	2
NZPH	Pudding Hill	1
NZPK	Pikes Point Heli Port	1
NZPM	Palmerston North	1
NZPN	Picton	2
NZPP	Kapiti	6
NZPW	Papawai	1
NZQN	Queenstown	2
NZRT	Rangiora	10
NZTG	Tauranaga	1
NZTH	Thames	1
NZTM	Taumaranui	1
NZTN	Turanagi	1
NZTU	Timaru	4
NZWF	Wanaka	5
NZWK	Whakatane	1
NZWO	Wairoa	1
NZWP	Whenuapai	1
NZWR	Whangarei	1
NZWT	Whitianga	1
NZWU	Whanganui	18
NZYP	Waipukurau	1



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Aerodrome	Occurrences	Aircraft movements	Occurrences per 100,000 movements
Auckland	1	236013	0.42
Taupo	1	24598	4.07
Ardmore	6	166792	3.6
Gisborne	1	23729	4.21
Milford Sound	2	30956	6.46
Masterton	1	12105	8.26
Nelson	1	72095	1.39
Palmerston North	1	71357	1.4
Kapiti	6	32383	18.53
Queenstown	2	102682	1.95
Tauranga	1	81569	1.23
Timaru	4	23171	17.26
Whakatane	1	9550	10.47
Whenuapai	1	10786	9.27

G-class incident rate per 100,000 movements



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1. What keeps showing up

Risk driver	Appears in
Communication breakdowns	Most occurrences
Circuit conflicts	High-traffic uncontrolled aerodromes
Mixed airspace interactions	All operation types
Procedural deviations	Joins, circuit operations, departures
Situational awareness limitations	Visual lookout and traffic perception
Technology gaps	Transponder/ADS-B limitations
Training environments	High-traffic uncontrolled aerodromes

2. Communication breakdowns

Communication issues appear across almost all occurrence types and environments. These include missing radio calls, inaccurate position reports, simultaneous transmissions, and aircraft operating on the wrong frequency.

In many cases, separation was only maintained because one pilot sighted the other late or acted on incomplete information. When communication fails, pilots are forced to rely entirely on visual detection, reducing safety margins and increasing workload.

Communication is rarely the only issue. It often interacts with other factors – such as circuit congestion, mixed aircraft types, or non-standard operations – to create situations where pilots do not have a shared understanding of traffic.

What this means: Pilots cannot rely on a single awareness layer. Communication must be supported by visual lookout and, where available, electronic traffic awareness.

3. Circuit conflicts

Conflicts in and around circuits occur frequently across uncontrolled aerodromes. While many involve training flights, they also include private, commercial, instrument flight rules (IFR), and transiting aircraft operating together.

Common scenarios include:

- aircraft turning final without sighting traffic
- traffic joining against the circuit flow
- straight-in approaches conflicting with circuit air traffic, and
- overtaking or cutting in during circuit sequencing.

These environments often involve multiple aircraft with different speeds, procedures, and objectives. The resulting complexity increases the likelihood of mis-sequencing and loss of separation.

What this means: Predictability is critical. Even small deviations from expected procedures can create conflict that other pilots cannot anticipate.

4. Mixed airspace interactions

Occurrences frequently involve different aircraft types operating together, including helicopters, gliders, fixed-wing aircraft, and low-level operators. These interactions introduce challenges such as:

- different operating altitudes and speeds
- varied radio use and equipment capability, and
- different expectations about traffic behaviour.

In several occurrences, aircraft were unaware of each other until late due to limited radio communication, visual limitations, or lack of electronic visibility. These occurrences demonstrate that compliance with standard operating, radio, and circuit procedures does not always guarantee that other aircraft will be detected in time to avoid conflict.

What this means: Pilots should maintain vigilance, use available communication and surveillance tools, and avoid relying on a single means of traffic awareness.

5. Procedural deviations

Many occurrences involve aircraft not following standard procedures, particularly in circuits and joins. Examples include:

- incorrect or non-standard overhead joins
- joining at unexpected altitudes or locations
- departures or climbs conflicting with arrivals, and
- failure to give way to established circuit traffic.

These deviations are often not extreme or intentional – they are small variations from documented procedures. However, in busy environments, even minor deviations can significantly increase risk when other pilots are relying on predictable behaviour.

What this means: Consistent, standardised behaviour is essential to support shared situational awareness.

6. Situational awareness

In many occurrences, one or both pilots did not have an accurate picture of nearby traffic until late in the sequence. Contributing factors include:

- losing sight of aircraft during manoeuvres (eg, turns, high wing/low wing blind spots)
- focusing on tasks such as instruction, navigation, or troubleshooting, and
- assuming other aircraft have been seen or are following expected procedures.

As a result, conflicts often develop gradually rather than suddenly, but are only recognised at the last moment.

What this means: Situational awareness requires continuous updating - particularly in high-workload environments.

7. Technology gaps

Electronic aids often assist in identifying traffic, particularly when communication has broken down. However, many occurrences involve:

- aircraft without transponders or ADS-B
- equipment switched off, and
- late or limited traffic alerts.

In some cases, pilots only became aware of the conflict via electronic systems, highlighting both their value and their limitations.

What this means: Electronic systems enhance awareness but cannot replace communication and visual lookout.

8. Training environments

Many occurrences take place in busy training environments. These areas combine high traffic density with developing pilot capability.

Student pilots are managing:

- aircraft handling
- communication, and
- traffic awareness.

This can increase workload and variability in performance. At the same time, instructors play a critical role in identifying and managing developing conflicts. In many cases, safe outcomes depend on timely instructor intervention.

What this means: Training operations increase system complexity, but also provide a key opportunity to reinforce safe behaviours early.

Sample of occurrence narratives

Note: These occurrence narratives are presented largely as they were originally reported to the CAA. Identifying information has been removed, including details that could identify people, aircraft, operators, or organisations.

1. Aircraft A was joining the circuit from the southwest of the airfield at an altitude of 2,500 feet. The AFIS reported traffic in the vicinity, including a Cessna 172 on the IFR departure and aircraft B operating north of the field at 900 feet. Aircraft B had reported its intention to track from its present location to a nearby offshore landmark then onward to its destination. Following this call, aircraft B did not make any further position or intention reports. To deconflict with the outbound Cessna 172, aircraft A descended to 1,000 feet. Upon reaching 2000 feet, AFIS advised them that aircraft B was now also at 2,000 feet and tracking directly toward their position. In response, aircraft A conducted an expedited descent at approximately 1,500 feet per minute and 160 knots indicated airspeed (KIAS) to avoid a potential collision. Aircraft A TCAS alerted the crew to aircraft B's proximity, displaying zero feet of vertical clearance. Visual contact with aircraft B was established when it was

approximately 1 NM away, on the same altitude and descending. The aircraft A pilot made a radio call instructing aircraft B to maintain its level. Aircraft B passed approximately 50 metres behind and an estimated 100 feet above aircraft A's position, resulting in a near miss in the vicinity of a location south of the airfield.

2. Near miss after go-around requiring evasive action. Further information received: I was sitting in the right seat and handling the controls. The examiner was in the left seat. We flew the standard circuit for the Runway. When we were at about 200 ft AGL on close short final an aircraft taxied out and lined up on the runway. It then paused before rolling. By this time we were about 100 ft AGL. I made a radio call – commenced a go-around – full power – positioned left of the runway – established climb – retracted flap – set climb power. The aircraft had taken off and quickly reached our altitude. It was initially slightly ahead but we drew level with it on our right side about a 100m off our wing tip. We then both stayed about level with each other. Our cockpit conversation was focused on retaining sight of the aircraft. I was raising the right wing slightly to better see the aircraft. At about 4-500ft indicated (AMSL) the aircraft started to roll into a left turn directly towards us. I immediately decided that the only possible avoidance was descending and push hard forward into a dive. The aircraft passed over the top of us on a crosswind leg of the circuit. When I was confident that the aircraft was clear (we had lost sight of it) I resumed climb and turned onto the cross wind. At about 700ft AMSL we saw the aircraft on our left and it turned right to pass across us a few hundred feet above. In my opinion, if we had not taken evasive action, there was a very high chance there would have been a midair collision. I rang Unicom and advised them of the incident. The Airport company have been in touch.
3. Was downwind with an aircraft behind me, turned base and started descending then the aircraft had cut through the base leg departing the circuit and in doing so flew right in front of us high, close enough for me to read the rego on the side of the aircraft.
4. Aircraft A was conducting standard overhead join. There were approx 5 a/c in R/way circuit at the time. Aircraft A would have been following aircraft B. Aircraft B had completed a touch and go and was remaining in the circuit. Aircraft A had descended on non-traffic side and failed to sight aircraft B. Aircraft B asked aircraft A multiple times if they had them in sight but there was no response. Aircraft B elected to level off lower than standard circuit in case of conflict. After multiple failed attempts at contact, aircraft A flew directly over aircraft B and joined behind them in downwind. Aircraft B continued to try to make contact – aircraft A eventually replied they had traffic in sight when they established themselves downwind
5. Lateral separation with an aircraft was reduced to approximately half a nautical mile, with no vertical separation. I was tracking north east and onwards to my destination at 2500ft, while the other aircraft was in the vicinity of a coastal area climbing north on a converging course with myself. Shortly after reaching top of climb at 2500 ft, I checked ADS-B on the iPad for nearby traffic. Earlier, I had noted that the other aircraft was in a nearby peninsula area and mistakenly I assumed they would remain there. When I saw the aircraft tracking north from the coastal area, in a climb toward my level and on a converging path, I was caught off guard. I hadn't heard any radio call indicating their climb or change in direction, despite having broadcast my own position and intentions twice beforehand as standard practice, advising traffic that I was tracking toward my destination. I quickly made visual contact with the aircraft and transmitted that I had them in sight. I adjusted my course to pass behind them, avoiding the need for any evasive manoeuvre. Later, the pilot of the other aircraft approached me to discuss the incident, which I appreciated as it saved me the effort of locating them for a chat. We both acknowledged that the airspace around the area is busy, and agreed that improved situational awareness, listening and communication would have helped from both of us and it would have been useful if they had made an additional call when they began tracking north and climbing.

6. *On the ferry back to the airstrip from spreading a load of fertiliser I noticed on the ADSB there was traffic nearby which was previously operating further away. I zoomed in on the ADSB scale and realised it was within 1 mile but I still couldn't see the traffic. The voice alarm then went off notifying me of the traffic. Still I couldn't see it so stayed higher and kept a lookout. A moment later a helicopter crossed the ridge in front of me pretty close to where I was aiming to cross the ridge and head back down to the airstrip. I tried contacting the pilot and circled around him to get his attention. Coms were then established. This event gave me a scare and I had to take a breather and re gather myself before carrying on with the job. Subsequent occurrence report was received from the operator of the other aircraft.*
7. *I was the instructor on a training flight IFR between two aerodromes. While airborne from the Rwy on the crosswind leg and about to join the published RNP SID the student sitting on the left hand side said there was an aircraft passing overhead. I looked up and saw an aircraft passing very close above from left to right. There was no time to react. I advised UNICOM and continued the training flight. From flight radar24 playback we were 1100' and the other aircraft was 1335' - aircraft separation on crossing was 235'. We were still in the circuit. The other aircraft was joining direct into the runway downwind from the southeast direction.*
8. *An aircraft had to execute a go-around due to a helicopter crossing the grass runway. A downwind call was made for the intention of the aircraft. Student was too busy aviating the aircraft for the final leg, it would have helped if instructor made the final call to make sure the helicopter would hold or be more aware that someone is on final grass runway. For unknown reasons both helicopter pilots did not hear the aircrafts downwind call, and obviously did not see the aircraft on final during the clearing turn prior to crossing. A debrief has been held between the students and instructors involved with lessons including: making a final call when other traffic is in the circuit at the aerodrome; helicopters clearly stating location, destination and that they are crossing 'both runways' (rather than just the runway number), helicopters pausing after this call prior to crossing, thus allowing any final traffic to make a call that may alert the crossing aircraft to a potential conflict.*
9. *Near mid air collision. While operating in a sector of a control zone 3500ft and below, I heard a call from an aircraft stating that he was departing the aerodrome and tracking to operate in the same sector at 1500ft. Approx 3 minutes later my student and I started heading back to the aerodrome from a reporting point. I told my student to look out for another plane that was tracking away from the aerodrome in our direction but they should be below us. Neither of us saw anything. Once I levelled off at 1500ft from my descent I reported clear of the sector to the tower in which I received a reply. Once I was overhead the aerodrome, I made a call that I was overhead and I would be descending on the non traffic side for the active runway. While flying from the non traffic side and crossing over the runway onto the traffic side, I saw the aircraft flying towards the runway on runway heading. I stated to my student that I hadn't heard any radio calls and this is why its important you always keep a good lookout. We then made our turn onto the downwind leg of the runway in which I made a call that I was turning downwind. While we were flying on the downwind leg, I saw the aircraft flying along the runway at maybe 600ft. I then thought to myself we are well clear and carried on with the circuit. I then started talking my student through the approach and landing. This is only the second time they have attempted to land a plane. The workload went up during the approach and a lot of my attention was on her and the flying of the plane. While on final I wondered where the aircraft had gone so I looked around and as I looked to my right, he was off my right wing and level with us at approx. 300ft flying a curved approach on a collision path with us. From my judgment, the aircraft was within 50m of us and closing. As soon as I saw him, I went full power, retracted the flaps and made a steep turn to the left to avoid collision. I then climbed back up to circuit height on the non traffic side of the runway while he continued down the approach to land. I believe that if I hadn't have spotted him and continued on the approach, we would have collided.*

10. A number of gliders and paragliders were operating in the common flight path of aircrafts flying to a popular scenic destination. Paragliders were observed operating in several areas along the route earlier in the day. Gliders were operating around a nearby mountain range and other areas. I was flying my aircraft along with another company aircraft to pick up passengers from the destination aerodrome. We were aware of a glider operating around the mountain range area as the glider pilot had made a radio call earlier. Both my aircraft (8100ft approx) / the other aircraft (8500ft approx) were crossing a mountain saddle when the glider appeared to cross us from our right to left along the saddle. The other aircraft was vertically separated while I elected to turn to the right to avoid the glider as we appeared to be at similar altitudes. I felt there was a chance of a mid air collision if I continued on the same flight path hence I elected to turn. The glider pilot had not made a radio call to state that they were operating at/around the saddle and only made a radio call after having a near miss.

What's next

Thank you for continuing to report occurrences to the CAA. The information you provide is incredibly valuable for identifying key risk areas and generating insights that support safer operations across the aviation sector.

To further strengthen the usefulness of these reports, we encourage you to include complete and accurate details wherever possible, such as aircraft type and model, operator information, pilot details and any analysis undertaken to understand why the event occurred. Thoughtful, well described reporting enables us to build a clearer picture of emerging risks and develop more meaningful insights for industry.

Through Aviation Safety Insights, we are committed to sharing practical, actionable information informed by the data and information we hold. Your reporting plays a vital role in helping us identify trends, learn from events, and support continuous safety improvement across the aviation system.

While ongoing system-level risk reporting/insights will increasingly be delivered through publicly available sector dashboards, we will continue to produce targeted insight reports where there is value in exploring specific safety issues, emerging risks, or areas of sector interest in greater depth.

Key contact:

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