Australian Government
Australian Transport Safety Bureau

# Near collision involving a Piper PA-31, VH-XGW, and a Piper PA-28, VH-IBX

13 km W of Bankstown Airport, New South Wales, 1 April 2014

**ATSB Transport Safety Report**
Aviation Occurrence Investigation
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**Addendum**

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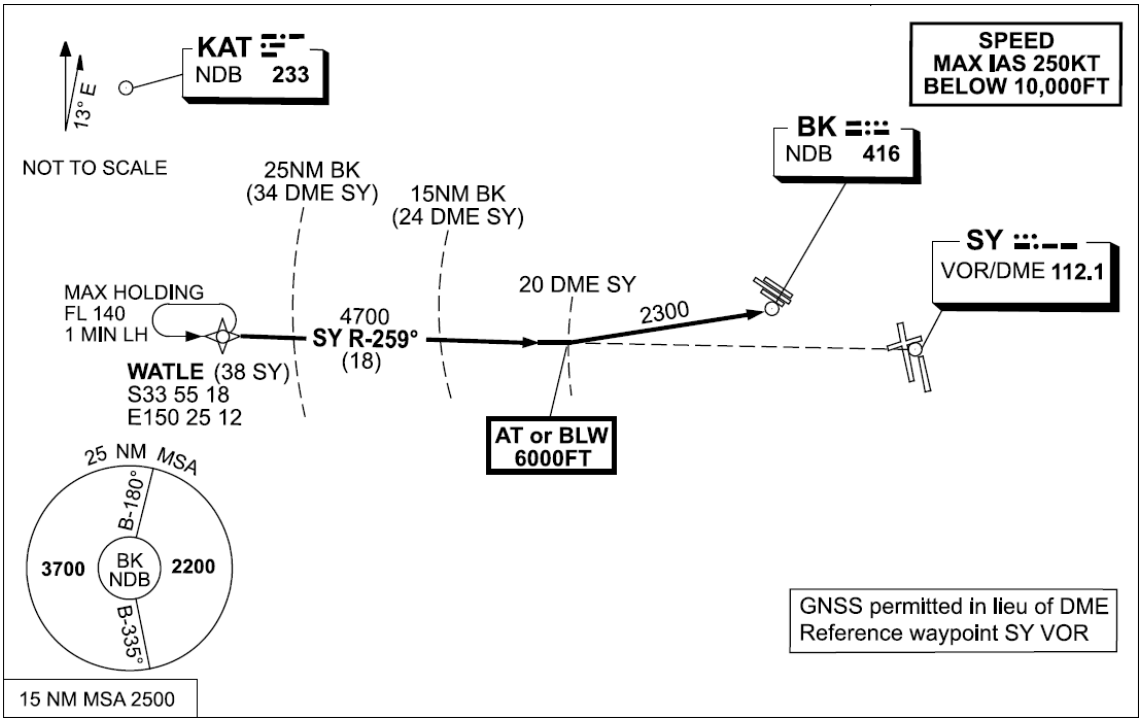
# Near collision involving a Piper PA-31, VH-XGW, and a Piper PA-28, VH-IBX

## What happened

On 1 April 2014, a Piper PA-31 aircraft, registered VH-XGW (XGW), departed Canberra, Australian Capital Territory, on an aeromedical flight to Bankstown, New South Wales, under the instrument flight rules (IFR), with a pilot, check pilot, flight nurse and patient on board.

The pilot conducted a WATLE Five Arrival (Figure 1) to Bankstown, tracking on the Sydney 259 radial[1] until 20 NM from Sydney, and then turning to track direct to Bankstown.

**c**




**Source: Airservices Australia**

At about 1940 Australian Eastern Daylight Time (AEDT), a Piper PA-28 aircraft, registered VH-IBX (IBX) departed Bankstown on a training flight to Orange, New South Wales, under the night visual flight rules (NVFR), with a pilot-under-instruction and a flight instructor on board. IBX took off from runway 11 and climbed to 1,500 ft AMSL before departing the Bankstown zone at 3 NM, on climb to 2,300 ft AMSL. The instructor reported that this provided a height above the lowest safe altitude (LSALT) of 1,900 ft AMSL based on clearance above the radio tower 2RN and below controlled airspace at 2,500 ft AMSL. The pilot took up a heading to intercept the 275 radial from Sydney.

Prior to being transferred to Bankstown Tower, Sydney ATC advised the pilot of XGW that a VFR aircraft had departed Bankstown and was about 5 NM away and at 1,600 ft AMSL. The pilot responded that he had the aircraft in sight. At about 1944, the pilot of XGW contacted the Bankstown Tower controller when about 11 NM west of Bankstown and on descent to 2,300 ft

[1] Magnetic bearing extending from a point-source navaid such as a VOR (VHF Omni Directional Radio Range)

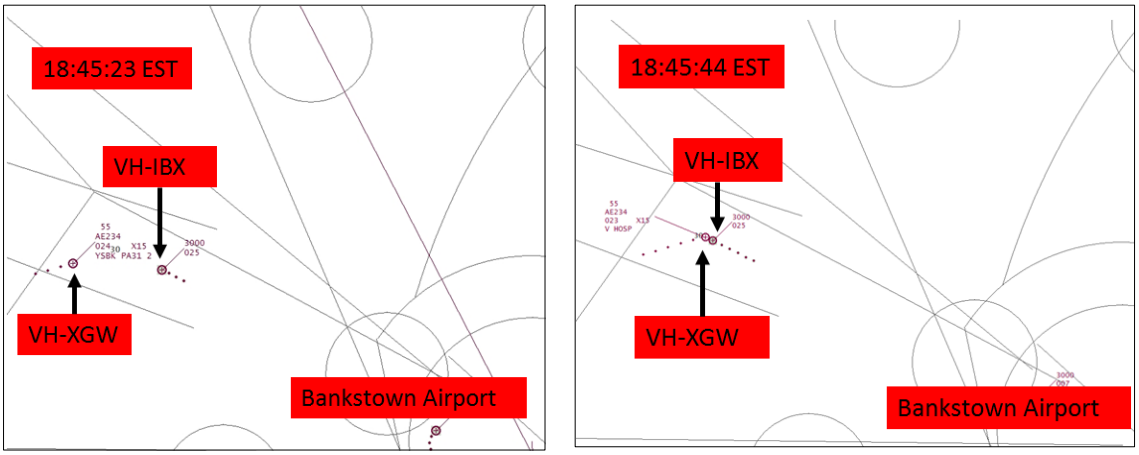
above mean sea level (AMSL). The tower controller instructed the pilot to join final for a straight in approach to runway 11.

The controller then advised the pilot of XGW that departing traffic was a Cherokee in his '1 o'clock,[2] becoming 12 o'clock' about 2 NM away, and at 2,300 ft AMSL (Figure 2). The pilot of XGW replied that he had the traffic sighted.

When at 2,300 ft AMSL and about 6 NM from Bankstown, the instructor of IBX heard the controller give XGW the traffic and sighted XGW. He observed that the aircraft lights did not appear to be moving in the windscreen and monitored the aircraft to see if it would deviate from what appeared to be a converging track with IBX. The check pilot of XGW sighted IBX and did not expect the two aircraft to come into conflict and returned his focus to ensuring the pilot in command intercepted the glide slope and lined the aircraft up on the runway precision approach path indicator (PAPI).[3]

The instructor of IBX then observed the landing light of XGW come on, immediately took control of IBX from the pilot-under-instruction, and conducted a climbing turn to the left. He sighted XGW pass about 200 ft below IBX. Radar data provided to the ATSB by Airservices Australia showed that the aircraft came within 200 ft vertically of each other and that IBX passed over XGW.

**Figure 2: Radar plots of IBX and XGW**




Source: Airservices Australia

## *Pilot comments: VH-IBX*

The instructor of IBX provided the following comments:

- When the pilot of XGW reported that they had IBX visual, he thought that XGW would turn and track behind IBX, or descend.
- As IBX was crossing the path of XGW from the right, he maintained the heading of IBX in accordance with CAR 161 (2),[4] as the aircraft with the right of way, until he determined that XGW was not taking any avoiding action and that there was a risk of collision with XGW.
- The En-Route Supplement Australia (ERSA) for Bankstown advises pilots of aircraft departing Bankstown to change from tower frequency to monitor Sydney centre frequency when 3 NM from Bankstown. If he had done that and not stayed on Bankstown tower frequency, and thus been alerted to XGW, he may not have sighted the aircraft and been able to take avoiding action.

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2 The clock code is used to denote the direction of an aircraft or surface feature relative to the current heading of the observer's aircraft, expressed in terms of position on an analogue clock face. Twelve o'clock is ahead while an aircraft observed abeam to the left would be said to be at 9 o'clock.

3 Precision Approach Path Indicator (PAPI) is a ground based, visual approach indicating system that uses a colour discriminating system used by pilots to identify the correct glidepath to the runway.

4 The visual flight rules guide: www.casa.gov.au/wcmswr/_assets/main/pilots/download/vfr/vfrg1-high.pdf

- Due to noise abatement procedures, aircraft depart Bankstown at night from runway 11 on a right downwind.

### *Pilot comments: VH-XGW*

The check pilot of XGW provided the following comments:

- The sector LSALT for a WATLE arrival is 2,300 ft AMSL and once established on final for runway 11 and established on the PAPI, the aircraft can descend and arrive outside controlled airspace into Bankstown.
- Aircraft operating under night visual flight rules arriving and departing Bankstown outside controlled airspace (Class G), are below the LSALT when entering or leaving the zone at 1,500 ft AMSL (Figure 3).
- Creation of a specific VFR departure track from Bankstown at night would ensure separation with inbound IFR aircraft tracking to align with the PAPI.

### *Airservices Australia comment*

In response to the above comment regarding the frequency published in ERSA, Airservices Australia advised that if the pilot had been on Sydney frequency, he would also have heard the traffic information as it was provided by the radar controller to XGW immediately prior to the tower controller.

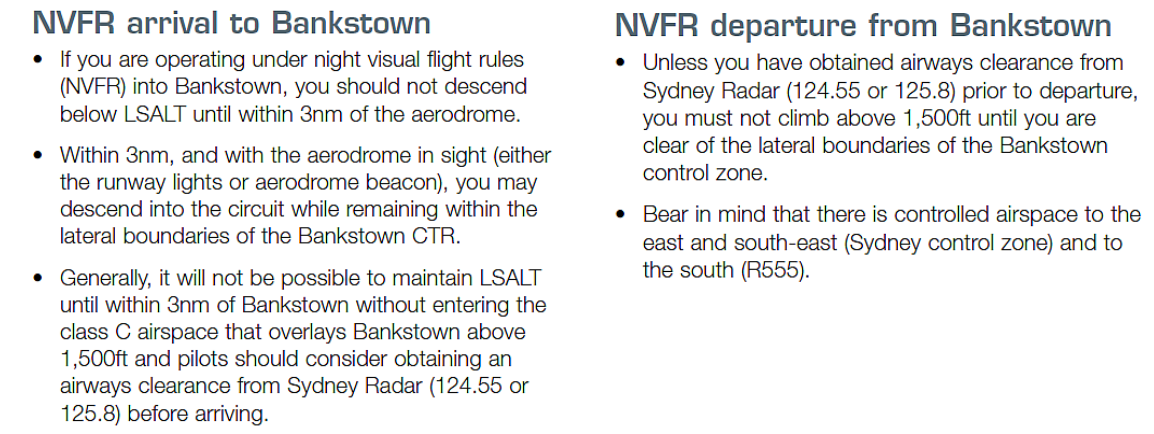
### *Civil Aviation Safety Authority (CASA) comment*

In a response provided to the ATSB, CASA has advised that there is a conflict between the requirements of CAR 174B (1) and the ERSA requirement to arrive and depart the Bankstown control zone at 1,500 ft under the NVFR. In order to comply with the altitude requirements, a pilot may be required to obtain an ATC clearance to enter Class C airspace.

When Bankstown control zone is active, a departing aircraft is required to change from Bankstown Tower to Sydney Centre frequency after passing the control zone boundary when about 3 NM from Bankstown Airport. An aircraft inbound to Bankstown from the west, and on the Tower frequency, may cross the path of the outbound aircraft with the pilot of each aircraft monitoring a different frequency. Where an aircraft is only fitted with one radio, this may pose a significant safety concern.

CASA recognises that a safety issue exists, and is in the process of addressing the concerns.

**Figure 3: Extract from the Sydney Basin Visual Pilot Guide**




**Source: CASA**

## Safety message

This incident highlights the need for pilots operating under the visual flight rules (VFR) to maintain adequate separation from other aircraft. Even with alerted communication, being able to see and avoid other aircraft at night can be inherently difficult due to the limitations of night vision and distractions of other man-made lighting.

The Sydney Basin Visual Pilot guide is available from the CASA website at: www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_90007

## General details

### *Occurrence details*

| | | |
|---|---|---|
| Date and time: | 1 April 2014 – 1945 EDT | |
| Occurrence category: | Serious incident | |
| Primary occurrence type: | Near collision | |
| Location: | 13 km W Bankstown Airport, New South Wales | |
| | Latitude: 33° 53.95' S | Longitude: 150° 51.08' E |

### *Aircraft details: VH-XGW*

| | | |
|---|---|---|
| Manufacturer and model: | Piper Aircraft Corporation PA-31P-350/A1 | |
| Registration: | VH-XGW | |
| Serial number: | 31P-8414001 | |
| Type of operation: | Aerial work – EMS | |
| Persons on board: | Crew – 3 | Passengers – 1 |
| Injuries: | Crew – Nil | Passengers – Nil |
| Damage: | Nil | |

### *Aircraft details: VH-IBX*

| | | |
|---|---|---|
| Manufacturer and model: | Piper Aircraft Corporation PA-28-151 | |
| Registration: | VH-IBX | |
| Serial number: | 28-7615098 | |
| Type of operation: | Flying training – dual | |
| Persons on board: | Crew – 2 | Passengers – Nil |
| Injuries: | Crew – Nil | Passengers – Nil |
| Damage: | Nil | |

## About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A

primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

## About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.