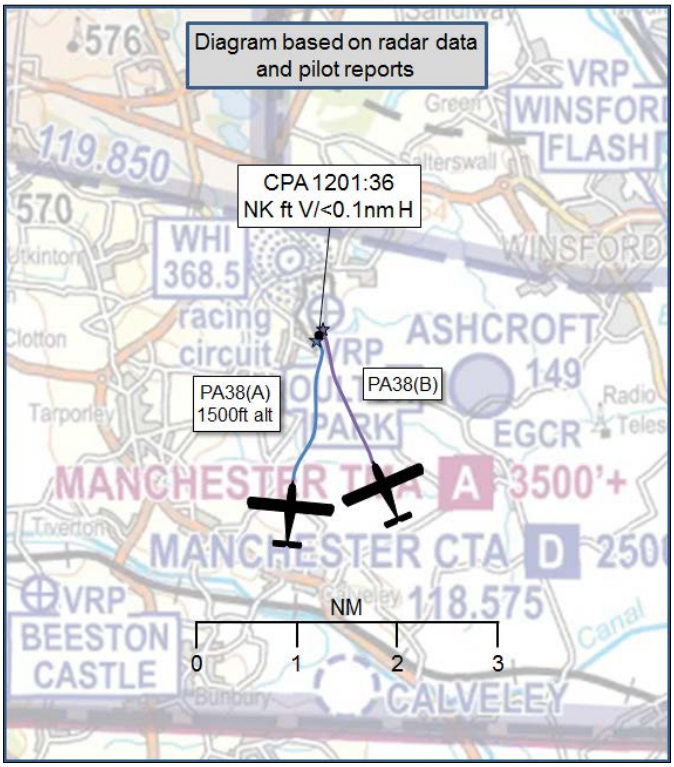
AIRPROX REPORT No 2017038

Date: 08 Mar 2017 Time: 1201Z Position: 5310N 00236W Location: Oulton Park VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA38(A)	PA38(B)
Operator	Civ Trg	Civ Trg
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Liverpool	Liverpool
Altitude/FL	1500ft	NK
Transponder	On/C, S	On
Reported		
Colours	White	White, Blue
Lighting	Not reported	Anti-Col
Conditions	VMC	VMC
Visibility	10km	>10km
Altitude/FL	1400ft	1500ft
Altimeter	QNH (1011hPa)	QNH (1011hPa)
Heading	350°	360°
Speed	90kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	0ft V/10m H	Not seen
Recorded	NK V/<0.1nm H	



THE PA38(A) PILOT reports that he was re-entering Controlled Airspace at Oulton Park when he saw PA38(B) appear from behind, on his right hand side, extremely close at the same level, and overtaking him. He reported "Oulton Park Inbound" to ATC and advised them that he had been overtaken, far too closely, by PA38(B). After PA38(B) had passed and was clearly ahead of him he requested to orbit for safe separation. ATC routed him to Delamere to hold before subsequently giving him onward clearance to the airfield. When on the ground, the pilot of PA38(B) came across to him to apologise stating that he had not seen him.

He assessed the risk of collision as 'High'.

THE PA38(B) PILOT reports that he was returning with a student after a dual training flight. He had obtained a clearance from Liverpool ATC to enter the zone at Oulton Park VRP. However as he approached the Oulton Park VRP he heard another aircraft reporting inbound at Oulton Park. He was surprised and concerned by this because along with the student he had been keeping a good lookout and had not seen any other aircraft. He then redoubled his efforts to see the other aircraft but failed to identify its position. The other aircraft was not immediately responded to on the radio because ATC were passing instructions to inbound commercial traffic. By this time, however, he was overhead Oulton Park VRP and, before he could correct his student (he should have waited for the read back to the other aircraft), the student reported entering the control zone at Oulton Park VRP. Liverpool ATC gave him onward clearance to Helsby but warned him that there was another aircraft in the vicinity. At this point the other aircraft repeated the Oulton Park inbound call and stated that he and his student had overtaken their aircraft, flying very close. Liverpool ATC instructed the other aircraft to continue inbound and to follow the aircraft ahead. From this point the flight continued normally and he landed at Liverpool.

THE LIVERPOOL CONTROLLER reports that PA38(A) was given VFR joining clearance into the Liverpool CTR via Oulton Park VRP, 13 miles south east of Liverpool, PA38(A) was on a Basic

Service and was advised to call at Oulton Park. Shortly after PA38(B) was also given clearance to join CAS at Oulton Park and advised to call at Oulton Park. His attention was then focused on IFR traffic and co-ordination. He then noticed that two aircraft on the Basic Service conspicuity code (5050) were becoming proximate in the vicinity of Oulton Park, he attempted to identify one of the aircraft by placing PA38(A) on a 5051 squawk. He then changed his attention to IFR departing traffic which he needed to separate and coordinate in relation to another IFR aircraft. The next call was from PA38(B) entering controlled airspace at Oulton Park. Traffic information was then passed. PA38(A) then replied that he had called entering at Oulton Park and that PA38(B) had overtaken him very closely, PA38(B) then confirmed this and that he had not seen PA38(A). He then routed PA38(A) to hold at Delamere Forest to build in spacing. The pilot of PA38(A) telephoned that he would be filing an Airprox report after consultation with his CFI. The controller was under OJTI instruction and the OJTIs were handing over just prior to this incident.

Factual Background

The weather at Liverpool was recorded as follows:

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METAR EGGP 081150Z 29013KT 9999 FEW014 11/07 Q1011
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Analysis and Investigation

CAA ATSI

An Airprox was reported by the pilot of a Piper PA38-112 Tomahawk (PA38(A)) when it came into proximity with another Piper PA38-112 Tomahawk (PA38(B)) in the vicinity of Oulton Park. PA38(A) was on a VFR local flight from Liverpool and was in receipt of a Basic Service from Liverpool Radar. The PA38(B) was also on a VFR local flight from Liverpool, also in receipt of a Basic Service from Liverpool Radar.

ATSI had access to reports from both pilots and the air traffic controllers involved. A full field investigation and an interview with the controllers was undertaken. The local area radar and radio recordings were also reviewed. A trainee controller involved in the event was not available for interview during the ATSI visit. Screenshots produced in this report are provided using recordings of the Swanwick MRT Radar. Levels indicated are altitudes. All times UTC.

At 1158:31, the PA38(A) pilot called Liverpool Radar to request re-join at Oulton Park VRP. Liverpool Radar cleared the PA38(A) pilot to join controlled airspace via Oulton Park not above 1500ft and route to Frodsham Hill. The clearance was readback correctly by the pilot. Figure 1 highlights Oulton Park and Frodsham Hill.

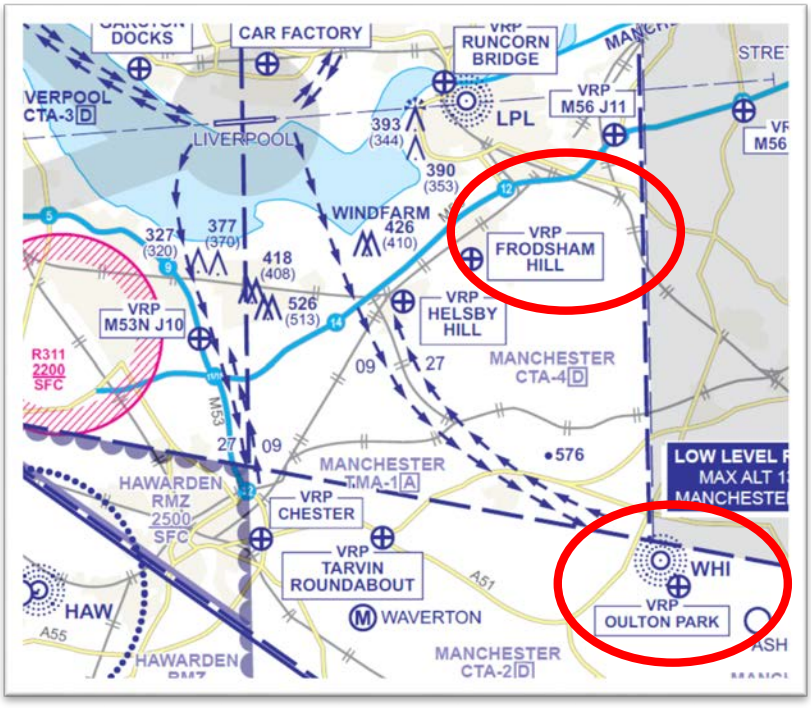


Figure 1 – Liverpool Control Area (CTA)

At 1159:52 (Figure 2), PA38(B) pilot called Liverpool Radar to request re-join at Oulton Park. The same clearance was issued to him as to PA38(A) pilot, and was readback correctly by the pilot.

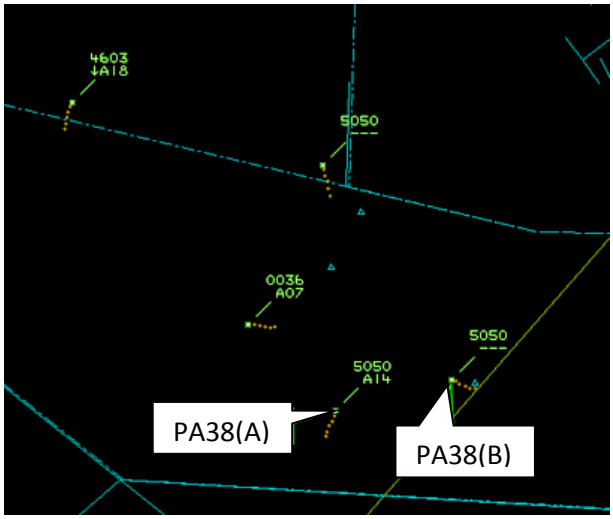


Figure 2 - 1159:52

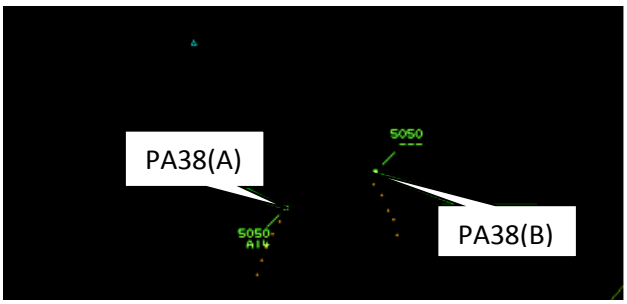


Figure 3 - 1200:51

At 1200:51 (Figure 3), the controller instructed the PA38(A) pilot to select the SSR code 5051.

At 1201:36 the controller began to transmit to an IFR inbound aircraft an instruction to descend but this transmission was over-ridden by the PA38(A) pilot reporting: "*inbound, routing Frodsham*". The controller did not acknowledge the call from the PA38(A) pilot but re-issued the interrupted transmission to the IFR flight.

CPA first occurred at 1201:51 (Figure 4). There was 0.1nm between the two aircraft, but as there was no height information from the PA38(B), it was not possible to measure the vertical distance.

At 1201:53 the PA38(B) pilot reported at Oulton Park inbound. The controller acknowledged the transmission and requested that the PA38(B) pilot report visual with the airfield.

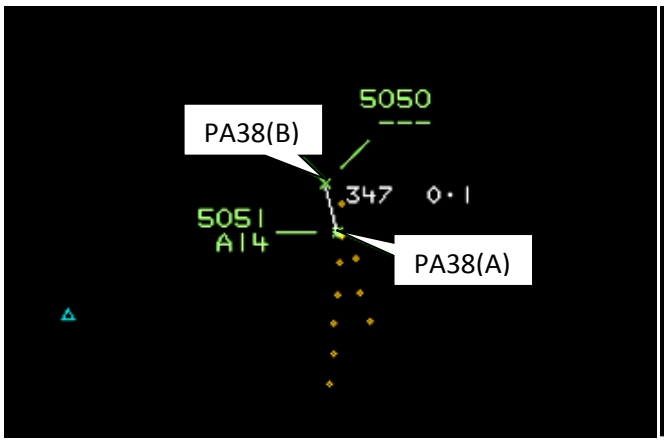


Figure 4 - 1201:51

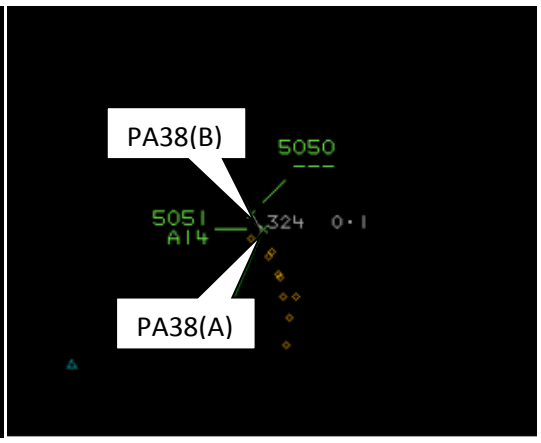


Figure 5 - 1202:05

At 1202:05 (Figure 5) the controller advised the PA38(B) pilot to: "*Keep a good lookout there's also another aircraft er joining, I can't erm figure out which of you is in front or behind, same altitude*". The PA38(B) pilot acknowledged the warning.

At 1202:15 the PA38(A) pilot reported that the PA38(B) was: "…*very very close to us he has overtaken us, we are Oulton Park inbound routeing to Frodsham Hill, I don't think he saw us"*

At 1202:42 the controller apologised and explained they had been on the telephone. The controller instructed the PA38(A) pilot to route to Delamere Forest.

At 1203:05 (Figure 6) the PA38(A) pilot replied that they were at Delamere Forest and were taking up an orbit for spacing purposes. The PA38(A) was still 0.1nm behind the PA38(B).

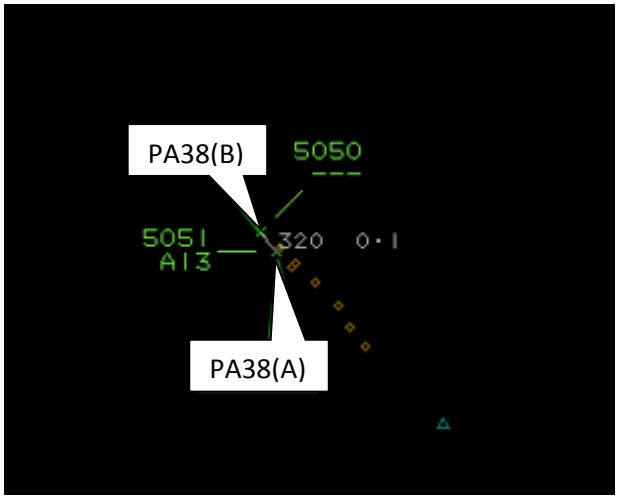


Figure 6 - 1203:05

The provision of the radar service was being provided by a trainee controller under the supervision of an experienced On-the-Job Training Instructor (OJTI). The trainee was an experienced controller retraining following a period of long-term absence. At the time of the occurrence the OJTI was about to take a break, so another OJTI was about to take over the supervisory role. The workload was assessed by both OJTIs to be at medium level although the R/T was busy. The trainee commenced the handover to the new OJTI but, as the traffic level increased, the outgoing OJTI took over the function of briefing the incoming OJTI on the traffic situation. This left the trainee to continue to handle the radio calls and perform coordination with Liverpool Tower.

The VRP of Oulton Park is used extensively, not just as a reference point for Liverpool VFR traffic but also due to its proximity to the Manchester Low Level VFR route.

Both aircraft involved in the Airprox were initially displaying the SSR code 5050 which is used by Liverpool for conspicuity purposes. This code can be allocated to any VFR aircraft flying to or from Liverpool Airport, and to any aircraft operating outside of controlled airspace that does not require a discreet code. This is notified in the UK AIP. Because both PA38 aircraft were on local training flights from Liverpool, the 5050 code would have been allocated when they departed Liverpool on their VFR clearances. Although the inference is that whilst working outside controlled airspace a Basic Service would have been provided, there was no reference to this on the radio when either aircraft called for their controlled airspace joining clearance.

At interview, the second OJTI indicated that it is usual for joining aircraft to request a join around 5 minutes prior to the boundary. Liverpool ATC have a good working relationship with the locally based flying schools and actively engage with them regarding operational requirements through meetings and safety notices.

Although an opportunity to provide traffic information was missed when the PA38(B) pilot called for joining clearance, the controller was engaged in the provision of radar control services to traffic inbound to Liverpool and was also coordinating a pending departure with Liverpool Tower. The controller was not obliged to identify the traffic re-joining the Liverpool CTA, nor monitor its progress. However, the controller had identified that the two PA38 aircraft were approaching the same area and, by issuing the new SSR code (to PA38(A) pilot) was beginning to take active steps to provide accurate traffic information. The controller then continued with their other controlling priorities until issuing Traffic Information to the PA38(B) pilot. By this time, the controller would not have been able to easily identify which aircraft was which because both were in close proximity, on similar tacks and operating at similar speeds. Although Figures 4 to 6

inclusive depict the two PA38 aircraft involved, these images were obtained during the analysis and are produced using an increased scale, the controllers radar screen would not have shown the aircraft as clearly.

The incoming OJTI recognised the requirement to provide traffic information when they realised the proximity of the second joining aircraft. At interview, the incoming OJTI mentioned that the use of the 5050 code is sometimes replaced with a dedicated code to aid identification, especially for returning aircraft and for specific coordination purposes.

Although CPA was first observed at 1201:51 (and reported by the PA38(A) pilot approximately 20 seconds later), the distance between the two aircraft remained constant until after 1203:05.

The absence of timely traffic information to either aircraft was a missed opportunity for either aircrew to gain situational awareness and conduct their flights to ensure that the flight paths did not bring them into proximity.

As the handover proceeded between the OJTIs, the trainee controller was left as the only person who was completely up to date with the traffic situation. A lack of active supervision may have contributed to the lack of traffic information being provided, although the actual opportunity to provide timely traffic information was minimal given the timescales, the attempts by the controller to identify the PA38(A) and the crossed transmission. Under a Basic Service a controller is not required to monitor flights, and pilots remain responsible for their own collision avoidance.

Liverpool ATSU made immediate amendments to ATC training practices which addressed the element of the trainee involvement in the handover procedure. ATSI are satisfied that these actions are appropriate.

It is recognised that the use of the 5050 code has its advantages and that, under UK FIS, a controller is not expected to identify and monitor flights under a Basic Service. However, in this occurrence the allocation of specific codes to each aircraft would have enabled the controller to provide more accurate and timely traffic information, especially in a portion of airspace that is a focal point for multiple routes. Therefore ATSI recommend that Liverpool review their policy with respect the allocation of SSR codes including the appropriateness of the conspicuity code.

UKAB Secretariat

The radar plots show that PA38(A) and PA38(B) are both converging towards the same VRP to join controlled airspace. Although the Airprox occurs at the Oulton Park VRP, PA38(B) arrives at the VRP slightly ahead of PA38(A) and then both aircraft continue to fly a similar track into controlled airspace with PA38(A) following behind PA38(B) for approximately 3.5nm before PA38(A) is instructed to hold at Delamere.

The PA38(A) and PA38(B) pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[1]. If the incident geometry is considered as converging then the PA38(A) pilot was required to give way to PA38(B)[2].

With respect to routing via VRPs, AIC: Y 006/2013 21-FEB-2013 2.4 states:

> *In all cases, controllers and pilots should be aware of the danger of creating traffic congestion at a VRP. Pilots are reminded of their obligations under the Rules of the Air and in particular the 'Right Hand' and 'Give Way' rules. To reduce congestion, pilots should as far as practicable avoid direct overflight of a VRP; similarly, controllers should consider other traffic which may be using a VRP and route aircraft by reference to it, rather than overhead it.*

Comments by Operating Authority

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(2) Converging.

The PA38(B) pilot's Flying School CFI reports that all their pilots are made aware of the need to keep a good look out for other aircraft, particularly when entering or leaving the Liverpool Control Zone at busy VRPs. This is particularly the case at Oulton Park VRP given the proximity of the Low Level Corridor and Ashcroft Farm airstrip. As CFI, he has discussed the incident with the instructor involved in this Airprox and he has reminded him of the need to both listen out on the radio and be watchful for other traffic. This is of the utmost importance for an instructor who needs to set a good example to his students. The school has a Safety Management System and this incident will be discussed further to see if we can prevent any further reoccurrences.

Summary

An Airprox was reported when a PA38 and a PA38 flew into proximity at 1201 on Wednesday 8th March 2017. Both pilots were operating under VFR in VMC, both pilots in receipt of a Basic Service from Liverpool.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board began their discussion by looking at the information available to both pilots. GA members noted that both pilots had been on the same frequency for at least 2 mins prior to CPA. They commented that PA38(A) pilot would have heard PA38(B) pilot being given the same joining clearance as he, and should therefore have been alerted to the potential for conflict. Likewise, PA38(B) pilot reported that had heard PA38(A) pilot also calling for a join via Oulton Park. Aware of each other joining through the same VRP, members felt that both could likely have taken earlier proactive measures to ensure their separation, if only by agreeing a height split. Notwithstanding, and recognising that he was not required to do so under the terms of a Basic service, controlling members also commented that the Liverpool ATCO should have passed generic traffic information to both PA38 pilots on the other aircraft as they were routing to the same VRP. Some members went further and felt that the ATCO should have actively endeavoured to create separation between the aircraft given that he knew that he had cleared both to join through the same VRP and subsequently into controlled airspace. In this respect, they commented on the use of VRPs as routing points in general, and opined that ATC could have offered each pilot a different geographical offset or height as they approached the VRP.

The Board then looked at the actions of the PA38(A) pilot, they noticed that whilst he was surprised by the appearance of PA38(B), the radar recordings showed that PA38(B) was always slightly ahead and to the right of PA38(A) as they converged. PA38(B) was there to be seen, and the Board could only conclude that either the PA38(A) pilot had been distracted from his lookout by navigation or instructional tasks, or that PA38(B) had been obscured by cockpit structures. As for the PA38(B) pilot, the Board agreed that he should also have seen PA38(A) if he had been conducting a robust lookout, although with PA38(A) being behind his wing-line they could understand that he was probably focusing on navigation tasks and searching for an aircraft that he thought was ahead of him.

The Board then considered the cause and risk of the incident. They quickly agreed that the PA38(A) pilot should have given way to PA38(B) and that the fundamental cause of the incident had been a late sighting by the PA38(A) pilot and a non-sighting by the PA38(B) pilot. Turning to the risk, members agreed that neither pilot had been able to do anything to resolve the confliction and so members therefore agreed that this incident had seen a serious risk of collision where providence had played a major part; accordingly, the Board assessed the risk as Category A.

Finally, the Board were disappointed that the ATC report had been filed by the trainee and not the OJTI, on whose license the trainee was controlling. Whilst the Board acknowledged the importance of a trainee learning how to accurately file a report, they felt that this should have been reinforced

with the licensed ATCO's own report giving his perspective on events. Unfortunately, a trend of leaving reporting to the trainee appears to have crept into recent ATC reporting.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the PA38(A) pilot and a non-sighting by the PA38(B) pilot.

Contributory Factor(s): Liverpool ATC routed both pilots via the same VRP without appropriate Traffic Information.

Degree of Risk: A.

Safety Barrier Assessment[3]

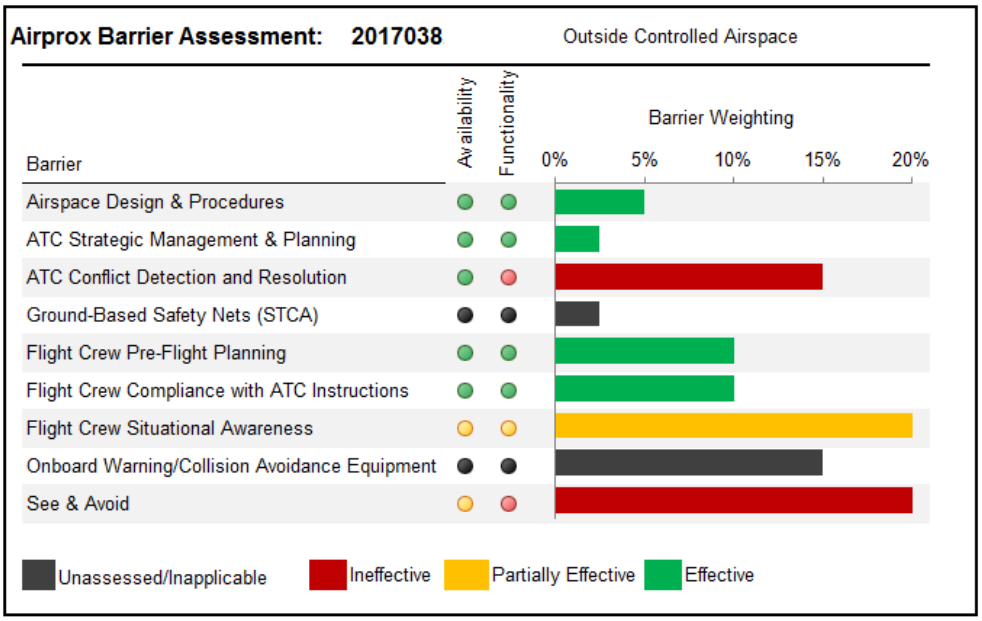
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

ATC Conflict Detection and Resolution was assessed as **ineffective** because although the controller endeavoured to identify one of the aircraft, he passed TI after CPA rather than generic TI prior to the conflict occurring.

Flight Crew Situational Awareness was assessed as **partially effective** because although both pilots were on the same frequency and could have assimilated the presence of the other aircraft through radio calls, they were only generically aware of each other because there was no specific TI from ATC.

Onboard Warning/Collision Avoidance Equipment was assessed as **inapplicable** because neither aircraft was fitted with a system that would have alerted to the presence of the other aircraft thus allowing the pilots to take effective avoiding action.

See and Avoid was assessed as **ineffective** because neither aircraft saw the other until CPA when the PA38(A) pilot saw PA38(B), even though PA38(B) was ahead and to the right of PA38(A) up to and after CPA.



[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.