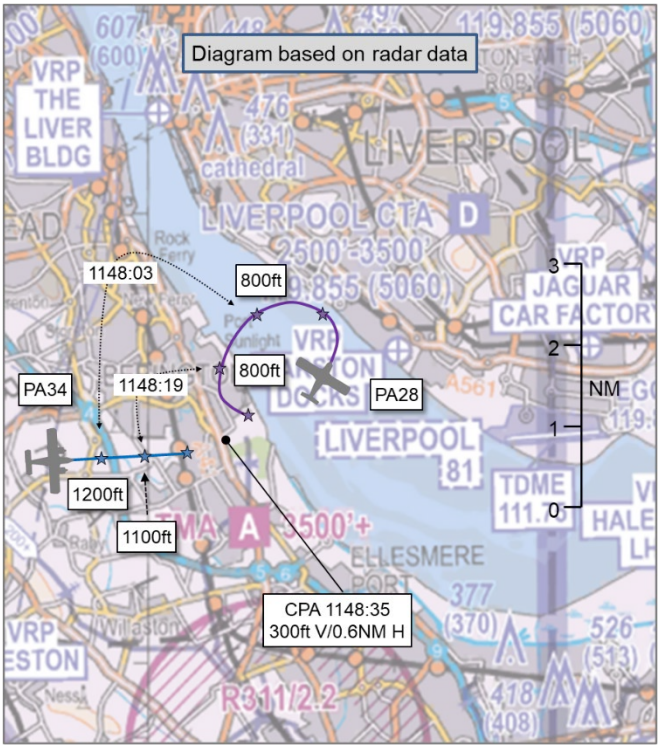
AIRPROX REPORT No 2024240

Date: 21 Sep 2024 Time: 1149Z Position: 5320N 00256W Location: 2NM W Liverpool airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA34	PA28
Operator	Civ Comm	Civ FW
Airspace	Liverpool CTR	Liverpool CTR
Class	D	D
Rules	IFR	VFR
Service	ACS	ACS
Provider	Liverpool Tower	Liverpool Tower
Altitude/FL	1000ft	700ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	White, burgundy	Blue, white
Lighting	LED Nav, landing, strobes, beacon	Strobe
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	1000ft	1000ft
Altimeter	QNH	QNH (1021hPa)
Heading	086°	'*orbiting*'
Speed	100kt	125kt
ACAS/TAS	TAS	SkyEcho
Alert	TA	None
Separation at CPA		
Reported	100ft V/0.3NM H	300ft V/3NM H
Recorded	300ft V/0.6NM H	



THE PA34 PILOT reports that, whilst being vectored for an RNP approach to RW09, traffic was called by Liverpool Approach over the Wirral. The PA34 pilot reports that they were IMC, but traffic was seen on TAS. They were instructed to contact tower 2NM before LEBKI. Tower passed Traffic Information, and they responded that that traffic had not been sighted. The other aircraft had then called Tower and was instructed to orbit at Garston Docks, and was told about the PA34. As the PA34 got to around 3NM, their TAS called TRAFFIC, and the [other] aircraft looked very close in a very wide orbit, which was over the final approach track. Tower also said that, from the ATM, they appeared to be cutting them up. The other aircraft was a PA28. No action was taken by the PA34 pilot as the [other] aircraft orbited out of their path. Liverpool Control was informed after landing that an Airprox would be filed.

The pilot assessed the risk of collision as 'Medium'.

THE PA28 PILOT reports that they first noticed the [other] aircraft in the Liverpool Bay with [EC equipment] through their SkyDemon applications on both their devices. The PA28 pilot reports that their first brief visual [contact] was around the WAL VOR 1300ft above. The PA28 pilot continued and was passed to Tower. As they approached Garston they were asked to take up a left-hand orbit which they did. Tower did ask as they had been turning into the orbit if they were doing so and the pilot confirmed that they had just initiated the turn. The PA28 pilot reports that they were fully visual with the landing aircraft. Tower [then passed over R/T] '*report final you are no 2*' to which the pilot responded that they would take a second orbit for spacing.

The pilot assessed the risk of collision as 'None'.

THE LIVERPOOL AERODROME CONTROLLER reports that the PA34 had been on final approach RNP RW09 with intentions to low approach into the visual circuit. The PA28 had been coordinated to arrive via city centre and Garston Docks for RW09. Traffic Information had been passed to the PA28

pilot on the PA34 and the PA28 pilot was instructed to orbit at Garston Docks. Traffic Information was also passed to the PA34 pilot on the PA28 holding at Garston Docks. The orbits the PA28 pilot was taking were more towards the west of Garston Docks VRP, and very close to the final approach track. The PA28 pilot was warned about their proximity to final approach and instructed to reposition further away, and Traffic Information was passed again to the PA34 pilot on the PA28 that it had appeared to be about to 'cut them up' on final approach. After landing, the PA34 pilot informed the controller that they intended to file an Airprox on the situation. The PA28 subsequently followed the PA34 and each aircraft landed safely.

Liverpool ATC Services Ltd Initial Investigation

The PA34 had been positioned for an RNP approach for RW09 and established at 10 mile final. The PA28 was a VFR arrival and was given routeing from West Kirby to Garston Docks. The PA28 pilot was given Traffic Information on the PA34 and told to take up left-hand orbits over Garston Docks. When the PA28 had been west of Garston Docks, the ATCO had asked the pilot to confirm that they had been turning left in to the orbit; they had stated that they were doing it at that time. When the PA28 had turned into the orbit, the ATCO had asked the pilot if they had been visual with the PA34 on a 3 mile final, which they stated they had been. They were then given the instruction to report final behind the PA34. They had then stated that they were going to do one more orbit. However their orbit put the PA28 directly in the path of the PA34. The ATCO informed the PA34 pilot that from the ATM it had looked like the PA28 had been about to 'cut them up'. The PA34 pilot had then stated that *'it looks quite close*'. The blips did not merge but came very close. Both aircraft landed safely.

The ATCO passed Traffic Information both ways and took decisive action with the PA28 [pilot] by asking them to confirm that they were turning into the orbit, to which they stated they were.

Root Cause of the Event

The PA28 pilot had been instructed to orbit over Garston Docks, however they had continued too far south to accommodate their turn to be clear of the final approach track.

The following immediate actions had been followed:

The Tower ATCO I/C was subsequently relieved from duty in line with [Liverpool's] processes whilst the Watch Supervisor reviewed the playback. It had been the ATCO's end of shift and the next ATCO had been in position moments later. In line with the ATCSL incident form, the ATSM was also made aware. The Watch Supervisor/Assessor spoke to the ATCO afterwards and the ATCO confirmed that they had been okay, with no immediate concerns regarding their abilities raised. The decision was made not to inform the ATS inspector (principally due to it having been the weekend) as it was deemed, following the immediate review, that there had been no implications on behalf of the controller, ATC procedures or equipment, and an MOR needed to be filed. UCS Standards Observation form (UCS GEN FORM 4) was completed as a debrief with the following noted: "Whilst controlling as "Air" controller, the PA34 pilot reported they would be filing an Airprox. The PA34 had been on final from RNP approach to RW09. The PA28 had been inbound under VFR to Garston Docks. The PA28 pilot had been instructed to hold at Garston Docks, but had drifted south on to final approach, close to the PA34. Traffic Information was passed to both [pilots].

Follow up actions completed: - [Appropriate processes] had been followed. The TOKAI (MOR) filed and tape impound request submitted to ATE. The Veristore was reviewed - Traffic Information was passed to both [pilots]. The ATCO was debriefed and the ATSM informed.

Factual Background

The weather at Liverpool Airport was recorded as follows:

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METAR EGGP 211120Z 06014KT 9999 SCT020 SCT037 19/13 Q1020=
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Analysis and Investigation

CAA ATSI

ATSI has analysed the reports from this occurrence and has the following comments:

The pilot of the PA28, who had been warned by the Liverpool Tower controller, was orbiting so close to final approach as to cause a confliction with traffic on final approach. Reciprocal Traffic Information was passed to the pilots of both aircraft. ATSI has nothing to add to the Liverpool investigation report.

UKAB Secretariat

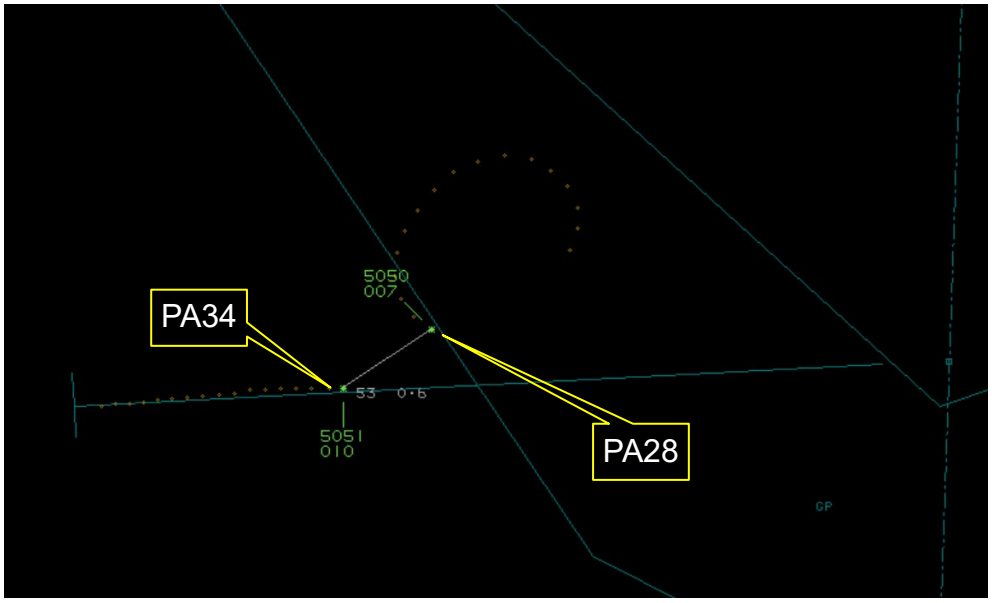


Figure 1: At CPA – 1148:35 300ft V/0.6NM H

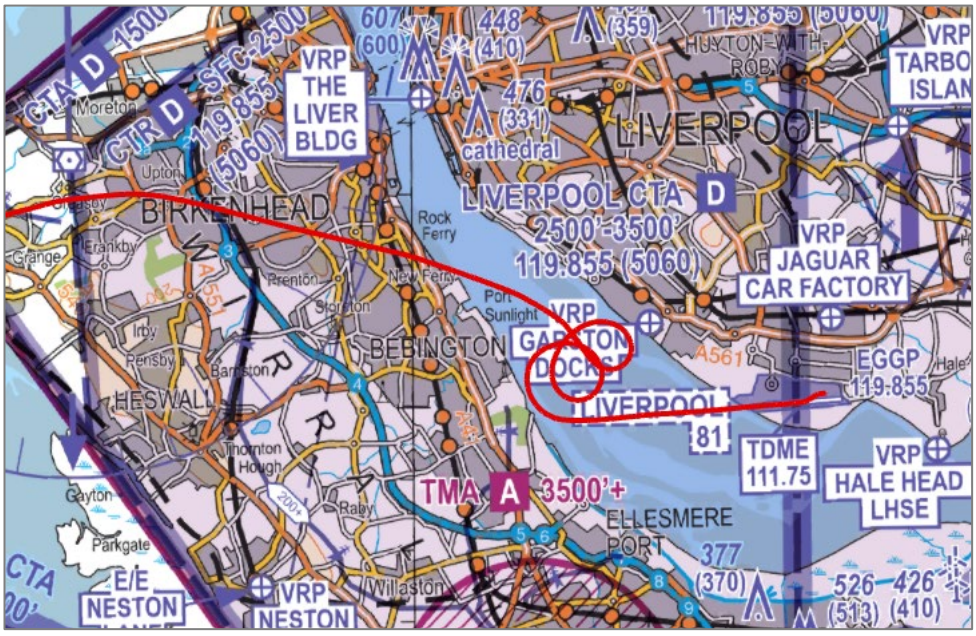


Figure 2: PA28 pilot provided image of their approach path to Liverpool Airport

The PA34 and PA28 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] An aircraft operated on or in the

[1] (UK) SERA.3205 Proximity.

vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.[2]

Summary

An Airprox was reported when a PA34 and a PA28 flew into proximity 2NM west of Liverpool Airport at 1149Z on Saturday 21st September 2024. The PA34 pilot was operating under IFR in VMC and the PA28 pilot was operating under VFR in VMC. Both pilots had been in receipt of an Aerodrome Control Service from Liverpool Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board firstly discussed the actions of the PA34 pilot, noting that they had been positioning for a precision approach to Liverpool airport RW09 initially operating under IFR in IMC and had received a Traffic Alert on their TAS unit (**CF2**) showing the PA28 to have been orbiting just to the north of their approach path. The PA34 pilot had continued their approach and successfully landed at Liverpool, highlighting to the controller that they had been sufficiently concerned as to the proximity of the other aircraft (**CF4**) that they would be submitting an Airprox report.

Turning to the actions of the PA28 pilot, members noted that they had been instructed to hold, whilst under VFR, at Garston Docks. Members felt that the instruction had allowed the pilot to establish the hold over the river and that the initial hold had drifted under the prevailing wind towards the eastern shore and ultimately closer to the approach path of the PA34 (**CF1**), and their proximity had caused the PA34 pilot concern (**CF3**). The PA28 pilot had received an initial indication of the presence of the PA34 through their EC equipment (**CF2**) and had visually acquired the PA34 and had stated that they would add an additional orbit to allow greater separation.

In reviewing the actions of the Liverpool Tower controller, the Board felt that they had maintained a high level of awareness of the proximity of the two aircraft and had ensured that the PA34 pilot had been fully aware of the position of the PA28. Members opined that the initial instruction to 'take up left hand orbits at Garston Docks…' had allowed the PA28 pilot to operate over the river and that it may have been more prudent to have explicitly stated a minimum lateral separation to be achieved between the PA28 and the approach track of the PA34. Overall, the Board praised the controller for maintaining an active and clear R/T exchange offering reassurance to the pilot of the PA34.

When determining the risk of collision, members agreed that action taken by the controller, and the early visual acquisition of the PA34 by the PA28 pilot had ensured that separation between the two aircraft had been such that no risk of collision had been present. Members were satisfied that normal safety margins had pertained and assigned Risk Category E to this event. The following contributory factors and outcomes were agreed upon:

CF1. The PA28 pilot had established their holding orbit close to the approach path of the PA34.

CF2. The TAS unit on the PA34 had issued a Traffic Alert and the EC equipment on the PA28 had displayed an Information warning.

CF3, **CF4.** The PA34 pilot had been concerned by the proximity of the PA28 and the PA28 pilot had flown close enough to cause concern.

[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024240			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
	• Electronic Warning System Operation and Compliance			
2	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
3	Human Factors	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
4	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

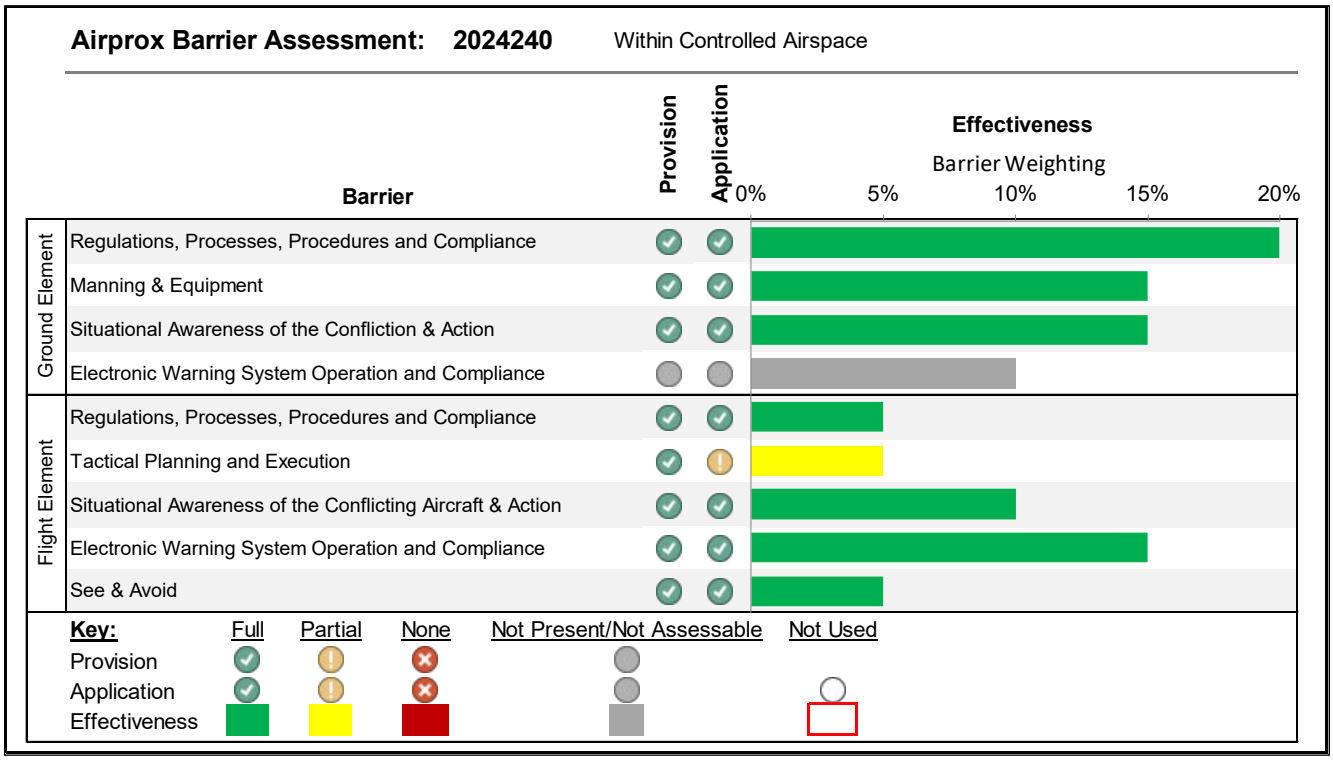
Degree of Risk: E.

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:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot had allowed their orbit to close toward the approach path of the PA34.



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