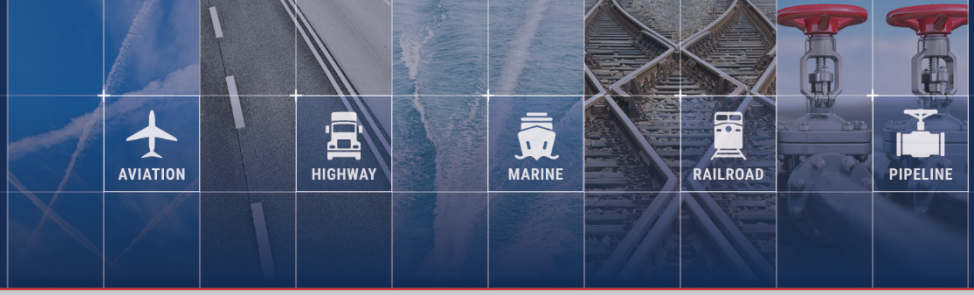

Aviation Investigation Factual Report

Location:	Las Vegas, Nevada	**Accident Number:**	WPR23LA041
Date & Time:	November 18, 2022, 10:27 Local	**Registration:**	N88E (A1); N4050P (A2)
Aircraft:	Cessna 172M (A1); ROBINSON HELICOPTER R44 (A2)	**Aircraft Damage:**	Substantial (A1); Minor (A2)
Defining Event:	Midair collision	**Injuries:**	2 None (A1); 1 None (A2)
Flight Conducted Under:	Part 91: General aviation - Instructional (A1); Part 91: General aviation - Instructional (A2)		

Factual Information

On November 18, 2022, about 1027 Pacific standard time, a Cessna 172M, N88E, and a Robinson R44, N4050P, collided over runway 30R at North Las Vegas Airport (VGT), Las Vegas, Nevada. The flight instructor and student pilot on board the Cessna and the student pilot on board the Robinson were not injured. Both aircraft were operated under the provisions of Title 14 Code of Federal Regulations Part 91 as instructional flights.

There were two helicopters, a Cessna airplane, and a Diamond airplane operating in the airport's right-hand traffic pattern at the time of the accident. One helicopter, which was alternating turns in the taxiway pattern with the accident helicopter, was waiting on the east ramp for their turn in the pattern. The two airplanes were using right traffic for runway 30R. Taxiway Papa parallels the north side of runway 30R; both runway 30R and taxiway Papa were under control of the LC2 controller at the time of the accident.

The Cessna had completed 3 approaches to runway 30R, including one full-stop and two touch-and-go landings, and the accident helicopter had completed 4 full-stop landings to taxiway Papa before the accident. (See Figure 1.)

[For Figure 1, I suggest using high-res version of Fig. 4 from ATC Factual Report]

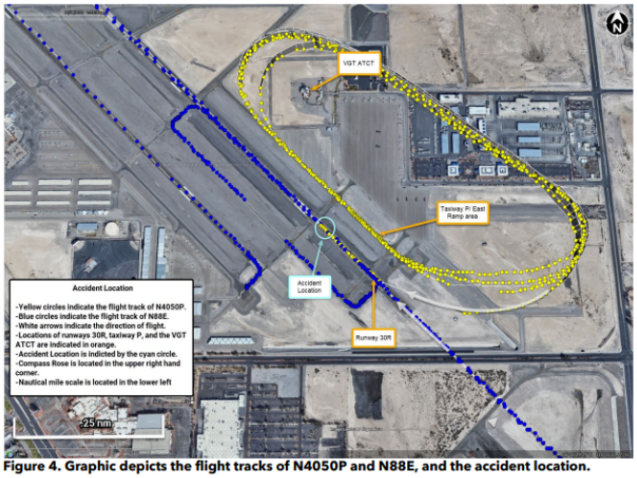

Figure 4. Graphic depicts the flight tracks of N4050P and N88E, and the accident location.

At 10:24, the tower controller cleared the Cessna for the option to land on runway 30R; the pilot read back the instructions.

At 10:25, the controller cleared the accident helicopter for takeoff from taxiway Papa, and subsequently cleared the student pilot for the option back to taxiway Papa; the pilot acknowledged the instructions.

At 10:26, the controller advised the Cessna that there was helicopter traffic in a close right base for taxiway Papa, and the pilot replied that they were looking for the helicopter.

At 10:27, the controller instructed the accident helicopter to, when able, make a right turn on taxiway Kilo, and that landing on the east ramp was at the pilot's own risk. (See Figure 2.) The pilot responded by stating "Las Vegas tower, five zero papa." The controller again instructed the helicopter pilot to make a right turn onto taxiway Kilo. The pilot did not acknowledge the instruction.

Figure 2. View of initial point of impact in relation to Taxiway Papa, Taxiway Kilo, the East Ramp, and ATC.

The student pilot in the accident helicopter, who was conducting a solo instructional flight, reported that he had departed from taxiway Papa, flew the right-hand traffic pattern, and was instructed by the controller to fly his approach to taxiway Papa. However, he reported that he mistakenly flew his approach to runway 30R and terminated the approach in a hover over the runway. Video surveillance footage shows that the nose of the helicopter was oriented in the landing direction; the student pilot reported being unaware that an airplane was on approach to land on the runway. The airplane collided with the aft section of the skids and the helicopter pitched up, rotated left about 90° and landed upright on the runway.

The instructor in the Cessna stated that, when they were on the downwind leg of the traffic pattern, she had brief visual contact with the helicopter, which appeared to be operating on taxiway Papa. During the turn onto the base leg, the right wing blocked the instructor's view of the runway. The instructor stated that as they turned onto the final approach she was assisting the student in maintaining airspeed and the glideslope while managing the flap setting. She stated that a moment later she saw the helicopter and it appeared to be hovering over runway 30R, about 100-300 ft past the runway numbers, and not on taxiway Papa. The instructor in the Cessna recalled that it was too late to abort

the landing and elected to touch down underneath the helicopter. The airplane's left wing collided with the skids of the helicopter, the fuselage rotated left, and the wing struck the ground, causing substantial damage to the spar. Subsequently the right wing struck the runway surface before the airplane came to an abrupt stop.

The controller stated that, after instructing the helicopter to turn right onto taxiway Kilo, "I didn't hear a readback at the time," but that she "thought that perhaps it was a critical stage of flight for him." After hearing the helicopter's call sign to acknowledge the instruction, she repeated the instruction and "observed [the] helicopter hovering over Taxiway Papa very slowly drifting towards a right turn on Kilo." She continued,

> At the time, I had to walk across the tower to find my remaining aircraft in the pattern to make sure that the pattern entry was complete, and I observed the aircraft, the Diamond Star, entering the pattern. And I turned around to walk across the tower to observe my helicopter, and at that time, I saw a helicopter. It appeared that he made, instead of a right turn into the ramp, he made a left turn and was entering the runway.

She then watched as the Cessna "cranked the wheels all the way to the left to avoid the helicopter." At that time, the helicopter landed on the runway, right in front of the Cessna, and the airplane "tipped on the wing, and for a minute, it looked like it would go upside-down" before turning upright again.

Flight instructor Information (A1)

Certificate:	Commercial; Flight instructor	**Age:**	27,Female
Airplane Rating(s):	Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1	**Last FAA Medical Exam:**	October 18, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	November 17, 2022
Flight Time:	(Estimated) 340.9 hours (Total, all aircraft), 36.9 hours (Total, this make and model), 245.9 hours (Pilot In Command, all aircraft), 86.6 hours (Last 90 days, all aircraft), 33.7 hours (Last 30 days, all aircraft), 2.1 hours (Last 24 hours, all aircraft)		

Student pilot Information (A1)

Certificate:	Student	**Age:**	38,Female
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 22 hours (Total, all aircraft), 22 hours (Total, this make and model), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information (A2)

Certificate:	Student	**Age:**	33,Male
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	January 27, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 60 hours (Total, all aircraft), 28 hours (Total, this make and model), 7 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	Cessna	**Registration:**	N88E
Model/Series:	172M	**Aircraft Category:**	Airplane
Year of Manufacture:	1973	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	17261476
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 25, 2022 100 hour	**Certified Max Gross Wt.:**	2300 lbs
Time Since Last Inspection:	73.1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	7098.8 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	C126 installed, not activated	**Engine Model/Series:**	O-320-E2D
Registered Owner:	702 HELICOPTER INC	**Rated Power:**	180 Horsepower
Operator:	702 HELICOPTER INC	**Operating Certificate(s) Held:**	Pilot school (141)

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	ROBINSON HELICOPTER	**Registration:**	N4050P
Model/Series:	R44	**Aircraft Category:**	Helicopter
Year of Manufacture:	2020	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30061
Landing Gear Type:	None; Skid	**Seats:**	4
Date/Type of Last Inspection:	November 4, 2022 100 hour	**Certified Max Gross Wt.:**	2200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2562.6 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	C126 installed, not activated	**Engine Model/Series:**	O-540-F1B5
Registered Owner:	SOUTHERN UTAH UNIVERSITY	**Rated Power:**	260 Horsepower
Operator:	SOUTHERN UTAH UNIVERSITY	**Operating Certificate(s) Held:**	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KVGT,2190 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	17:53 Local	**Direction from Accident Site:**	15°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	10°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Las Vegas, NV (A1); Las Vegas, NV (A2)	**Type of Flight Plan Filed:**	None (A1); None (A2)
Destination:	Las Vegas, NV (A1); Las Vegas, NV (A2)	**Type of Clearance:**	VFR (A1); VFR (A2)
Departure Time:		**Type of Airspace:**	Class D (A1); Class D (A2)

Airport Information

Airport:	NORTH LAS VEGAS VGT	**Runway Surface Type:**	Asphalt
Airport Elevation:	2205 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30R	**IFR Approach:**	None
Runway Length/Width:	4199 ft / 75 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information (A1)

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	36.210703,-115.19444(est)

Wreckage and Impact Information (A2)

Crew Injuries:	1 None	**Aircraft Damage:**	Minor
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	36.210703,-115.19444(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Richard Ramirez; FAA; Las Vegas, NV
Report Date:	
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=106336