



Aviation Investigation Final Report

Location:	WHITEHALL, Michigan	Accident Number:	CEN19LA308
Date & Time:	September 9, 2019, 11:40 Local	Registration:	N9492U
Aircraft:	Cessna 150	Aircraft Damage:	Destroyed
Defining Event:	Controlled flight into terr/obj (CFIT)	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was conducting a personal flight in visual meteorological conditions below the minimum safe altitudes and over congested areas when the airplane impacted the center of a water tower. Witnesses observed the airplane in straight and level flight before impact and reported the engine was running at that time. Examination of the wreckage revealed no anomalies that would have prevented the pilot from maneuvering to avoid the tower.

The pilot's toxicology results were positive for an antidepressant and a sedating antihistamine. The pilot was operating the airplane with an expired medical certificate, and his medical records indicated that he had been prescribed an antidepressant to treat anxiety/depression. This medication required the pilot to obtain a special issuance medical certificate before operating the airplane. It could not be determined if the pilot was impaired by his use of these medications or by the underlying conditions that warranted the medication.

The reasons that the pilot operated the airplane over a congested area at a low altitude and failed to avoid the water tower could not be determined based on the available evidence for this investigation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's flight into a water tower while operating below minimum safe altitudes for reasons that could not be determined based on the available evidence for this investigation.

Findings

Aircraft	Altitude - Incorrect use/operation
Aircraft	Directional control - Incorrect use/operation
Environmental issues	Tower/antenna (incl guy wires) - Contributed to outcome

Factual Information

History of Flight

Enroute-cruise	Controlled flight into terr/obj (CFIT) (Defining event)
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On September 9, 2019, about 1140 eastern daylight time, a Cessna 150 airplane, N9492U, was involved in an accident when it impacted a water tower in Whitehall, Michigan. The pilot was fatally injured, and the airplane was destroyed. The airplane was operated under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight.

The flight originated from Fremont Municipal Airport (FFX), Fremont, Michigan, about 1115. The pilot's intended destination could not be determined from the available evidence for this investigation. Witnesses reported observing the airplane flying from the north-northeast at a low altitude and in straight and level flight before the airplane impacted the 180-ft-tall municipal water tower, which was located in a densely populated area about 17 miles west of the departure airport. The witnesses also reported hearing the engine operating at a high-power setting when the impact occurred.

Pilot Information

Certificate:	Private	Age:	79, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	None
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 None	Last FAA Medical Exam:	November 1, 1998
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

No pilot logbooks were found during the investigation. The pilot reported a total flight experience of 2,000 hours at the time of his last medical exam, which occurred more than 20 years before the accident. The FAA had no records indicating that the pilot had renewed his third-class medical certificate after it expired.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9492U
Model/Series:	150 M	Aircraft Category:	Airplane
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Utility	Serial Number:	15078440
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	1601 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:		Engine Model/Series:	O-200 SERIES
Registered Owner:	On file	Rated Power:	100 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

No maintenance logbooks were located during the investigation.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KMKG, 633 ft msl	Distance from Accident Site:	17 Nautical Miles
Observation Time:	11:55 Local	Direction from Accident Site:	142°
Lowest Cloud Condition:	Scattered / 3500 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.56 inches Hg	Temperature/Dew Point:	17.8°C / 11.1°C
Precipitation and Obscuration:			
Departure Point:	Fremont, MI (FFX)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	11:15 Local	Type of Airspace:	

Airport Information

Airport:	Fremont Municipal Airport KFFX	Runway Surface Type:	
Airport Elevation:	771 ft msl	Runway Surface Condition:	Unknown
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	43.405555,-86.335556(est)

The water tower showed impact damage near the center of the tank that was consistent with the damage noted on the leading edge of the wings and the propeller. The damage to the airplane and the water tower was consistent with the airplane impacting the water tower perpendicular to the tank. The impact was on an approximate heading of 225°. The airplane wreckage was aligned on an approximate heading of 260°. The wreckage was mostly contained to an area that was 15 ft in diameter in the northeast corner of a fenced lot containing the water tower. Miscellaneous debris consisting of a nose and main landing gear tire and small pieces of metal, plastic, and windshield were located within a 130-ft radius of the main wreckage.

Most of the cockpit area and fuselage were consumed by postimpact fire. Flight control continuity was established from the elevators, rudder, and ailerons to the cockpit area, but the impact and fire damage prevented control continuity from being established within the cockpit. The flaps were attached to the wings in the retracted position, the flap cables were intact, and continuity was established between the flaps.

The engine was located under fire-damaged fuselage debris. The engine sustained impact and fire damage and was found fragmented. The engine crankcase was fractured, and cylinders were expelled from the crankcase. The crankshaft was fractured with a part still attached to the propeller.

The propeller had separated from the engine and came to rest under the horizontal and vertical stabilizers. The propeller was damaged from its impact with the water tower. The spinner assembly was flattened and deformed into the propeller hub, and a circular flattening was observed. The propeller mounting bolts were sheared and exhibited rotational bending. One blade was bent aft at the tip, bent midspan, and had chordwise scratching. The other blade was

bent aft near the blade root and had chordwise scratching. No airframe or engine anomalies consistent with a preimpact failure or malfunction were noted.

Medical and Pathological Information

The Western Michigan University School of Medicine, Medical Examiner and Forensic Services, performed an autopsy of the pilot. His cause of death was multiple injuries. Toxicology testing performed at the Federal Aviation Administration's Forensic Sciences Laboratory detected citalopram, N-desmethylocitalopram, and diphenhydramine in the pilot's specimens.

Citalopram is a prescription medication used to treat various conditions, including depression, obsessive-compulsive disorder, panic disorder, anxiety disorder and post-traumatic stress disorder. N-desmethylocitalopram is a metabolite of citalopram. Diphenhydramine is a sedating antihistamine used to treat allergic conditions and facilitate sleep.

The patient instructions for citalopram state the following:

Because psychoactive drugs may impair judgment, thinking, or motor skills, patients should be cautioned about operating hazardous machinery, including automobiles, until they are reasonably certain that [citalopram] therapy does not affect their ability to engage in such activities.

The effects of long-term use of citalopram on performance is not known. The FAA requires pilots using antidepressants, including citalopram, to have a special issuance medical certificate.

The pilot's personal medical records for the 3 years before the accident were reviewed. The records revealed that the pilot had a longstanding history of high blood pressure, high cholesterol, and an anxiety disorder. He used lisinopril to treat his high blood pressure, atorvastatin to treat his high cholesterol, and escitalopram to treat anxiety/depression. These records did not mention the extent or seriousness of the pilot's anxiety/depression.

Major depression is associated with significant cognitive degradation, particularly in executive functioning skills. The cognitive degradation may not improve even with remission of a depressed episode, and patients with severe depression are more significantly affected than those with fewer symptoms or episodes.

Additional Information

Title 14 *Code of Federal Regulations* 91.119, Minimum Safe Altitudes, states in part the following:

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes...Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	Robert Holdridge; FAA; Grand Rapids, MI
Original Publish Date:	March 4, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=100214

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).