



2019-2020 NTSB

MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS



End Alcohol and Other Drug Impairment

What is the problem?

The use of over-the-counter (OTC), prescription, and illicit drugs is increasing in the U.S. Many drugs have impairing side effects, and determining the relationship between a drug's presence in the body and an individual's ability to operate an airplane is very complex. Unlike alcohol, drugs can affect individuals differently, which makes tackling drug-impaired aircraft operation particularly challenging. We are increasingly concerned about the safety implications of drug use in all modes of transportation.

In aviation, most fatal accidents involving drug use occur in general aviation (GA) aircraft. In most modes of transportation, data about operator drug use is limited to a small portion of operators and a short list of drugs. Aviation is the one mode in which the regulatory authority, the Federal Aviation Administration (FAA), routinely conducts extensive postaccident toxicology testing in fatally injured pilots.

Our 2014 study, *Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment*, analyzed drug use trends in aviation between 1990 and 2012. Of the 6,677 study pilots, we found the proportion of pilots with at least one positive drug finding increased from less than 10 percent of pilots in 1990 to a high of 40 percent in 2011. Although evidence of illicit drug use was found in only a small number of cases, the positive marijuana results increased from 1.6 percent between 1990 and 1997 to 3 percent between 2008 and 2012. The most commonly found impairing substance in fatal crashes was diphenhydramine, a sedating antihistamine found in OTC allergy, cold, and sleep-aid medications.

Most fatal accidents involving drug use occur in general aviation



On July 4, 2015, a Champion 7BCM impacted a golf course in Portland, Texas, while maneuvering at a low altitude. The pilot and passenger died. Contributing to the accident was the pilot's impairment due to alcohol and drugs.

23%

Average of fatally injured GA pilots found to have had positive findings for at least one potentially impairing drug between 2008 and 2012

Related reports:

Aviation Accident Final Report: OHLGREN RV 6A Loss of Control in Flight; Abilene, Texas; March 1, 2016; Accident ID CEN16FA114

Aviation Accident Final Report: CHAMPION 7BCM Loss of Control in Flight; July 4, 2015; Portland, Texas; Accident ID CEN15FA291

For detailed investigation reports, visit www.nts.gov

What can be done?

Aviation accidents caused by drug-impaired operators are 100 percent preventable. We have issued many recommendations to address this problem in all transportation modes.

To address the problem of drug impairment in aviation, the following actions should be taken:

Regulators

- › Require pilots who are exempt from medical certification requirements to periodically report to you their status as active pilots and to provide a summary of their recent flight hours.
- › Develop, publicize, and periodically update information to educate pilots about the potentially impairing drugs identified by your toxicology tests on fatally injured pilots, and make pilots aware of less impairing alternative drugs, if they are available.

Pilots

- › Become familiar with the Aeronautical Information Manual's "I'M SAFE" checklist, which helps pilots assess and verify that they are healthy and fit for flight. The checklist includes assessing if various issues, like illness, medication, or alcohol, may impair your ability to fly safely.
- › Talk to your pharmacist, aviation medical examiner, or prescribing physician to determine the effects of any medications you're taking and whether there are any dangerous interactions you should be aware of. Additionally, read and follow the package warnings for all prescription and OTC medications, and don't fly after taking sedating and impairing medications until the condition you are treating has resolved and you are no longer experiencing the medication's adverse effects.
- › To ensure the adverse effects of a medicine have resolved, follow the FAA-recommended minimum wait times between your last dose of medication and beginning of pilot duties—which is 5 times the maximum pharmacologic half-life of the medication, or 5 times the




On March 1, 2016, an experimental amateur-built Van's RV6A airplane impacted terrain during takeoff from runway 35 at the Elmdale Airpark, near Abilene, Texas. The airline transport pilot and his passenger died. The pilot was impaired by a combined use of central nervous system depressant medications and illicit marijuana.

maximum hour dose interval if pharmacologic half-life information is not available.

- › As an employee performing safety-sensitive functions in the transportation industry, you are responsible for providing a safe work environment for your coworkers and the traveling public. Creating a safe work environment not only means following established work rules, but also following the Department of Transportation's (DOT's) rules on drug use and alcohol misuse.
- › Recognize that marijuana is a schedule I federally prohibited drug that impairs your mental state and ability to safely operate motor vehicles and aircraft! DOT and FAA guidance regarding marijuana states that even though it may be legal for medicinal and recreational use in some states, it is **not at all permitted for flight**.

MWL
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Critical changes needed to reduce transportation accidents, injuries, and fatalities

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The NTSB **MOST WANTED LIST** highlights safety issues identified from the NTSB's accident investigations to increase awareness about the issues and promote recommended safety solutions.

For more information visit www.nts.gov/mostwanted or contact SafetyAdvocacy@ntsb.gov

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—railroad, highway, marine, and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members impacted by major transportation disasters.

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