



NTSB 2017-2018 MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS

Reduce Fatigue-Related Accidents



AVIATION

MWL
MOST WANTED LIST

Fatigue impairs performance and degrades a person's ability to stay alert, attentive, and engaged in the task of controlling a vehicle safely.

What is the issue?

Airplanes are machines that require complex human interaction and an operator's complete attention and proficient skill. All too often, however, amateur and professional pilots, air traffic controllers, and maintenance personnel performing safety-critical functions are impaired by fatigue stemming from insufficient or poor-quality sleep.

To manage the risks of operator fatigue in public transportation systems, companies must ensure that employees have sufficient off-duty time to obtain high-quality sleep. Moreover, employees must actually use their off-duty time to get enough rest, as well as make personal choices to attend to medical and quality-of-life problems that negatively affect their fitness for duty and sleep quality.

Over the years, we have investigated many accidents in all transportation modes in which fatigue was cited as the probable cause or a contributing factor. Nearly 20 percent of the 182 major National Transportation Safety Board investigations completed between January 1, 2001, and December 31, 2012, identified fatigue as a probable cause, contributing factor, or a finding.

The consequences of fatigue on human performance can be subtle. Operators may not recognize loss of attention, slowed reaction times, and poor judgment until it is too late. The traveling public can unknowingly and unwillingly be placed at risk because a fatigued operator cannot safely execute his or her duty.

Human fatigue can be acute or chronic; both often arise from poor sleep and inadequate health management. Fatigue impairs performance and degrades a person's ability to stay alert, attentive, and engaged in the task of controlling a vehicle safely.

What can be done?

We must acknowledge that fatigue is a manageable threat to transportation safety that can be mitigated through reasonable measures based on company practices and individual responsibility. We must draw attention to the medical conditions that may affect sleep quality, such as obstructive sleep apnea (OSA), insomnia, and restless legs syndrome. We must also draw attention to company best practices that allow operators to schedule adequate off-duty time for rest and to report, treat, and to track health conditions that affect the quality of their sleep.



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We have issued more than 200 safety recommendations addressing fatigue-related problems across all modes of transportation. Addressing the problem of human fatigue in transportation requires a comprehensive approach that focuses on research, education and training, technology, sleep disorder treatment, hours-of-service regulations, and on- and off-duty scheduling policies and practices.

Some of our earliest recommendations called for research to better understand the problem of fatigue in transportation and, over the past three decades, a great deal of research has been done. But research only goes so far; now we must implement what we have learned.

All vehicle and vessel operators must be better educated about medical conditions and impairing drugs that can impact the quality and duration of their sleep as well as their on-duty performance. Regulators can help commercial operators, airlines, vessel operators, and rail agencies identify high-risk drivers, pilots, mariners, and operators.

Companies must establish fatigue risk management programs and continually monitor their success to reduce fatigue-related risks for personnel performing safety-critical tasks. Fatigue risk management programs take a comprehensive, tailored approach to address the problem of fatigue within an industry or workplace. Such programs include policies or practices to address scheduling, attendance, education, medical screening and treatment, personal responsibility during non-work periods, task/workload issues, rest environments, commuting, and napping.

In March 2015, the Federal Aviation Administration launched a major medical initiative to enhance identification and encourage treatment of aviators who have OSA. OSA screening is now mandatory for all pilots presenting for their medical examinations, and closely follows the American Academy of Sleep Medicine’s clinical guidelines. In 2015, 979 airmen at high risk for OSA were referred for comprehensive evaluation that would have likely gone unrecognized prior to initiation of the screening program.

The best countermeasures to combat fatigue depend on the task at hand, work--rest schedules, and sleep opportunities. Data on the habits of workers in different transportation modes, along with the results of existing fatigue management programs and research into possible alternatives, will allow for a better analysis to determine the best fatigue countermeasures to employ in every situation.

Ultimately, fatigue-related accidents can be avoided with a combination of science-based regulations, comprehensive fatigue risk management programs, and individual responsibility. ■

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.

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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Related Accidents*

Date	Location	Accident ID
February 12, 2009	Clarence Center, NY	DCA09MA027
December 7, 2011;	Las Vegas, NV	DCA12MA020
August 14, 2013	Birmingham, AL	DCA13MA133

*For detailed accident reports visit www.nts.gov

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Critical changes needed to reduce transportation accidents and save lives.

