



**NTSB 2017–2018**  
**MOST WANTED LIST** OF  
**TRANSPORTATION SAFETY IMPROVEMENTS**

**Require Medical Fitness**



**RAIL**

**MWL**  
 MOST WANTED LIST

**Requiring medical fitness for duty can identify potentially impairing conditions and medications and can prevent accidents with tragic outcomes.**

**What is the issue?**

In July 2000, in Jackson, Tennessee, a truck-tractor semitrailer, traveling at an estimated speed of 65 mph in a 55-mph work zone, collided with a Tennessee Highway Patrol vehicle that was part of a moving work zone, killing the patrolman inside. We found that the truck driver had been diagnosed with obstructive sleep apnea in 1997, one month after colliding with another police vehicle and seriously injuring two officers. The truck driver had a US Department of Transportation (DOT) medical examination in 1999, but hid his history of obstructive sleep apnea from his medical examiner.

When safety-critical personnel, such as rail operators, have medical conditions or use medications that impair their ability to safely operate rail equipment, passengers, crew, and even people near the rail can be seriously injured or killed. Requiring medical fitness for duty can identify potentially impairing conditions and medication and can prevent accidents with tragic outcomes.

In two train accidents—one in 1996 in Secaucus, New Jersey, and one in 2012 in Goodwell, Oklahoma—engineers lacked the ability to see and interpret wayside signals due to deficient color vision. In 2013, in the Bronx, New York, an engineer operated his train at 82 mph into a curve with a speed restriction of 30 mph. The train derailed, killing four and injuring 61. At the time of the accident, the engineer was impaired by undiagnosed sleep apnea. A week following the accident, his condition was diagnosed and subsequently successfully treated, but it was already too late.

Medical conditions and treatments that may impair transportation professionals must be identified and appropriately managed to mitigate transportation safety hazards. Additionally, although it has long been recognized that untreated and undiagnosed medical conditions pose a safety risk to the traveling public, medical certification for safety-critical personnel varies across transportation modes. For instance, the US Coast Guard requires commercial ship captains to get comprehensive medical exams at regular intervals, but relies on mariners to self-report medical conditions and medication use. The aviation medical certification system may be the most robust, but pilots are increasingly testing positive for over-the-counter sedating medications. For railroad engineers, federally mandated medical certifications are renewed every 3 years, but cover only vision and hearing standards. Moreover, many impairing medical conditions and medications are never asked about and operators are



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not examined for them. Additionally, although we have found that obstructive sleep apnea was a factor in multiple accidents, the Federal Railroad Administration does not mandate a comprehensive screening process for this condition.

## What can be done?

Operating complex machines requires the full cognitive and physical capabilities of the operators, maintenance personnel, and others performing safety-critical functions. It is essential to ensure these individuals comply with requirements to report to work medically fit for duty.

We have made recommendations for a comprehensive medical certification system for safety critical transportation personnel that includes these features:

- The applicant's complete medical history, taken at prescribed intervals, that includes medications, conditions, and treatments as well as a physical examination;
- specific historical questions and physical examination procedures to identify applicants at high risk for sleep disorders;
- identification of specific conditions, treatments, and medications that initially disqualify applicants for duty, with certification contingent on further testing (specific to each condition);
- explicit and uniform processes and criteria for determining when the applicant has a treated, but otherwise disqualifying, condition;
- certificates that are good only for a limited time for applicants with conditions that are currently stable but known to be likely to deteriorate, to ensure appropriate retesting;
- medical examiners who:
  - are licensed or registered to perform examinations and prescribe medication in a given state;
  - are specifically trained and certified to perform medical certification exams; and
  - have ready access to information regarding disqualifying conditions that require further evaluation.
- a review system for medical examiners' work products with the information and capacity to identify and correct errors and substandard performance;
- the capacity to prevent applicants who have been deferred or denied certification from finding another provider who will certify them;
- a process for dealing with conditions that could impair safety and are diagnosed between certification exams; and
- guidance for medical providers that should be used when the provider believes a medical condition disqualifies an individual for duty.

The goal is simple: **ensure safety-critical professionals are medically fit for duty before they operate a vehicle.** ■

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
<a href="#">November 15, 2001;</a>	<a href="#">Clarkston, MI</a>	<a href="#">DCA02MR001</a>
<a href="#">September 30, 2010</a>	<a href="#">Two Harbors, MN</a>	<a href="#">DCA10FR009</a>
<a href="#">April 7, 2011</a>	<a href="#">Red Oak, IA</a>	<a href="#">DCA11FR002</a>

\*For detailed accident reports visit [www.nts.gov](http://www.nts.gov)

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MOST WANTED LIST

Critical changes  
needed to reduce  
transportation  
accidents and  
save lives.

