



NTSB 2017–2018
MOST WANTED LIST OF
 TRANSPORTATION SAFETY IMPROVEMENTS

Strengthen Occupant Protection



AVIATION

MWL
 MOST WANTED LIST

What is the issue?

We have investigated many accidents in which improved occupant protection systems, such as seat belts, child restraints, and traveling compartment or vehicle body design, could have reduced injuries and saved lives. In commercial aviation, lack of restraints has led to tragic consequences, such as in the crash of Asiana flight 214 in San Francisco in 2013. Although 99 percent of passengers survived the Asiana accident, two of the three fatally injured passengers were ejected from the airplane because they were unrestrained.

Further, children under age 2 are not required to be restrained in their own seat on an airplane. Although we are required to secure our luggage and even small items, such as electronic devices and beverages, during take-off and landing, the Federal Aviation Administration exempts the most vulnerable passengers—children under age 2—allowing them to travel unrestrained on an adult’s lap.

Additionally, in all areas of aviation, including general aviation and rotorcraft, we have found that inadequate evacuation procedures have placed crew and passengers at unnecessary risk following an accident. In March 2015, Delta Air Lines flight 1086 departed the runway while landing at LaGuardia Airport in New York and contacted the airport perimeter fence, coming to rest with the airplane’s nose on an embankment next to Flushing Bay. The airplane was substantially damaged, resulting in loss of the interphone and public address system as a means of flight crew and passenger communication. As a result, the flight attendants left their assigned emergency exit locations and could not immediately open their exits for evacuation. This significantly delayed evacuation, which could have led to serious injury. Unfortunately, attendant training did not address alternative methods of communicating during an emergency situation when interphone and public address systems fail.

What can be done?

To minimize deaths and injuries, we need to see increased use of existing restraint systems and better design and implementation of occupant protection systems that preserve survivable space and ensure ease of evacuation.

In the air, all occupants are best protected when using



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a restraint, regardless of the aircraft type. General aviation pilots and passengers should use shoulder restraints whenever possible, and small children should be secured in appropriately sized restraints, just as they are in passenger cars. Holding an infant in a lap during flight is not a sufficient safety measure; rather, car seats approved for use on aircraft ensure maximum safety for children, especially during take-off and landing. Education campaigns about the benefits of seat belt and child restraint use enhance user knowledge about these issues and encourage proper use in all vehicles.

In addition, we need improved implementation of evacuation procedures. It is critical that commercial flight and cabin crews have proper training and procedures to conduct timely and professional evacuations when conditions warrant.

We have a long history of investigating accidents involving inadequate evacuation communication, coordination, and decision-making, and we have made numerous safety recommendations, including requests for joint evacuation exercises for flight and cabin crews, to resolve these issues. A multidisciplinary effort focusing on analyzing airplane evacuations and identifying ways to improve flight and cabin crewmember performance could be an effective way to resolve recurring evacuation-related issues. ■



In the air, all occupants are best protected when using a restraint, regardless of the aircraft type.



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 |
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| July 6, 2013 | San Francisco, CA | DCA13MA120 |
| March 6, 2015 | St. Louis, MO | CEN15FA164 |

*For detailed accident reports visit www.nts.gov

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Critical changes needed to reduce transportation accidents and save lives.

