

**DHS Views on Aircraft Fire Safety – a Security Research and Development
Perspective**
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Abstract

The Transportation Security Laboratory, a federal laboratory within the Science and Technology Directorate of the Department of Homeland Security, has been conducting research into commercial aircraft survivability since 1990. The overriding goal of this research is to protect commercial aircraft from catastrophic structural or critical system failure due to an in flight explosion or other terrorist initiated event. Since its inception, the program has been focused on determining and identifying the minimum size explosive that would result in aircraft loss. The data from this research is being incorporated into refined detection standards for checked and carry on luggage and cargo conveyed on passenger aircraft. The vulnerability assessments and testing have allowed researchers to identify, investigate, and develop measures that increase the survivability of commercial aircraft. In addition to the threat posed by internal explosive detonations, the program has also been studying the effects of external threats, including Man Portable Air Defense Systems (MANPADS) and small arms fire. Research efforts being pursued that are of benefit from an aircraft fire and cabin safety perspective can also enhance the survivability of aircraft. Several of these potential mutually beneficial research activities are discussed.