



September 2015

GENERAL AVIATION

Observations Related to Liability Insurance Requirements and Coverage for Aircraft Owners

Accessible Version

GAO Highlights

Highlights of [GAO-15-740](#), a report to congressional requesters

Why GAO Did This Study

A substantial proportion of all domestic aviation accidents and fatalities that occur each year involve GA, which includes all aviation except commercial and military. Under federal law, the Secretary of Transportation is responsible for ensuring that commercial air carriers carry liability insurance. However, no such federal requirements exist for GA aircraft owners. In some cases, accidents involving uninsured or underinsured GA aircraft owners have occurred where individuals (passengers or third parties) who incurred losses received little or no compensation.

GAO was asked to look at the feasibility and costs associated with adopting federal liability insurance requirements for GA aircraft owners. This report examines (1) existing liability insurance requirements for GA aircraft owners, (2) premiums for GA liability insurance, and (3) factors that selected stakeholders cited which should be considered in determining whether to adopt a federal liability insurance requirement. GAO surveyed aviation officials in 50 states, analyzed state statutes identified in the surveys, collected insurance premium information from three nationwide aviation insurance brokers, and interviewed a diverse group of 73 aviation stakeholders—including FAA and NTSB officials, GA associations, and attorneys representing accident victims—selected based on GAO's prior work that identified the GA associations and recommendations from FAA, NTSB, and other aviation stakeholders.

View [GAO-15-740](#). For more information, contact Gerald L. Dillingham, Ph.D. at (202) 512-2834 or dillinghamg@gao.gov.

September 2015

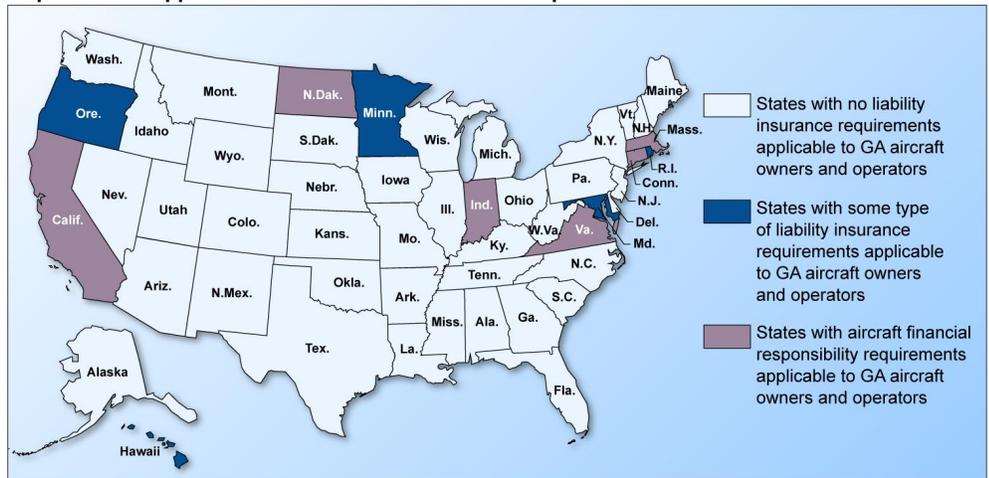
GENERAL AVIATION

Observations Related to Liability Insurance Requirements and Coverage for Aircraft Owners

What GAO Found

Based on GAO's 50-state survey of state aviation officials and analysis of state statutes and regulations identified by such officials, the vast majority of states do not have liability insurance requirements for general aviation (GA) aircraft owners and operators (i.e., pilots). As of April 2015, 11 states have some variation of a liability insurance requirement or aircraft financial-responsibility requirements, which require GA aircraft owners to demonstrate financial ability to cover potential losses incurred in an accident (see figure below). Minnesota is the only state that requires almost all GA aircraft owners to have a minimum liability insurance coverage: the required minimum coverage is \$100,000 per passenger seat.

States with Minimum Liability Insurance Requirements or Aircraft Financial-Responsibility Requirements Applicable to GA Aircraft Owners and Operators



Sources: GAO analysis of survey responses and state statutes and regulations identified in survey responses; and Map Resources. | GAO-15-740.

Annual premiums for liability insurance vary depending on the type of aircraft insured and a pilot's experience. For example, three nationwide brokers GAO contacted noted that an annual premium for a common 4-seat GA aircraft, a Cessna 172, can range from \$200 to \$550 for a policy that provides \$1 million in coverage per accident, with a limit of \$100,000 for each accident victim.

GAO interviewed 73 aviation stakeholders who most frequently cited five factors that they felt should be considered in determining whether to adopt a federal liability insurance requirement. Understanding the extent of the problem—both the number of GA aircraft owners who are uninsured and underinsured and the extent to which accident victims received little or no compensation from such owners—was one such factor. However, data on the extent of this problem are not available and, according to FAA and NTSB officials, could be challenging to collect. Four other factors cited include: (1) costs to victims and the public in the absence of liability insurance; (2) costs to the GA community if such a requirement were adopted; (3) issues related to the implementation and administration of such a requirement; and (4) the potential public-safety benefits.

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Abbreviations

| | |
|------|---|
| DOT | Department of Transportation |
| FAA | Federal Aviation Administration |
| GA | general aviation |
| NAIC | National Association of Insurance Commissioners |
| NTSB | National Transportation Safety Board |
| OST | Office of the Secretary of Transportation |

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September 9, 2015

The Honorable Bill Nelson
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Sherrod Brown
United States Senate

According to National Transportation Safety Board's (NTSB) statistics, the number of accidents involving general aviation (GA), which includes all forms of aviation except commercial and military, represent a substantial proportion of all domestic aviation accidents and fatalities each year.¹ However, the number of GA accidents has decreased over the last decade. Although no federal requirements for liability insurance exists for GA aircraft owners and operators,² a marketplace for liability insurance is available for GA aircraft owners and operators. Some members of Congress and aviation stakeholders have raised questions regarding the lack of such a federal requirement as a result of accidents involving uninsured or underinsured GA aircraft owners and operators³ where

¹ For instance, according to the most recent available data reported by NTSB, of the 1,287 total civil aviation (GA and commercial) accidents that occurred in 2014, about 95 percent (1,221) involved GA aircraft, and 419 aviation fatalities and 240 serious injuries resulted from GA accidents that year.

² All commercial air carriers are required by federal law to carry accident liability insurance to compensate victims (or their survivors) for bodily injury or death and property damages resulting from an accident. 49 U.S.C. § 41112. Under the Department of Transportation's (DOT) Office of the Secretary's federal regulations, commercial air carriers are required to have a minimum of \$300,000 per passenger and a total per involved aircraft for each accident occurrence of \$300,000 times 75 percent of the total number of passenger seats and \$300,000 for property damage and bodily injury or death for non-passengers with a minimum required coverage of \$20 million per occurrence. 14 C.F.R. § 205.5.

³ We refer to uninsured GA aircraft owners and operators as those operating an aircraft without liability insurance. GA aircraft owners may also have other types of insurance, such as hull insurance, which insures damages to the aircraft. For the purpose of this report, GA aircraft owners and operators we focus on GA airmen (i.e., pilots) and GA operators that use aircraft for commercial purposes (i.e., flight schools, aerial photographers). We did not include public aircraft operations, which include state or locally owned and operated aircraft or pilots flying for public purposes, such as fighting forest fires.

individuals (i.e., passengers and third parties) who incurred losses received little or no compensation from the responsible aircraft owners and operators. For instance, in September 2012, a young flight instructor was killed during a landing attempt with a student pilot and another passenger, both of whom survived the accident. According to documents from the flight instructor's family, he was not covered under the flight school's liability insurance policy, and his estate received a claim against the estate for property damage caused by the accident.

You asked us to examine the feasibility of and costs associated with adopting a federal requirement for GA aircraft owners and operators to maintain liability insurance. This report examines (1) existing liability insurance requirements for GA aircraft owners and operators in the United States; (2) available data on the range of premiums charged by selected insurance providers for GA liability insurance and factors that influence those costs; and (3) factors that selected stakeholders stated should be considered in determining whether to adopt a federal liability insurance requirement for GA aircraft owners and operators.

To identify existing liability insurance requirements, we conducted a survey of aviation officials in all 50 states and analyzed state statutes, regulations, and other documents identified by state aviation officials. We received a 100 percent response rate to our survey as of April 2015. We also spoke with state aviation officials in those states that identified some kind of GA liability insurance or aircraft financial responsibility requirements to obtain more information about those requirements, including how they are administered.⁴ To identify the range of premiums charged for GA liability insurance and factors that influence those costs, we obtained information on GA liability insurance premiums for common GA aircraft and factors that influence those costs from three nationwide insurance brokers that work with the major underwriters in the GA insurance market; these insurance brokers and underwriters were identified by aviation insurance representatives we interviewed.⁵ Although

⁴ We use the term "aircraft financial responsibility requirements" to mean laws, enacted by a few states, that require noncommercial aircraft owners and operators to demonstrate some type of financial ability to address potential losses from third-party claims arising out of an accident through measures, such as proof of liability insurance or security deposit, after an accident occurs.

⁵ An insurance broker is an independent agent, who represents the buyer rather than the insurance company, and tries to find the buyer the best policy by comparison shopping. An insurance underwriter is an insurance company that underwrites insurance policies.

we could not independently validate the insurance premium information collected from these brokers, we corroborated the premium information received from the insurance brokers with premium data from the insurance underwriters to assess the reasonableness of the data provided. We determined that the information provided was sufficient to use as examples of GA liability insurance premiums, but that it is not generalizable to the entire spectrum of the GA aviation insurance market, given the multiple and unique factors that can significantly influence premium prices. To obtain aviation stakeholders' perspectives on factors that should be considered in determining whether to adopt a federal liability insurance requirement, we interviewed or obtained written responses from 73 stakeholders, including officials from the Office of the Secretary/Department of Transportation, Federal Aviation Administration (FAA), NTSB, and 39 state aviation offices,⁶ representatives from 9 GA trade associations and 10 aviation insurance-related organizations, as well as an accident victims association and 11 aviation attorneys representing GA accident victims. The selection of representatives from GA trade associations was based on prior GAO reports that identified the GA associations and recommendations from FAA, NTSB, stakeholders, and selected state aviation officials. We identified an accident victims association and selected aviation attorneys, specializing in personal injury and representing aviation accident victims based on our initial literature reviews and recent news articles that mentioned law firms prosecuting or defending GA accident cases. The aviation stakeholders' views are not generalizable to the entire GA community, but provided us with valuable insights. See appendix I for a more detailed description of our scope and methodology and for a list of stakeholders we interviewed.

We conducted this performance audit from October 2014 to September 2015, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁶ Aviation officials from five states declined to talk with us, and aviation officials from six states did not respond to our numerous attempts to obtain their views on factors that should be considered in determining whether to potentially adopt a federal GA liability insurance requirement.

Background

GA is composed of a diverse fleet of aircraft, including airplanes, gliders, and helicopters, that are flown for a variety of purposes (see fig. 1). In 2013, FAA estimated there were about 340,000 licensed GA pilots, and approximately 200,000 aircraft were in the active GA fleet, with airplanes comprising the vast majority—almost 79 percent. According to FAA 2013 data, most GA airplanes are light, single-engine piston, fixed-wing aircraft. FAA also identifies a small, but growing portion of the GA fleet as “experimental” aircraft, which include amateur and home-built aircraft and aircraft used for racing and research (among other purposes), as well as exhibition aircraft, such as former military aircraft that are commonly referred to as “warbirds.” The majority of these GA aircraft (about 88 percent) are used for one of the following purposes:

- personal (e.g., a pilot taking a family on a sightseeing trip);
- business (e.g., an owner and pilot flying to a meeting);
- corporate (e.g., a professionally-piloted aircraft transporting corporate employees); and
- instructional (e.g., a student flying with a certified flight instructor⁷).

Domestic GA operations are conducted from more than 2,950 public-use GA airports (which primarily serve GA aircraft) as well as from thousands of other airports, including those that support commercial air service. GA flights operate under various federal aviation regulations. For the purposes of this report, our definition of GA includes flights operated under Part 91 of general operations and flight rules, namely, all civilian aviation flying except passenger air carriers and military aircraft.⁸

⁷ The holder of a valid flight instructor certificate may provide pilot training and instruction for the pilot certification in any aircraft for which they are qualified. (14 C.F.R. § 61.193, 61.195(b)).

⁸ Federal Aviation Regulations under which GA operations are flown include 14 C.F.R. Part 91 (general operating and flight rules), Part 125 (privately operated aircraft with seating capacity of 20 or more passengers or maximum payload capacity of 6,000 lbs. or more when common carriage is not involved), Part 133 (rotorcraft external load operations), and Part 137 (agricultural aircraft operations).

Figure 1: Types of General Aviation Aircraft



Sources: Aircraft Owners and Pilots Association (AOPA). | GAO-15-740.

Although the number of GA accidents in the United States has been generally decreasing in recent years, there were over 1,200 accidents and over 400 resulting fatalities in 2014 (see table 1). In October 2012, we found that most GA accidents involved personal use and instructional flight operations.⁹ In 2014, personal use and instructional flight operations combined accounted for about 75 percent of GA accidents. Most accidents also occurred during the landing and take-off phases of a flight, and in 2014 most GA accidents occurred in California, Texas, and Florida, all states with large numbers of GA aircraft.

⁹ GAO, *GENERAL AVIATION SAFETY: Additional FAA Efforts Could Help Identify and Mitigate Safety Risks*, [GAO-13-36](#) (Washington, D.C.: Oct. 4, 2012).

Table 1: Number of General Aviation Accidents, Fatalities, and Serious Injuries in Calendar Year 2010—2014

| Calendar year | Number of accidents | Number of fatalities | Number of serious injuries |
|---------------|---------------------|----------------------|----------------------------|
| 2010 | 1,440 | 457 | 256 |
| 2011 | 1,470 | 448 | 328 |
| 2012 | 1,471 | 440 | 247 |
| 2013 | 1,298 | 391 | 215 |
| 2014 | 1,287 | 419 | 240 |

Source: GAO analysis of National Transportation Safety Board data. | GAO-15-740

Two federal agencies are primarily responsible for investigating GA accidents and ensuring aviation safety: FAA and NTSB. FAA is responsible for administering aircraft registration and pilot certification, conducting safety oversight of pilots' training and GA operations, and taking enforcement actions against pilots and others who violate federal aviation regulations and safety standards. FAA also collects GA fleet and flight activity data through an annual survey that includes the number of hours flown and the uses of GA aircraft. The FAA's statutory mandate does not, however, include requiring that GA aircraft are covered by liability insurance. NTSB is responsible for investigating all civil aviation accidents and major accidents and incidents in other transportation modes.¹⁰ Using the information gathered by its own investigators and in coordination with FAA, NTSB is responsible for determining an accident's probable cause, issuing safety recommendations, and conducting safety studies. According to NTSB officials, if an NTSB official is not available at the scene of where the accident occurred, FAA gathers perishable data that are provided to the NTSB. However, NTSB is responsible for issuing a preliminary report and final accident report describing the history of the flight (e.g., date and time of accident, aircraft and accident type, purpose of flight, extent of pilot and passenger injuries, etc.) and findings of

¹⁰ With respect to NTSB, the term "accident" includes damage to or destruction of vehicles in surface or air transportation or pipelines, regardless of whether the initiating event is accidental or otherwise". 49 U.S.C. § 1101. An "incident" is currently defined in NTSB regulations as "an occurrence, other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations." 49 C.F.R. § 830.2. According to NTSB officials, due to resources, NTSB typically travels to the site of an aircraft accident involving fatalities and conducts a more limited investigation of non-fatal accidents. NTSB defines a major accident as one that affects public confidence or transportation safety in a significant way, or is catastrophic.

probable cause. NTSB also coordinates accident disaster-assistance activities, including providing information and assistance to accident victims (or their survivors), in the aftermath of an accident.

The Office of the Secretary of Transportation (OST) within DOT is responsible for ensuring that commercial air carriers meet minimum liability insurance coverage amounts for liability, as required under federal law¹¹, and FAA has assumed this role pursuant to a memorandum of understanding with OST.¹² The related regulatory requirement, which became effective in 1982, establishes minimum liability insurance requirements for air carriers. Commuter air carriers and air taxi operators are also required under federal regulations to have minimum liability insurance. While federal insurance requirements exist for commercial modes of transportation, the states generally regulate the business of insurance.¹³ No federal requirement exists for GA liability insurance, although as discussed later in this report, some states have liability insurance or similar requirements.

Some countries require liability insurance for GA aircraft. Canada, for instance, requires commercial and GA aircraft owners operating aircraft with a maximum permissible take-off weight of more than 5,000 pounds to have liability insurance for death and bodily injury in the minimum amount of \$300,000 (in U.S. dollars) multiplied by the number of passengers

¹¹ The Airline Deregulation Act of 1978 (Pub. L. No. 95-504, § 20, 92 Stat. 1705, 1722) (codified as amended at 49 U.S.C. § 41112), in general, required that certificates were not to be issued or remain in effect unless air carriers complied with regulations requiring liability insurance policies or self-insurance plans.

¹² 14 C.F.R. Part 205. See also, 46 Fed. Reg. 52572 (Oct. 27, 1981). In cases dealing with Part 298 exemption certificates for on-demand operations, the FAA verifies that an applicant has insurance prior to issuing the certificate, according to the FAA.

¹³ An act commonly referred to as the McCarran-Ferguson Act generally reserved the regulation of the business of insurance to the states. A congressional declaration of policy in this act provides, in part, that the continued regulation and taxation by the several states of the business of insurance is in the public interest. The act further provides, in general, that acts of Congress shall not be construed to invalidate, impair, or supersede state laws regulating the business of insurance unless an act of Congress specifically relates to the business of insurance. Pub. L. No. 79-15, 59 Stat. 33 (1945) (codified as amended at 15 U.S.C. §§ 1011-1015).

onboard the aircraft.¹⁴ Similarly, a European Union regulation requires liability insurance coverage for both commercial and GA aircraft when operating within, into, out of, or over the European Union member territories.

When operating aircraft, owners and operators face financial risks, such as the risks associated with damage to the aircraft itself as well as those associated with death, injury, and property damage to third parties. Aircraft owners and operators, like many other individuals and organizations, may choose to purchase insurance in which the financial risks of an accident are transferred to an insurance company in exchange for a premium payment. Various aviation insurance products are available, such as hull insurance, which covers physical damages to the aircraft, including the engine, propeller, and all other systems and permanently attached equipment. Liability insurance covers death or bodily injury to passengers or persons on the ground as well as property damages caused by an aircraft accident. Aviation insurance policies for GA aircraft owners are generally sold to owners as a package, which include coverage for aircraft hull and liability.

Additionally, GA pilots who do not own their own aircraft may also purchase their own liability insurance policy, commonly referred to as renters insurance. This type of insurance is designed to protect pilots against claims arising from bodily injury or property damages when they are deemed to have caused an accident. It is also designed to provide pilots with legal representation to defend themselves if they are sued, whether or not they are ultimately determined to be at fault for the accident. However, renter's insurance is an excess insurance product that is secondary to the primary insurance policy of the aircraft owner, which is designed to pay for damages first. As such, renter's insurance is not as comprehensive as aircraft owners insurance tied to the aircraft. For instance, in contrast to an aircraft owner's policy, coverage for damages to third parties on a renter's policy is typically not triggered unless the pilot was deemed to have been negligent in the operation of the aircraft, according to a principal insurance underwriter offering such policies. In

¹⁴ Canadian regulations further require liability insurance covering "risks of public liability" of differing dollar amounts depending upon the maximum permissible take-off weight of the aircraft. The amounts range from \$100,000 for aircraft with a maximum permissible take-off weight of 2,300 pounds to \$3,000,000 for aircraft with a maximum permissible take-off weight of more than 75,000 pounds.

addition to passengers on the aircraft or parties on the ground, insurance companies themselves may also sue pilots for damages, taking action to subrogate against the party responsible for losses paid.¹⁵ Apart from where liability insurance is required, whether GA aircraft owners or operators choose to purchase insurance depends, in part, on how much risk they are willing to assume versus the risk they need or desire to transfer (for a premium) to an insurance company. In particular, they may choose not to purchase coverage if they believe the coverage is too expensive for the amount of risk they bear.

The Majority of States Have No GA Liability Insurance or Related Financial-Responsibility Requirements, Although Other Entities May Impose Such Requirements

Eleven States Impose Either Liability Insurance or Aircraft Financial-Responsibility Requirements Applicable to Some GA Aircraft Owners and Operators

Based on our survey of state aviation officials and analysis of state statutes and regulations identified by such officials, as of April 2015, the majority of the states do not have liability insurance requirements applicable to GA aircraft owners and operators (see fig. 2). Five states have a liability insurance requirement that is applicable to at least some categories of GA aircraft owners and operators, and six states have some type of aircraft financial-responsibility requirements. Aviation officials we spoke with in these states generally commented that they did not know the history of why they have these requirements or how effective they have been in terms of ensuring liability insurance coverage because data

¹⁵ Subrogation is the lawful substitution of a third party in place of a party having a claim against another party. As noted by a principal aviation insurer, it is common practice for insurers of flight schools to subrogate against renter pilots to recover their payment for damages.

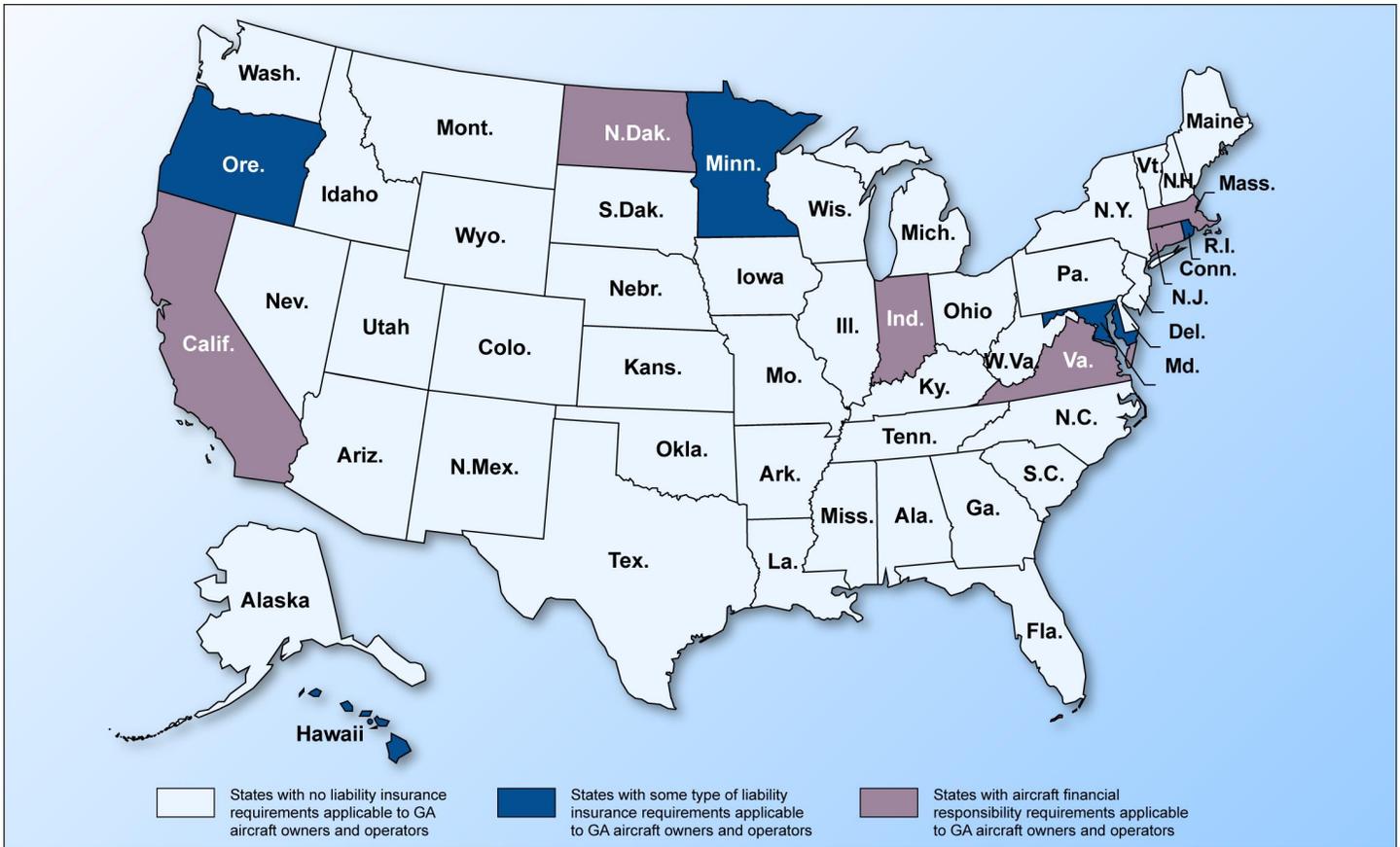
are not collected to measure the effect of these requirements. Minnesota is the only state that has a liability insurance requirement applicable to nearly all GA aircraft owners.¹⁶ Every owner of aircraft in Minnesota, including GA aircraft owners, must show proof of insurance, with the minimum coverage requirements, when registering the aircraft with the state.¹⁷ While it is a misdemeanor under Minnesota law for an owner to operate an aircraft registered within Minnesota without the required liability insurance,¹⁸ according to state aviation officials, the state relies on self-reporting of liability insurance coverage during the aircraft registration process and does not systematically track violations.

¹⁶ Experimental aircraft that are prohibited from carrying passengers under FAA regulations are exempt under Minnesota's requirements from having passenger seat liability insurance. Minn. Stat. § 360.59, Subd 10 (c).

¹⁷ FAA is responsible for registering GA aircraft; however, Minnesota statutory requirements applicable to GA aircraft in the state require registration and listing for taxation purposes. Minn. Stat. § 360.59. According to a state aviation official, Minnesota's aircraft registration tax is used for airport improvement. A state aviation official also told us that GA aircraft operators, who may lease or rent aircraft that are engaged in aviation as a business (i.e., aerial photographers, flight schools), must also register with the state.

¹⁸ Minn. Stat. § 360.92.

Figure 2: States with Minimum Liability Insurance or Aircraft Financial-Responsibility Requirements Applicable to General Aviation Aircraft Owners and Operators (as of April 2015)



Sources: GAO analysis of survey responses and state statutes and regulations identified in survey responses; and Map Resources. | GAO-15-740.

Four other states—Hawaii, Maryland, Oregon, and Rhode Island—have provisions applicable to GA aircraft owners and operators that require them to have liability insurance if they either hangar their aircraft at a state-owned airport or operate their GA aircraft for commercial purposes, such as leasing or renting out aircraft.¹⁹ For instance, according to a state aviation official, GA aircraft owners that base or hangar their aircraft at Rhode Island’s six state-owned airports for more than 90 days are

¹⁹ Aircraft used for commercial or business purposes may include those that are leased or rented for remuneration, including those used by flight schools or air tour companies.

required to register their aircraft with the state and have a minimum liability insurance coverage limit of \$1 million per accident. In Hawaii, persons such as GA aircraft owners who rent a state hangar as well as air tour operators are required to maintain liability insurance.²⁰

Six other states have some type of aircraft financial responsibility requirements. Under the aircraft financial responsibility requirements in California, Connecticut, Indiana, Massachusetts, and Virginia, GA aircraft owners and operators must demonstrate aircraft financial responsibility to the state by showing differing combinations of liability insurance, a bond, deposits of money or securities, or a letter of credit.²¹ Unlike the other five states, North Dakota does not specify how financial responsibility should be demonstrated.²² According to Virginia state aviation officials, most GA owners meet the Virginia requirement by purchasing liability insurance; however, aviation officials in California, Connecticut, Indiana, and Massachusetts told us that this requirement has not been enforced, due to lack of resources. See appendix II for more detailed description of states with minimum liability insurance requirements or aircraft financial requirements applicable for GA aircraft owners and operators.

Other Public and Private Entities Require Liability Insurance, but Extent Is Unknown

Seventeen of the 73 aviation stakeholders, including aviation insurers, GA association representatives, and aviation attorneys, we spoke with stated that other public and private entities require GA owners and operators with whom they do business to purchase liability insurance, but the extent of such requirements is unknown. According to six of the 73 aviation stakeholders, data are not systematically collected on which or how many public and private entities have liability insurance requirements. Some

²⁰ Hawaii Administrative Rules §§ 19-34-6, 19-17.1.

²¹ South Carolina repealed its requirement for aircraft financial responsibility in 2012. According to a state aviation official in South Carolina, the rule was outdated, and injuries and damages from GA accidents would have to be addressed via state aviation tort laws that might give rise to a legal cause of action S.C. Code Ann §§ 55-3-50 – 55-3-80. A bond is a financial instrument whereby the purchaser provides funds in advance to a surety company to guarantee payment of damages to a third party. In the context of aviation liability insurance, a limited number of states allow the use of a bond to satisfy financial responsibility requirements required for aviation operations. A letter of credit is a bank guarantee that payments to a third party will be received on time and for the correct amount.

²² N.D. Cent. Code § 26.1-48-05.

local government airport operators may require GA aircraft owners to have liability insurance as a condition of using the airport (e.g., to operate in or out of or to use as a hangar for their aircraft). For instance, a GA airport owned and operated by the city of Redding, California, requires GA aircraft owners to have a \$1 million liability insurance policy with coverage for bodily injury and property damage in order to lease space at the airport.

Fourteen of the 73 aviation stakeholders, including representatives from most of the GA associations and state aviation offices and aviation attorneys, we spoke with also told us that to their knowledge, all financial institutions or lenders require GA aircraft owners and operators to have aircraft hull insurance as a condition of financing an aircraft purchase. Although only hull insurance might be required as a condition for financing, four aviation insurance providers we spoke with told us that GA insurers generally offer a package of both hull and liability insurance to GA aircraft owners, and almost all GA aircraft owners opt to purchase the package.

According to representatives from a flight school association, some flight schools either cover certified flight instructors under the schools' liability insurance or require certified flight instructors and student pilots to have their own liability insurance. As such, certified flight instructors and student pilots have the option of purchasing a renter's insurance policy. Flight school association representatives also told us that some independent certified flight instructors may require student pilots to have liability insurance. In addition, a few states require flight schools to disclose the extent of liability insurance coverage they carry, if any, which would cover a student pilot or a pilot renting one of their aircraft. For instance, according to a state aviation official, Nebraska requires flight schools to disclose to renters or student pilots whether they are covered by the school's liability insurance before they fly. However, DOT does not require flight schools or flight instructors to carry liability insurance.²³

²³ As previously mentioned, we found in October 2012 that instructional flight operations are the second most often involved in GA accidents.

The Ranges of GA Liability Insurance Premiums Are Influenced by the Type of Coverage and Several Risk Factors

The Two Most Common Types of Coverage Have Different Insurance Premium Ranges

According to the three nationwide insurance brokers we spoke with, the two most common types of liability insurance policies purchased by GA aircraft owners were those with coverages of:

- \$1 million per occurrence (i.e., accident) with a \$100,000 per passenger sublimit²⁴ (commonly referred to as a “\$1 million/\$100 K policy”), meaning the insurance policy limits the coverage for each passenger in the aircraft to \$100,000, although the limitation does not apply to victims on the ground, and
- \$1 million per occurrence with no sublimit (commonly referred to as a “\$1 million smooth policy”), meaning the policy can offer higher coverage to passengers up to the maximum total policy limit, depending on the accident scenario.

Because of the higher potential payouts, premiums rates are higher for the smooth policies than for those with sublimits. Based on information provided by brokers and underwriters we contacted, we found that other policies with higher coverage amounts were not prevalent in the marketplace.

We obtained premium range estimates from the three different nationwide insurance brokers²⁵ and, for comparison purposes requested the range of

²⁴ A sublimit per passenger refers to a coverage limit available to a passenger on the aircraft, which is less than the maximum limit per occurrence of the overall policy. For example, a \$1 million per occurrence maximum limit could be met with a combination of passenger losses (subject to limits of \$100,000 per passenger) and losses to third parties on the ground, with total losses to all parties not to exceed \$1 million.

²⁵ These three brokers write policies with multiple underwriters in the GA area.

premiums for aircraft with certain characteristics. Specifically, we sought premium information applicable to aircraft owners who:

- use their aircraft primarily for personal, non-commercial use;
- have light aircraft with six seats or less (single or multi-engine); and
- use turboprop or piston engine planes (excluding corporate jets and helicopters).

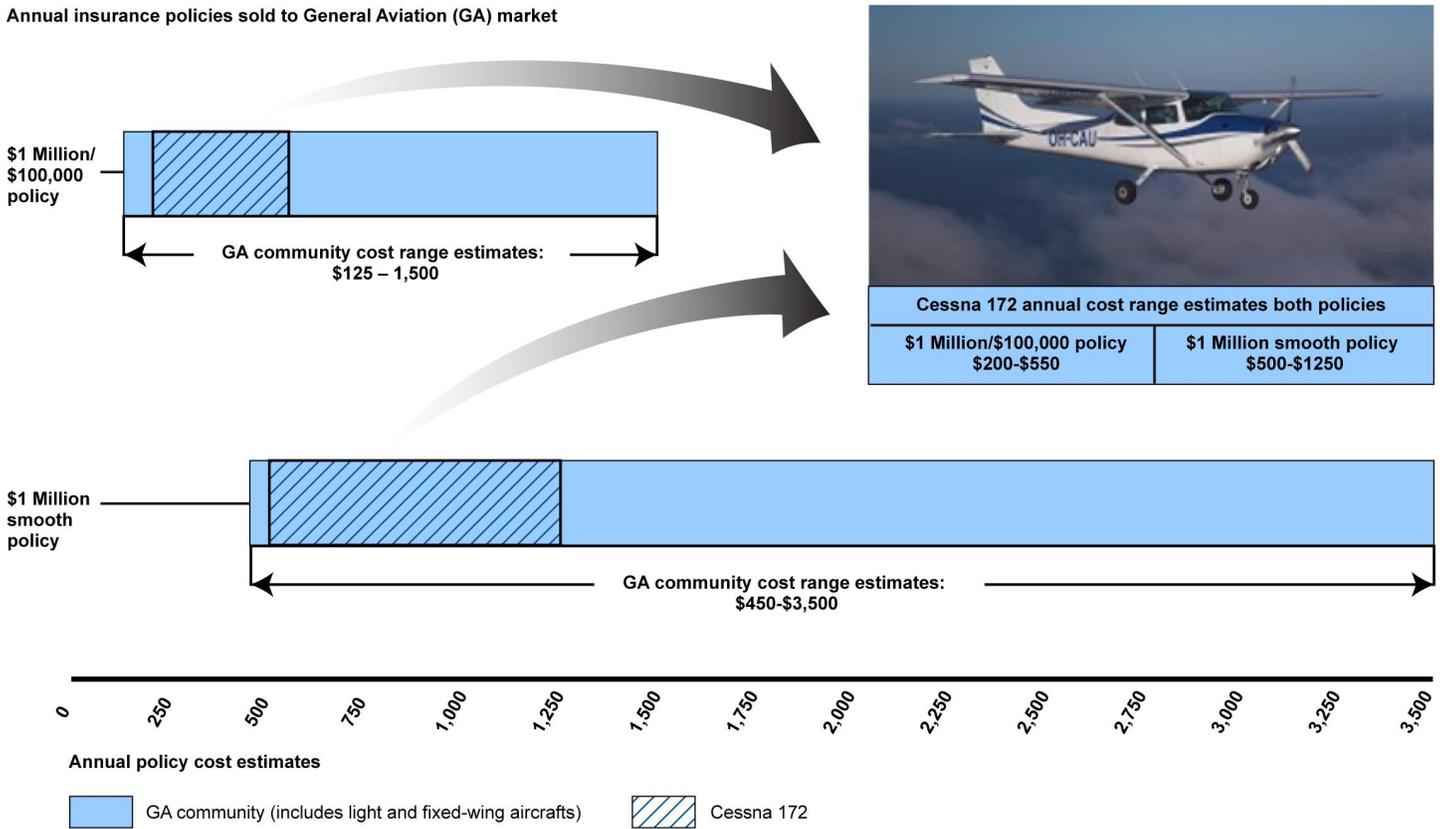
Given those parameters, the insurance brokers estimated that for the \$1 million/\$100K policies most commonly sold to aircraft owners, premiums generally ranged from \$125 to \$1,500 annually.²⁶ Comparatively, for the \$1 million smooth policies, estimated premiums ranged from \$450 to \$3,500. They noted that these ranges are dependent on a number of factors that are highly unique and individualized to characteristics of the aircraft as well as the pilot. For example, for a Cessna 172 aircraft,²⁷ owned and operated by a pilot who has achieved at least a private pilot's certificate, the range of premiums was estimated from \$200 to \$550 annually for the \$1 million/\$100K policies and \$500 to \$1,250 annually for the \$1 million smooth policies, according to the three nationwide brokers we interviewed.²⁸ Figure 3 below illustrates estimated ranges of premium costs tied to the two types of insurance policies commonly sold to GA aircraft owners.

²⁶ Ranges of premium costs provided by aviation insurance brokers do not include outliers tied to unique aircraft or pilot characteristics. These ranges of premiums do not include the hull portion of an insurance policy.

²⁷ Cessna 172 is the most widely produced and used aircraft in the United States.

²⁸ This range of premiums does not include the hull portion of an insurance policy.

Figure 3: Estimated Ranges of Annual Liability Insurance Premiums for Selected General Aviation (GA) Aircraft



Source: GAO analysis of private aircraft insurance. Photo from MzeroA.com. | GAO-15-740.

Note: Estimated premium information provided by nationwide insurance brokers applicable to aircraft owners that use their aircraft primarily for personal, non-commercial use; have light aircraft with six seats or less (single or multi-engine); and use turboprop or piston engine planes (excluding corporate jets and helicopters).

As discussed earlier, GA pilots who do not own aircraft may also obtain liability insurance or renter's insurance. This type of insurance policy offers pilots coverage separate from that of an insurance policy of the aircraft owner. Such coverage is offered at many different coverage limits (with many policies covering less than \$100K per passenger) and is less costly than insurance purchased by aircraft owners. For example, the published rates from one of the largest GA insurance organizations in the marketplace offered renter's insurance for a \$1 million/\$100K sublimit policy for approximately \$200 per year.

Aircraft Type and Pilot Experience Are among Key Factors That Influence Premium Costs

Beyond the type of coverage, the aviation insurance brokers and underwriters we interviewed generally identified the following characteristics associated with the aircraft and the pilot as key factors that can have a significant influence on the price of liability insurance policy premiums:

- *Aircraft characteristics:* Relevant characteristics include the number of seats, the aircraft's equipment and technology, and aircraft's (e.g., make and model) accident history. For instance, an insurance broker noted that insurance rates are higher for a 6-seat aircraft than for a 2 or 4-seat aircraft because the risk level and liability will increase with additional passenger capacity. Additionally, some aircraft with higher performance characteristics (e.g., higher horsepower engines and retractable landing gear) can cost more to insure than less complex aircraft.
- *Pilot characteristics:* Relevant characteristics include the pilot's experience, (e.g. flight hours and flying frequency), certifications, training, age, accident history, and violations, if any, of FAA rules or regulations. For example, insurance brokers and underwriters noted that a pilot who flies more frequently will likely be offered lower rates than pilots who fly occasionally. Further, as pilots increase the number of flight hours tied to the aircraft they are currently flying, such experience can help lower their insurance rates. Conversely, higher rates can be expected for pilots who have had FAA violations (e.g., an expired medical certification).²⁹
- *Geographic location:* Relevant considerations include the location where the aircraft is based and will be flown, including elevation, runway length at airports used, and terrain of the area. For instance, an insurance broker mentioned that premiums can increase for a plane based at an airport in mountainous terrain compared to an airport located in flat terrain.

²⁹ According to FAA officials, FAA requires that pilots be medically certified to prevent or mitigate the effect of various medical conditions that may present an undue risk to the safety of pilots, passengers, or others. Private pilots must have their medical certifications renewed every 5 years for pilots under 40 years of age and every 2 years for pilots over 40 years of age. After obtaining a medical certificate, and between renewal periods, pilots are prohibited from performing pilot operations when they know or have reason to know of a medical deficiency that would make them unable to fulfill their pilot operation. GAO, *AVIATION SAFETY: FAA Should Improve Usability of its Online Application System and Clarity of the Pilot's Medical Form*, [GAO-14-330](#), (Washington, D.C.: Apr. 8, 2014).

-
- *Use of the aircraft:* This factor focuses on how the aircraft will be used, such as primarily for personal business and recreational use or for commercial business purposes. For instance, insurers will price insurance for personal and recreational uses of aircraft differently than aircraft used for commercial purposes, such as a charter operation.

Selected Stakeholders Cited Understanding the Extent of the Problem and Costs among Key Factors That Should Be Considered in Determining Whether to Adopt a Federal Liability Insurance Requirement

We asked 73 aviation stakeholders, including federal and state aviation officials, GA association representatives, aviation insurers, and aviation attorneys what factors should be considered in determining whether to adopt a federal GA liability insurance requirement. From these interviews, we identified the five most frequently cited factors, which include considering: 1) the costs borne by victims and the public in the absence of a liability insurance requirement; 2) the extent of the problem; 3) the cost impact on the GA community if a requirement were adopted; 4) implementation and administration issues of a potential requirement; and 5) the potential public safety benefits of a requirement.

Costs to Victims and the Public

Forty-seven of the 73 aviation stakeholders who responded to us, particularly aviation attorneys representing victims of aviation accidents and state aviation officials, cited financial costs borne by some victims and the public in the absence of liability insurance as a factor that should be considered in assessing the appropriateness of liability insurance requirements for GA aircraft owners and operators. For example, 36 aviation stakeholders, including all 11 of the aviation attorneys we spoke with mentioned that a liability insurance requirement would help ensure that victims could receive compensation for at least some of the costs they incurred, including medical expenses and property damage. They also emphasized that a liability insurance requirement could help shift some of the costs currently being borne by society at large (e.g., medical expenses) as a result of an accident involving uninsured or underinsured GA aircraft owners and operators. Some of these stakeholders also commented that the very purpose and principal benefit of liability insurance is to cover damages that the insured party, who assumes the risk of engaging in a certain activity, causes to innocent bystanders or

their property. Some stakeholders also believed that liability insurance requirements for GA aircraft owners and operators would serve the same purpose as automobile liability insurance, which is to protect the public at large from the costs associated with accidents.³⁰

Extent of the Problem

Forty-five of the 73 aviation stakeholders who responded to us—including state aviation officials, GA association representatives, and aviation insurers—mentioned the importance of understanding the extent of the problem—namely the number of GA aircraft owners and operators who do not have liability insurance and the extent to which the absence of liability insurance has precluded accident victims from receiving compensation—as a factor that should be considered in determining whether to adopt a liability insurance requirement. Based on our interviews with aviation stakeholders, including representatives of GA associations and insurance organizations, data are not readily available to help quantify the extent to which GA aircraft owners and operators do and do not have liability insurance, much less to identify policy limits for those with liability insurance. Representatives from insurance industry associations and many aviation stakeholders we contacted in our review confirmed that no central data existed or are systematically collected in a manner that would help provide this information.

Although no central data exist, a number of stakeholders we interviewed offered differing opinions based on their experience about the extent to which GA aircraft owners and operators have liability insurance. Representatives from 5 of the 9 GA associations and 11 of the 39 state aviation officials estimated that the majority of GA aircraft owners and operators have liability insurance and, therefore, questioned whether the lack of liability insurance is widespread enough to justify the need for a federal requirement. Eight of these stakeholders offered estimates in the 80 to 90 percent range.

³⁰ According to the Insurance Information Institute, all states, except New Hampshire, require liability insurance for automobiles.

Examples of general aviation (GA) accidents with no insurance involved

- In March 2014, a private pilot, flying an experimental amateur-built aircraft, and two passengers were killed. According to a preliminary NTSB report, the pilot lost control of the airplane, struck a few trees, and crashed. The aviation attorney we spoke with said the pilot did not have liability insurance and the estimated cost of the damages was \$18 million, based on the DOT's 2011 Guidance on Treatment of the Economic Value of a Statistical Life.
- In November 2009, an experimental aircraft crashed and killed the pilot and a 17-year-old passenger, shortly after takeoff. Prior to the crash, the aircraft had maintenance and repair work performed by FAA-licensed aircraft mechanics. Neither the pilot, nor the owner of the experimental aircraft had insurance. According to the aviation attorney, the estimated cost of the personal injury and property damages was more than \$3 million.
- A female passenger lost most of her left arm after de-boarding an aircraft that was used for a commercial purpose. The commercial operation owned the aircraft but did not have insurance on it. After the company sold the plane, hangar, and other assets, the case was settled for about \$40,000, which did not cover the victim's medical expenses, which were estimated to be more than \$1 million, according to an aviation attorney.

Source: GAO analysis of NTSB reports and interviews with aviation attorneys. | GAO-15-740

However, 10 aviation attorneys and representatives from a GA association and an accident victims association we contacted believed that a problem exists, but said they did not know the extent of the problem. As compared to the other aviation stakeholders who offered estimates of the percentage of GA owners and operators with liability insurance, three aviation attorneys offered a lower estimate—about 50 to 70 percent. A few aviation attorneys we spoke with said that they were aware of accidents where no liability insurance was available to compensate accident victims, but they did not know how many cases like this had occurred. In some instances, the attorneys we spoke with had represented victims or their survivors; three aviation attorneys also mentioned that they had declined to take such a case because there was little chance, given the absence of liability insurance, that the victim could obtain compensation from the GA aircraft owner or his or her estate. Some of these stakeholders pointed to the magnitude of injury that can occur—in the millions of dollars, in some cases—as another indicator of the problem.

All 11 aviation attorneys we spoke with, however, also commented that, based on their experience, accidents involving underinsured owners or pilots are more prevalent than those where there is no liability insurance. That is, the aircraft owner or pilot involved in an accident had liability insurance; however, the liability insurance's limit—often \$100,000 per passenger—was, according to the aviation attorneys, frequently insufficient to compensate victims or their families in accidents involving death or serious injury. For example, according to an NTSB report, in February 2012, a GA aircraft owner-pilot and a passenger died after the pilot lost control of the plane and crashed. According to aviation attorneys we spoke with, the families of the deceased pilot and passengers each received the total individual liability insurance coverage limit of \$100,000; however, aviation attorneys estimated the damages at about \$3 million. Two aviation attorneys we spoke with noted that their firms often do not accept cases where the liability insurance coverage limit involved is \$100,000 because they want the prospective client to receive the total \$100,000 in compensation, rather than having their legal fees being paid from the insurance coverage limit. At the same time, aviation insurers we spoke with stated that such liability limits are commonly found in aviation liability insurance policies. Furthermore, we found no GA accident data describing the frequency of accidents with third-party damages or the magnitude of those damages. Such data would inform an analysis of policy limits that would be a component of a broader examination of issues related to a possible GA liability insurance requirement.

Although more than half of the aviation stakeholders said that considering the extent of the problem is important, no process is currently in place to collect information on the portion of the GA community that does not carry liability insurance coverage. FAA is responsible for registering GA aircraft and pilots, but FAA does not collect information on insurance coverage at the time of registration or at a subsequent time and is not required to do so. NTSB and FAA collect certain data on GA accidents, including the type of aircraft involved in the accident, number of fatalities and injured parties, and geographic location of the accident. However, FAA and NTSB data on accident and incident investigation does not include information about insurance coverage or the amount, if any, of property damage.

We identified four potential mechanisms to collect data based on our interviews with aviation stakeholders and our previous work on GA issues, and discussed these potential mechanisms with FAA and NTSB officials. Based on these discussions and our prior work, we determined that these mechanisms could be challenging or problematic to implement. Specifically, according to FAA, it may be possible to collect information on insurance coverage as part of the aircraft registration process, but FAA officials indicated this approach could be problematic since there is no federal requirement that GA owners and operators have insurance. FAA officials also commented that their lack of authority to require insurance coverage may cause some challenges in any effort to collect information on insurance coverage.³¹ FAA officials also stated that it would be possible to include a question on FAA's annual survey of GA owners and operators, but we previously found that the overall response rate to the survey is low and the reliability of the information is questionable.³² Another potential method to collect insurance information would be to match registered aircraft numbers with policy information from insurance underwriters; however, this would require FAA, the National Association

³¹ Any FAA initiative to request information on insurance coverage would require OMB approval in accordance with the Paperwork Reduction Act, according to FAA officials. In general, under the Paperwork Reduction Act, federal agencies must submit proposed collections of information for review and approval by OMB. See 44 U.S.C. §§ 3501 – 21.

³² [GAO-13-36](#).

of Insurance Commissioners (NAIC),³³ or another third party to devote a significant amount of resources to collect and analyze data from about 200,000 registered GA aircraft owners; the expense of this process is unknown. Finally, according to NTSB officials, information on insurance coverage could be collected as part of GA accident investigations, but the officials stated that an accident investigation is already time consuming and collecting liability insurance information is not relevant to their safety investigation or their broader safety mission. In addition, NTSB officials told us that the NTSB comes in contact with only a very small number of aircraft, and thus, the data would not be representative of the industry.

Costs to the GA Community

Sixty of the 73 aviation stakeholders we spoke with—including state aviation officials, aviation attorneys, representatives of GA associations, and aviation insurance organizations—cited potential costs to and their effect on the GA community as a key factor in assessing the appropriateness of a liability insurance requirement. At the same time, these stakeholders held mixed views on the impact such a requirement would have on costs. For instance, 18 of the 60 aviation stakeholders, including state aviation officials, representatives from GA associations, and aviation attorneys stated that a requirement could likely impose higher costs on the GA community. Specifically, among the 18 stakeholders, two noted that higher operating costs would be imposed on those who currently do not purchase liability insurance. In addition, three aviation stakeholders noted that all GA aircraft owners could pay higher premiums if insurance companies are forced to include potentially higher risk owners in the coverage pool as a result of the requirement. Two representatives from insurance-related organizations we spoke with told us that some sort of a high-risk pool might have to be established in order to provide insurance for all aircraft owners. Conversely, four stakeholders, including an aviation insurance provider, stated that a larger pool would not significantly affect costs because they believe most GA aircraft owners and operators are already insured now or liability insurance requirements would further spread the risk of an accident among more insureds in the pool. Five stakeholders, including some from state aviation offices and GA associations, raised concerns that some GA

³³ NAIC is the standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states and the District of Columbia. According to NAIC representatives, the organization collects financial information from insurance companies.

aircraft may be uninsurable at a reasonable cost, including some vintage and experimental aircraft.³⁴ Four insurance providers and a state aviation official we spoke with, however, told us that overall, insurance is generally available and that providers have the capacity to offer additional liability insurance coverage if liability insurance were required.

Additionally, six stakeholders, including representatives from GA associations, believed that requiring liability insurance might discourage individuals who were thinking of pursuing a career in aviation because of the cost of insurance. In a February 2014 report, we found that according to pilot school representatives we interviewed, the cost of pilot training (about \$9,500) coupled with low entry-level pay at regional airlines was deterring students from entering pilot school and pursuing an airline pilot career.³⁵ As we noted above, renters insurance is available to student pilots for approximately \$200 per year for a \$1 million/\$100k sublimit coverage policy—a fairly minimal cost when compared to the overall cost of pilot training. Seven stakeholders also believed that insurance requirements may cause some existing GA aircraft owners and pilots to leave aviation, particularly those who may be subject to higher premiums. On the other hand, other stakeholders pointed out that if most GA aircraft owners and pilots already have liability insurance, then the number who may choose to exit because of additional costs may be relatively low.

Implementation and Administration Issues of a Potential Requirement

Forty-five of the 73 aviation stakeholders that responded to us—including federal and state aviation officials, aviation attorneys, and representatives of GA associations—cited implementation and administration issues as another factor that should be considered in determining whether to adopt a federal liability insurance requirement for GA aircraft owners and operators, though their perspectives differed. For example, two state aviation officials and an aviation insurance provider stated that implementing and administering a liability insurance requirement for GA aircraft owners and operators at the federal level would be logical

³⁴ Under Minnesota statute, experimental aircraft that are prohibited from carrying passengers under FAA regulations are exempt from Minnesota provisions requiring passenger seat liability insurance.

³⁵ According to the University Aviation Association, which represents providers of college aviation education, the costs to attain a private pilot certificate generally averages about \$9,500. See GAO, *AVIATION WORKFORCE: Current and Future Availability of Airline Pilots*, [GAO-14-232](#) (Washington, D.C.: Feb. 28, 2014).

because of the existing federal role—that is, FAA oversees and monitors GA aircraft registration and pilot licenses. In addition, as previously noted, commercial air carriers are required under federal law to have liability insurance, and OST through FAA enforces this requirement by annually collecting and certifying insurance information and coverage from commercial air carriers' insurers. However, if a GA liability insurance requirement were to be implemented at the federal level, FAA officials noted that a cost-benefit analysis would need to be conducted for the development of any related regulations. FAA officials also noted that additional resources would be needed for collecting insurance information from GA aircraft owners and operators due to the significantly larger number of GA aircraft and operators as compared to commercial air carriers.

In contrast, 11 state aviation officials told us that if there is a need for a liability insurance requirement, it should continue to be addressed and implemented at the state level. As we mentioned above, the states generally regulate the business of insurance with state insurance regulators having the ability to regulate insurance companies and collect information for other insurance products. Some of these state aviation officials also considered the state the natural entity to require liability insurance, analogous to state requirements for auto insurance. Four state aviation officials also raised concerns that a federal requirement may impede a state's ability to best tailor a requirement to meet their specific state's needs and characteristics. For instance, one state aviation official noted that the risk level of third-party losses or property damages is lower in Montana than in Massachusetts because Montana has more remote areas (e.g., mountain ranges and flat farmlands) and less population per square mile while Massachusetts has fewer remote locations and a high population density in certain parts of the state. Such factors could influence states' decisions to institute mandatory liability insurance requirements and any associated coverage minimums. On the other hand, 12 aviation stakeholders, including state aviation officials and aviation attorneys we spoke with, commented that the advantage of a potential federal requirement would be uniformity and standardization of any potential requirements.

Potential Public Safety Benefits

Thirteen of the 73 aviation stakeholders who responded to us—including aviation attorneys and representatives from an accident victims association and GA associations—cited potential public safety benefits as key considerations in determining whether to adopt a federal GA liability insurance requirement. For instance, five aviation attorneys told us that although requiring GA liability insurance will not eliminate accidents, it may positively impact safety because insurers offer policyholders reduced premium incentives for activities they consider could enhance safety. For instance, an insurance broker we spoke with told us that premiums can be lowered if a pilot participated in FAA’s voluntary pilot proficiency program called “WINGS,” which is a training program designed to reduce the number of GA accidents. Aviation attorneys noted that if GA aircraft owners and operators were required to have liability insurance, they may seek higher training certification or update their training more frequently in order to obtain lower premiums from insurance companies. NTSB officials questioned whether there was a direct link between liability insurance and safety, although NTSB has recently noted that ongoing pilot education, among other factors, could help reduce one of the major causes of GA accidents—that is, a pilot’s loss of control.³⁶ FAA officials also told us that while liability insurance requirements may have an indirect impact on safety, enforcing such requirements would be outside of their aviation safety mission.

Agency Comments

We provided the DOT and NTSB with a draft copy of this report for review and comment. Neither agency had comments on the report. FAA and NTSB did provide technical clarifications, which we incorporated into the report as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Transportation, the Chairman of NTSB, and interested parties. In addition, this report is available at no charge on the GAO Web site at <http://www.gao.gov>. If you or your staff members have any questions about this report, please contact me on (202) 512-2834 or at dillinghamg@gao.gov. Contact points for our Offices of Congressional

³⁶NTSB, *2015 Most Wanted Transportation Safety Improvements: Prevent Loss of Control in Flight in General Aviation*.

Relations and Public Affairs may be found on the last page of this report.
Key contributors to this report are listed in appendix III.

A handwritten signature in black ink that reads "Gerald Dillingham". The signature is written in a cursive style with a large initial 'G' and 'D'.

Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues

Appendix I: Objective, Scope, and Methodology

The objectives of this report were to describe (1) existing liability insurance requirements for general aviation (GA) aircraft owners and operators in the United States; (2) available data on the range of premiums charged by selected insurance providers for GA liability insurance and factors that influence those costs; and (3) factors that selected stakeholders stated should be considered in determining whether to adopt a federal liability insurance requirement for GA aircraft owners and operators.

To identify existing liability insurance requirements, we conducted a survey of aviation officials in all 50 states and a legal analysis of state statutes and regulations identified by such officials to determine the number of states with existing liability insurance requirements for GA aircraft owners and operators. We developed two questions in the survey instrument, asking each state about any liability insurance or aircraft financial-responsibility requirements for GA aircraft owners and pilots, and we requested citations of their state statutes, regulations, or policies. We pre-tested the two-question survey instrument with state aviation officials from California and Virginia—two states we initially found to have provisions relating to liability insurance—and Alabama and Alaska—two states that did not have insurance requirements.¹ These state aviation officials provided technical comments to our questions, which we incorporated as appropriate. We conducted the survey from February through April 2015 and received a 100 percent response rate. We also spoke with aviation officials in those states that indicated some type of liability insurance or aircraft financial-responsibility requirements to obtain more information about those requirements, including how they are administered. We also spoke with aviation stakeholders, as we mention later, to ascertain information on other entities that may require GA aircraft owners and operators to maintain liability insurance.

To identify the range of premiums for GA liability insurance and factors that influence those costs, we obtained GA liability insurance premium information for common GA aircraft from insurance associations, brokers, and underwriters through interviews and responses to a questionnaire. We spoke with three nationwide insurance brokers who work with the major underwriters in the GA aviation insurance market, according to

¹ During our initial literature review and background research, a number of states with provisions relating to some type of liability insurance for GA aircraft owners and operators were identified.

aviation insurance representatives. We collected liability insurance premium information, using the following parameters to be covered by an insurance policy: light, single-piston or multi-piston or turbo-prop engine GA aircraft type with 6-seats or less that is used primarily for personal and non-commercial flights. Although we did not independently validate the insurance premium information collected from these brokers, we corroborated the premium information received with premium data from aviation insurance underwriters to assess the reasonableness of the data provided. We determined that the information provided was sufficient to use as examples of GA liability insurance premiums, but that it is not generalizable to the entire spectrum of the GA insurance market, given the multiple and unique factors that can significantly influence premium prices.

To obtain selected stakeholders' perspectives on factors that should be considered in determining whether to adopt a federal liability insurance requirement, we obtained oral or written responses from 73 aviation stakeholders, including officials from the Department of Transportation, Federal Aviation Administration, the National Transportation Safety Board; 39 state aviation offices; representatives from 9 GA trade associations and 10 aviation insurance-related organizations; as well as an accident victims association and 11 aviation attorneys representing GA accident victims (see table 2). Through interviews or written responses, we collected the perspectives of aviation officials in 39 states on these factors after receiving their responses on our survey of state liability insurance or aircraft financial-responsibility requirements. Aviation officials from five states declined to talk with us, and aviation officials from six states did not respond to our numerous attempts to obtain their views on factors that should be considered on potentially adopting a federal GA liability insurance requirement.² The selection of representatives from GA trade associations was based on prior GAO reports that identified the GA associations and recommendations from FAA, NTSB, and selected state aviation officials. We identified the accident victims association and selected aviation attorneys, specializing in personal injury and representing aviation accident victims, based on our initial literature reviews and recent news article that mentioned attorney firms prosecuting or defending GA accident cases, recommendations from state aviation

² Aviation officials from five states—Idaho, Mississippi, New Hampshire, Ohio, and Utah—declined to participate and six states—Maine, Michigan, Nebraska, New Jersey, North Carolina, and Wisconsin—did not respond to our numerous attempts to obtain their views.

officials, and an Internet search with the following terms: “aviation lawyers, aviation attorneys, and aviation litigation.” We analyzed the contents of our interviews with or written responses from all 73 aviation stakeholders to identify the key factors that were mentioned in consideration of potentially adopting a federal liability insurance requirement. The aviation stakeholder’s views are not generalizable to the entire GA community, but they provided us with valuable insights.

Table 2: List of Federal and Private Aviation Stakeholders GAO Interviewed or Contacted

| Aviation Stakeholder Groups | Stakeholders |
|------------------------------------|---|
| Federal agencies | Department of Transportation |
| | Federal Aviation Administration |
| | National Transportation Safety Board |
| Accident victims association | National Air Disaster Alliance/Foundation |
| Aviation attorneys | American Association for Justice |
| | Baum, Hedlund, Aristei, & Goldman |
| | Braden, Varner, & Angelley |
| | Brodkowitz Law |
| | Corboy & Demetrio |
| | Hill, Peterson, Carper, Bee & Deitzler |
| | Kreindler & Kreindler |
| | Motley Rice |
| | Mozley, Finlayson & Loggins |
| | Reep, Bell, Laird & Simpson |
| | Slack & Davis |
| General aviation associations | Aircraft Owners and Pilots Association |
| | Experimental Aircraft Association |
| | Flight School Association of North America |
| | General Aviation Manufacturer Association |
| | Helicopters Association International |
| | Independent Fixed Based Operator Association |
| | National Air Transportation Association |
| | National Association of Flight Instructors |
| | National Business Aviation Association |
| Insurance-related organizations | American Academy of Actuaries |
| | Aviation Insurance Association |
| | National Association of Insurance Commissioners |
| | Old Republic Aerospace, Incorporated |

Appendix I: Objective, Scope, and Methodology

| Aviation Stakeholder Groups | Stakeholders |
|------------------------------------|--|
| | Starr Aviation |
| | AIG Aerospace |
| | Trans Re |
| | Insurance brokers of 3 nationwide firms within the GA market |

Source: GAO | GAO-15-740

We conducted this performance audit from October 2014 to September 2015, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: States with Minimum Liability Insurance or Aircraft Financial-Responsibility Requirements

Eleven states have either a minimum liability insurance requirement or an aircraft financial-responsibility requirement applicable to general aviation (GA) aircraft owners and operators. Five states—Hawaii, Maryland, Minnesota, Oregon, and Rhode Island—have a liability insurance requirement that is applicable to at least some categories of GA aircraft owners and operators. Six states—California, Connecticut, Indiana, Massachusetts, North Dakota, and Virginia—have some type of aircraft financial-responsibility requirements, which require GA aircraft owners to demonstrate financial ability to cover potential losses incurred in an accident. Details on the requirements are in table 3 below.

Table 3: States with Minimum Liability Insurance or Aircraft Financial-Responsibility Requirements Applicable to General Aviation Aircraft Owners and Operators (as of April 2015)

| States (state citations) (date established) [Note A] | Description of requirements |
|---|---|
| Alabama | No requirements |
| Alaska | No requirements |
| Arizona | No requirements |
| Arkansas | No requirements |
| California (California Public Utility Code §§ 24230 – 24410) (1968 as amended) | <p>Requires the operator of any aircraft involved in an accident with the state to file a report with the state after an accident has occurred. The reporting requirement applies to an accident in which any person is killed or injured or there is damage to property in excess of \$400. Upon receiving an accident report, the state is to determine the amount of security, within specified limits, deemed sufficient to satisfy any judgment for damages resulting from the accident against each owner or operator. Such an owner or operator must then deliver the specified amount of security to the state. In general, these security requirements do not apply to owners or operators who had an aircraft liability policy, self-insurance, or bond meeting certain specifications in effect at the time of the accident. Financial coverage under a policy or bond must be not less than:</p> <ul style="list-style-type: none"> • \$50,000 for bodily injury or death of a person not a passenger in any accident; • \$50,000 damage to or destruction of property in any accident; and • \$100,000 for bodily injury or death of 2 or more persons in any 1 accident <p>Coverage under self-insurance may occur at the state’s discretion when the state is satisfied that the applicant is possessed of and will continue to be possessed of financial ability to pay judgments against the applicant within specified limits.</p> |
| Colorado | No requirements |

**Appendix II: States with Minimum Liability
Insurance or Aircraft Financial-Responsibility
Requirements**

| States (state citations) (date established) [Note A] | Description of requirements |
|---|---|
| Connecticut (Connecticut Code §§ 15-102 – 15-120) (1959, as amended) | <p>Requires the operator of any aircraft involved in an accident within the state to file a report with the state after an accident has occurred. The reporting requirement applies to an accident in which any person is killed or injured or there is damage to property in excess of \$1,000. Upon receiving an accident report, the state is to determine the amount of security, within specified limits, deemed sufficient to satisfy any judgment for damages resulting from the accident against each owner or operator. Such an owner or operator must then deliver the specified amount of security to the state. In general, these security requirements do not apply to owners or operators who had an aircraft liability policy, self-insurance, or bond meeting certain specifications in effect at the time of the accident. Minimum required liability insurance policy coverage is as follows:</p> <ul style="list-style-type: none"> • \$10,000 for bodily injury or death of a non-passenger person per accident; • \$20,000 for bodily injury or death of 2 or more persons per accident; • \$20,000 for bodily injury or death of a passenger per accident (if aircraft was being operated for hire); • \$20,000 times the number of passenger seats for 2 or more persons per accident (if aircraft was being operated for hire); • \$10,000 for bodily injury or death of a person per accident (if aircraft was not being operated for hire and the accident results in bodily injury to or death of a passenger); • \$10,000 times the number of passenger seats for bodily injury or death of 2 or more persons per accident (if aircraft was not a for hire use); and • \$10,000 for property damage <p>Coverage under self-insurance may occur at the state’s discretion when the state is satisfied that the applicant is possessed of and will continue to be possessed of ability to pay judgments against the applicant within specified limits.</p> |
| Delaware | No requirements |
| Florida | No requirements |
| Georgia | No requirements |
| Hawaii (Hawaii Administrative Rules § 19-17.1; § 19-34-6) (1991, and 1989, as amended respectively) | Requires any person desiring a small plane hangar, tie down space, or any other small aircraft space at a public airport to maintain a general liability policy in the amount of at least \$500,000. Also, air tour operators are required to have liability insurance in the amount of at least \$300,000 per individual with the State as an additional insured. |
| Idaho | No requirements |
| Illinois | No requirements |

**Appendix II: States with Minimum Liability
Insurance or Aircraft Financial-Responsibility
Requirements**

| States (state citations) (date established) [Note A] | Description of requirements |
|---|--|
| Indiana (Indiana Code Ann. §§ 8-21-3-1 – 8-21-3-23) (1951, as amended) | <p>Requires any person operating any aircraft involved in any aircraft accident in the state resulting bodily injury or death, or in damage to property of another in excess of \$100 to file a report with the state after an accident has occurred. Upon receiving an accident report, the state may require security from the owner or operator of the aircraft, within specified limits, sufficient to indemnify the injured party against loss and guarantee the payment and satisfaction of any judgment or judgments for damages resulting from the accident. In general, these security requirements do not apply to owners or operators who had an aircraft liability policy, self-insurance, bond, or a deposit of money or securities meeting certain specifications in effect at the time of the accident. Financial coverage for bodily injury to or death of a person that is not a passenger should be:</p> <ul style="list-style-type: none"> • \$10,000 for bodily injury or death of a person in any accident; • \$20,000 for damage to or destruction of property in any accident; • \$20,000 for bodily injury or death of 2 or more persons in any 1 accident <p>Coverage under self-insurance may occur at the state’s discretion when the state is satisfied that the applicant is possessed of and will continue to be possessed of financial ability to pay judgments against the applicant within specified limits.</p> <p>Requirements also apply to non-residents of the state.</p> |
| Iowa | No requirements |
| Kansas | No requirements |
| Kentucky | No requirements |
| Louisiana | No requirements |
| Maine | No requirements |
| Maryland (Maryland Transportation Code § 5-1002) (1957, as amended) | <p>Requires aircraft owners that use aircraft for commercial purposes and based or hangered in the state to have a liability insurance policy with at least the following minimum coverage to operate the aircraft:</p> <ul style="list-style-type: none"> • \$50,000 for bodily injury or death per individual; • \$100,000 for bodily injury per accident; • \$50,000 for property damage protection. |

**Appendix II: States with Minimum Liability
Insurance or Aircraft Financial-Responsibility
Requirements**

| States (state citations) (date established) [Note A] | Description of requirements |
|---|--|
| Massachusetts (Annotated Laws of Massachusetts ch. 90 §§ 49D, 49E, 49G) (1955, as amended) | <p>Requires aircraft owners or operators to post security following any accident report in the form of an insurance policy, self-insurance, or surety bond meeting specified requirements. In general, these security requirements do not apply to owners or operators who had an aircraft liability policy, self-insurance, bond, or a deposit of money or securities meeting certain specifications in effect at the time of the accident. Required minimum liability insurance policy coverage is as follows:</p> <ul style="list-style-type: none"> • \$5,000 for bodily injury or death of a non-passenger person per accident; • \$10,000 for bodily injury or death of 2 or more persons per accident; • \$10,000 for bodily injury or death of a passenger per accident (if aircraft was being operated for hire); • \$10,000 times the number of passenger seats for bodily injury or death of 2 or more persons per accident; • \$5,000 for bodily injury or death of a passenger per accident (if aircraft was not being operated for hire); • \$5,000 times the number of passenger seats for bodily injury or death of 2 or more persons per accident (if aircraft was not being operated for hire); and • \$5,000 for the damage to or destruction of property. |
| Michigan | No requirements |
| Minnesota (Minnesota Stat. § 360.59, subd. 10) (1976, as amended) | <p>For purposes of registration, requires every owner of aircraft in the state to have a liability insurance policy with at least the following minimum coverage:</p> <ul style="list-style-type: none"> • \$100,000 per passenger seat and non-passengers (i.e., people on the ground) for bodily injury or death • \$100,000 for property damage • \$300,000 per occurrence for bodily injury or death to nonpassengers. |
| Mississippi | No requirements |
| Missouri | No requirements |
| Montana | No requirements |
| Nebraska | No requirements [Note B] |
| Nevada | No requirements |
| New Hampshire | No requirements |
| New Jersey | No requirements |
| New Mexico | No requirements |
| New York | No requirements |
| North Carolina | No requirements |
| North Dakota (North Dakota Cent. Code § 26. 1-48-05) (1995) | <p>Requires owners of aircraft or aircraft components manufactured in the state to provide proof of financial responsibility in the amount of \$100,000 per occurrence, for property damage and personal injury or death on the ground resulting from the use of the aircraft or aircraft component.</p> |
| Ohio | No requirements |
| Oklahoma | No requirements |

**Appendix II: States with Minimum Liability
Insurance or Aircraft Financial-Responsibility
Requirements**

| States (state citations) (date established) [Note A] | Description of requirements |
|---|---|
| Oregon (Oregon Administrative Rule § 738-015-0040) (2002) | Requires persons leasing space at state-owned airports to meet insurance requirements specified in the lease, in the amounts specified. According to an Oregon state official, the minimum required coverage in such leases is as follows: <ul style="list-style-type: none"> • \$1 million for private, noncommercial tenants; • \$2 million for commercial tenants; and • \$5 million for fixed based operators that sell fuel. |
| Pennsylvania | No requirements |
| Rhode Island (Rhode Island Airport Corporation, Airport Tie-down Monthly Use Agreement) [Note C] | Tenants at state-owned airports are required to have liability insurance of no less than \$1 million per occurrence for bodily injury and property damage. |
| South Carolina | No requirements |
| South Dakota | No requirements |
| Tennessee | No requirements |
| Texas | No requirements |
| Utah | No requirements |
| Vermont | No requirements |
| Virginia (Virginia Code Annotated §§ 5.1-88. 1 – 5.1-88.6) (1968, as amended) | Requires that proof of financial responsibility be furnished for each GA aircraft licensed in the state. Proof of financial responsibility may be shown with an insurance liability policy, bond, cash or an irrevocable letter of credit. Financial coverage through an insurance policy or bond for bodily injury to or death of a person should be: <ul style="list-style-type: none"> • \$50,000 for bodily injury or death of a person in any accident, including a passenger; • \$25,000 damage to or destruction of property in any accident; • \$100,000 for bodily injury to or death of 2 or more persons in any 1 accident Cash or irrevocable letter of credit must be delivered to the state in the amount of \$ 250,000. |
| Washington | No requirements |
| West Virginia | No requirements |
| Wisconsin | No requirements |
| Wyoming | No requirements |

Source: Survey responses and GAO analysis of state statutes and regulations identified in the survey responses. | GAO-15-740

Note A: Current state requirements date back to at least the identified years.

Note B: State aviation official mentioned that Nebraska requires anyone renting aircraft, in the ordinary course of his/her business, provide written notice to the renter of the nature and extent of insurance coverage provided, if any. (Nebraska Administrative Code Title 17 Ch 9 § 001.01)

Note C: According to state officials, Rhode Island has required aircraft general liability insurance since the inception of its quasi-public agency, Rhode Island Airport Corporation, in 1993.

Appendix III: GAO Contact and Staff Acknowledgements

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, the following individuals made important contributions to this report: Edward Laughlin, Assistant Director; Stephen Brown; Jim Geibel; Geoff Hamilton; Delwen Jones; Jennifer Kim; Elke Kolodinski; Barry Kirby; Emei Li; Amanda Miller; SaraAnn Moessbauer; Malika Rice; Sandra Sokol; Patrick Ward; and Frank Todisco.

Appendix IV: Accessible Data

Accessible Text and Data Tables

Data Table for Highlights Figure: States with Minimum Liability Insurance Requirements or Aircraft Financial-Responsibility Requirements Applicable to GA Aircraft Owners and Operators

| | |
|--|--|
| States with no liability insurance requirements applicable to GA aircraft owners and operators | Alabama, Alaska, Arizona, Arkansas, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, Wyoming |
| States with some type of liability insurance requirements applicable to GA aircraft owners and operators | Hawaii, Maryland, Minnesota, Oregon, Rhode Island |
| States with aircraft financial responsibility requirements applicable to GA aircraft owners and operators | California, Connecticut, Indiana, Massachusetts, North Dakota, Virginia |

Sources: GAO analysis of survey responses and state statutes and regulations identified in survey responses; and Map Resources. | GAO-15-740

Data Table for Figure 2: States with Minimum Liability Insurance or Aircraft Financial-Responsibility Requirements Applicable to General Aviation Aircraft Owners and Operators (as of April 2015)

| | |
|--|--|
| States with no liability insurance requirements applicable to GA aircraft owners and operators | Alabama, Alaska, Arizona, Arkansas, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, Wyoming |
| States with some type of liability insurance requirements applicable to GA aircraft owners and operators | Hawaii, Maryland, Minnesota, Oregon, Rhode Island |
| States with aircraft financial responsibility requirements applicable to GA aircraft owners and operators | California, Connecticut, Indiana, Massachusetts, North Dakota, Virginia |

Sources: GAO analysis of survey responses and state statutes and regulations identified in survey responses; and Map Resources. | GAO-15-740

Data Table for Figure 3: Estimated Ranges of Annual Liability Insurance Premiums for Selected General Aviation (GA) Aircraft

| | GA community (includes light and fixed-wing aircrafts) annual cost range estimates | Cessna 172 annual cost range estimates |
|-------------------------------------|---|---|
| \$1 Million/\$100,000 policy | \$125 - \$1,500 | \$200 - \$550 |
| \$1 Million smooth policy | \$450 - \$3,500 | \$500 - \$1,250 |

Source: GAO analysis of private aircraft insurance. Photo from MzeroA.com. | GAO-15-740

Note: Estimated premium information provided by nationwide insurance brokers applicable to aircraft owners that use their aircraft primarily for personal, non-commercial use; have light aircraft with six seats or less (single or multi-engine); and use turboprop or piston engine planes (excluding corporate jets and helicopters).

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