

HHS Public Access

Aviat Space Environ Med. Author manuscript; available in PMC 2016 June 01.

Published in final edited form as: *Aviat Space Environ Med.* 2014 February ; 85(2): 160–166.

Author manuscript

The U.S. Commercial Air Tour Industry: A Review of Aviation Safety Concerns

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Abstract

The U.S. Title 14 Code of Federal Regulations defines commercial air tours as "flight[s] conducted for compensation or hire in an airplane or helicopter where a purpose of the flight is sightseeing." The incidence of air tour crashes in the United States is disproportionately high relative to similar commercial aviation operations, and air tours operating under Part 91 governance crash significantly more than those governed by Part 135. This paper reviews the government and industry response to four specific areas of air tour safety concern: surveillance of flight operations, pilot factors, regulatory standardization, and maintenance quality assurance. It concludes that the government and industry have successfully addressed many of these tenet issues, most notably by: advancing the operations surveillance infrastructure through implementation of en route, ground-based, and technological surveillance methods; developing Aeronautical Decision Making and cue-based training programs for air tour pilots; consolidating federal air tour regulations under Part 136; and developing public-private partnerships for raising maintenance operating standards and improving quality assurance programs. However, opportunities remain to improve air tour safety by: increasing the number and efficiency of flight surveillance programs; addressing pilot fatigue with more restrictive flight hour limitations for air tour pilots; ensuring widespread uptake of maintenance quality assurance programs, especially among high-risk operators not currently affiliated with private air tour safety programs; and eliminating the 25-mile exception allowing Part 91 operators to conduct commercial air tours without the safety oversight required of Part 135 operators.

Keywords

sightseeing; aviation safety; Part 136

The U.S. Title 14 Code of Federal Regulations (CFR) defines commercial air tours as "flight[s] conducted for compensation or hire in an airplane or helicopter where a purpose of the flight is sightseeing." Currently, CFR Part 136 governs air tour operations, which can be conducted by Part 91, 121, and 135 operators. In general, private pilots conduct Part 91 "General Aviation" operations, while Part 135 "Commuter and On-Demand" operations are

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commercial operations with more stringent rules. Scheduled air carriers, including major airlines, operate under the governance of Part 121. Due to the paucity of commercial air tours conducted under Part 121 and the subsequent lack of corresponding crash data, the term "commercial air tours" in this paper will refer to commercial air tours conducted by Part 91 and 135 operators.

From 2000 through 2010, air tour operators in the United States flew an estimated average 512,113 h annually with an average air tour industry crash rate of 2.7 crashes per 100,000 flight hours (⁵). Approximately one-fourth of these air tour crashes involved at least one fatality and, among fatal crashes, an average of 3.5 people died (⁵). The air tour industry crash rate is more than 10 times that of large commuter airlines (0.2 per 100,000 flight hours) and more than 2 times that of all Part 135 operators (1.3 per 100,000 flight hours) (⁵, ³³). Within the air tour industry, the crash rate among Part 91 air tour operators is 50% more than Part 135 air tour operators (3.5 vs. 2.3 crashes, respectively, per 100,000 flight hours) (⁵). Not only are commercial air tour flights more likely to crash than other similar commercial operations, the air tour flights conducted by Part 91 operators are more likely to crash than those conducted by Part 135 operators (Table I).

National Transportation Safety Board Recommended Interventions

Since 1987, the National Transportation Safety Board (NTSB) has published over 50 air tour-specific safety recommendations to the Federal Aviation Administration (FAA), industry-specific organizations, and air tour operators. The majority of air tour-related Board recommendations fall into the following categories: surveillance of air tour operations, pilot training/fatigue management, consolidation of federal air tour regulations, and maintenance quality assurance (Table II).

Surveillance

The actions most frequently recommended by the NTSB to improve air tour safety involve bolstering the FAA's resources and regulatory basis to support air tour operations surveillance. In addition to ensuring adequate staffing of FAA Flight Standards District Offices (40 , 41), the NTSB recommends monthly en route and ground-based surveillance of operators by the FAA (36 , 38). To improve surveillance efficiency, the NTSB also advocates for the FAA's use of the Surveillance Priority Index tool to identify high-risk operators for targeted oversight (35 , 36 , 38), and it promotes accelerated implementation of the Automatic Dependent Surveillance-Broadcast (ADS-B) system to improve the air tour surveillance infrastructure (35).

Pilot factors

Air tours frequently operate in locations with unique geographic, meteorological, and environmental phenomena that present hazards during flight (29). In order to improve pilot performance under these conditions, the NTSB recommends that air tour operators develop policy and guidance for operations near prominent attractions, parks, and other hazardous or high-traffic areas (39). Additionally, the NTSB recommends the implementation of aeronautical decision making and "cue-based" training programs that address local weather

and environmental issues, with specified schedules for initial and refresher training courses for air tour pilots $(^{35}, ^{40})$. Finally, the NTSB recommends mandating a 30-min break after 3 consecutive hours of flight, as well as limiting air tour pilots to a maximum of eight air tour flights per day $(^{35})$.

Regulatory standardization

Currently, operating standards for air tours differ by geographic region, CFR Part categorization, and federal tax status. For example, Hawaii air tour operators have a minimum in-flight altitude requirement of 1500 ft (~457 m) above ground level (AGL), whereas air tour operations conducted elsewhere do not $(^{14}, ^{22})$. Additionally, companies governed by CFR Part 91 have less stringent operations, maintenance, and training specifications than those governed by Parts 135 and 136 (14 -16). Until 2007, the FAA did not require drug and alcohol screening for any Part 91 pilots and, although screening is now required of "for-profit" Part 91 pilots, it is still not required for those giving air tours for charity events (¹⁴, ¹⁵). Furthermore, the FAA's General Aviation and Air Taxi Activity Survey collects flight-hour exposure data on Part 135 air tour companies, but does not collect total flight hour exposure data on those governed by Part 91, so it is difficult to characterize the scope and associated risks of Part 91 operations in order to achieve evidence-based interventions $(^{26}, ^{34})$. In order to further standardize operations in the industry, the NTSB recommends eliminating data collection disparities, abandoning the 25mile exception for Part 91 operators, and reevaluating the Hawaii minimum altitude requirements (35, 40, 41).

Maintenance

A study by Haaland and colleagues cited improper maintenance as the cause of malfunction in 32% of commercial helicopter air tour crashes in Hawaii occurring between 1984 and 2008 (²⁴). Although no studies have reported the combined proportions of helicopter and fixed-wing air tour crashes due to improper maintenance, the NTSB has identified improper maintenance as a precipitating factor in many rotary- and fixed-wing air tour crashes (³⁷). In response to this safety threat, the NTSB recommends that operators develop mechanisms for maintenance performance evaluation, implement maintenance inspection and quality assurance programs, and ensure that maintenance personnel receive model-specific maintenance training at regular intervals (³⁷). In addition, the NTSB recommends strengthening partnerships between the FAA and private air tour safety programs in order to improve the oversight of air tour maintenance programs (³⁷).

FAA Response

Surveillance

Over the past two decades, the FAA has taken several steps to increase its surveillance of commercial air tour operations. In 1993, it established special geographic units at the Las Vegas and Honolulu Flight Standards District Offices to oversee sightseeing operations in the Grand Canyon and Hawaii, respectively (⁴⁰). It also conducted public meetings in Niagara Falls to discuss air tour industry oversight there and, in 1995, instituted ground-based surveillance of Hawaii air tour operations that lasted until 2003 (³⁵). In 1996, the FAA

revised Order 8400.10, "Air Transportation Operations Inspector's Handbook," to provide detailed guidelines for the surveillance of commercial air tour operations by field inspectors (¹⁷). Similarly, in 2008, the FAA revised Order 1800.56, "National Flight Standards Work Program Guidelines," to place a special emphasis on implementing NTSB surveillance recommendations in the field (¹², ³⁸). In 2008, it issued Notice 8900.49, mandating annual en route surveillance of air tour operators (¹², ³⁸).

Currently, the FAA is employing the Surveillance Priority Index tool in Honolulu, the Grand Canyon, and Alaska, as well as expanding the Program Tracking Reporting Subsystem to monitor the on-demand surveillance activities of its inspectors $(^{35}, ^{38})$. The FAA is also collaborating with Hawaiian operators to draft memoranda of agreement that promote the voluntary early uptake of the ADS-B technology, which was originally scheduled to be operational March 2012 $(^{35})$. However, despite these improvements in air tour operations surveillance and the expansion of the General Aviation and Air Taxi Activity survey to include data from air tours operating under Part 135, the FAA has yet to develop a comprehensive mechanism to monitor Part 91 air tour operations, or collect corresponding safety data.

Pilot factors

The FAA has addressed many aspects of pilot training in order to improve safety among commercial air tour pilots. In 1993, the FAA published Advisory Circulars 120-51 "Cockpit Resource Management Training," and 60-22, "Aeronautical Decision Making," both of which reinforced in-flight decision-making training programs (⁴⁰). In 2008, it published Operations Specification B048, mandating annual training meetings for Part 91 and 135 air tour operators in Hawaii (³⁵). Also, as previously mentioned, FAA Order 8400.10 emphasized decision making in operator training programs. The Administration has responded further by collaborating with the National Institute for Occupational Safety and Health/Centers for Disease Control, the Medallion Foundation, and local stakeholders to develop cue-based weather training systems for Alaska and Hawaii (³⁵). However, the issue of pilot fatigue remains contested between the FAA and the NTSB. Despite NTSB opposition, the FAA has neither promoted rule changes that restrict air tour pilots to a maximum of 3 consecutive flight hours before a mandated 30-min break, nor has it imposed a maximum of eight air tour flights per pilot per day, as recommended by the NTSB (³⁵).

Regulatory standardization

On February 13, 2007, 5 yr after the corresponding Notification of Proposed Rule Making, the FAA consolidated all air tour operations under the governance of 14 CFR Part 136 (¹⁹, ²¹, ²²; Table III). In addition to defining previously ambiguous terms such as "air tour, "air tour operator," "suitable landing area," and "charity events," and mandating flotation equipment and passenger briefings for all air tour flights, the Part 136 Final Rule created three groups of operating specifications for the air tour industry (¹⁹). "Group 1" operators fall under the training, operations, and maintenance specifications of Part 135, which governs commuter and on-demand operations (¹⁴, ¹⁶). "Group 2" operators fall under the governance of Part 91 (General Aviation), but may conduct air tours with an FAA Letter of Authorization for a "25-mile exception," which authorizes air tour operations within 25

nautical miles of the departure airport $(^{14}, ^{15})$. "Group 3" operators also fall under the auspices of Part 91 with a 25-mile exception, but may only conduct air tours for a total of 12 d annually (a maximum of four nonprofit events for a maximum of 3 d per event), and pilots must have at least 500 flight hours or hold a commercial pilot's license $(^{14}, ^{15})$. Part 136 recently mandated the implementation of alcohol and drug screening programs for Group 2 pilots, which expanded the existing scope of drug screening in the air tour industry; all Part

The FAA made strides to standardize air tour regulations in the Part 136 Final Rule; however, it strayed from this goal in several regards. Although the FAA reevaluated the 1500-ft AGL minimum altitude requirement for Hawaii, the Part 136 Final Rule ultimately left the Hawaii altitude restrictions intact (¹⁸). Additionally, the Part 136 Final Rule maintained the 25-mile exception for Part 91 operators despite numerous opposing NTSB recommendations (³⁵, ⁴⁰, ⁴¹). This allows Part 91 operators to continue conducting air tour operations without the surveillance and safety data collection requirements of Part 135 operators.

135 operators were previously required to submit to screening $(^{18})$.

Maintenance

The Aircraft Maintenance Division of the FAA is responsible for maintenance policy and performance standards nationwide (¹⁸). In response to maintenance-related crashes in the air tour industry, the FAA has issued two Advisory Circulars in 2011: "Air Tour Operator's Best Practices" and "Voluntary Air Tour Industry Accreditation Program" (³⁷). These instructional documents provide information for operators about how to improve maintenance quality assurance and, although currently voluntary in nature, they outline minimum standards for maintenance programs. Part 135 operators are also included in the Administration's 2011 National Flight Standards Work Program Guidelines; however, these guidelines do not apply to Part 91 operators (³⁷).

Air Tour Industry Response

The air tour industry has been heavily involved in the safety process and rulemaking efforts over the past 20 yr. The Part 136 Notice of Proposed Rulemaking elicited more than 2300 responses from air tour industry stakeholders during its comment periods, which necessitated two extensions (240 d total), two public meetings (Washington, DC, and Las Vegas), and two 2-wk virtual public meetings on the internet to accommodate the volume of public response (²⁰).

Surveillance

Despite the enhanced capabilities of weather detection, communication, and tour-route tracking associated with the proposed ADS-B system implementation, Hawaiian air tour operators remain opposed to the system, asserting that the system would introduce more FAA interference with operations (19). They have also cited supplemental concerns about the cost of the components, added weight to the aircraft, and not enough space in the aircraft for modification (30). Nevertheless, some operators have taken steps toward early voluntary

implementation of ADS-B systems via Memoranda of Agreement with the Honolulu Flight Standards District Office $(^{35})$.

Regulatory standardization

Despite being the most expensive Part 136 element to implement, the standardized personal flotation and aircraft float system requirements have been generally well accepted by air tour operators (¹⁴, ¹⁹). The FAA-imposed 1500-ft AGL minimum altitude for Hawaiian air tour operations has remained contested since its inception as part of Special Federal Aviation Regulation 71. Industry stakeholders such as the Hawaii Helicopter Operators Association, Helicopter Association International, and individual pilots and operators continue to claim that this requirement inadvertently degrades safe maneuverability in an operating environment characterized by unstable meteorological conditions (²⁰). Concern also remains among stakeholders that the minimum altitude requirement is a result of local politics rather than safety concerns; suspicion toward the FAA and its local staff in Hawaii are cited as interfering with federal rulemaking by the Hawaii Helicopter Operators Association in its correspondence with the NTSB (⁴¹).

Maintenance

In 1996, Helicopter Association International and the Helicopter Tour Committee collaborated to form the Tour Operators Program of Safety (TOPS). Since its inception, TOPS has addressed several maintenance issues that have been at the forefront of NTSB recommendations for the air tour industry (³⁷). In particular, it expanded safety audits to include review of safety complaints, a review of members' maintenance quality assurance programs, and minimum annual en route surveillance observations (³⁷). It also participated in the Commercial Air Tour Maintenance Working Group, collaborating with the FAA to develop maintenance quality assurance program standards to meet the needs of a range of operators and to establish formal model-specific maintenance training requirements for members, along with an annual audit program for these requirements $(^{37})$. TOPS maintains a positive relationship with the FAA, the NTSB, and operators within the industry, reporting that its members account for 85% of all air tour industry hours flown in a typical year and a considerably improved safety record relative to the air tour operator population as a whole (⁴³); in 2003, members of TOPS experienced "1.13 accidents per 100,000 air tour hours, compared with 9.98 accidents per 100,000 flying hours for the civil helicopter fleet at large" $(^{33}, ^{43})$. This crash rate is alarming because it suggests that there may be a few high-risk commercial air tour operators that contribute disproportionately to the air tour crash rate of 2.7 per 100,000 flight hours. Further, TOPS membership is only open to helicopters and there is no equivalent maintenance organization for fixed wing air tour operators.

Summary of Adequacy of Responses and Recommendations

The recent publication of commercial air tour crash rates provides context for previous reports highlighting the hazards of light aircraft flights for travelers $(^5, ^{25}, ^{45})$. The Part 91 air tour crash rate of 3.5 per 100,000 h flown is similar to the reported crash rates in categories considered to be "high hazard" commercial aviation. Prior to 1994, the Hawaiian helicopter air tour crash rate of 3.4 per 100,000 flight hours was so alarming that it prompted

the emergency implementation of Special Federal Avia tion Regulation 71 by the FAA (²⁴). Similarly, the Helicopter Emergency Medical Services crash rate of 3.5 per 100,000 h flown between the years 1992 and 2001 prompted a special investigation by the NTSB in 2009 (², ⁴²). Unlike air tours, however, these emergency medical flights operate under extremely challenging conditions, oftentimes at night. Likewise, the extremely hazardous activity of over-water ferrying of personnel and heavy-load supplies to off-shore drilling sites reported a national crash rate of all turbine powered civilian helicopters of 5.1 per 100,000 h flown (¹³). Exposing air tour patrons and pilots to the elevated crash rates normally associated with "high hazard" flight during recreational and occupational activities that occur in visual meteorological conditions is unacceptable, and stakeholders in the air tour industry should continue to work together to reduce this unnecessary risk.

Both the government and the air tour industry have responded successfully to many of the NTSB-identified safety concerns. To begin with, the publication of 14 CFR Part 136 provided much-needed clarification of many of the ambiguous terms in the regulations, allowing them to be interpreted more clearly $(^{14}, ^{20})$. The new requirements for passenger safety briefings, preflight center of gravity calculations, and personal flotation devices also appear to have improved air tour safety according to one study (²⁴). Haaland and colleagues' comparison of helicopter air tour crashes before and after Special Federal Aviation Regulation 71 reported that the number of fatal crashes involving these three factors decreased in the post-regulation period $(^{24})$. This is consistent with early emergency evacuation demonstration data that show preflight briefings improve passenger understanding and execution of aircraft egress procedures in the event of an emergency $(^1,$ 28). Likewise, the FAA responded to the NTSB's recommendations by consolidating all regulations pertaining to air tours within Part 136, developing cue-based training programs, and improving air tour surveillance systems. Concurrently, members of the helicopter air tour industry developed TOPS, which aims to reduce maintenance-related crashes through standardized maintenance safety auditing, complaint reporting, and evaluation programs (37).

However, there are several safety issues that have not been adequately addressed by either the government or the industry itself. The allowance of the Group 3 charity pilots to fall outside the guidance for mandatory enrollment in drug and alcohol misuse prevention programs should be corrected (¹⁴). Drug and alcohol misuse by air tour pilots poses a threat to the safety of patrons. In a study of 1353 civil pilots involved in fatal aviation crashes from 2004 through 2008, 507 (37%) tested positive for drugs and 92 (7%) were above the FAA's 0.04 g · dl⁻¹ cutoff for ethanol (⁸). The majority (89%) of the pilots who died during the study period were flying under Part 91 and these pilots contributed 90% of the positive drug tests (⁸). Of the 92 pilots who tested positive for ethanol, most (86, 93%) were flying under Part 91 (⁸). These results are similar to studies from previous periods (⁷, ⁹, ¹⁰). For example, a study of aviation employees who were tested for drugs as part of the postaccident testing program from 1995 through 2005 found that the odds of accident involvement for employees testing positive for drugs was almost three times the odds of those who tested negative (³¹). This suggests that drug and alcohol misuse, including prescription drug misuse, contribute to Part 91 aviation crashes. Reducing drug- and alcohol-

associated crash risks by mandating participating in drug and alcohol prevention programs could improve air tour safety among Part 91 operators.

The impact of the 1500-ft AGL minimum altitude requirement in Hawaii (²²), which has been a long-standing safety concern for operators, still requires further investigation. Following the 1994 implementation of Special Federal Aviation Regulation 71, which included a 1500-ft AGL minimum altitude requirement for Hawaiian air tour operators, the crash rate of sightseeing helicopter flights decreased from 3.4 to 1.8 per 100,000 flight hours, a 47% decrease (²⁴). However, this change was accompanied by an increase in visual flight rules-instrument meterological conditions (VFR-IMC) crashes from 5 to 32%, and the number of air-tour related fatalities was similar before and after the implementation of this regulation $(^{24})$. It is not clear whether the decreased crash rate is due to the 1500-ft AGL minimum requirement or due to secular trends in air tour operations during this period. However, it is plausible that the increased incidence of VFR-IMC crashes could be related to helicopters flying at higher altitudes, where exposure to cloud cover is likely (23, 28, 46). Studies have demonstrated that VFR-IMC crashes are associated with high mortality rates such as those that occurred in Hawaii after the implementation of the 1500-ft AGL requirement (3, 32). Given the strained relationship between Hawaiian operators and the FAA, an independent organization might be best suited to evaluate the impact of the minimum altitude requirement on air tour safety in Hawaii $(^{35})$.

Likewise, the matter of air tour pilot fatigue is still unresolved, as the Part 136 Final Rule $(^{20})$ made no new concessions regarding the NTSB's recommendation to implement more stringent crew day limitations for air tour pilots than those currently promulgated by CFR Part 135 (³⁵). Fatigue is an important influence on pilot performance and safety. Commercial air tour pilots are exposed to multiple takeoffs, landings, and maneuvers, resulting in a more demanding workload throughout the day relative to long-haul pilots. Further, most U.S. commercial air tours are carried out by single pilots, so there are no opportunities to share the workload or take in-flight rests, as there are for pilots who are part of multi-pilot crews. Studies have suggested that fatigue is problematic among pilots conducting multiple short flights throughout the workday (6, 27, 44). Duty length, time of day, number of flight legs, prolonged duty periods, early wake-ups, and the need to perform an originally unplanned additional leg significantly influence pilot fatigue among these pilots $(^{6}, ^{44})$. To mitigate the risk of fatigue, Part 135 limits the number of flight hours flown for single pilot crews to 8 h of total flight time within a 24-h period. Crew rest requirements and limitations on flight hours by week, month, and year are also outlined in Part 135. Pilots flying under Part 91, however, do not have flight hour restrictions or crew rest requirements. Given the known risks of fatigue and the high crash rate of Part 91 air tour operators, addressing human fatigue in this population through flight time limitations could be beneficial.

Furthermore, reporting Part 91 helicopter- and airplane-specific air tour crash counts, flight hours, and crash rates using information collected from the General Aviation and Air Taxi Activity survey is imperative for the evaluation of safety regulations in this population. Since 2004, the survey has distinguished between Part 135 air tour operations and Part 91 sightseeing operations (²⁶). However, the paid sightseeing flight data reported by the NTSB

includes data from balloons and gliders, which have different flight characteristics, crash risk factors, and regulatory oversight than air tours conducted in helicopters and airplanes (⁴, 11, 47). In order to better monitor the safety of commercial air tour flights, the reported data must be stratified by type of aircraft, CFR Part, and purpose of flight.

In order to improve safety and standardization in the air tour industry, the FAA should eliminate the 25-mile exception for Part 91 operators and further tailor the Code of Federal Regulations to accommodate air tours. By reducing some of the inapplicable Part 135 requirements for air tour operators, such as cargo training and capability requirements for international flight, the FAA may be able to lessen the economic burden of additional air tour regulations under this governance.

In conclusion, the government and industry have successfully addressed many of these tenet issues, most notably by advancing the operations surveillance infrastructure through implementation of en route, ground-based, and technological surveillance methods; developing aeronautical decision making and cue-based training programs for air tour pilots; consolidating federal air tour regulations under Part 136; and developing public-private partnerships for raising maintenance operating standards and improving quality assurance programs. However, opportunities remain to improve air tour safety by increasing the number and efficiency of flight surveillance programs; addressing pilot fatigue with more restrictive flight hour limitations for air tour pilots; ensuring widespread uptake of maintenance quality assurance programs, especially among high-risk operators not currently affiliated with private air tour safety programs; and eliminating the 25-mile exception allowing Part 91 operators to conduct commercial air tours without the safety oversight required of Part 135 operators.

ACKNOWLEDGMENTS

The author would like to thank Susan P. Baker, Sc.D. (Hon.), M.P.H., of the Johns Hopkins Center for Injury Research and Policy for her critical review of this manuscript and for her mentorship throughout this project. Additionally, the author thanks Leland P. Beaty, subject matter expert in aviation operations and management at the Johns Hopkins Center for Injury Research and Policy, for lending his professional expertise in the critical review of this manuscript.

During part of the research period, Sarah-Blythe Ballard was a Fogarty Global Health Fellow supported by Grant #5R25TW009340 from the National Institutes of Health to the UJMT Fogarty Coordinating Center. She also received a transportation safety policy award from the Friends and Family of John Paul Stapp administered by the Johns Hopkins Bloomberg School of Public Health's Department of Health Policy and Management.

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TABLE I

COMMERCIAL AIR TOUR CRASH RATES BY CODE OF FEDERAL REGULATIONS PART

	Description	Overall Crash Rate* (15)	Air Tour Crash Rate [*] (¹)	Air Tour Relative Crash Rate $^{\dot{7}}(^1)$
Part 121	Domestic, Flag, and Supplemental	0.2	n/a≠	n/a≠
Part 135	Commuter and On-Demand	1.3	2.3	reference group
Part 91	General Aviation [§]	6.8	3.5	1.5×

 * Crash rate is defined as the number of crashes per 100,000 h flown.

 $^{\dagger}\text{R}\text{elative crash rate uses the Part 135 air tour crash rate as a reference.}$

 \ddagger Part 121 air tour-specific crash rates have not been reported in the literature.

\$Includes Part 91 operators conducting air tours with an FAA letter of agreement and Part 91 charity flight operators.

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TABLE II

SUMMARY OF NTSB RECOMMENDATIONS FOR IMPROVING COMMERCIAL AIR TOUR SAFETY

Surveillance

- Ensure adequate staffing of FAA Flight Standards District Offices (FAA)
- Implement monthly en route and ground-based operator surveillance (FAA)
- Use the Surveillance Priority Index tool to target oversight (FAA)
- Accelerate Automatic Dependent Surveillance-Broadcast implementation (FAA, Operators)

Pilot Factors

- Develop operator policies and guidance for operations near high-traffic areas (Operators)
- Implement aeronautical decision making and "cue-based" training programs to address local environmental issues (FAA)
- Regulate crew rest: 30-min break after 3 consecutive hours of flight and limit to eight air tour flights per day (FAA)

Regulatory Standardization

- Standardize operations, maintenance, and training specifications (FAA)
- Require drug-screening programs for all operators, including charity flights (FAA)
- Standardize data collection for flight hours with General Aviation and Air Taxi Activity Survey (FAA)
- Re-evaluate minimum in-flight altitude requirements for Hawaii (FAA)
- Eliminate the 25-mile exception for Part 91 operators (FAA)

Maintenance

- Develop mechanisms for maintenance performance evaluation (Operators)
- Implement maintenance inspection and quality assurance programs (Operators)
- Ensure personnel receive regular model-specific maintenance training (Operators)
- Strengthen partnerships between the FAA and private air tour safety programs to improve oversight (FAA, Operators)

Parentheses denote the organization(s) to which the recommendation is directed.

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TABLE III

SUMMARY OF MAJOR FEATURES OF 14 CFR PART 136 SUBPART A—NATIONAL AIR TOUR SAFETY STANDARDS

Features Affecting Part 91 Operators

- Requires each Part 91 operator conducting nonstop commercial sightseeing flights within a 25-statute-mile radius of an airport to
 obtain an FAA letter of authorization (LOA). The LOA application requires operators to show proof of registration in an FAAapproved Antidrug and Alcohol Misuse Prevention Program.
- Allows charitable, nonprofit, and community event flights to continue operating under Part 91 without having to comply with FAA drug and alcohol testing requirements.
- Raises the minimum number of hours required for private pilots conducting charity, nonprofit, and community event fundraising flights from 200 to 500.
- Requires charity sponsors to notify and provide to their local Flight Standards District Office the details of the charity event, including a photocopy of each pilot-in-command's pilot certificate, medical certificate, logbook entries that show the pilot is current, and a signed statement from each pilot that lists all prior events in which the pilot has participated.
- Limits community event sponsors and their pilots to one event per calendar year. An "event" may not last more than 3 consecutive days, but may involve several flights.
- Limits pilots to 12 d of flying in charity events or 3 d of flying in community events per calendar year.

Features Affecting Part 91 and Part 135 Operators

- Requires all sightseeing operators to comply with new passenger briefing and life preserver (for over water flights) requirements.
- Requires helicopter operators to be equipped with fixed floats or an inflatable flotation system if the over-water flight is conducted beyond power-off gliding distance to the shoreline.
- Requires helicopter operators to complete a performance plan before each flight that considers the effects of density altitude, weight, and center of gravity limits on takeoff, landing, and hovering in ground effect.