

Air Taxis Show Best Safety Gain Among U.S. Operators

FARs Part 121 accidents trended upward, but were lower than in 12 years in the past two decades.

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Accidents, fatalities and accident rates increased in 2005 for air carriers operating under U.S. Federal Aviation Regulations (FARs) Part 121¹ compared with 2004, according to preliminary data from the U.S. National Transportation Safety Board (NTSB). Accidents and rates also increased for FARs Part

135² commuter operations, in which there were no fatal accidents for the second year in a row.

There were 39 accidents, including three fatal accidents, in Part 121 operations in 2005, compared with 30 and two, respectively, in 2004 (Table 1). Accidents per 100,000 departures increased year-over-year from 0.272 to

Airliners: Not Quite as Good as 2004

Accidents, Fatalities and Rates, U.S. Air Carriers Operating Under FARs Part 121, Scheduled and Nonscheduled Service, 1996–2005

Year	Accidents		Fatalities		Flight Hours	Departures	Accidents per 100,000 Flight Hours		Accidents per 1,000,000 Miles Flown		Accidents per 100,000 Departures	
	All	Fatal	Total	Aboard			All	Fatal	All	Fatal	All	Fatal
1996	37	5	380	350	13,746,112	8,228,810	0.269	0.036	0.006	0.001	0.450	0.061
1997	49	4	8	6	15,838,109	10,318,383	0.309	0.025	0.007	0.001	0.475	0.039
1998	50	1	1	0	16,816,555	10,979,762	0.297	0.006	0.007	0.000	0.455	0.009
1999	51	2	12	11	17,555,208	11,308,762	0.291	0.011	0.007	0.000	0.451	0.018
2000	56	3	92	92	18,299,257	11,468,229	0.306	0.016	0.007	0.000	0.488	0.026
2001*	46	6	531	525	17,814,191	10,954,832	0.236	0.011	0.006	0.000	0.383	0.018
2002	41	0	0	0	17,290,198	10,508,473	0.237	—	0.006	—	0.390	—
2003	54	2	22	21	17,467,700	10,433,164	0.309	0.011	0.007	0.000	0.518	0.019
2004	30	2	14	14	18,882,503	11,023,128	0.159	0.011	0.004	0.000	0.272	0.018
2005	39	3	22	20	19,471,000	11,245,000	0.200	0.015	0.005	0.000	0.347	0.027

Notes

2005 data are preliminary.

Flight hours, miles and departures are compiled by FAA.

Since March 20, 1997, aircraft with 10 or more seats used in scheduled passenger service have been operated under FARs Part 121.

Year followed by an asterisk is one in which an illegal act was responsible for an occurrence in this category. These acts, such as suicide, sabotage and terrorism, are included in the totals for accidents and fatalities but are excluded for the purpose of accident rate computation.

Other than the persons aboard aircraft who were killed, fatalities resulting from the Sept. 11, 2001, terrorist act are excluded from this table.

Source: U.S. National Transportation Safety Board

Table 1

0.347, up 28 percent, and fatal accidents from 0.018 to 0.027, a 50 percent increase.

The Part 121 rate of accidents per 100,000 departures for 2005 was, however, lower than in 12 of the years in the 1986–2005 period. In the 10 years preceding 2005, only 2004 had a lower accident rate. The fatal accident rate was the highest since 1997.³

In Part 135 commuter operations⁴ (Table 2), the rate of accidents per 100,000 departures increased to 1.176, a 58 percent increase from 0.743 in 2004. There were six accidents in 2005, compared with four in 2004.

The accident rate per 100,000 flight hours for Part 135 air taxi operations⁵ decreased year-over-year from 2004 to

2005, in all accidents and in fatal accidents (Table 3, page 59). Rates for this category were based on flight hours rather than departures because departure information was not available. The 2005 rate for fatal accidents, 0.34, was 52 percent lower than in 2004, 0.71, and the lowest in the 1986–2005 period.

Numbers of fatalities and fatal accidents for the Part 135 air taxi category were the lowest in the 20-year period. Fatal accidents decreased 52 percent, from 23 to 11, between 2004 and 2005, and on-board fatalities dropped 75 percent, from 63 to 16.

There were 18 passenger fatalities in Part 121 operations in 2005, a 64 percent increase from the 11 in

2004 (Table 4, page 59). Enplanements per passenger fatality decreased from 64.6 million to 41.7 million, equivalent to a 35 percent increase in the fatality rate. The two serious passenger injuries among Part 121 air carriers were the lowest in the 20-year period — including the years 1998 and 2002, when there were no fatalities.

The one hull-loss accident that occurred in Part 121 operations in 2005 represented a rate of 0.051 hull-losses per million flight hours, compared with four hull-loss accidents and a rate of 0.212 in 2004 (Table 5, page 59). The 2005 rate was the lowest in the past 20 years, except for 1998, when there were no hull-loss accidents, and was a 76 percent decrease from 2004. ●

Commuters: Accident Rates Up

Accidents, Fatalities and Rates, U.S. Air Carriers Operating Under FARs Part 135 Commuter Operations, 1996–2005

Year	Accidents		Fatalities		Flight Hours	Departures	Accidents per 100,000 Flight Hours		Accidents per 1,000,000 Miles Flown		Accidents per 100,000 Departures	
	All	Fatal	Total	Aboard			All	Fatal	All	Fatal	All	Fatal
1996	11	1	14	12	2,756,755	3,515,040	0.399	0.036	0.019	0.002	0.313	0.028
1997	16	5	46	46	982,764	1,394,096	1.628	0.509	0.065	0.020	1.148	0.359
1998	8	0	0	0	353,670	707,071	2.262	—	0.158	—	1.131	—
1999	13	5	12	12	342,731	672,278	3.793	1.459	0.248	0.095	1.934	0.744
2000	12	1	5	5	369,535	603,659	3.247	0.271	0.267	0.022	1.988	0.166
2001	7	2	13	13	300,432	558,052	2.330	0.666	0.162	0.046	1.254	0.358
2002	7	0	0	0	273,559	513,452	2.559	—	0.168	—	1.363	—
2003	2	1	2	2	319,206	572,260	0.627	0.313	0.042	0.021	0.349	0.175
2004	4	0	0	0	302,218	538,077	1.324	—	0.086	—	0.743	—
2005	6	0	0	0	300,000	510,000	2.000	—	0.130	—	1.176	—

Notes

2005 data are preliminary.

Flight hours, miles and departures are compiled by FAA.

Since March 20, 1997, aircraft with 10 or more seats used in scheduled passenger service have been operated under FARs Part 121.

Based on a February 2002 FAA legal interpretation, any FARs Part 135 operation conducted with no revenue passengers aboard will be considered a nonscheduled flight operation. This interpretation applies to accidents beginning in 2002. It has not been retroactively applied to 36 accidents, nine of them fatal, for the 1983–2001 period.

Commuter operations were previously referred to as scheduled operations. The terminology has been updated to reflect definitions in FARs Part 119.3 and terminology used in Part 135.1.

Source: U.S. National Transportation Safety Board

Table 2

Air Taxis: A Good Year for Safety

Accidents, Fatalities and Rates, U.S. Air Carriers Operating Under FARs Part 135 Air Taxi Operations, 1996–2005

Year	Accidents		Fatalities		Accidents per 100,000 Flight Hours	
	All	Fatal	Total	Aboard	All	Fatal
1996	90	29	63	63	2.80	0.90
1997	82	15	39	39	2.65	0.48
1998	77	17	45	41	2.03	0.45
1999	74	12	38	38	2.31	0.37
2000	80	22	71	68	2.04	0.56
2001	72	18	60	59	2.40	0.60
2002	60	18	35	35	2.06	0.62
2003	74	18	42	40	2.53	0.61
2004	66	23	64	63	2.04	0.71
2005	66	11	18	16	2.02	0.34

Notes

2005 data are preliminary.

Flight hours are estimated by FAA. Miles flown and departure information for FARs Part 135 air taxi operations are not available.

In 2002, FAA changed its estimate of air taxi activity beginning in 1992. In 2003, FAA again revised flight activity estimates for 1999 to 2002. Both revisions have been applied retroactively to these rates.

Air taxi operations were previously referred to as nonscheduled operations. The terminology has been updated to reflect definitions in FARs Part 119.3 and terminology used in Part 135.1. Part 135 air taxi operations encompass charters, air taxis, air tours or medical services when a patient is aboard.

Source: U.S. National Transportation Safety Board

Table 3

Airliner Fatalities: Number and Rate Up

Passenger Fatalities, Injuries and Rates, U.S. Air Carriers Operating Under FARs Part 121, 1996–2005

Year	Passenger Fatalities	Passenger Serious Injuries	Total Passenger Enplanements (millions)	Enplanements per Passenger Fatality (millions)
1996	319	19	592	1.9
1997	2	21	648	324.0
1998	0	12	650	0.0
1999	10	46	676	67.6
2000	83	11	701	8.4
2001	483	7	629	1.3
2002	0	11	619	0.0
2003	19	10	654	34.4
2004	11	3	711	64.6
2005	18	2	751	41.7

Notes

Injuries exclude flight crew and cabin crew.

Since March 20, 1997, aircraft with 10 or more seats used in scheduled passenger service have been operated under FARs Part 121.

Source: U.S. National Transportation Safety Board

Table 4

One Airliner Hull Loss

Hull Losses and Rates, U.S. Air Carriers Operating Under FARs Part 121, 1996–2005

Year	Hull Losses	Aircraft Flight Hours (Millions)	Hull Losses Per Million Flight Hours
1996	5	13.746	0.364
1997	2	15.838	0.126
1998	0	16.817	0.000
1999	2	17.555	0.114
2000	3	18.299	0.164
2001	5	17.814	0.281
2002	1	17.290	0.058
2003	2	17.468	0.114
2004	4	18.883	0.212
2005	1	19.471	0.051

Note

Since March 20, 1977, aircraft with 10 or more seats used in scheduled passenger service have been operated under FARs Part 121.

Source: U.S. National Transportation Safety Board

Table 5

Notes

1. *Operating Requirements: Domestic, Flag and Supplemental Operations.*
2. *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft.*
3. Fatalities in the Sept. 11, 2001, terrorist attacks were not included in the accident rate calculations, but were included in accident and fatality totals.
4. *Commuter operations* under Part 135 are defined on the FSF Web site at <www.flightsafety.org/pubs/glossary>.
5. *Air taxi operations* under Part 135 are defined on the FSF Web site at <www.flightsafety.org/pubs/glossary>.