

Airline Accident Rates

These accident rates are not safety ratings. There are many factors that contribute to the safety rating of an airline including, but not limited to, accident history, maintenance and operational procedures, types of training programs, age of fleet and specific routes flown.

In addition there are different ways to analyze past accident data including using number of hours flown, passenger miles completed or number of trips made. The accident rates below are based on only three basic parameters. Number of flights, the number of fatal accidents and the fatality rate of those accidents. The methodology is listed below the tables.

Aviation accidents are extremely rare, with the probability of a passenger being killed on a single flight at approximately eight million-to-one. If a passenger boarded a flight at random, once a day, everyday, it would statistically be over 21,000 years before he or she would be killed.

DISCLAIMER These accident rates should not be used to provide an assessment of an airline's safety profile or future risk of an accident. These rates are derived from past accidents and not an estimate or prediction of future risk. There are many additional factors in judging the safety of an air carrier which are not included here. These rates are not meant to endorse or condemn any particular airline or group of airlines nor are they intended to persuade or dissuade use of any particular airline. The accident rates and method of calculation of the accident rates are solely the opinion of this web site and the creator is not responsible for how this information is used and will not be held legally responsible for any consequences arising from the use of this information. There are numerous commercial organizations that provide complete and extensive safety ratings of commercial air carriers.

NORTH AMERICA					
Airline	Million Flights	Fatal Events	Adj. Fatal Events	Last Fatal Accident	Above / Below Average Accident Rate
Air Canada	4.84	0	0	(1983)	+154%
AirTran Airways(ValuJet)	2.09	1	1.00	1996	-33%
Alaska Airlines/ Horizon	6.33	1	1.00	2000	+101%
American Airlines	20.20	6	4.04	2001	+238%
American Eagle / Executive	12.84	4	3.72	1994	+36%
Comair	5.54	3	3.00	2006	-124%
Continental AL/Cont. Exp.	14.38	4	2.34	2009	+223%
Delta Airlines	19.89	3	0.94	1996	+538%
Hawaiian Airlines	1.67	0	0	None	+53%
JetBlue	1.14	0	0	None	+36%
Midwest Express Airlines	0.80	1	1.00	1985	-75%
Southwest Airlines	17.87	0	0	None	+568%
United Airlines	16.70	6	3.42	2001	+189%
United Express	12.07	3	2.67	1996	+116%
US Airways	15.73	5	2.52	1994	+248%
USAir Shuttle	0.87	0	0	None	+28%
WestJet	1.00	0	0	None	+32%
EUROPE					

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Airline	Million Flights	Fatal Events	Adj. Fatal Events	Last Fatal Accident	Above / Below Average Accident Rate
Aer Lingus	1.47	0	0	1968	+47%
Aeroflot Russian Airlines	2.15	2	2.00	2008	-132%
Air Europa	0.77	0	0	None	+25%
Air France	7.05	5	3.03	2009	-79%
Alitalia-Compagnia Aerea	4.33	1	1.00	1990	+38%
Austrian Airlines	1.15	0	0	(1960)	+36%
British Airways	6.33	0	0	(1976)	+201%
British Midland	2.12	1	0.40	(1989)	+27%
EasyJet	1.94	0	0	None	+62%
Finnair	2.31	0	0	(1963)	+73%
Iberia	4.50	1	1.00	(1985)	+43%
Icelandair	0.62	0	0	(1951)	+20%
JAT Yugoslavian Airways	0.61	0	0	(1973)	+19%
KLM Royal Dutch Airlines	3.25	1	0.09	1994	+94%
Lufthansa Airlines	9.17	2	0.23	1993	+268%
Malev- Hungarian Airlines	0.75	0	0	(1977)	+24%
RyanAir	2.38	0	0	None	+76%
SAS Scandinavian Airlines	6.80	1	1.00	(2001)	+116%
TAP Air Portugal	1.30	0	0	(1977)	+41%
Transaero airlines	0.17	0	0	None	+7%
Turkish Airlines	2.18	3	1.75	(2009)	-106%
Virgin Atlantic Airlines	0.27	0	0	None	+9%
ASIA - AUSTRALIA					
Airline	Million Flights	Fatal Events	Adj. Fatal Event	Last Fatal Accident	Above / Below Average Accident Rate
Air China	3.25	1	0.77	(2002)	+26%
Air India	0.57	1	1.00	1985	-82%
Air New Zealand	1.53	0	0	(1979)	+48%
All Nippon Airways	4.75	0	0	(1971)	+151%
Asiana Airlines	1.62	1	0.62	1993	-11%
Cathy Pacific Airways	1.18	0	0	(1972)	+38%
China Airlines	0.91	6	4.98	2002	-469%
China Eastern	2.95	4	1.88	2004	-94%
China Southern	4.01	2	1.51	1997	-23%
Dragon Air	0.36	0	0	None	+11%

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Garuda Airlines	2.00	4	1.65	2007	-102%
Hainin Airlines	1.40	0	0	None	44%
Indian Airlines	2.28	5	3.06	1999	-234%
Japan Air Lines	3.15	1	1.00	1985	0%
Korean Airlines	2.71	1	0.91	1997	-5%
Pakistan Airlines	1.43	5	4.18	2006	-373%
Philippine Air Lines	1.18	6	2.09	1994	-171%
Qantas Airways	2.63	0	0	(1951)	+84%
Singapore Airlines/Silk Air	1.55	2	1.5	2000	-101%
Thai Airways	1.98	4	3.69	1998	-306%
Virgin Blue	0.87	0	0	None	+28%
SOUTH/CENTRAL AMERICA - MEXICO-CARIBBEAN					
Airline	Million Flights	Fatal Events	Adj. Fatal Event	Last Fatal Accident	Above / Below Average Accident Rate
Aerolíneas Argentinas	1.30	0	0	(1970)	+41%
Aeromexico	2.50	1	1.00	1986	-21%
Air Jamaica	0.44	0	0	None	14%
Avianca	1.47	3	2.43	1990	-196%
Cubana Airlines	0.32	8	5.23	1999	-513%
GOL / Avianca	3.87	3	2.20	2006	-97%
LAN Chile S.A.	0.61	1	0.31	1991	-12%
Mexicana de Aviacion	2.40	1	1.00	1986	-24%
TACA International Airlines	0.49	2	0.26	2008	-10%
TAM	2.32	4	2.06	2007	-132%
AFRICA - MIDDLE EAST					
Airline	Million Flights	Fatal Events	Adj. Fatal Event	Last Fatal Accident	Above / Below Average Accident Rate
Air Zimbabwe	0.21	0	0	(1979)	-7%
EgyptAir	1.07	4	2.66	2002	-232%
EI Al	0.41	0	0	(1955)	+13%
Emirates Airline	0.88	0	0	None	+28%
Iran Air	0.93	5	3.42	2000	-312%
Kenya Airways	0.45	2	1.94	2000	-180%
Kuwait Airways	0.38	1	0.02	1988	+10%
Oman Aviation	0.21	0	0	None	+7%
Royal Air Maroc	0.73	1	1.00	1994	-77%
Royal Jordanian	0.37	0	0	None	+12%

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Saudi Arabian Airlines	2.46	1	1.00	1996	-22%
South African Airways	1.36	1	1.00	1987	-57%
Data for number of flights provided by OAGback Aviation Solutions					

- Statistics are based on 25 years of data, 1985 -2009
- Million Flights - number of departures in millions.
- Fatal Events - number of flights on which at least one passenger was killed.
- Adjusted Fatal Event -

The Adjusted Fatal Event is calculated as follows:

The actual fatal events is adjusted downward depending on what percentage of passengers were killed in each accident. The calculation of "D" or Adjusted Fatal Events is illustrated in the following example.

An airline has 3 accidents involving fatalities:

In the first accident 120 out of 120 passengers are killed.

In the second accident 75 out of 150 passengers are killed.

In the third accident 5 out of 200 passengers are killed.

$$120/120 = 1$$

$$75/150 = 0.5$$

$$5/200 = 0.025$$

Instead of 3 actual fatal events, the Adjusted Fatal Events becomes, 1 + 0.5 + 0.025 or 1.525.

- Last Event - the year in which the last fatal accident took place (dates in parenthesis are accidents not included in the calculations as they are older than 25 years).
- Accident Rate - The percent above or below the average accident rate for all 87 airlines.
- The Accident Rate is calculated as follows:

$$\text{Accident Rate} = ((A * (B/C)) - D)$$

Where:

A = number of million flights completed by the airline

B = adjusted fatal events for all airlines on list

C = number of million flights for all airlines on list

D = adjusted fatal events of the airline

- The Accident Rate is calculated for each airline and compared to the average Accident Rate of all airlines on the list. For airlines with no fatal accidents, the greater the number of departures the more favorable the accident rate becomes.

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