

A Note From the Author

Thank you for downloading this document from AirSafe.com. I would also like to take this opportunity to tell you about my upcoming book *Aviation Safety Data Analysis Using the Internet*. The book will be available from the publisher, SAE International, in the spring of 2000. For background information about the book and the author, visit the book's information page at <http://airsafe.com/books/book1.htm>. If you want to be put on the contact list for news about the book, please visit the mailing list page at <http://airsafe.com/books/signup.htm> and join the list. If you have any questions about the book, please contact the author, Todd Curtis, at the address below:

Todd Curtis
Airsafe Services
P.O. Box 19666
Seattle, WA 98109
tcurtis@airsafe.com

Copyright © 1999 by Todd Curtis, All rights reserved.

No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system without written permission from the author, except for the inclusion of brief quotations in a review.

Warning - Disclaimer

This document is designed to provide information in regard to the subject matter covered. It is sold with the understanding that the publisher and author is not engaged in rendering legal, engineering, or other professional services. If legal or other expert assistance is required, the services of a competent professional should be sought.

It is not the purpose of this work to reprint all the information that is otherwise available to the author and/or publisher, but to complement, amplify, and supplement other available information. You are urged to seek out and read all available material, to learn as much as possible about the subject matter covered, and to tailor the information to your individual needs.

Analyzing aviation data can be a complex undertaking. Anyone who decides to make the effort to answer their own aviation related questions should be prepared to invest the time and energy needed to seek out and analyze the available data. Every effort has been made to make this document as accurate as possible. However, there **may be mistakes** both typographical and in content. Therefore, this document should be used only as a general guide and not as the ultimate reference on the subject matter covered. Furthermore, this document contains information on sources of aviation data that was current only up to the publishing date.

The purpose of this document is to inform, educate, and entertain. The author and publisher shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused, or alleged to be caused, directly or indirectly by the information contained in this document. **If you do not wish to be bound by the above, then discontinue using this document.**

About the Author

Todd Curtis has been an airline safety analyst for the Boeing Company since 1991. He holds a doctorate in Risk Assessment from the Union Institute and an MBA from the Sloan School of Management. He is both a private pilot and a registered professional engineer. He has published and presented a number of technical papers in the areas of aviation risk assessment and bird strike hazards to aircraft. In addition, he has designed several aviation safety related Web sites, including AirSafe.com at www.airsafe.com, and Bird Strike Committee USA site at www.birdstrike.org.

Selected Publications

Curtis, T. 1999. New money and a hot new airplane can be a disastrous combo. *The Flyer*. 23 July.

Curtis, T. 1999. Asking yourself key questions is the ticket to an effective aviation Web site. *The Flyer*. 28 May.

Curtis, T. 1999. Internet is a prolific source for information on aviation safety. *The Flyer*. 2 April.

Curtis, T. 1999. Nine suggestions for using the Web effectively and efficiently. *The Flyer*. 2 April.

Curtis, T. 1999. Smart use of search engines and directories saves Web time. *The Flyer*. 19 March.

Curtis, T. 1999. An Investigation of the Role of Politics in the Safety Recommendation Process of the National Transportation Safety Board. Doctoral dissertation. The Union Institute: Cincinnati, OH. February.

Curtis, T. 1997. North American Bird Hazard Reduction Efforts Since the 707 AWACS Accident at Elmendorf, AFB. *Proceedings of the 1997 International Society of Air Safety Investigators Conference*. Anchorage AK, October.

Curtis, T. 1997. Using the Internet to Support Aviation Safety Research and Education. *Proceedings of the 1997 International Society of Air Safety Investigators Conference*. Anchorage AK, October.

Curtis, T. 1996. Airline Accidents and Media Bias. http://airsafe.com/nyt_bias.htm, 14 March.

Curtis, T. 1996. Assessment of Bird Strike Accident Risk Using Event Sequence Analysis. Paper presented at the 23rd Bird Strike Committee Europe Conference, May, London.

Barnett, A, Curtis, T., et al. 1992. Better than Ever: Nonstop Jet Service in an Era of Hubs and Spokes. *Sloan Management Review*. 33(Winter):49-54.

Curtis, T. 1992. Ingestion Hazard: Engine Inlet Ingestion Hazard Update; *Boeing Airliner*, July-September.

Barnett, A. and Curtis T. 1991. An Unfortunate Pattern Observed in U.S. Domestic Jet Accidents. *Flight Safety Digest*. October.1-8.

Curtis, T. 1991, The Role of Complacency in Airline Accidents, Massachusetts Institute of Technology masters thesis, Sloan School of Management. June.

Curtis, T. 1990, Reducing Air Traffic Delays Through Economic Incentives: Giving Local Airport Authorities the Power to Control Demand. Massachusetts Institute of Technology masters thesis, Technology and Policy Program. June.

Airline Accidents and Media Bias: The New York Times 1978-1994

Todd Curtis, PE, Ph.D.

8 February 1997

Abstract

A common perception by the aviation safety community is that the news media gives extra attention to some kinds of fatal airline events. This study tested three general assumptions about media biases in reporting such events by scrutinizing the coverage of one influential newspaper, the New York Times. From 1978 to 1994, the New York Times disproportionately reported the 25 fatal airline events that involved jet aircraft that were hijacked, sabotaged, or destroyed by military action. These 25 events averaged 53 references each, compared with 7.2 references for the other 160 fatal jet events. These 25 jet events accounted for 8.1% of the reported events and for 48.2% of the 2752 New York Times Index references to fatal airline events that occurred during the study period. The New York Times also disproportionately reported fatal events involving jet aircraft and fatal events in the U.S. or involving U.S. carriers. Fatal events were also more likely to be reported as the magnitude of fatalities increased.

Introduction

Fatal aircraft mishaps are widely reported by the news media, but with wide variations in the amount of coverage. Starting with a set of general assumptions about what kind of events generate more coverage, this paper will use information from the New York Times Index from 1978 to 1994 to show how that particular newspaper disproportionately covered some classes of fatal passenger aircraft events, especially those involving jets or when the mishap location or aircraft registration were in the U.S.

The New York Times was chosen because of its stature as a nationally important newspaper with influence over the content of newspapers and other media in the United States and abroad. The Times refers to itself as a newspaper of record that is both an important source of current news and analysis as well as a chronicle of those events that are important in American and world affairs. The Times was also chosen because it plays a significant role in the amount of attention that the nation pays to policy and regulatory issues at the federal level, including those issues dealing with air transportation.

The period 1978 to 1994 was chosen for this study because it coincided with the deregulation of the domestic U.S. airline industry. With deregulation came a substantial increase in the number of flights and significant changes in air carriers and their business strategies. Along with these changes came an increased interest in issues related to air safety on the part of the flying public, the airline industry, and the federal government.

Assumptions

There were three general assumptions made about the coverage of fatal airline events by the New York Times:

1. Fatal events in the U.S. or involving U.S. carriers were more likely to be reported and would get more coverage than those events involving non-U.S. carriers outside the U.S.,
2. Jet aircraft events are more likely to be covered than those that involved propeller driven aircraft, and
3. Fatal events are more likely to be reported and will get greater coverage as the number of fatalities rise.

The first assumption is based on the fact that the New York Times has a national audience. The second and third assumptions are related in that all but the smallest jet transports carry more passengers than propeller driven transports and expose a larger number of people to the effects of a mishap.

For purposes of this paper, there are number of specific definitions used to categorize fatal airline events:

Passenger Flight: A scheduled or unscheduled airline flight offering passage to the general public and which carries at least one passenger.

Fatal event: A passenger flight where one or more persons inside or outside the aircraft die as a direct or indirect result of that aircraft's flight. Death can occur either during the flight or afterwards as a result of injuries received during the flight. Excluded were deaths due to natural causes, hijackings where only hijackers die, suicides, and deaths of stowaways.

Accident: A fatal event that was not a result of sabotage, hijacking, or military action

Article: A published New York Times story, photograph, or other graphic that mentions one or more specific fatal airline events.

Reference: A mention of a specific fatal event in the abstracts of articles cited within the New York Times Index.

Method

Fatal Event Data

There were three general sources used to gather information on fatal events: accident reports of the U.S. National Transportation Safety Board, and yearly summaries from both Flight International magazine of the U.K. and the U.S. Department of Transportation. Flight International was used because each year it publishes a list of significant civil aviation accidents from around the world and would complement the U.S. focus of the National Transportation Safety Board and the Department of Transportation reports.

Fatal Event Reporting Data

The yearly index of New York Times stories was the sole source of the reporting data. This was done in part for consistency. All indexed articles were summarized under a specific subject heading or sub-heading. With one exception, every reported fatal event reference was listed under one of three Index categories: Airlines - Accidents and Safety (1978-1982), Airlines (1983), or Airlines and Airplanes (1984-1994). That one exception was the downing of an Iranair Airbus A300 by the U.S.S. Vincennes on July 3, 1988. References to the event were found in the 1989 Index under Airlines and Airplanes, but not in the 1988 Index. A detailed search of the 1988 Index revealed dozens of references under the heading of Iran. No other event had a reference in one of the three aviation accident categories in the years subsequent to the event and also no reference in the year of occurrence in one of those same categories.

For fatal aircraft events that met the criteria of this study, the data sources were used to gather information on the aircraft identity and the circumstances surrounding the event. Whenever possible, aircraft type, airline, country of registration, country of accident, number of fatalities, and details of the event were used to compile a picture of the world wide fatal passenger aircraft events of the 17 year time period.

From the New York Times index, the number of total references to specific qualifying fatal events were tallied from the time of the accident to the end of the study period. References to articles published during the study period that were associated with fatal events that occurred before the study period were ignored.

Results

Overview of the Data

A total of 525 qualifying fatal events were identified through the fatal event data sources. Of those, 307 were referenced in one or more New York Times articles. There were a total of 2752 references to these fatal mishaps during the 17 year study period. The data supports the first two major assumptions and partially supports the third. A statistical overview of the reporting of these fatal events follows.

Table 1.1: Fatal Passenger Jet Aircraft Events: 1978-1994

Category	All Events	Reported Events	Percent Reported	References	Percent of References	References per Reported Event
All	525	307	58.5	2752	100	9.0
Jet	231	185	80.0	2480	90.1	13.4
U.S.	44	42	95.4	1423	51.7	33.9
Non-U.S. Jet	187	143	76.5	1057	38.4	7.4

Table 1.2: Fatal Prop Passenger Aircraft Events: 1978-1994

Category	All Events	Reported Events	Percent Reported	References	Percent of References	References per Reported Event
All	525	307	58.5	2752	100	9.0
Prop	294	122	41.5	272	9.9	2.2
U.S. Prop	59	48	81.4	161	5.9	3.4
Non-U.S. Prop	235	74	31.4	119	4.3	2.8

Table 2.1: Reporting of Jet Events by Number of Fatalities: 1978-1994

Number of Fatalities	All Prop Events	Reported Events	Percent Reported	References per Event
1-5	51	31	60.8	17.9
6-20	29	22	75.9	4.0
21-50	45	36	80	7.6
51-100	41	39	95.1	5.8
101+	59	55	93.2	24.2

Table 2.2: Reporting of Prop Events by Number of Fatalities: 1978-1994

Number of Fatalities	All Prop Events	Reported Events	Percent Reported	References per Event
1-5	74	15	20.3	1.3
6-20	133	54	40.6	2.6
21-50	71	40	56.3	1.5
51-100	10	10	100	4.9
101+	1	1	100	1

The data supports the first general assumption that U.S. related events would attract more coverage. Tables 1.1 and 1.2 show that 95.4% of jet events with a U.S. connection were reported versus 76.5% of the non-U.S. jet events. The difference was more pronounced with propeller aircraft with 81.4% versus 31.4%. The differences in number of references per event was quite large for U.S. related jet events, 33.9 for U.S. related events compared with 7.4 for those that were not. For propeller aircraft, U.S. events had more references per reported event, but the difference was only 3.4 versus 2.8.

The first two tables also support the second general assumption that jets receive more coverage. Jet events, U.S. related jet events, and non-U.S. related jet events were more likely to be reported and had on average more references per event than the corresponding propeller aircraft categories. On the whole, jets were involved in only 44% of all events but 60.3% of all reported events.

The data also supports the first part of the third assumption about the percentage of events with more fatalities get more attention. Tables 2.1 and 2.2 show that for both jet and propeller aircraft, the likelihood of being reported increases as fatalities increase for the five fatality ranges examined. The one exception was jet events with more than 100 fatalities. This group was slightly less likely to be reported than the group of jet events with 51-100 fatalities. Of the 525 total fatal events of the period, 11 did not have any fatality information available, so only 514 are represented in Tables 2.1 and 2.2.

The second part of the third assumption, that the number of references per event increases with fatalities, was not clearly supported by the data. The largest deviation from the assumed trend was the group of 31 jet events with five or fewer fatalities. It was the second highest of the five jet fatality range categories with an average of 17.9 references per event, with one event accounting for

359 of the 556 references for that group.

Conclusions

The analysis of the New York Times Index information supports the following conclusions:

- Events either in the U.S. or involving U.S. carriers had more references per event and more references per reported event than the corresponding propeller aircraft categories.
- Jet events were more likely to be reported and had more references per reported event, than the corresponding group of propeller aircraft events.
- Fatal events were reported with greater likelihood as the magnitude of the number of fatalities increased. However, there is no clear relationship between the number of fatalities in an accident and the number of references per event.

Discussion

In addition to the data that supported most of the prior assumptions, the most striking feature of the data was the high number of references associated with a relatively small category of non-accidental jet events. Table 3 shows that the 25 non-accidental jet events averaged 53 references each, higher than any category in Tables 1.1 and 1.2. Non-accidental jet events represent 8.1% of the 307 reported events but accounted for 48.2% of all references. Among the group of the most highly reported events, the relationship is even more striking. Six of top ten events in terms of the number of associated references were non-accidental jet events, including five of the top six. These five represented 39.7% of the 48.2% of the references associated with the 25 non-accidental jet events.

Table 3: References as a Function of Fatalities: 1978-1994

Category	All Events	Reported Events	Percent Reported	References	Percent of References	References per Reported Event
All	525	307	58.5	2752	100	9.0
Jet Accident	201	160	79.6	1154	41.9	7.2
Non-Accident Jet	30	25	83.3	1326	48.2	53.0
Prop Accident	280	115	41.1	253	9.2	2.2
Non-Accident Prop	14	7	50.0	19	0.7	2.7

This concentration of references in such a small number of mishaps calls for some explanation, but none were revealed in the available data. For example, a high number of deaths did not guarantee wide coverage or a low number of deaths imply little coverage. The event with the second highest number of references was a hijacking that only killed one passenger. Also two of the top three events with respect to people killed were not in the top 10 with respect to the number of references.

The available data does not suggest a cause for this concentration of attention on a handful of events, nor does it suggest the effects this concentration has. However, it is possible that those who are direct or indirect consumers of the New York Times may be led to believe that fatal events caused by hijack, sabotage, or military action are more prevalent than they really are. A similar observation applies to the fatal jet events in the U.S. or involving U.S. carriers. This category accounted for 51.7% of all references but only 13.7% of all reported fatal events of the study period.

There are several related areas that could be investigated in order to complement this current effort. One would be to look at another influential publication to see if the tendencies apparent in the New York Times exist elsewhere. Another major national newspaper such as the USA Today would be an appropriate complement to the New York Times. Another analysis could be to look at only those fatal events that are prominently displayed in the New York Times on the front page or as part of a longer, in depth article. A third analysis could be to look at the fatal events in terms of how many different days of coverage each mishap received in the Times.

A related analysis could be to see if public policy or public opinion are affected by added coverage in the Times. One possible indicator of such an effect would be to see if changes to U.S. federal rules and regulations concerning air transportation directly mention one of the more heavily reported fatal events.

References

Flight International (UK magazine), yearly civil aviation safety review (published in late January to early February of the following year), 1979-1995.

The New York Times Index, Airlines - Accidents and Safety section, 1978-1982.

The New York Times Index, Airlines section, 1983.

The New York Times Index, Airlines and Airplanes section, 1984-1994.

U.S. Department of Transportation, various yearly accident summaries.

U.S. National Transportation Safety Board, various accident reports.

Thank You for Using AirSafe.com

Thanks for being part of the AirSafe.com audience. Feel free to use these additional resources.

Web site – www.airsafe.com - The site features extensive information about airline safety and security, as well as other information of interest to the airline community.

Airport Security – tsa.airsafe.org – Before your next flight, visit AirSafe.com to review common airport security policies to find out what's allowed and what's not allowed on the aircraft.

Podcast – podcast.airsafe.org - The Conversation at AirSafe.com podcast highlights current airline safety and security issues of high interest. Available on iTunes and other major podcast providers.

Videos – video.airsafe.org - Featuring the videos from the Conversation at AirSafe.com podcast, this will take you directly to the AirSafe.com channel on YouTube, where you can review or comment on the most popular videos from the site.

Newsletter – airsafenews.com - All the latest AirSafe.com news, including notices of new podcasts and other items of interest.

Crash Videos – planecrashes.blogspot.com - This is AirSafe.com's collection selected crash videos from around the world, including crashes from airlines, military units, and private aircraft.

Celebrity Plane Crashes – celebrity.airsafe.org - This is AirSafe.com's collection selected crash videos from around the world, including crashes from airlines, military units, and private aircraft.

Fear of Flying Resources – fear.airsafe.org - Basic background information about fear of flying and suggestions about how a passenger can deal with the fear.

Free Downloads

Feel free to download the following resources from Todd Curtis and AirSafe.com:

Parenting and the Internet – Published in 2007, this is a practical how-to manual on managing online children. Document includes additional resources for parents.
<http://www.airsafe.com/downloads/pati.pdf>

AirSafe.com Podcasting Manual – This step-by-step guide gives any organization, from a middle school to corporations, the foundation to create an audio or video podcast, put that podcast on iTunes, YouTube and elsewhere, and to do so without spending much money.
<http://www.airsafe.com/classes/airsafe-podcasting-manual-draft.pdf>

Feedback

Send your comments and questions by phone at 206-300-8727, using the feedback form at feedback.airsafe.org, or by email at tcurtis@airsafe.com

Dr. Todd Curtis
AirSafe.com