SAFETY
Commercial Air Carrier Fatality Rate

Federal Aviation Administration

FY 2008 Performance Target

"In FY 2008, the commercial air carrier fatality rate will not exceed 8.88 fatalities per 100 million people on board."

Flight Plan Objective and Performance Target

Objective 1: Reduce Commercial Air Carrier Fatalities

Performance Target: Cut the rate of fatalities per 100 million persons on board in half by 2025.

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008[1]
Target	N/A	N/A	N/A	N/A	8.88
Actual	N/A	N/A	N/A	N/A	

[1] This is a new measure for FY 2008, replacing the Commercial Air Carrier Fatal Accident Rate. No data are available for prior years.

Definition of Measure

Unit of Measure: Number of fatalities per 100 million persons on board.

Computation: Number of fatalities, including ramp accidents and other fatalities as a result of the accident, divided by number of passengers and crew on board flights.

Formula:

$$\frac{\text{Number of commercial air carrier fatalities}}{(\text{Number of persons on board}/100{,}000{,}000)}$$

Scope of Measure: This measure includes both scheduled and nonscheduled flights of U.S. passenger and cargo air carriers (14 CFR Part 121) and scheduled flights of regional operators (14 CFR Part 135). It excludes on-demand (i.e., air taxi) service and general aviation. Accidents involving passengers, crew, ground personnel, and the uninvolved public are all included.

Why the FAA Chooses this Measure

We chose this measure because it is easy to understand and measures the individual risk to the flying public. As fatal air carrier accidents have declined in terms of average fatalities per accident, this measure will sharpen FAA's focus on helping air travel become even safer.

Source of the Data

The data on commercial fatalities come from the National Transportation Safety Board's (NTSB's) Aviation Accident Database. Aviation accident investigators under the auspices of the NTSB develop the data. Air carriers submit data for all passengers on board to the Office of Airline Information (OAI) within the Bureau of Transportation Statistics. FAA will estimate crew on board based on the distribution of aircraft departures by make and model, plus an average of 3.5 persons on board per Part 121 cargo flight.

Statistical Issues

Both accidents and passengers on board are censuses, having no sampling error. However, crew on board will be an estimate, but crew staffing in fact varies only within a very small range for any given make-model. Departure data and enplanements for Part 121 are from the Bureau of Transportation Statistics (BTS). The crew estimate is based on fleet makeup and crew requirements per number of seats. For the current fleet, the number of crew is equal to about seven percent of all Part 121 enplanements. The average number of cargo crew on board is 3.5 per departure, based on data from subscription services such as Air Claims, a proprietary database used by insurers to obtain information such as fleet mix, accidents and claims. Cargo crews typically include two flight crew members, and occasionally another pilot or company rep, or two deadheading passengers. Part 135 data also comes from BTS and Air Claims databases, but is not as complete. AEP calls the operators where BTS data have gaps. Based on previous accident and incident

reports, the average Part 135 enplanement is five per departure. Crew estimates for Part 135 are based on previous accident and incident data. Any error that might be introduced by estimating crew will be very small and will be overwhelmed by the passenger census. Also note that the fatality rate is small and could significantly fluctuate from year to year due to a single accident.

Completeness

The FAA does comparison checking of the departure data collected by BTS. This data is needed for crew estimates. However, FAA has no independent data sources against which to validate the numbers submitted to BTS. FAA compares its list of carriers to the DOT list to validate completeness and places the carriers in the appropriate category (i.e., Part 121 or Part 135). The number of actual persons on board data for any given period of time is considered preliminary for up to 18 months after the close of the reporting period. This is due to amended reports subsequently filed by the air carriers. Preliminary estimates are based on projections of the growth in departures developed by the Office of Policy, Planning and Environment. However, changes to the number of persons on board should rarely have an effect on the annual fatality rate. NTSB and FAA's Office of Accident Investigation meet regularly to validate the accident and fatality count.

To overcome reporting delays of 60 to 90 days, FAA must rely on historical data, partial internal data sources, and Official Airline Guide (OAG) scheduling information to project at least part of the fiscal year activity data. FAA uses OAG data until official BTS data are available. The air carrier fatal accident rate is not considered reliable until BTS provides preliminary numbers. Due to reporting procedures in place, it is unlikely that calculation of future fiscal year departure data will be markedly improved. Lacking complete historical data on a monthly basis and independent sources of verification increases the risk of error in the activity data.

Reliability

Results are considered preliminary based on projected activity data. FAA uses performance data extensively for program management, personnel evaluation, and accountability. Most accident investigations are a joint undertaking. NTSB has the statutory responsibility to determine probable cause, while FAA has separate statutory authority to investigate accidents and incidents in order to ensure that FAA meets its broader responsibilities. FAA's own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators.