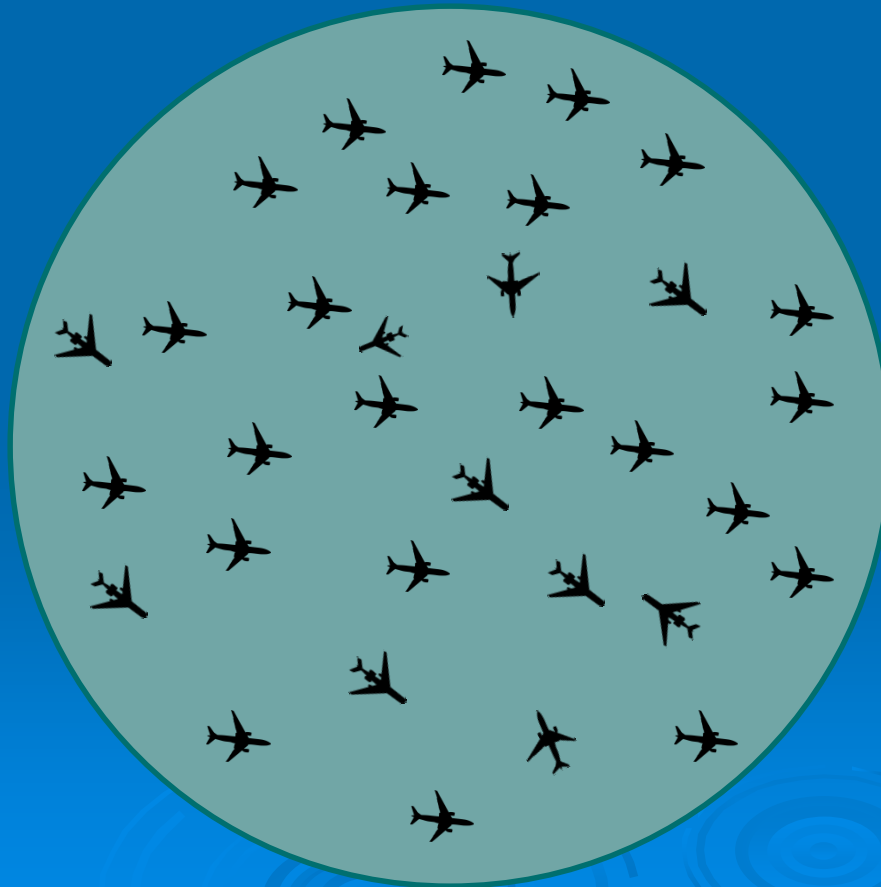


# Fatality Risk Overview



## What is Fatality Risk?

Fatality risk is a measure of a person's (passenger or crew) chance of perishing in an accident on a randomly chosen flight.

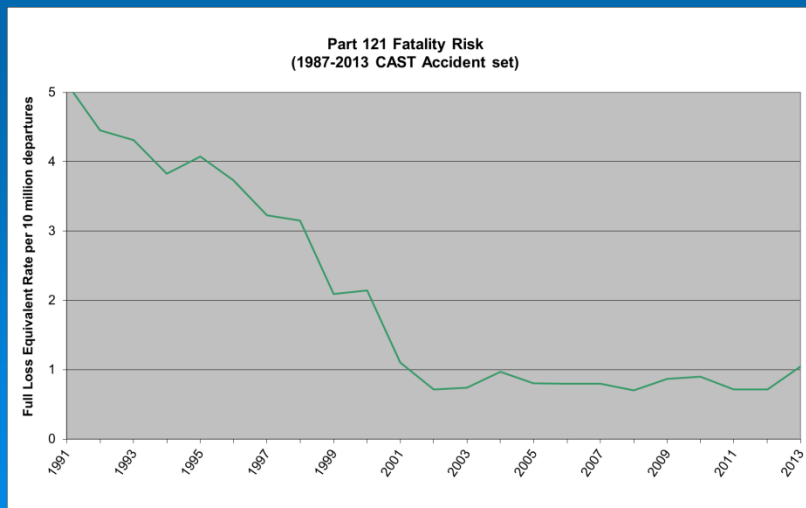


# Fatality Risk Can be Shown as Pareto or as a Defined Rate

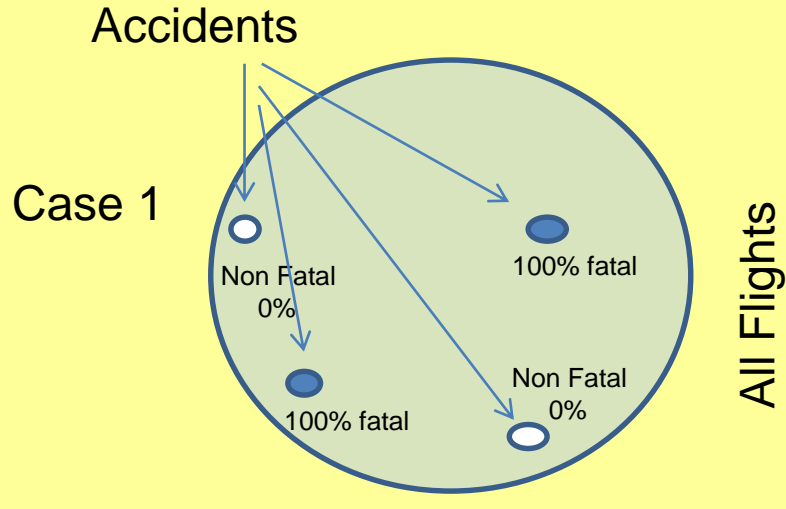
A fatality risk accident pareto is used to show the historic distribution of accident types that contributed to the overall fatality risk.



## Defined Rate

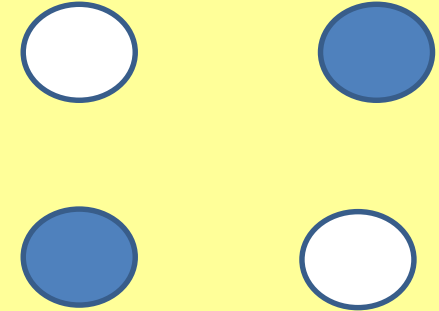


# Calculating Historical Fatality Risk

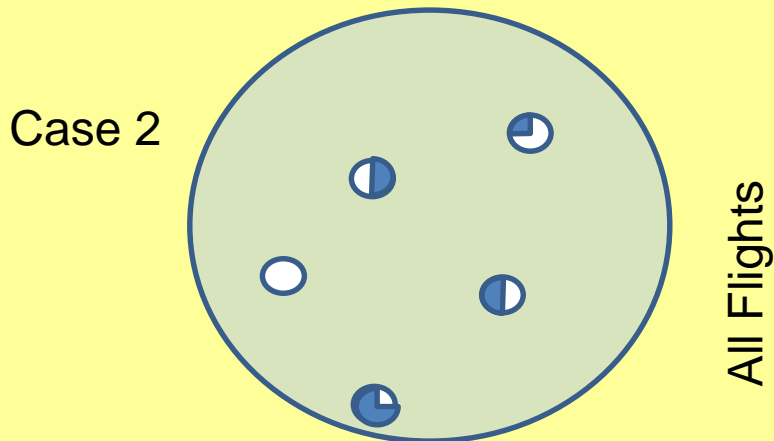


Accidents

Four Accidents - Blue is portion onboard that perish

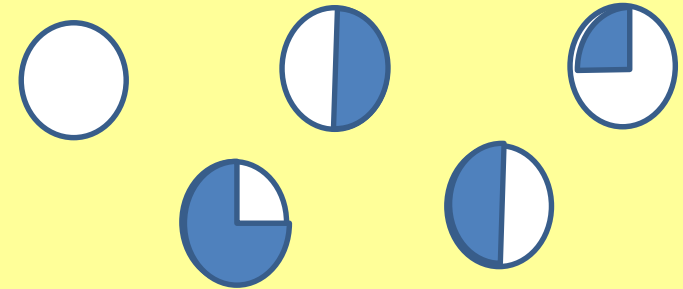


Expectation of perishing on a randomly chosen flight =  $2 / \text{total number of flights}$



Accidents

Five Accidents - Blue is portion onboard that perish



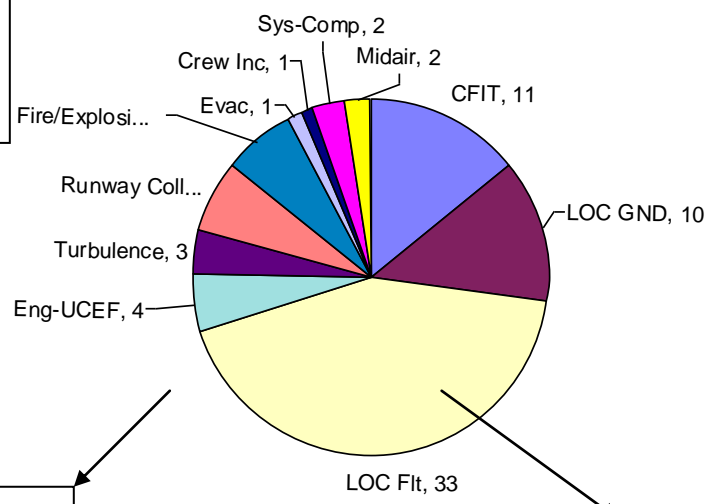
Expectation of perishing on a randomly chosen flight =  $2 / \text{total number of flights}$

Compare Case 1 & Case 2

Chance of perishing on a randomly chosen flight is the same for Case 1 & Case 2  
 =  $2 / \text{total number of flights}$

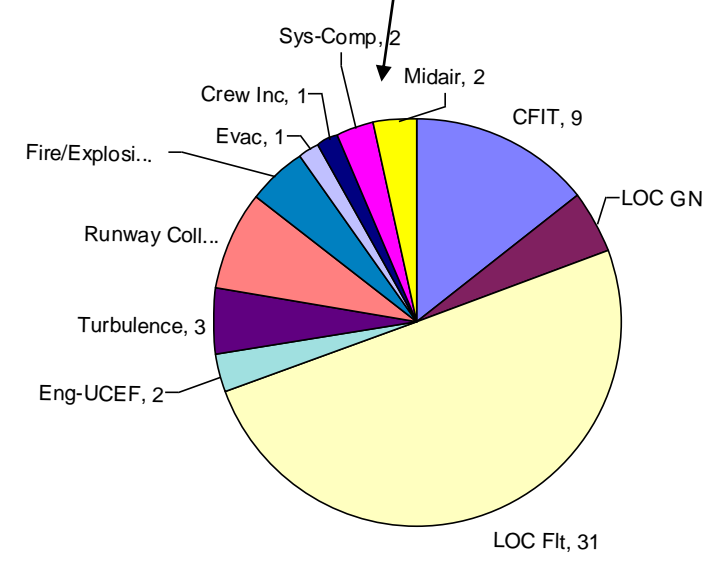
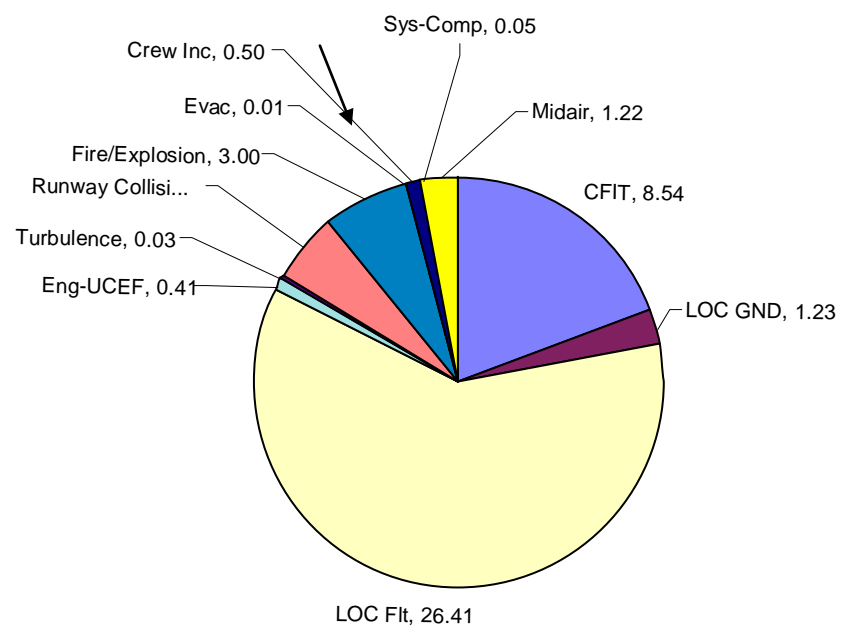
$$\text{Fatality Risk Rate} = \frac{\sum (\text{portions of onboard people that perish in accidents})}{\sum \text{All Flights}}$$

**1987-2000 Part 121 Hull Loss  
And/or Fatal Accidents (77  
Accidents)  
(~118 E6 Departures 1987-2000)**



**Fatality risk:** The number of full airplane fatality equivalents occurring in accident period (43.9 full airplane equivalents)

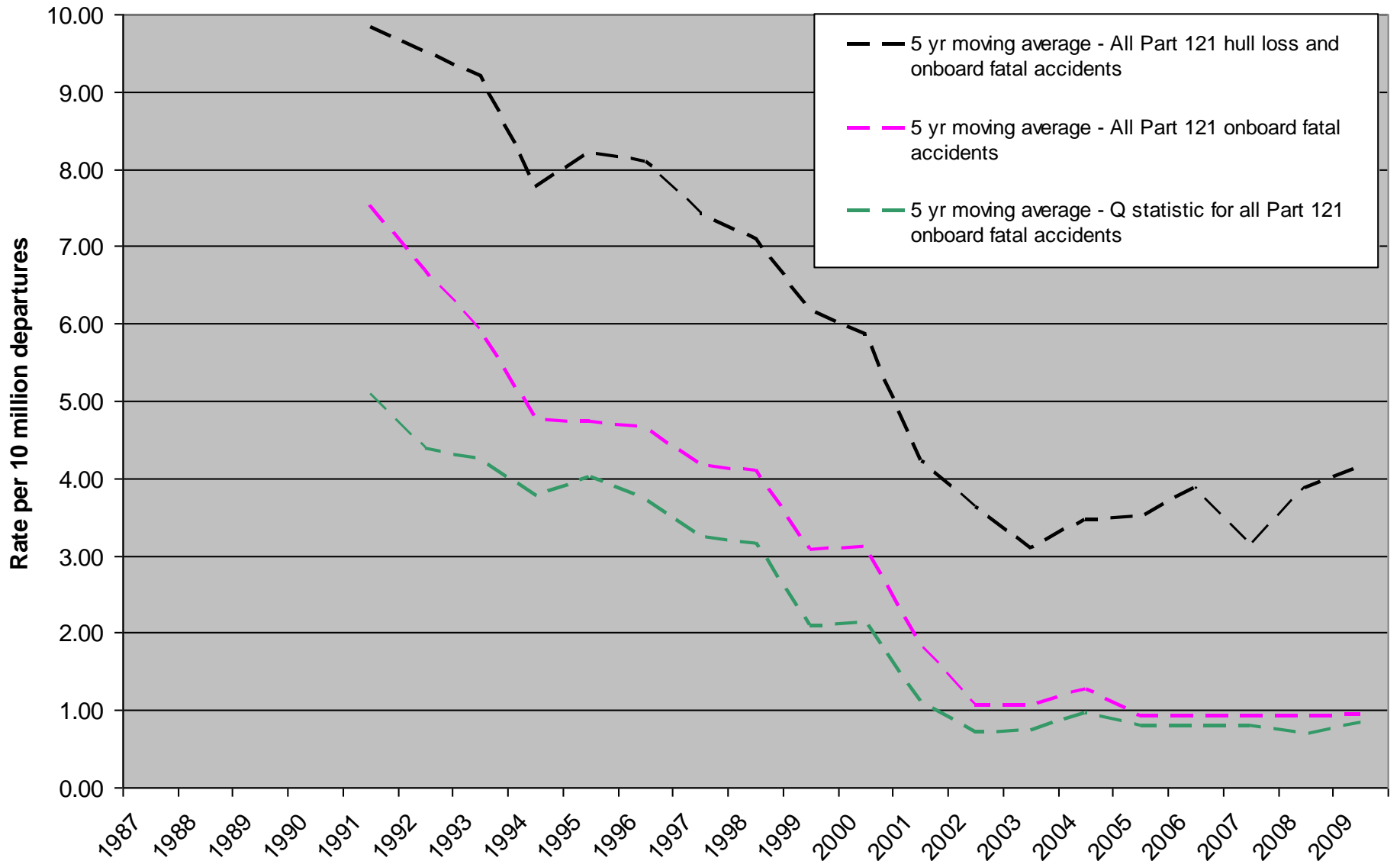
**Fatal accident rate:** The number of fatal accidents occurring in a given period (62 accidents had on board fatalities)



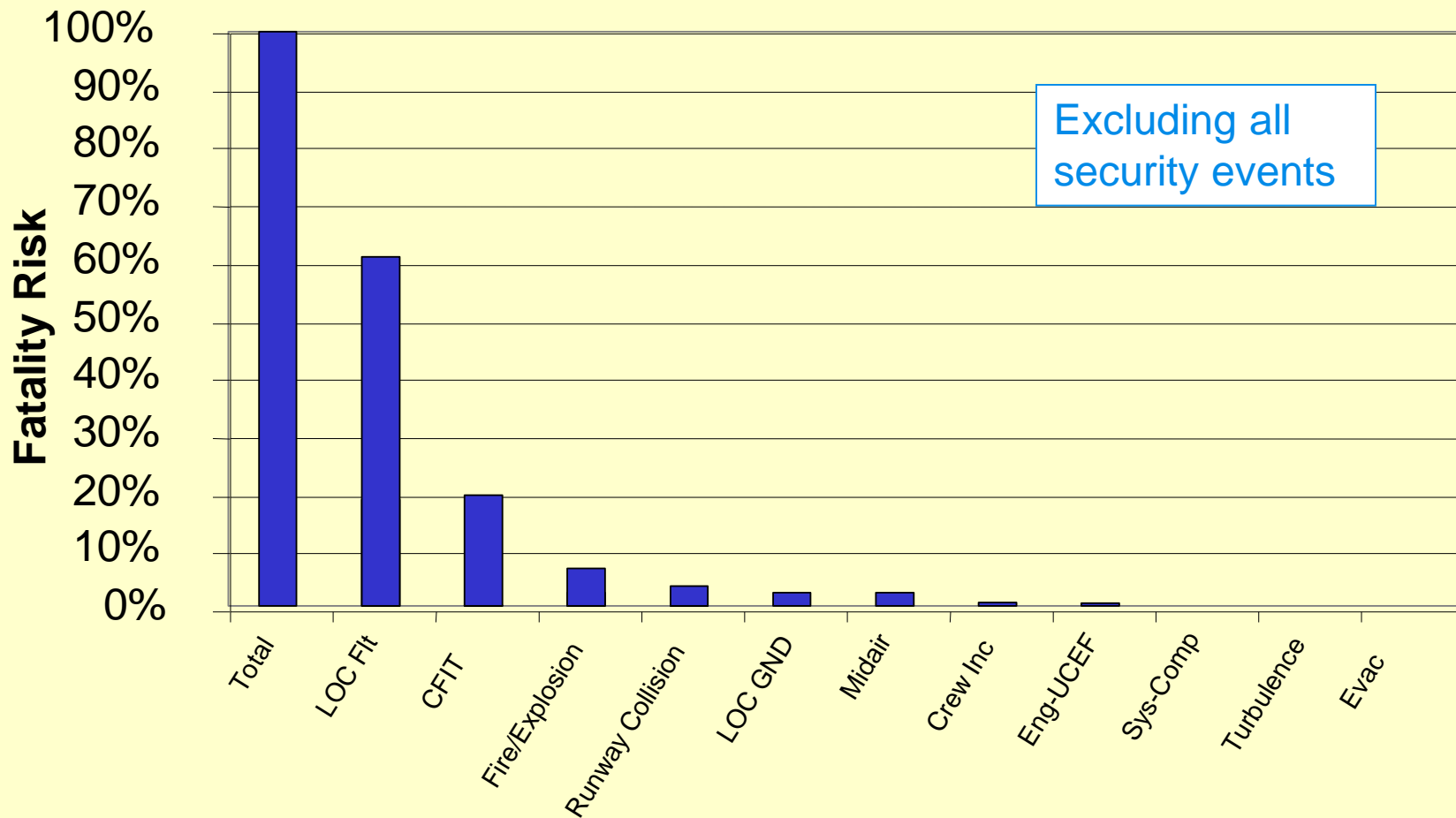
**Basis for Fatality Risk Reduction  
(Current CAST Metric)**

**Basis for Fatality Accident  
Rate Reduction**

### Part 121 Accident Trend Comparison (CAST Accident set)



## Historical Part 121 Fatality Risk (1987-2000)



Questions?

