



**Federal Aviation
Administration**

Accident and Prevention Update

Presented to: 2011 Air Charter Safety Symposium

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Investigation and Prevention, AVP-1

Date: March 16, 2011



Presentation Overview

- **Accident investigation overview**
- **What we see in Part 135 & Part 91K accidents and trends.**
- **How we can help each other.**



Office of Accident Investigation & Prevention

- **Accident Investigation ****
- **Data Analysis ****
- **NTSB Recommendations**
- **FAA Safety Recommendations**
- **Safety Management System**



Investigation Mission

- **NTSB leads the investigation**
- **FAA participates as a party**
 - Assist the NTSB investigator in charge
 - Identifies necessary FAA experts
 - Obtains FAA information
 - Arranges interviews with FAA employees
 - Identifies areas of FAA responsibilities



The Nine FAA Responsibilities

- Performance of FAA facilities or functions
- Performance of non-FAA owned and operated ATC facilities or nav aids
- Airworthiness of FAA-certificated aircraft
- Competency of FAA-certificated airmen, air agencies, commercial operators, or air carriers
- Adequacy of FARs
- Airport certification safety standards or operations
- Aviation security standards or operations
- Airman medical qualifications
- Violations of FARs



Accident Statistics Update



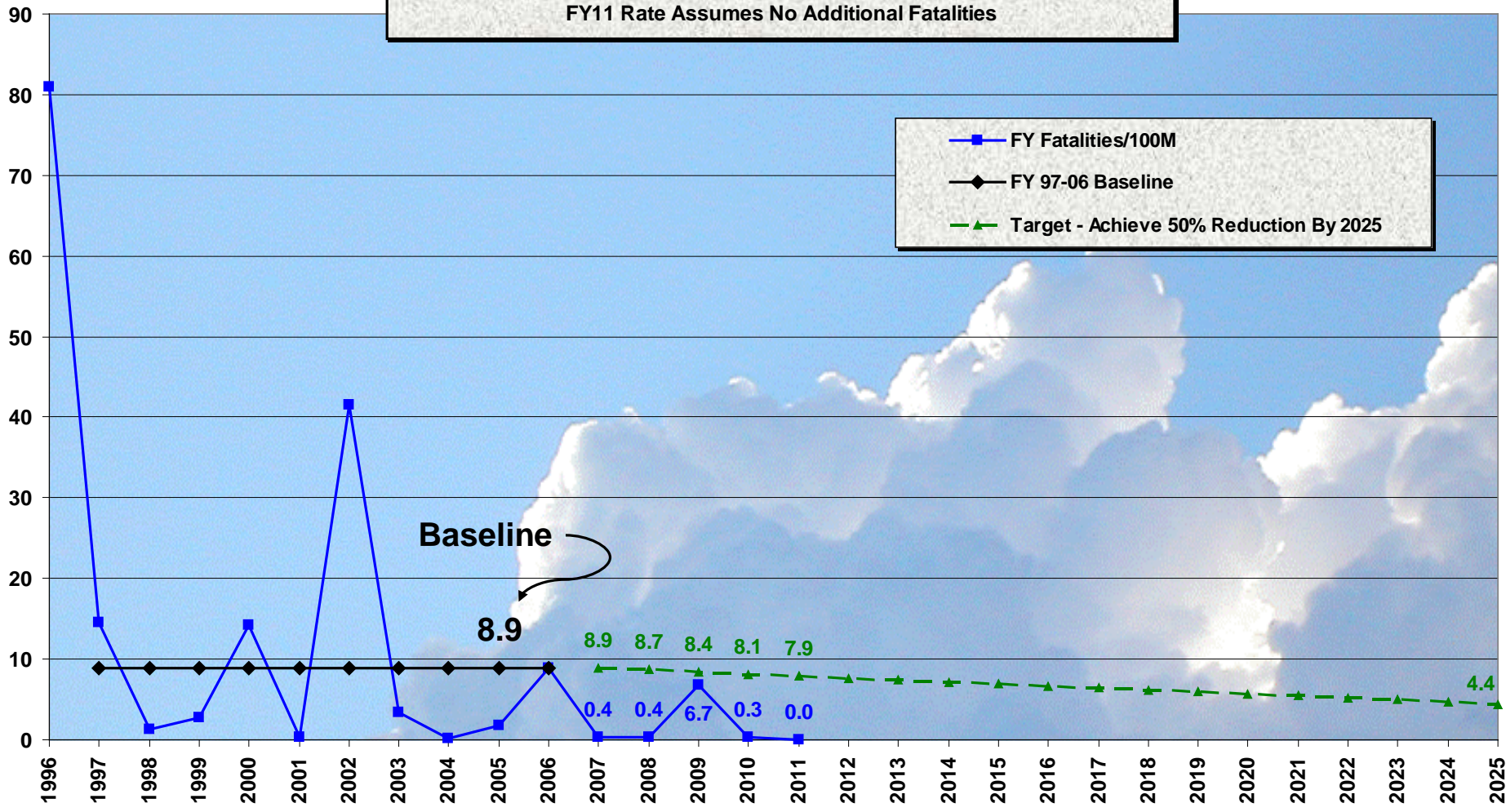
Air Carrier Fatality Rates/Targets

Fatalities per 100 Million Persons on Board

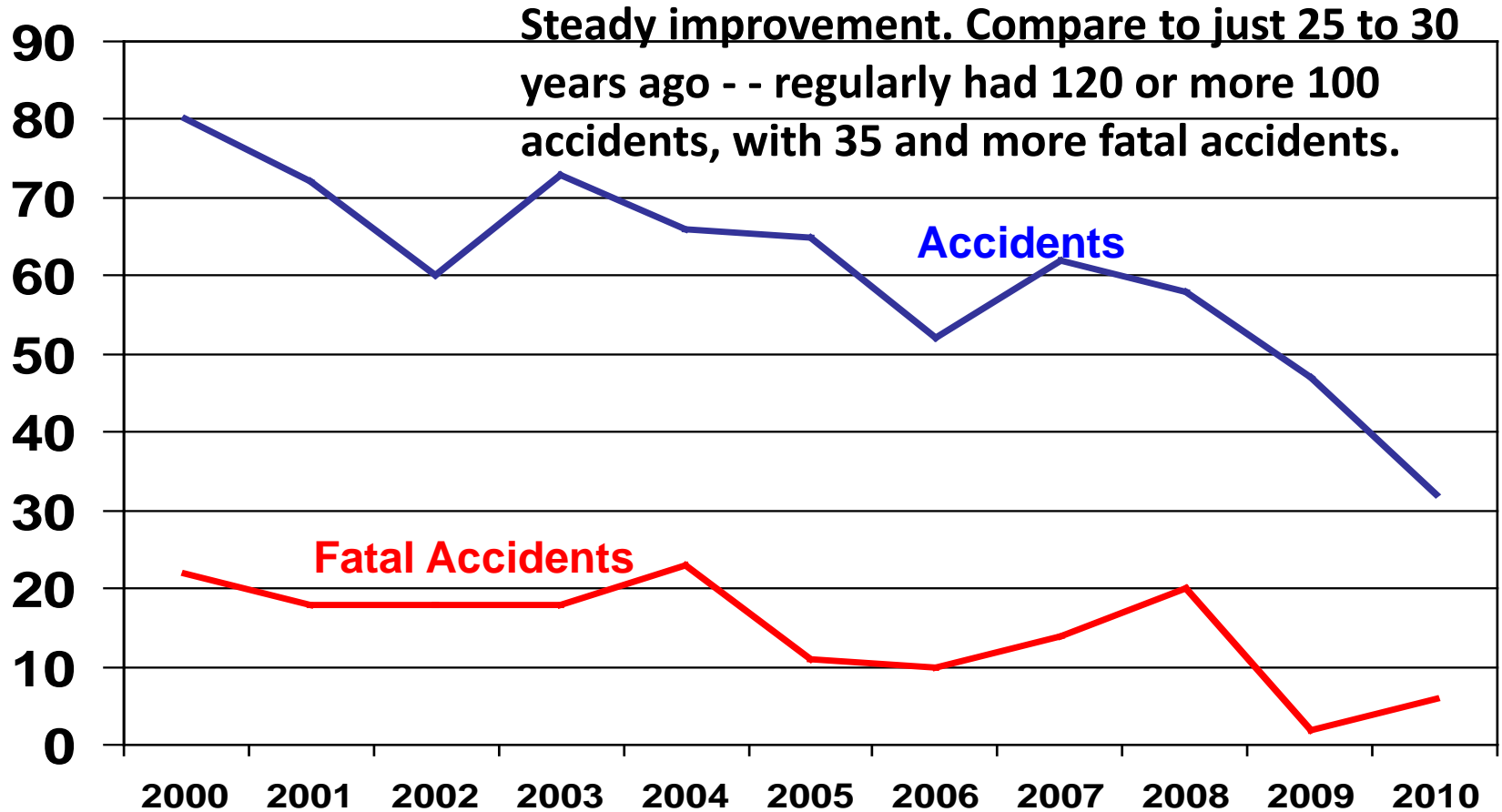
FY 11 Year-to-Date Fatalities - 0

Fatality Threshold - 62

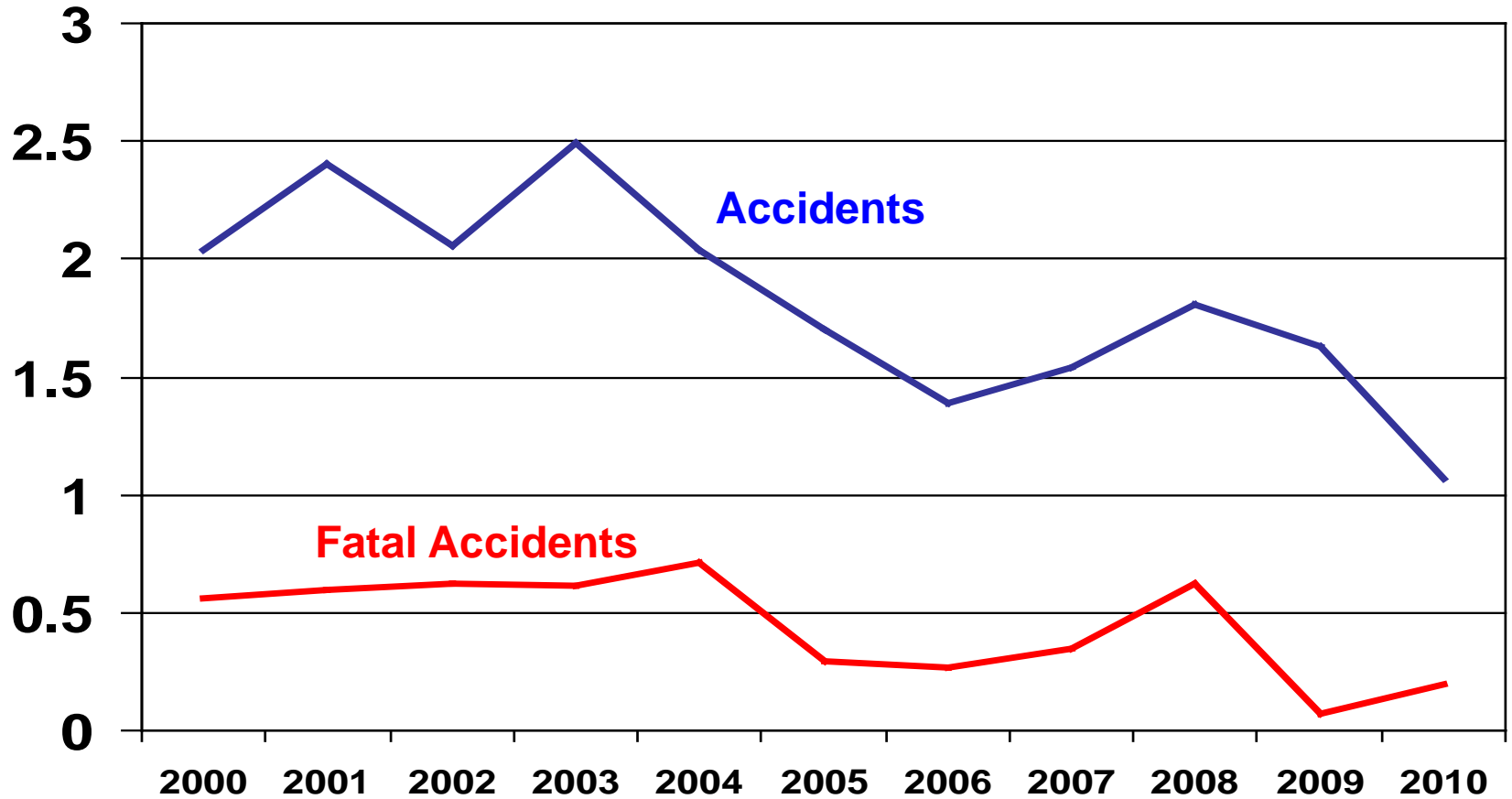
FY11 Rate Assumes No Additional Fatalities



Part 135 Accidents & Fatal Accidents

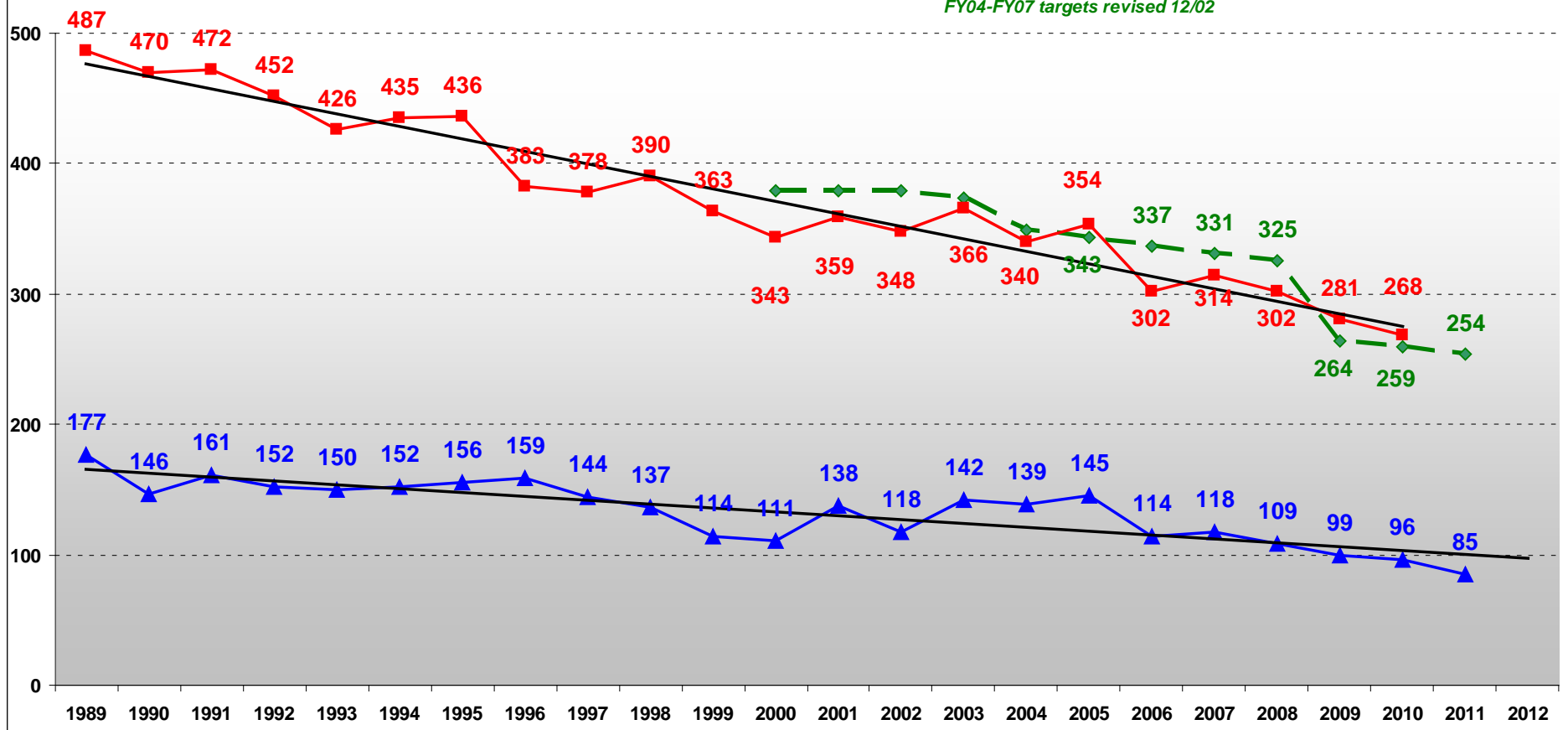


Part 135 Accidents & Fatal Accidents



COMPARISON of GENERAL AVIATION FATAL ACCIDENTS/TARGETS
 (General Aviation includes General Aviation and Unscheduled Part 135)

FY04-FY07 targets revised 12/02



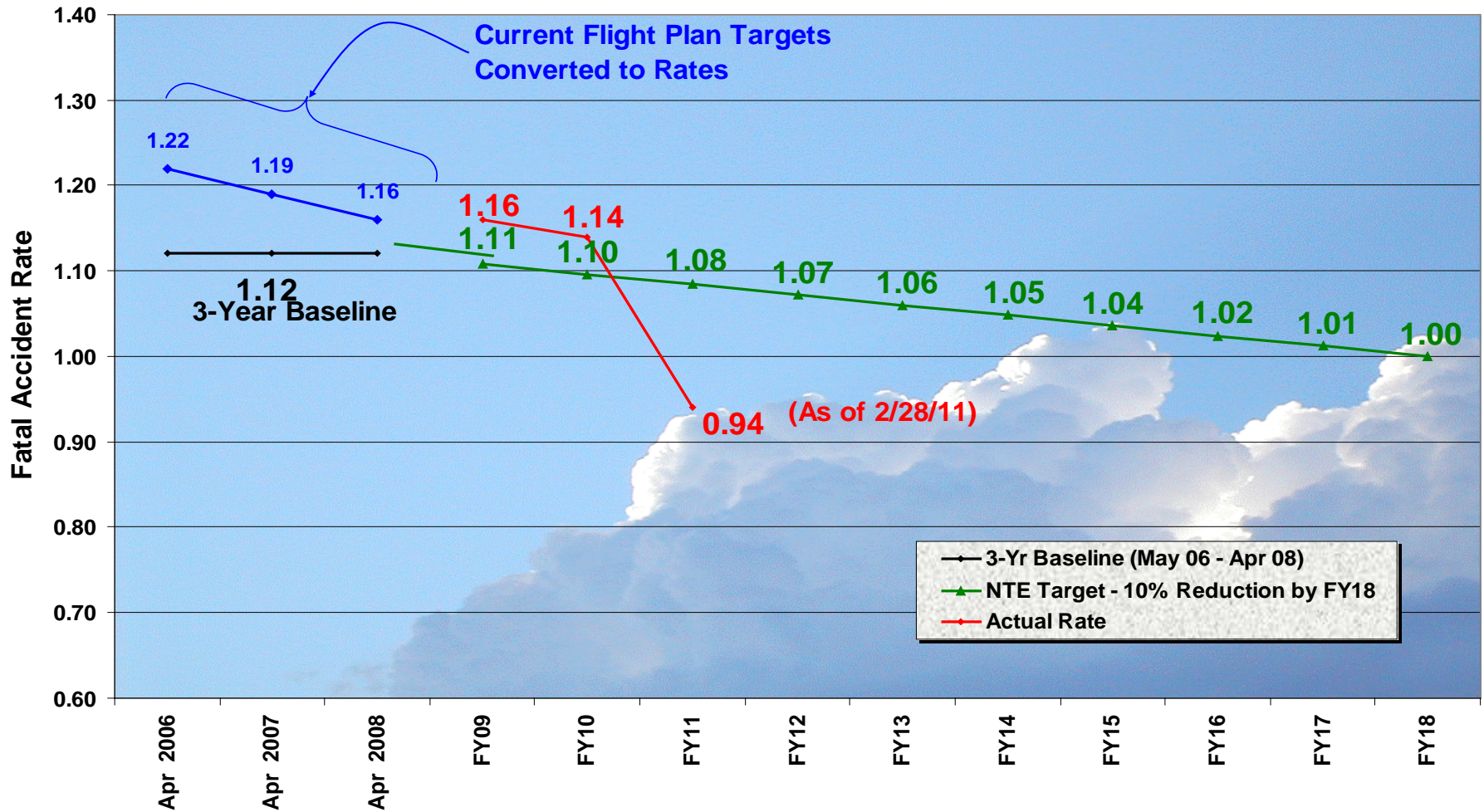
- ◆ Target (not to exceed, based on a rate of 1.10)
- Total Fatal Accidents
- ▲ YTD thru FEB. FY11
- Linear (Total Fatal Accidents)
- Linear (YTD thru FEB. FY11)



AVS FY10 Safety Performance

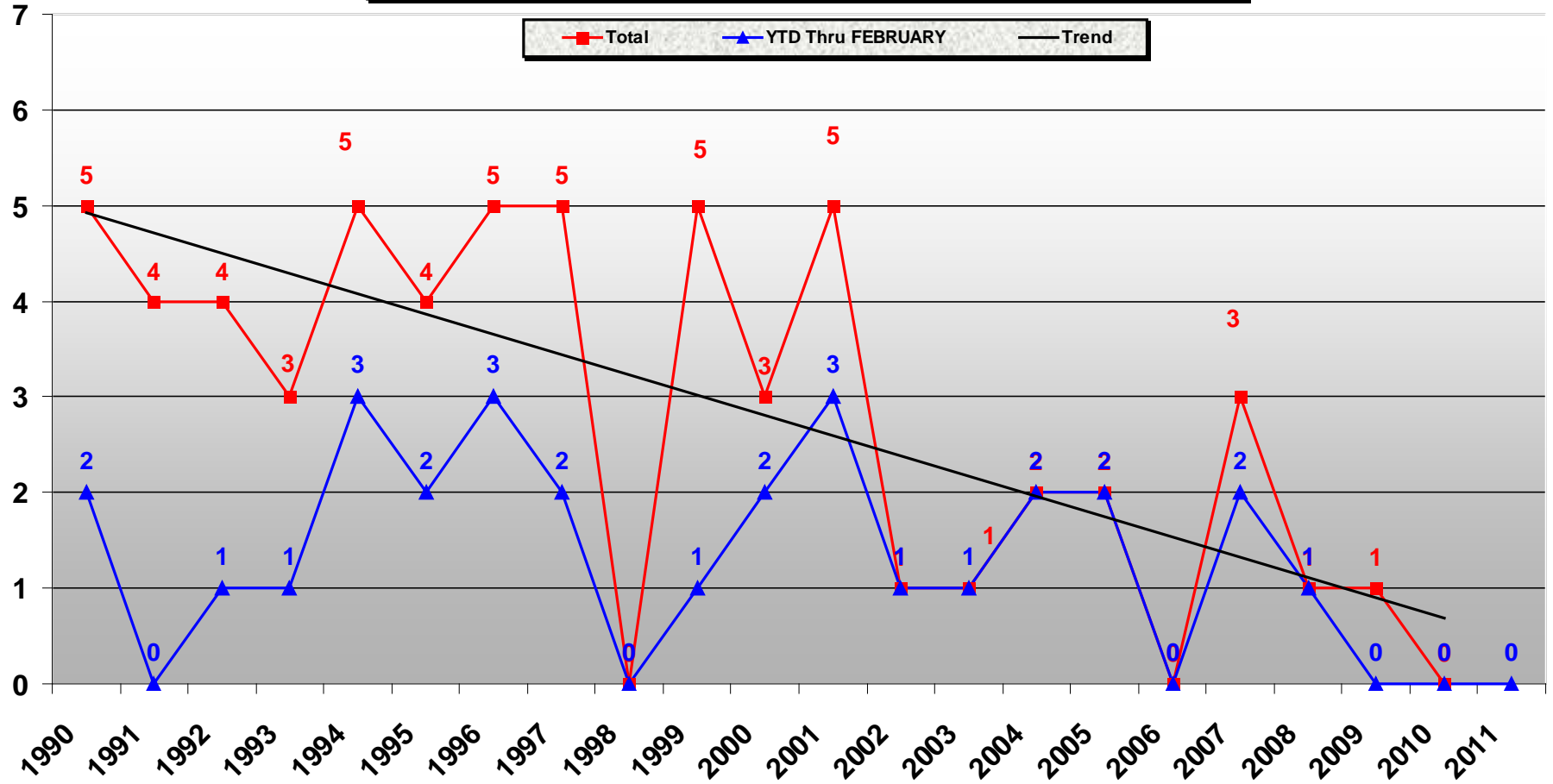
GA Fatal Accident Rate

(Fatal Accidents/100,000 Hours)



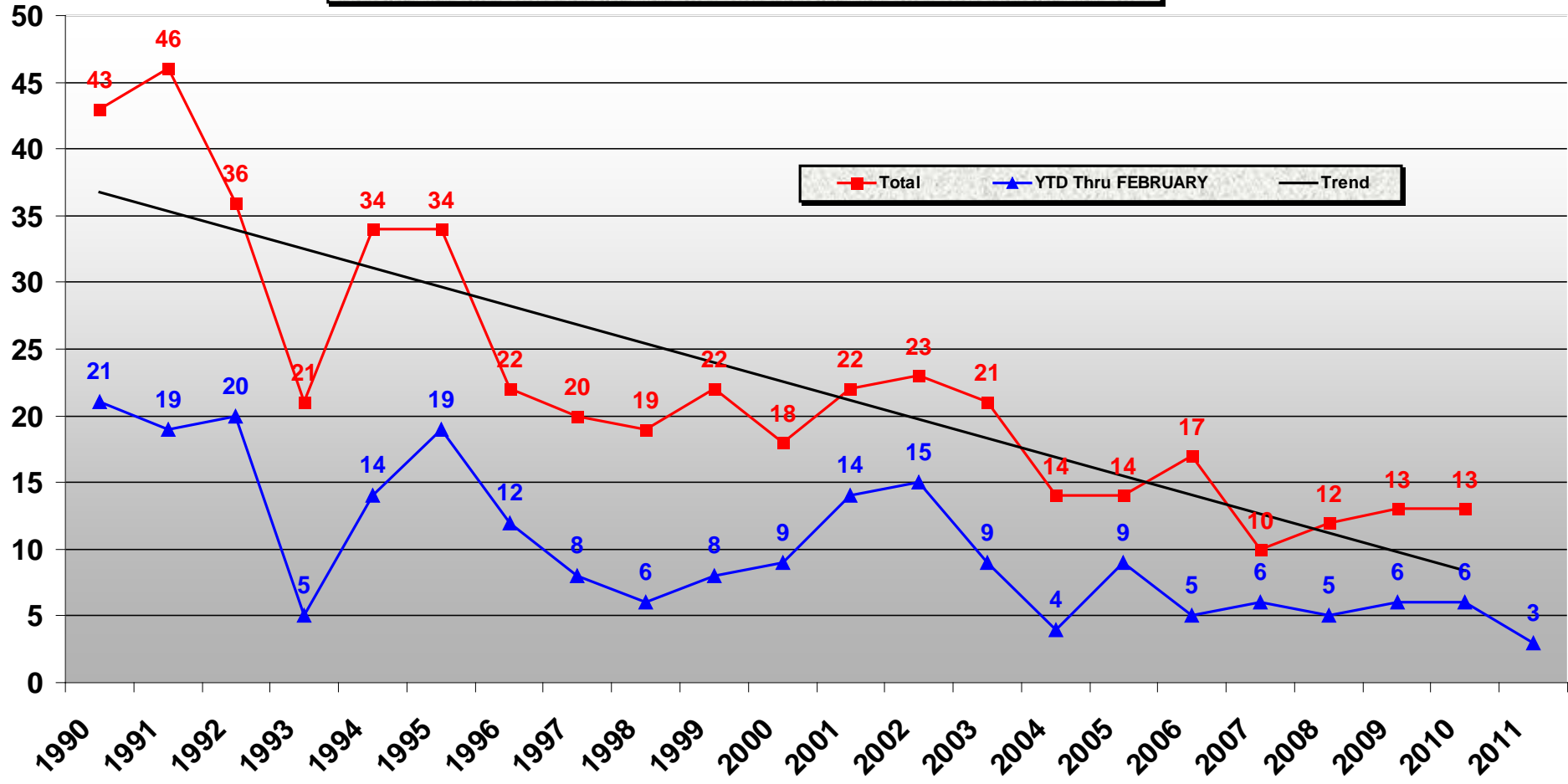
Corporate General Aviation Fatal Accidents

FY1990 - FY2011 (YTD)



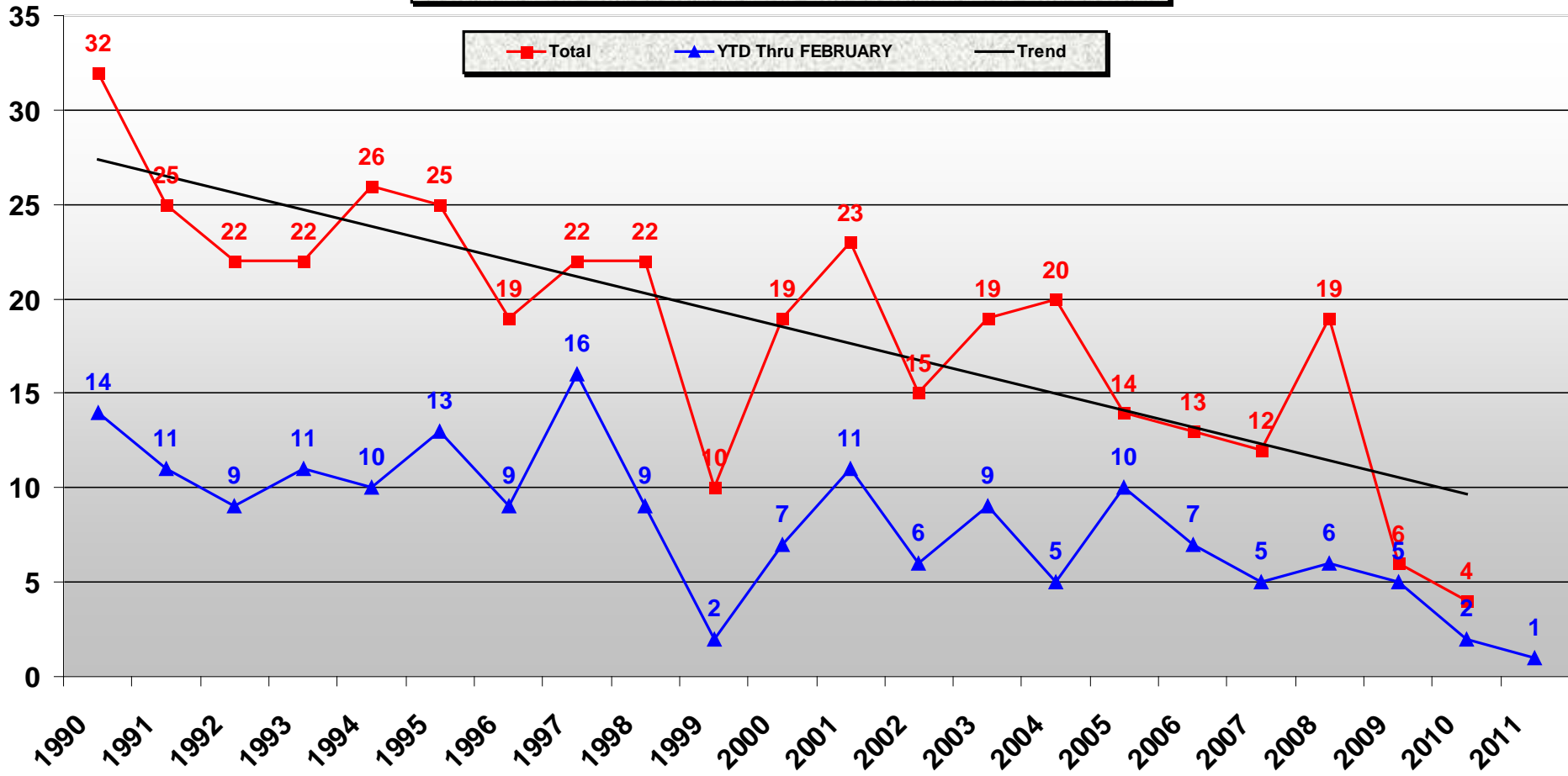
Business General Aviation Fatal Accidents

FY1990 - FY2011 (YTD)



Unscheduled Part 135 Fatal Accidents

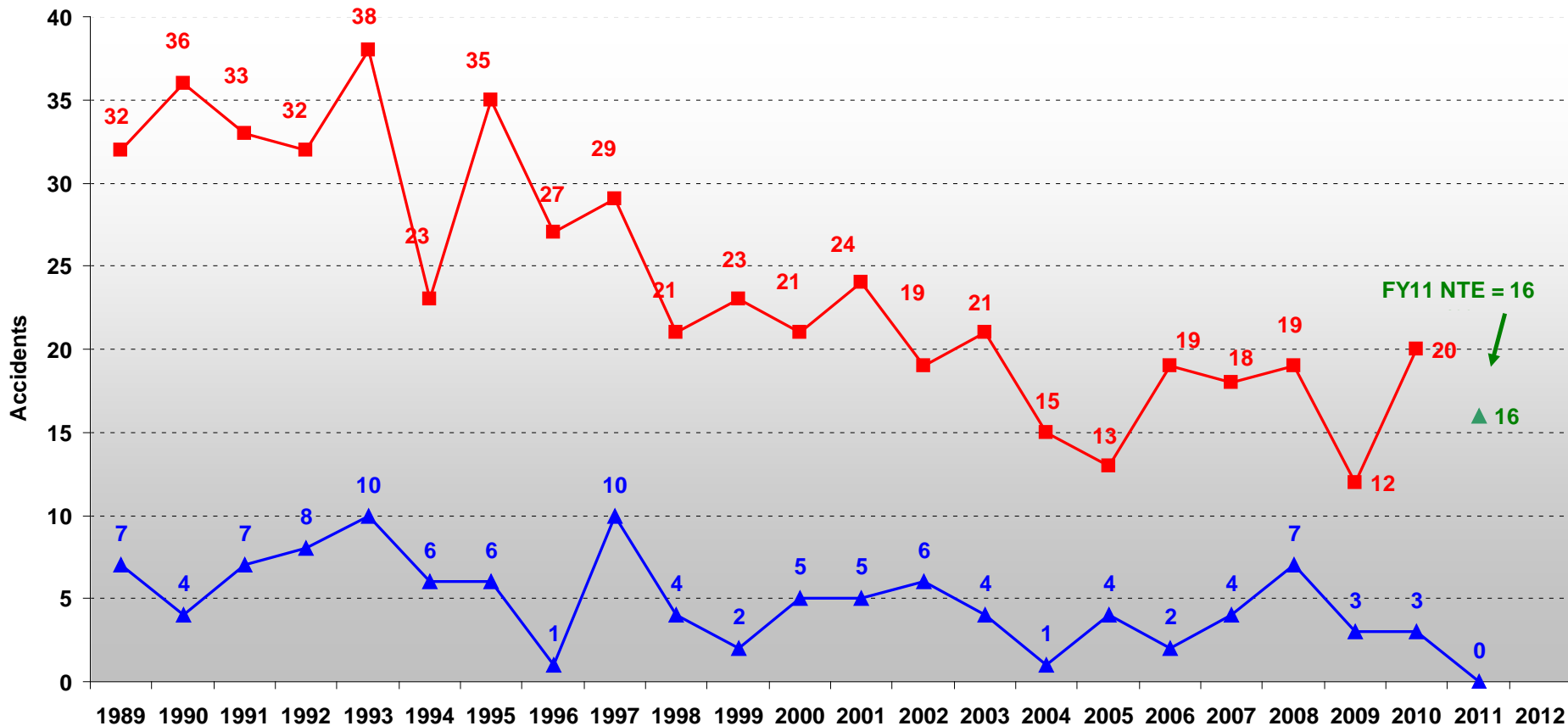
FY1990 - FY2011 (YTD)



Unscheduled Part 135 - an aircraft operator who conducts operations for hire in an aircraft with 30 or fewer seats and a payload capacity of 7,500 pounds or less. Operations are conducted on an on-demand basis and does not meet the "flight scheduled" qualifications of a commuter.

ALASKA FSI ACCIDENTS

(General Aviation and all Part 135)

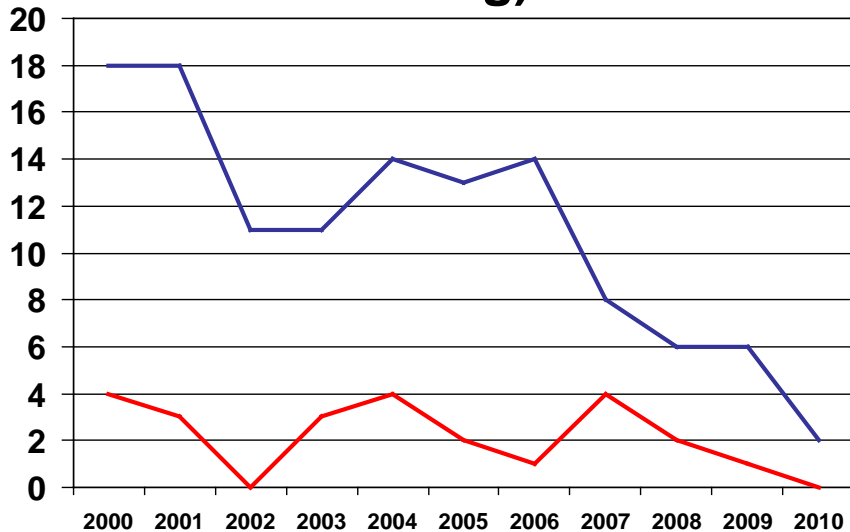


▲ FY11 NTE
 ■ ACTUAL -- Annual FSI Accidents
 ▲ ACTUAL --As of FEB. 2011



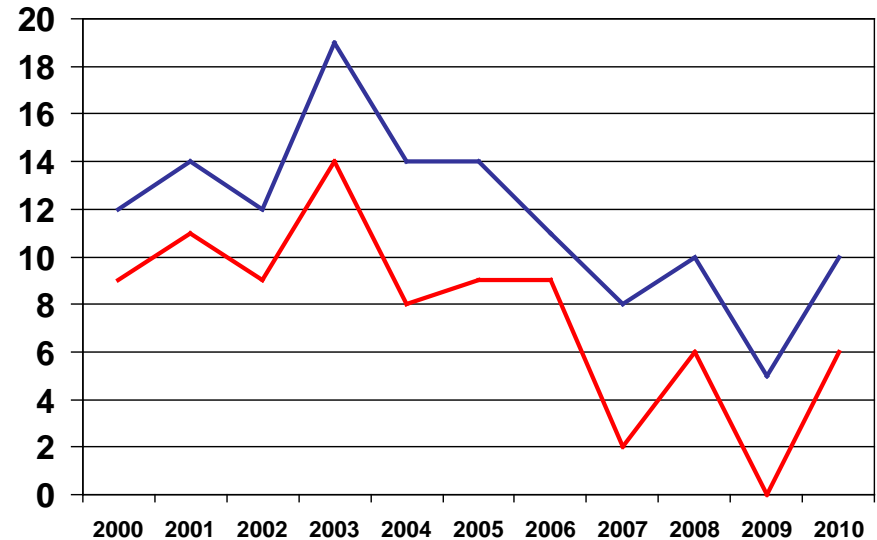
High Interest Categories: Accidents, Including Part 91 Segments

Air Tour (Rotor & Fixed-Wing)



Net growth is still positive, but curtailed by NPS limits & recent economy; rates are improving rapidly.

HEMS



Rapid growth in volume; very rapid improvement in rates.



Some Remaining, Basic Risks

135: VFR at night, weather & some mänge to combine VFR at night in weather.

Basic risk calculations (EMS, 135 cargo)

Maintenance Issues

BUT, as the preceding charts indicate, things continue to improve throughout 135.



Use of data in Prevention Activities



Prevention Mission

The bottom line: as the number of serious accidents and corresponding rates continue to decrease throughout aviation, achieving the next breakthrough in rates and absolute numbers becomes more challenging.

Though basic accident investigation and the analysis of accidents will remain fundamental, we need more than that.

We need to monitor known precursors to accidents and we need to integrate complex databases to identify exactly where and why certain risks persist.

With better data and better analysis, we can set priorities based on real insight into the integrated system. That is new.



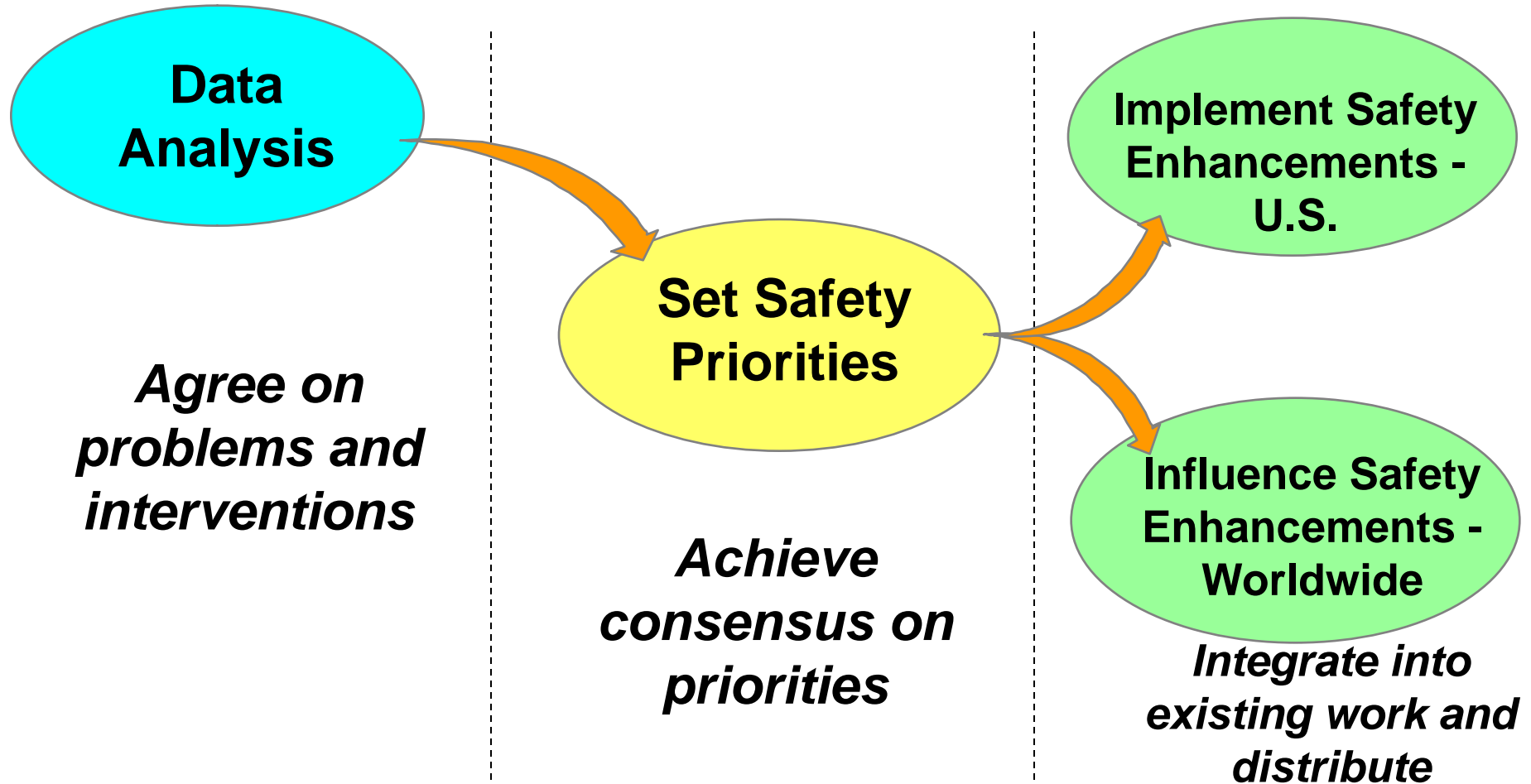
Government-Industry Partnerships

- **Commercial Aviation Safety Team (CAST)**
- **International Helicopter Safety Team (IHST)**
- **General Aviation – Joint Steering Committee (GA-JSC)**



How CAST Works

CAST Safety Strategy



CAST Accomplishments

- **Forensic analysis of US and world accidents since 1987 (ongoing)**
- **Industry and government cooperative safety plan:**
 - 72 Prioritized Safety Enhancements
 - 50 Complete and 22 underway
 - *Projected 74% fatality risk reduction by 2020*
- **Development of proactive analytic processes for incident data**
- **CAST was the recipient of the 2008 Collier Trophy**

For achieving an unprecedented safety level in U.S. commercial airline operations by reducing risk of a fatal airline accident by 83 percent, resulting in two consecutive years of no commercial scheduled airline fatalities



General Aviation Joint Steering Committee (GAJSC)

Steering Committee

Co-Chairs: Bruce Landsberg (AOPA/ASF)
Tony Fazio (FAA/AVP)

Government - FAA (AFS, AIR, ATO & ARP)
- NASA (Research)
- NWS

Industry - GAMA, EAA, NBAA, NATA,
& SAMA

- Strategic guidance
- Management/Approval of Safety Plan
- Provide direction
- Membership Outreach
- Provides linkage to ASIAS

Safety Analysis Team

Co-chairs: Corey Stephens (FAA)
Jens Hennig (GAMA)

Members: FAA, NTSB, AOPA, FSF, UAA, CGAR,
FAST, NAFI, Insurance, Academia, SAFE

- Identify future areas of study/risk
- Charter safety studies
- Provide guidance and direction
- Draw data from various areas
- Develop a prioritized Safety Plan
- Develop metrics to measure effectiveness of safety solutions

Working Groups

(To include SMEs from various general aviation segments, depending on study)

- Data analyses
- Safety enhancement
- Mitigation development



What the GA JSC can accomplish

- **GA accident and incident data drives direction of GA JSC activities**
- **GA JSC to charge the SAT with chartering study groups on specific topics**
- **Working groups of SMEs formed to identify risks and develop mitigations**
- **Mitigations are assessed and prioritized**
- **A cooperative industry/government GA safety plan is developed and implemented**



Aviation Safety Information, Analysis, and Sharing (ASIAS) Program

- A collaborative safety initiative between the government and industry for data sharing and analysis
- Provides
 - A national aggregation and analysis of airline safety data
 - Integration with other available NAS data for improved contextual picture
- A predictive and prognostic ability to identify risks and issues before accidents and incidents occur



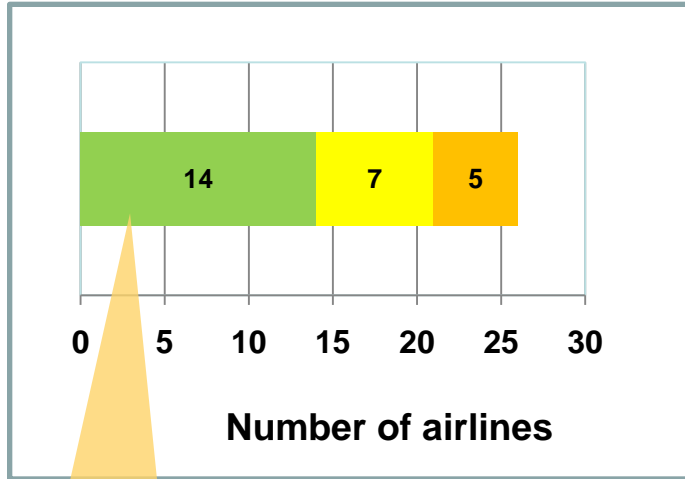
Why ASIAs

- Much of the information leveraged to reduce accidents has emerged from targeted accident investigations
- Data is insufficiently aggregated
- Agency need to address changes to air traffic management procedures, airspace design changes, airport use, avionics, and fleet mixes
- There are no industry-wide integrated analytical, forecasting, and decision support capabilities to address NextGen evolutionary procedures
- Non confidential data used as repository for FAA Safety Management System (SMS) analysis



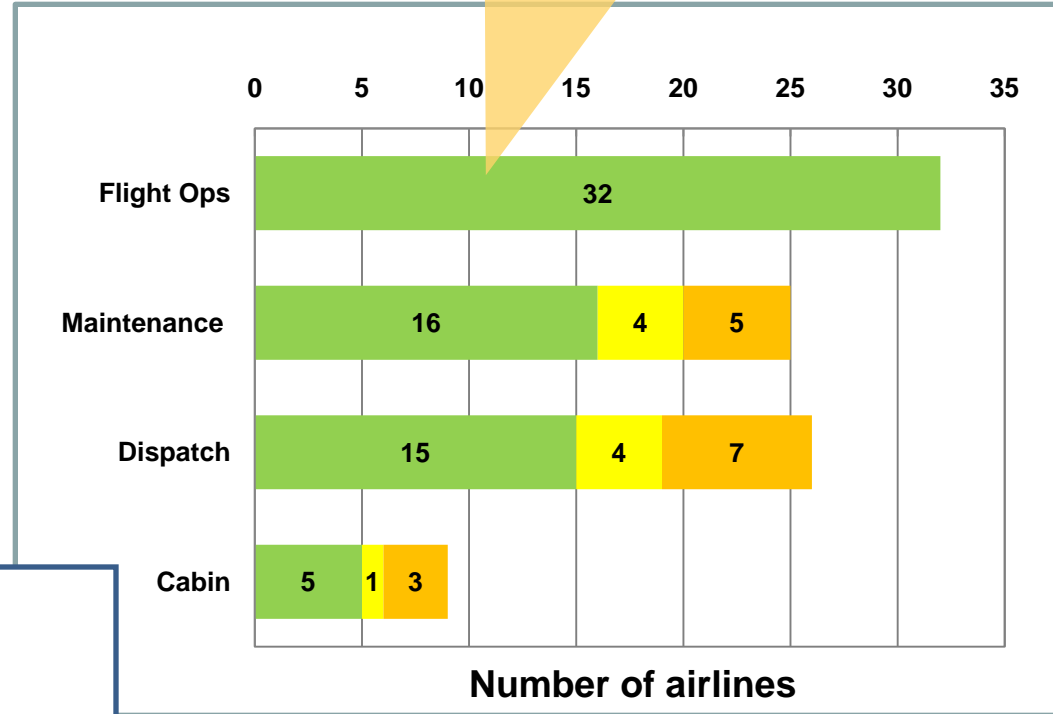
Overview of Programs Contributing Data to ASIAs

FOQA



7 million operations available for analysis

ASAP



86,000 ASAP & 16,000 ATSAP reports available for analysis

Key

- Activated
- Pending ASIAs action
- Pending airline action



Types of Proactive Safety Analyses



ASIAS Results to Date

Directed Studies	RNAV Off the Ground Departures
	RNAV Arrivals
	Controller – Pilot Communications
	Rejected Takeoffs
	Unstable Approaches
	TCAS Resolution Advisories
	Terrain Awareness Warning
Runway Safety	
Known Risk Monitoring	TAWS Alerts
	TCAS RAs
Safety Enhancement Assessment	Approach and Landing
	Controlled Flight Into Terrain
	Loss of Control
	Mid-Air Collision
	Icing
	Cargo
Maintenance	
Airline Benchmarks	Terrain Awareness Warning
	Airline Stability Metric
	TCAS Resolution Advisories

Vulnerability Discovery





Federal Aviation
Administration

2009 General Aviation and Part 135 Activity Survey



Associate Administrator for Aviation Safety ✈

HD 111900



Federal Aviation
Administration



Better Estimates of Flight Hours

- The annual GA and Air Taxi Activity Survey is the official source of estimated flight hours for Part 135 and for all corporate operators.
- The Survey methods and outreach was greatly improved in 2004
- Since then the quality of the data has improved enormously, but it still needs to improve.
- You can help simply by filling out a survey each year.
- Whether the individuals in this room realize it or not, if your company has an Op Spec, or if you operate a helicopter or a jet, you DO receive a survey.
- If you operate multiple aircraft, summary data will do the job. It is not that painful these days, and the source data is protected.

