



Earl F. Weener, Ph.D.
Board Member

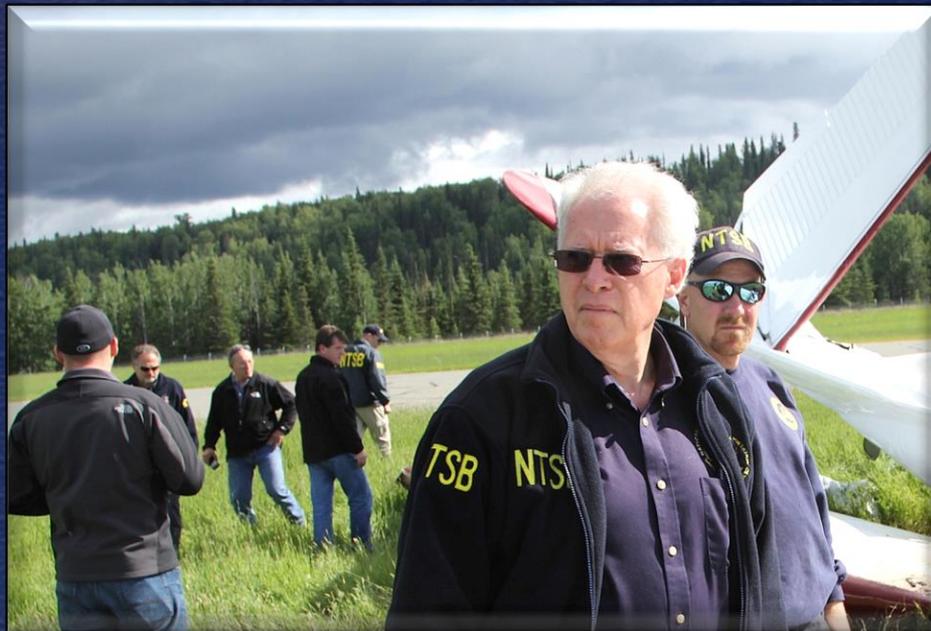
NTSB National Transportation Safety Board

Collaboration in the Pursuit of Safety

IATSBA
Washington, D.C.
April 29, 2016

NTSB's Multi-Modal Mandate

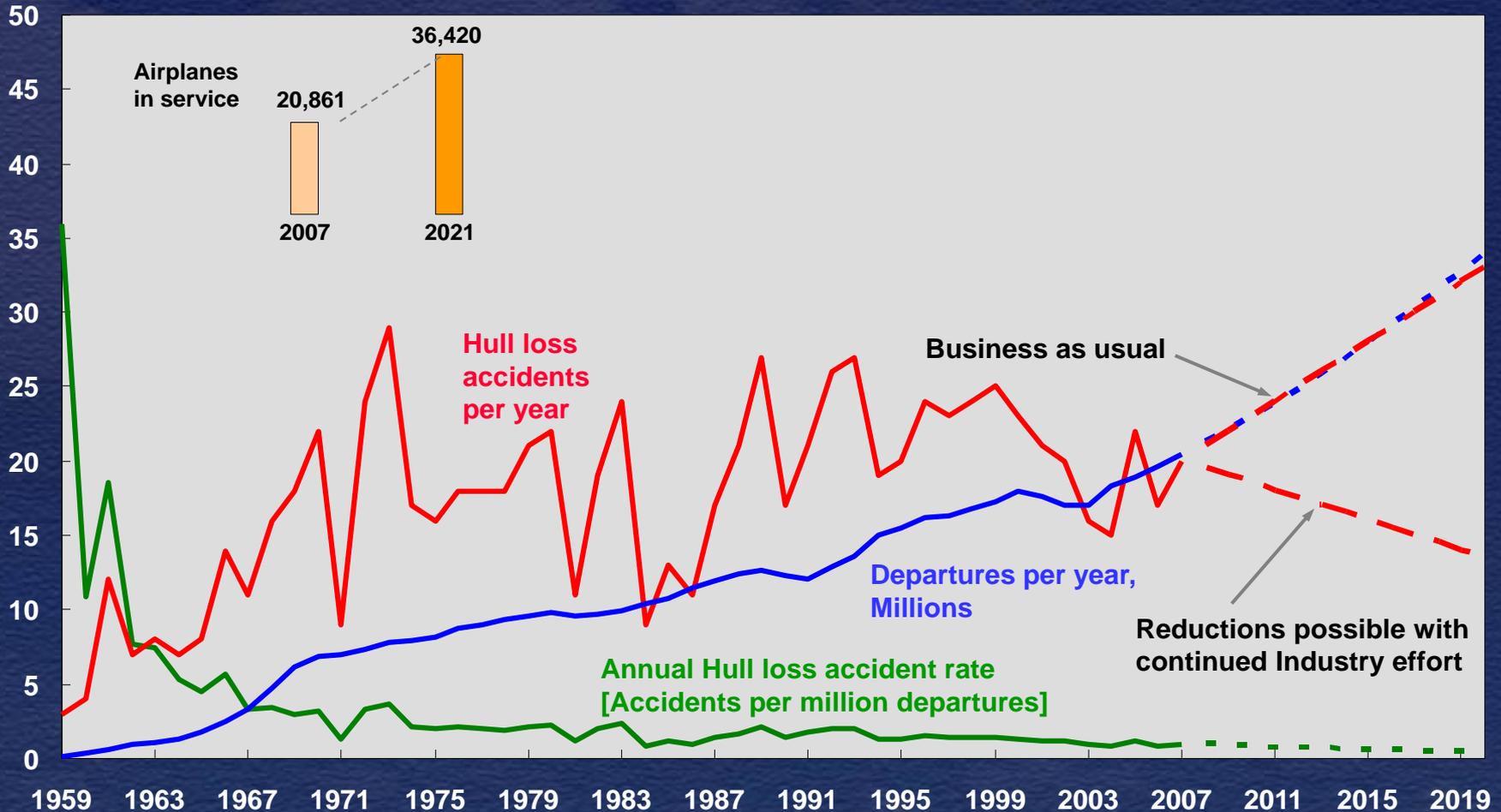
- Maintain congressionally mandated independence/objectivity
- Conduct objective accident investigations and safety studies
- Perform fair & objective airman/mariner certification appeals
- Advocate safety – NTSB Most Wanted List, recommendations



Today We'll Cover

- The lessons from CAST
- Hopes for GAJSC
- Safety Management and Culture

We Need to Continuously Improve Aviation Safety



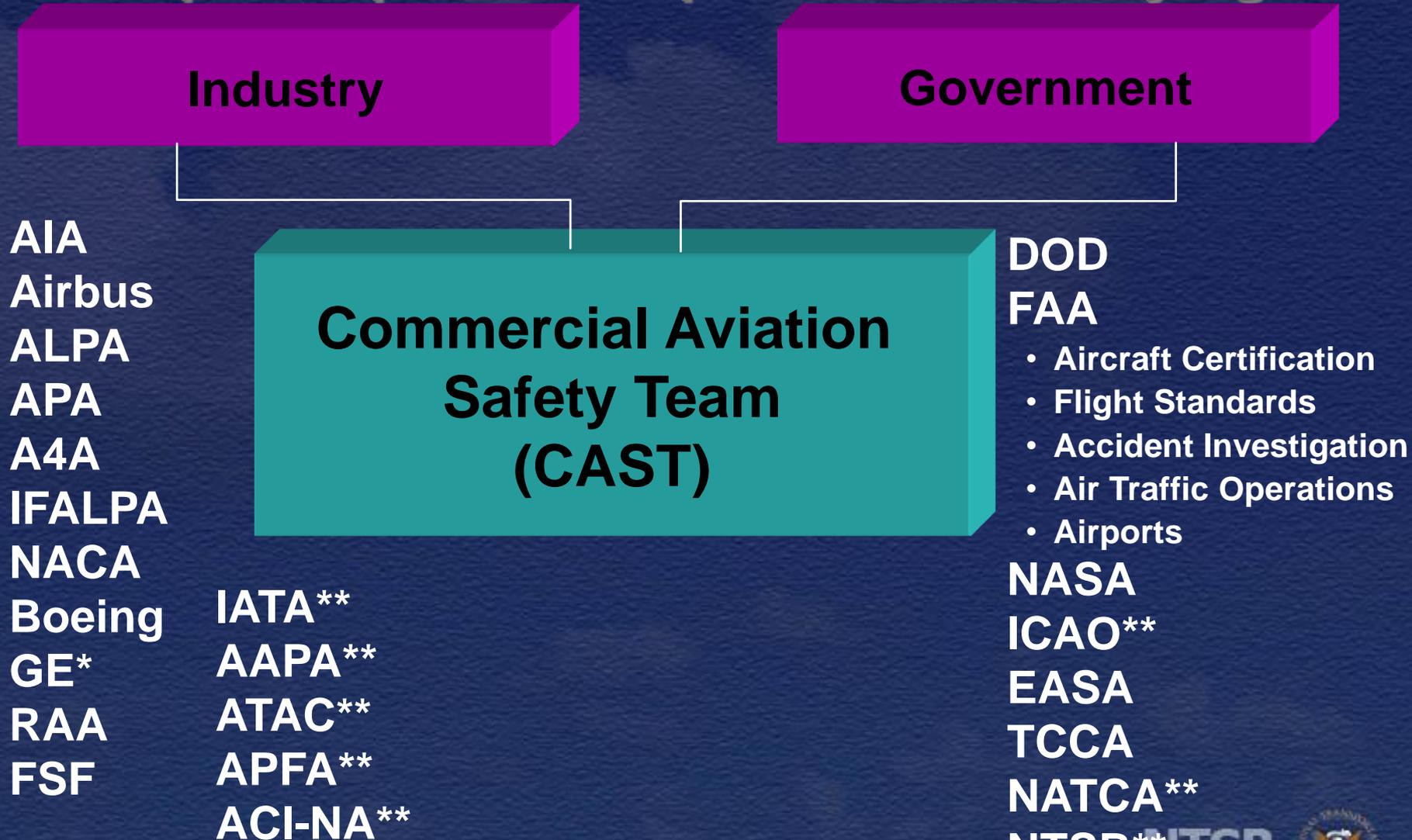
Note: All departures after 2007 are estimated



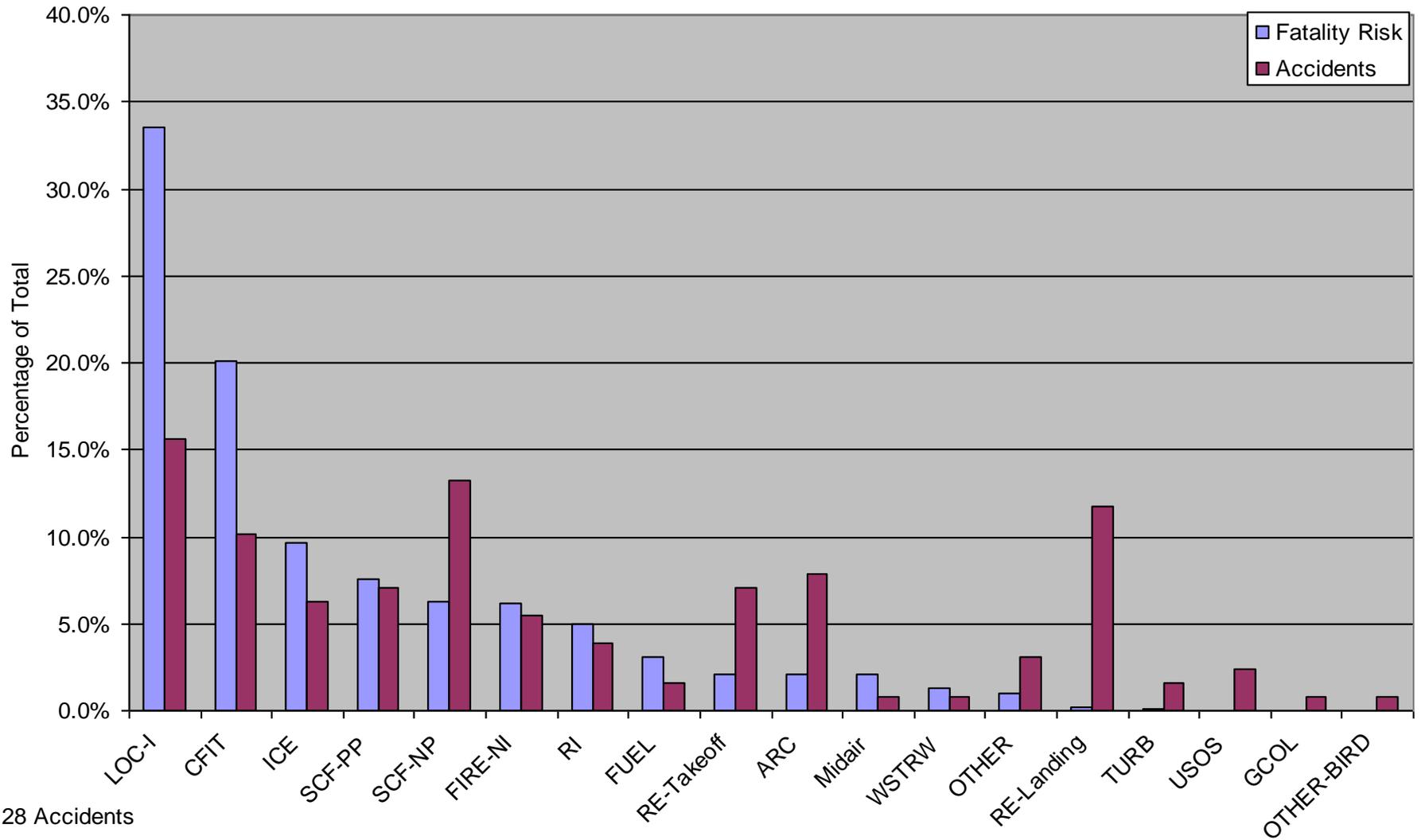
Commercial Aviation Safety Team

- Founded in 1998
- Goal to reduce the commercial aviation fatality rate in US 80% within 10 years
- No regulatory authority
- Comprised of stakeholders from industry, pilots, government and safety organizations

CAST brings key stakeholders to cooperatively develop & implement a prioritized safety agenda



1987-2011 Part 121 Hull Loss and Fatal Accidents

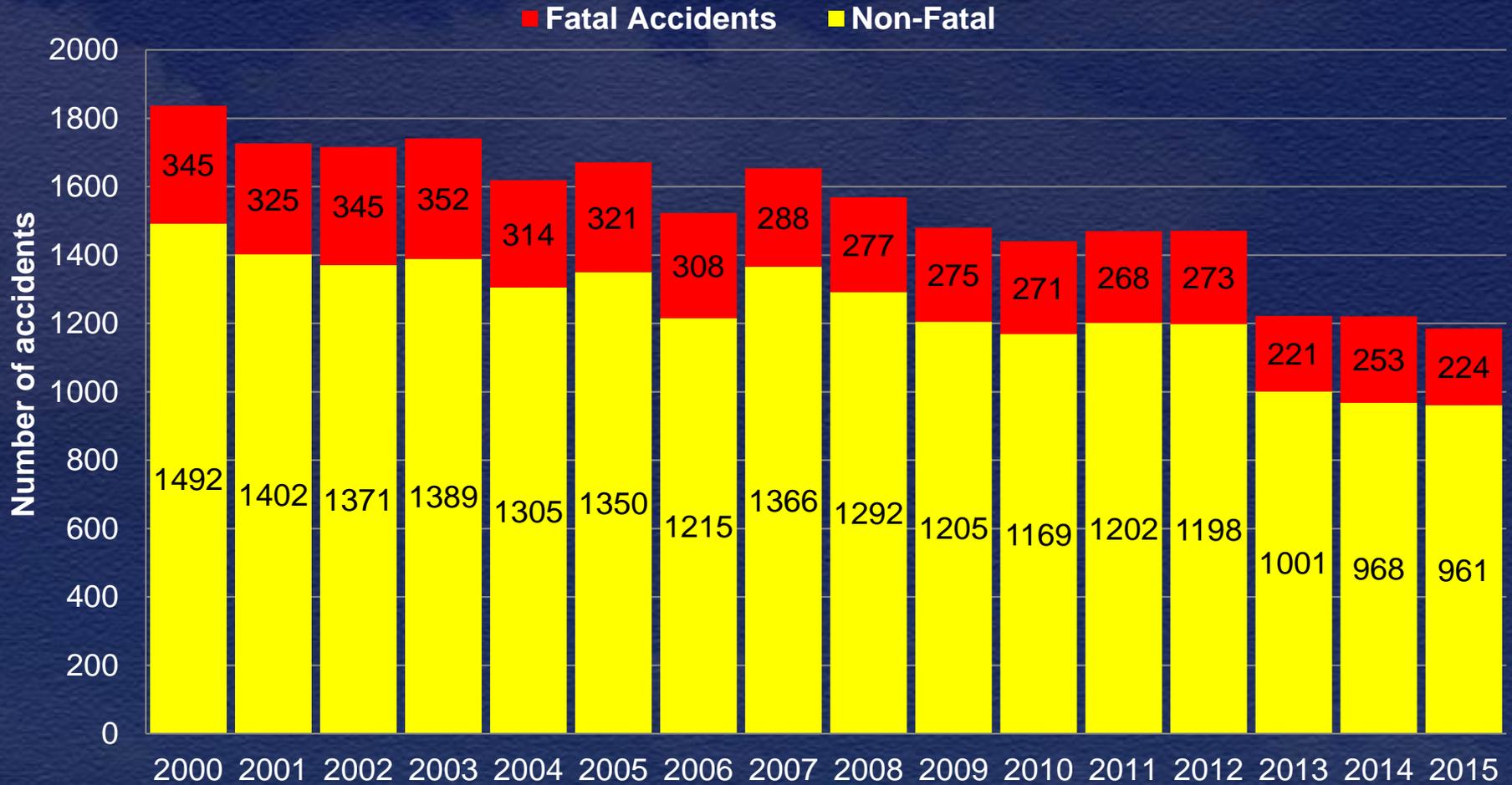


Commercial Aviation Safety Team

- By 2008, the fatality rate in US reduced by **83%**
- Primary tools – Flight data & event reporting
- Ongoing mission to reduce the U.S. commercial aviation fatalities at least 50% by 2025
- Work with international partners to reduce commercial aviation fatalities world-wide



All GA Accidents



*2015 Preliminary numbers



GA Accident-involved Fatalities

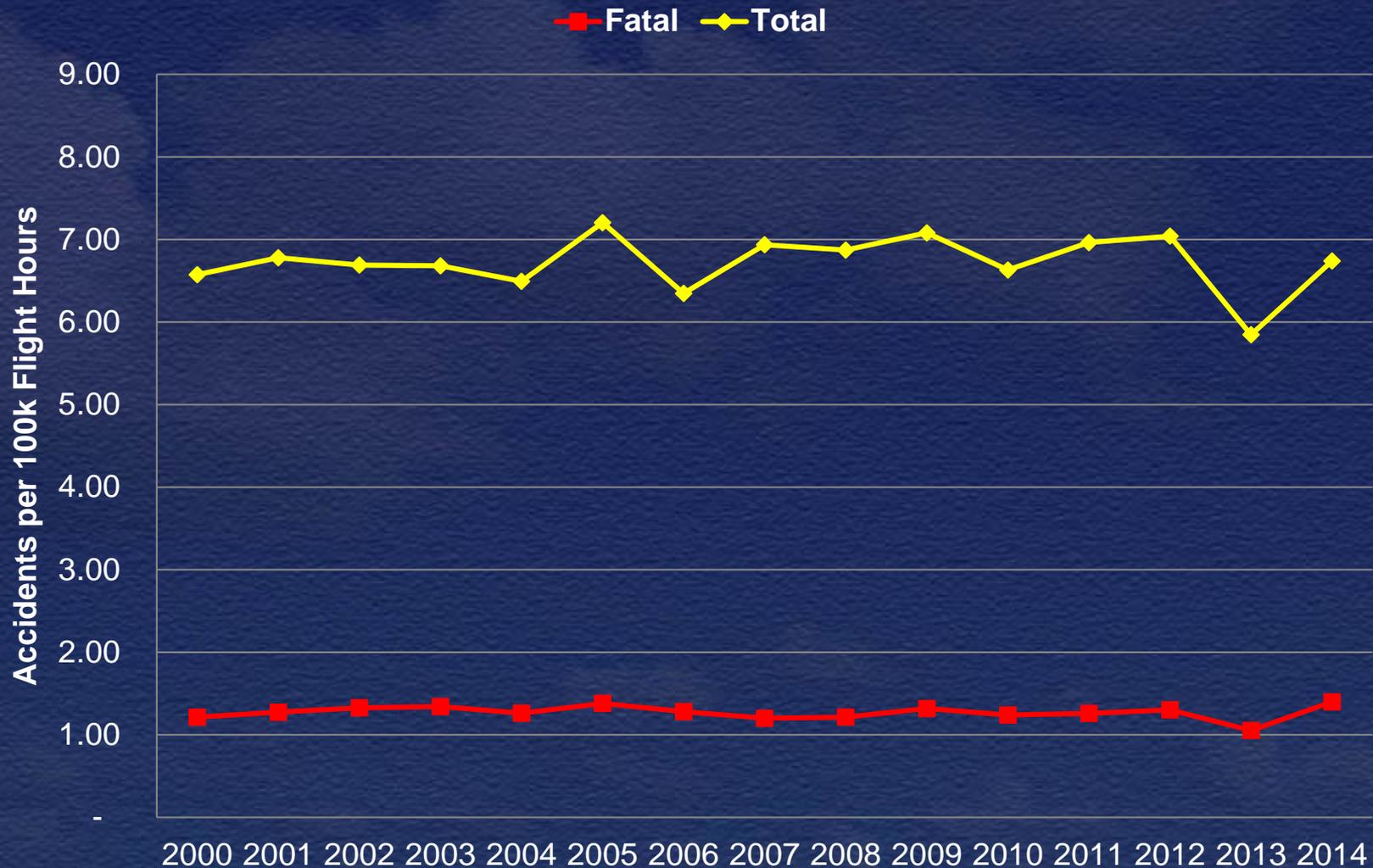


10 *2015 Preliminary numbers

NTSB



GA Accident Rates

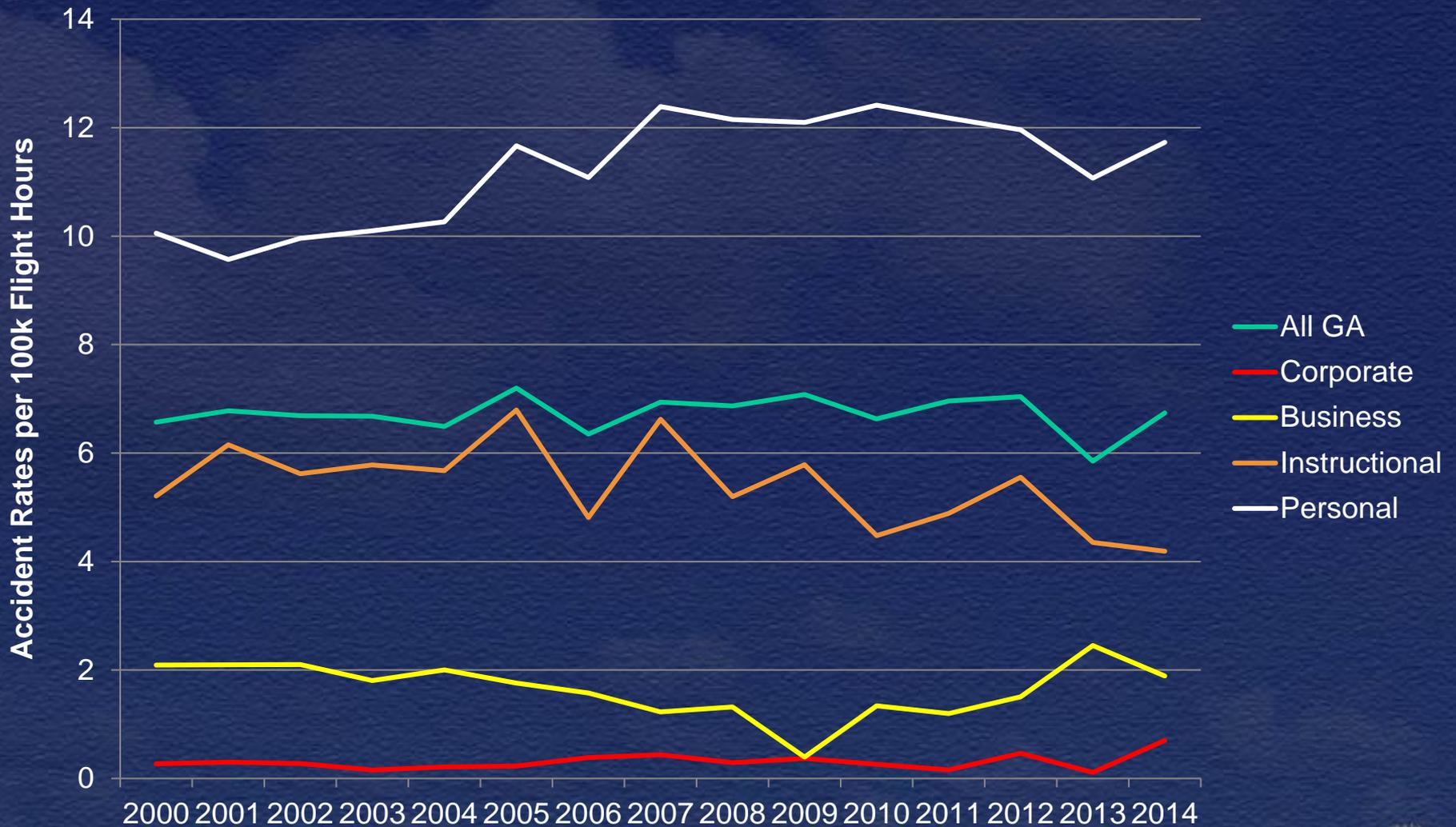


*The 2011 GA Survey is currently not available. FAA is actively engaged in re-calibration efforts and expect to have validated 2011 data published at a later date.

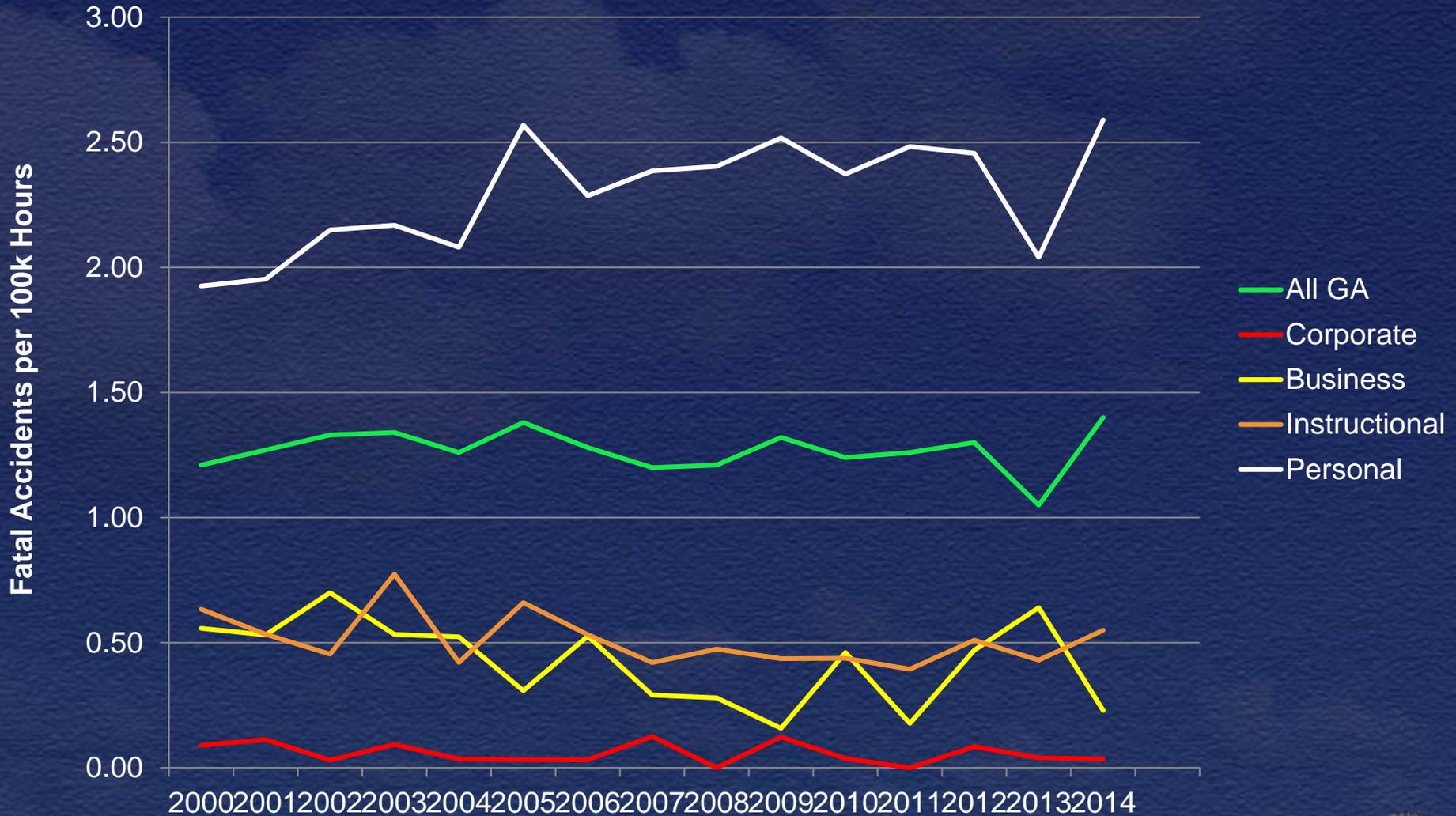
NTSB



Accident Rates per 100k Flight Hours



Fatal Accident Rates per 100k Flight Hours



13 *The 2011 GA Survey is currently not available. FAA is actively engaged in re-calibration efforts and expect to have validated 2011 data published at a later date.

NTSB



Defining Events – Part 91 Ops

Business

1. Loss of Control
2. CFIT
3. Fuel
4. Component Fail
5. Powerplant Fail

Instruction

1. Loss of Control
2. Midair
3. Powerplant Fail
4. CFIT
5. Other

Personal

1. Loss of Control
2. Powerplant Fail
3. CFIT
4. Other
5. Component Fail

GAJSC — Who We Are

Steering Committee

Co-chairs – Wendell Griffin (FAA/AVP)
Bruce Landsberg (AOPA/ASF)

Government – FAA (AFS, AIR, ATO, AAM & ARP)
– NASA (Research)

Industry – GAMA, EAA, NBAA, NATA,
SAFE, LAMA & Insurance

- 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, AOPA, EAA, GAMA, UAA, MFGs,
FAAST, 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

General Aviation Joint Steering Committee

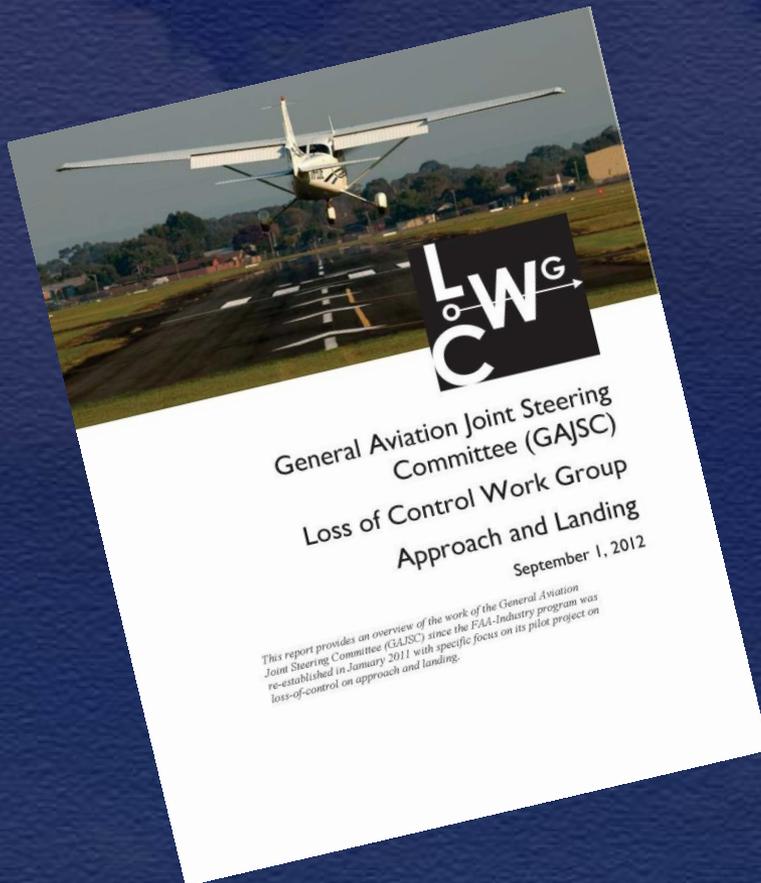
- Public-private partnership to improve general aviation safety
- Data-driven, consensus-based approach to analyze aviation safety data and develop risk reduction efforts
- Goal to reduce GA fatal accident rate per 100,000 flight hrs by 10% from Jan. 1, 2009 to Dec. 31, 2018, w/ no more than 1 fatal accident per 100,000 flight hrs by 2018

Loss-of-control Working Group

Safety Enhancements Identified

- AOA – New, Current, Retrofit
- Aeronautical Decision Making
- Stabilized Approach
- Single Pilot CRM
- Medication effects
- Weather Technologies
- Etc...

28 Safety Enhancements



1987 Boeing Study

Control of the Crew Caused Accident; Results of a 12 Operator Survey

- Moved from 'chasing' accident causation to studying airlines with strong safety records
- Found commonalities among airlines with best history of safe operation

Boeing Study

- Emphasized safety from top down
- Expanded effort to understand incidents, BUT also worked to ANTICIPATE problems
- Monitored flight data recordings
- Enforced strict policies on go-arounds
- Created department dedicated to assisting other departments with safety
- Emphasized standardization and discipline
- Recognized need for recurrent training



Safety Management System



Changes to Safety Culture

Reactive & forensic v Risk-based & predictive

- Whack-a-mole management
 - Crisis safety management
 - Silos of knowledge
 - Data is collected
- Risk management
 - Change management
 - Data analysis and information sharing
 - Data answers questions

Changes to Safety Culture

Reactive & forensic

v

Risk-based & predictive

- “Off with their heads”
 - Safety organization responsible for safety
 - Regulator is dictatorial and despised
 - Safety expected by regulations
- Just culture
 - Everyone responsible for safety
 - Regulator is collaborative and respected
 - Safety enhanced via voluntary initiatives



QUESTIONS OR COMMENTS?





NTSB