National Transportation Safety Board

Transition Training Safety Seminar
GA Overview & Statistics

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NTSB Training Center

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N6529R - B36TC Bonanza

NTSB Mission

The National Transportation Safety Board (NTSB) is an independent Federal agency created by the U.S. Congress to investigate every civil aviation accident in the United States and significant accidents in the other modes of transportation, namely – marine, highway, railroad and pipeline.

What We Do

- Investigate the accident.
- Determine the probable cause of the accident.
- Propose corrective action to reduce the likelihood of a recurrence of the accident - through formal “recommendations”.

“Sully” Depiction of NTSB?

- Facts regarding accident accurately portrayed
- Facts regarding investigation process not accurate
  - Movie needed a villain – but not the birds
  - NTSB’s objective is to determine cause, not blame
  - Investigations rely heavily upon cooperation by all of the “parties,” hence NTSB is not confrontational
  - Movie’s negative portrayal of investigation process may chill cooperation

NTSB Investigative Hearing

- Three-day public hearing June 9 - 11, 2009
  - **Board of Inquiry** Chaired by Member Robert Sumwalt
- Investigative Hearing
  - Fact-finding only
  - No conclusions
  - No assignment of fault or blame
  - No enforcement responsibilities
- Video of Hearing available on YouTube

NTSB's Multi-Modal Mandate

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

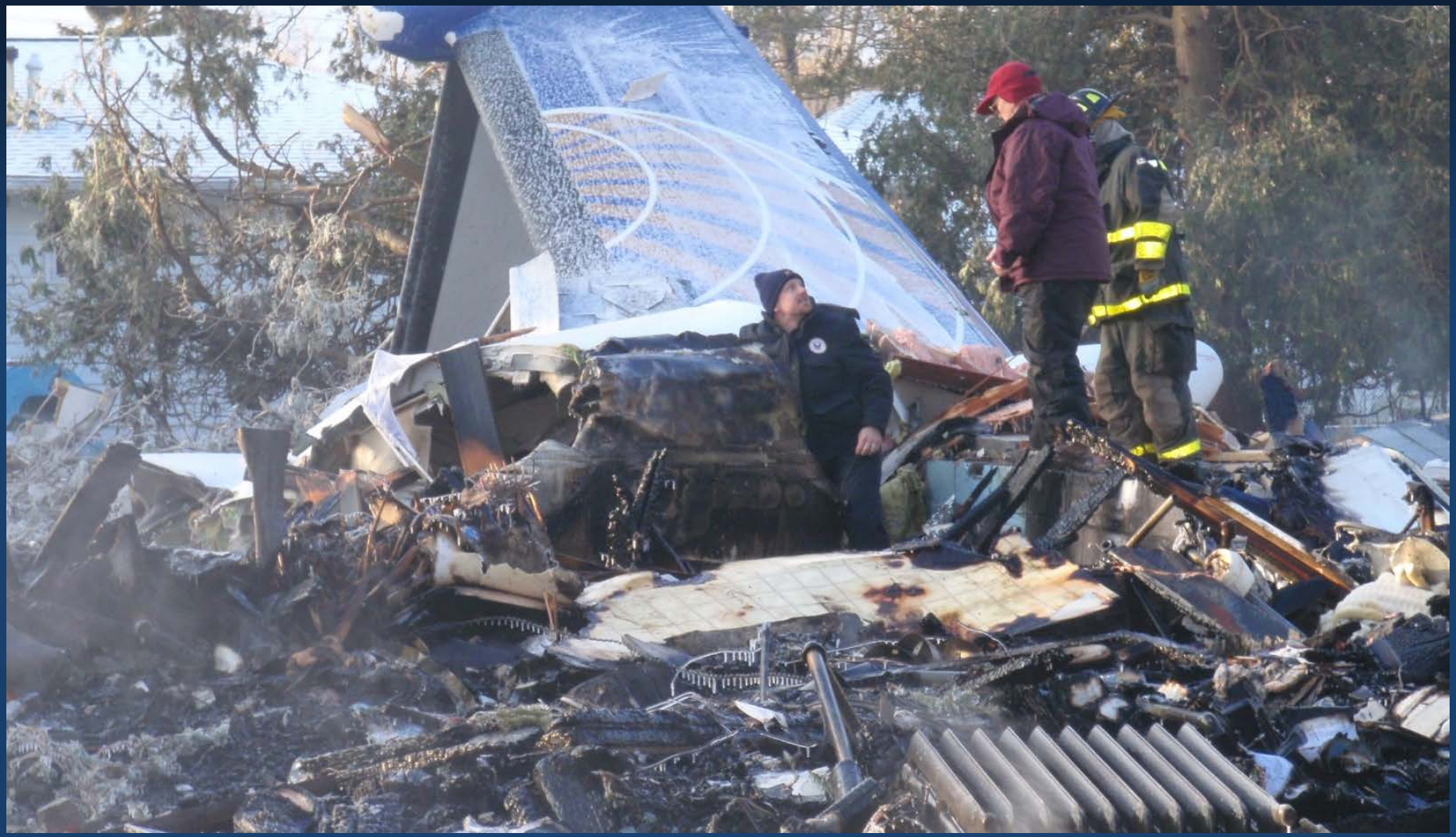
NTSB 2017 Most Wanted List

Backed by recommendations!

- Eliminate Distractions
- End Alcohol and Other Drug Impairment in Transportation
- Ensure the Safe Shipment of Hazardous Materials
- Expand Recorder Use to Enhance Safety
- Improve Rail Transit Safety Oversight
- Increase Implementation of Collision Avoidance Technologies
- Prevent Loss of Control in Flight in General Aviation
- Reduce Fatigue-Related Accidents
- Require Medical Fitness
- Strengthen Occupant Protection

2017 MWL – Prevent Loss of Control in GA Flight

Loss of Control




Execuflight Flight 1526
British Aerospace HS /
Akron, Ohio / Nov. 10, 2015

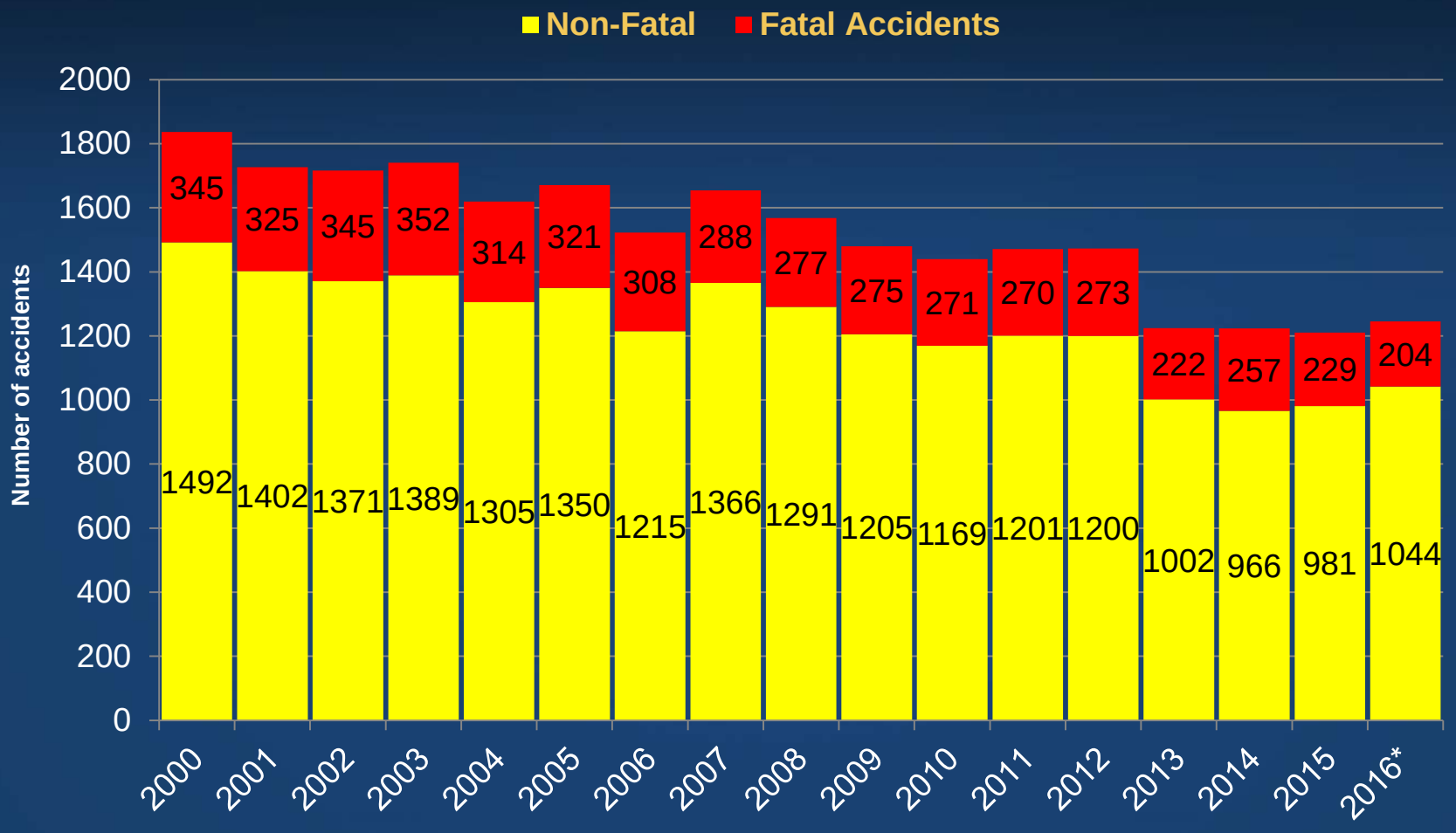

Beech A36 / Huggins, MO
/ June 12, 2015

2017 MWL – Prevent Loss of Control in GA Flight

- On average, more than 40% fatal GA accidents were LOC during 2004 – 2016

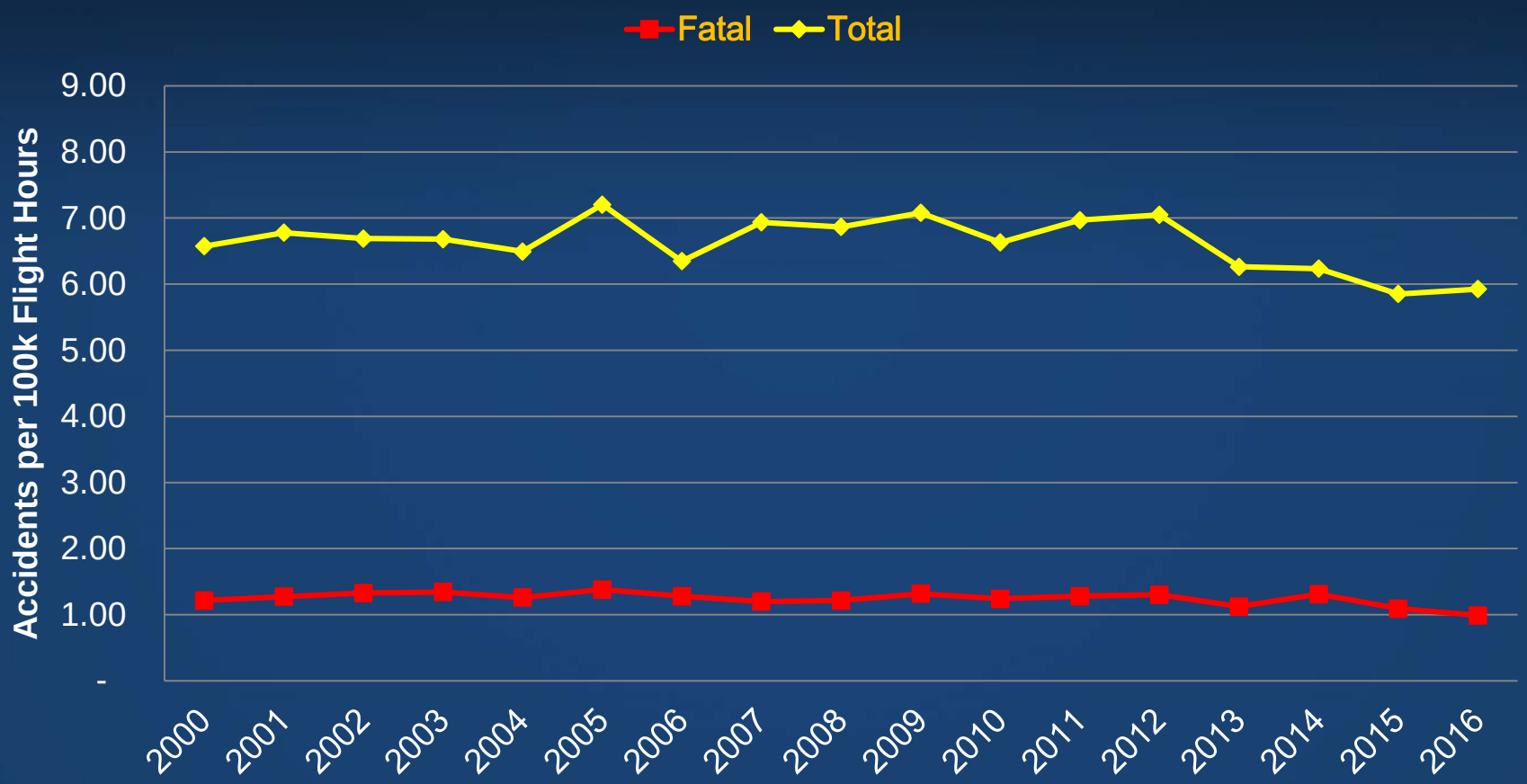
- Most deadly flight phases
  - Approach to landing
  - Maneuvering
  - Climb

All GA Accidents



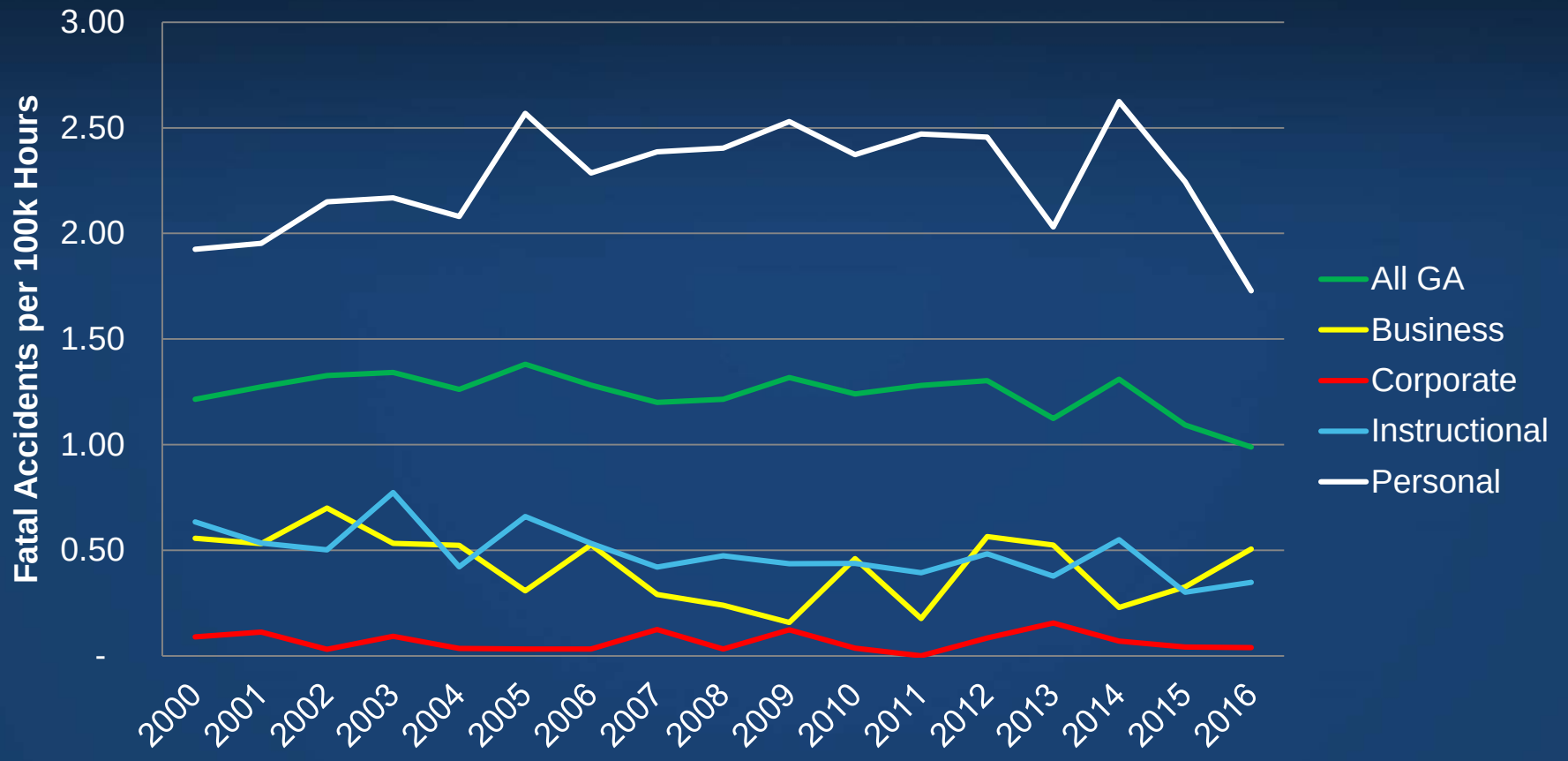
* 2016 Preliminary numbers

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.

Fatal Accident Rates per 100k Flight Hours



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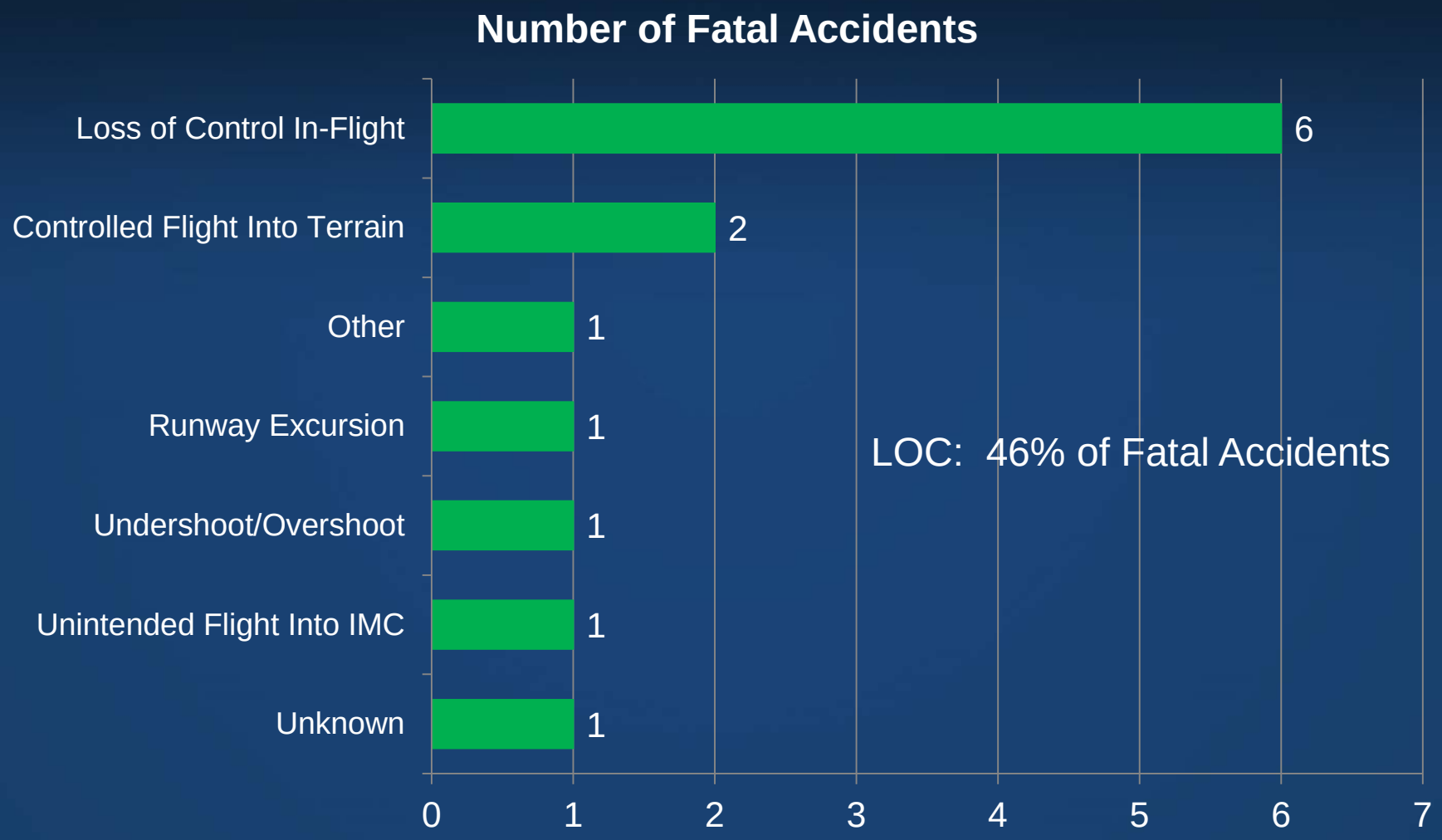
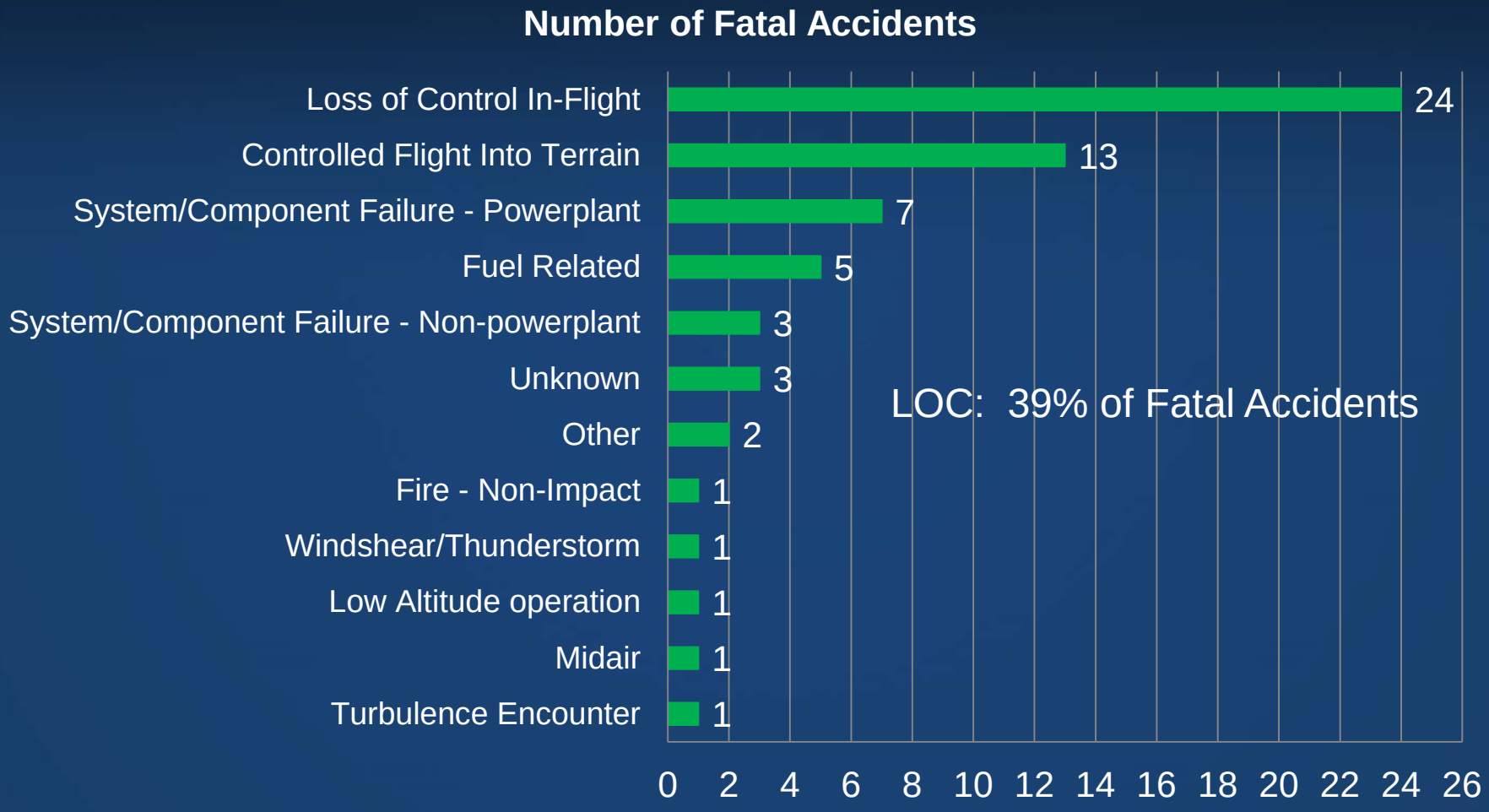
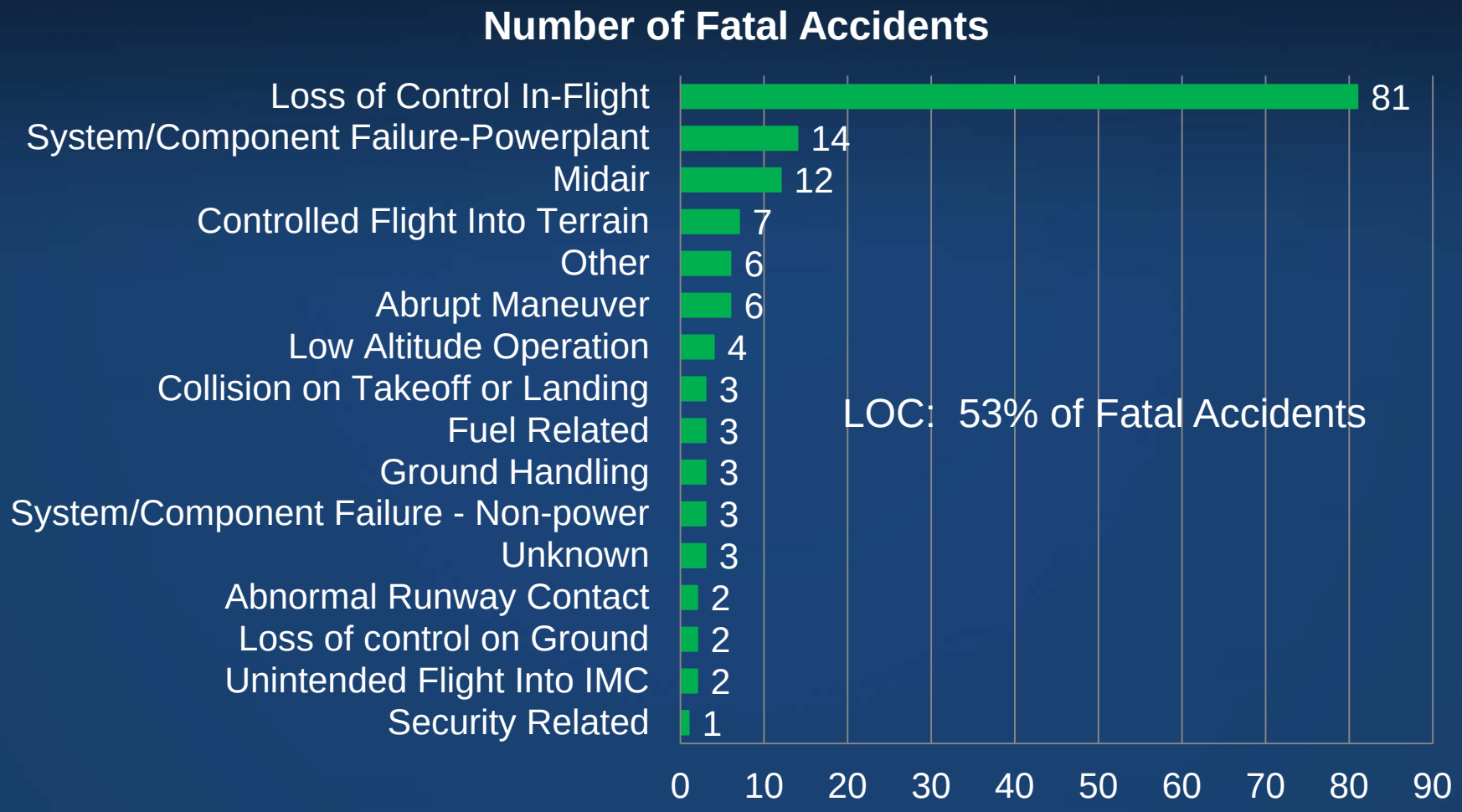
Corporate Flying, 2008-2016



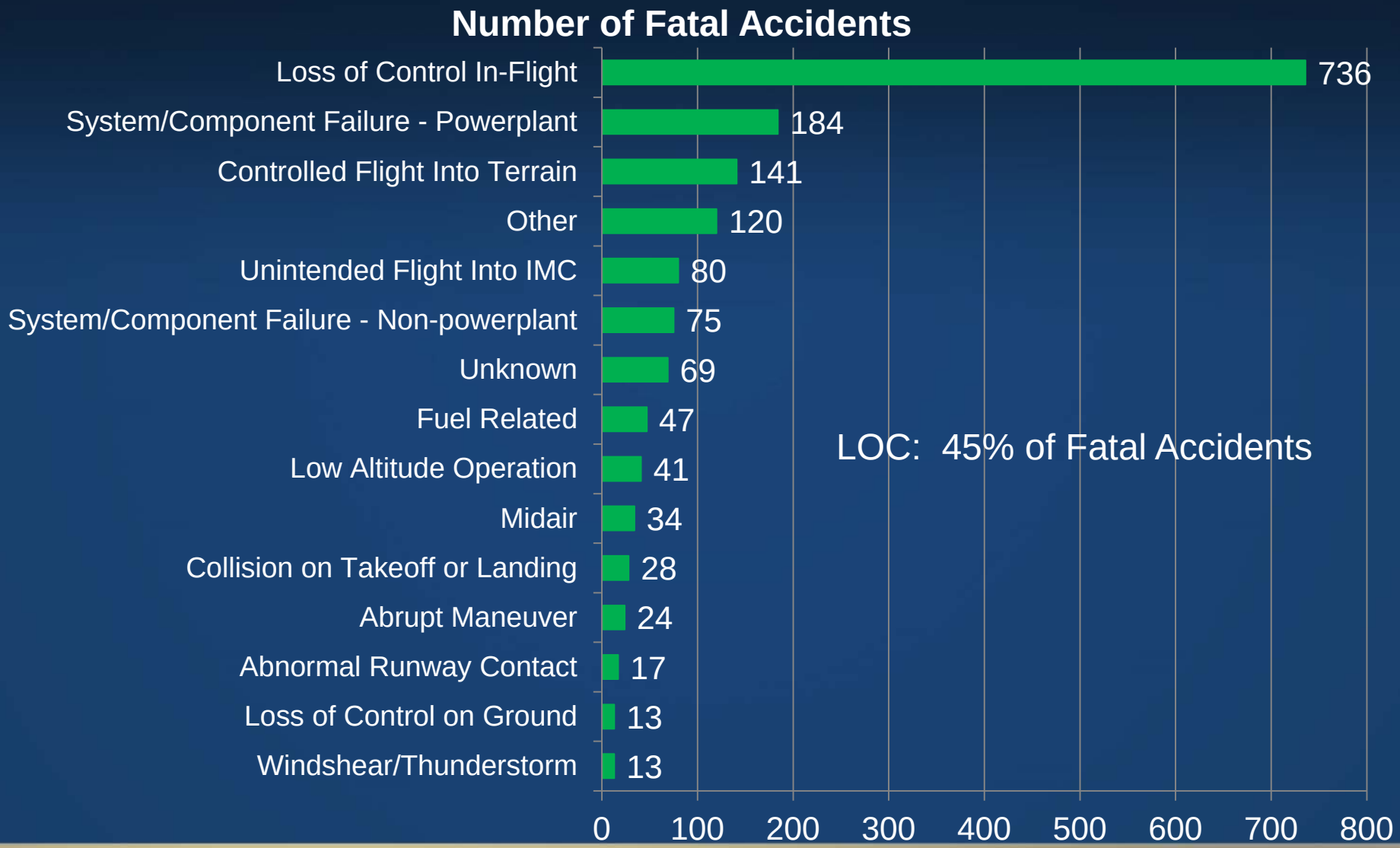
Business Flying, 2008-2016



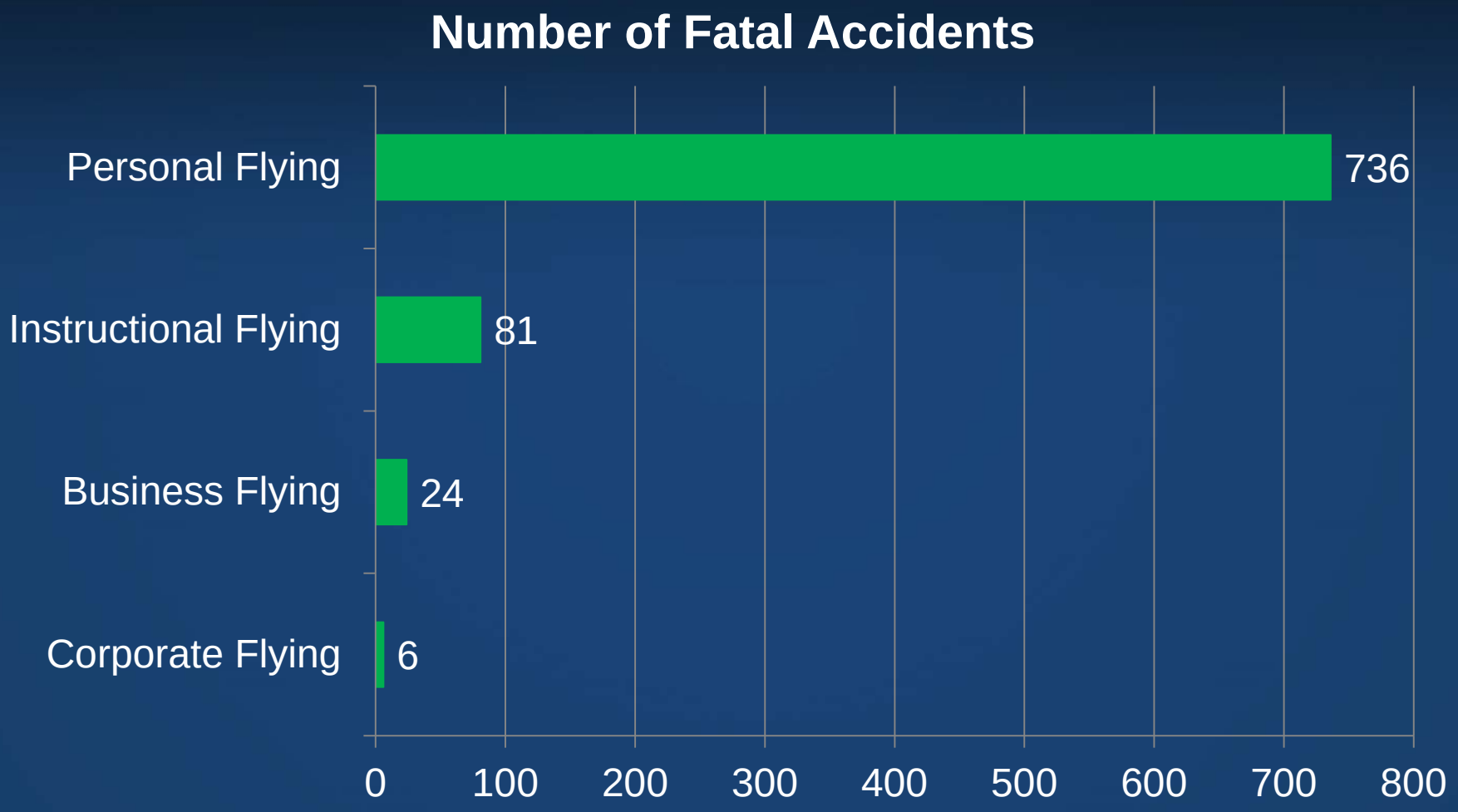
Instructional Flying, 2008-2016



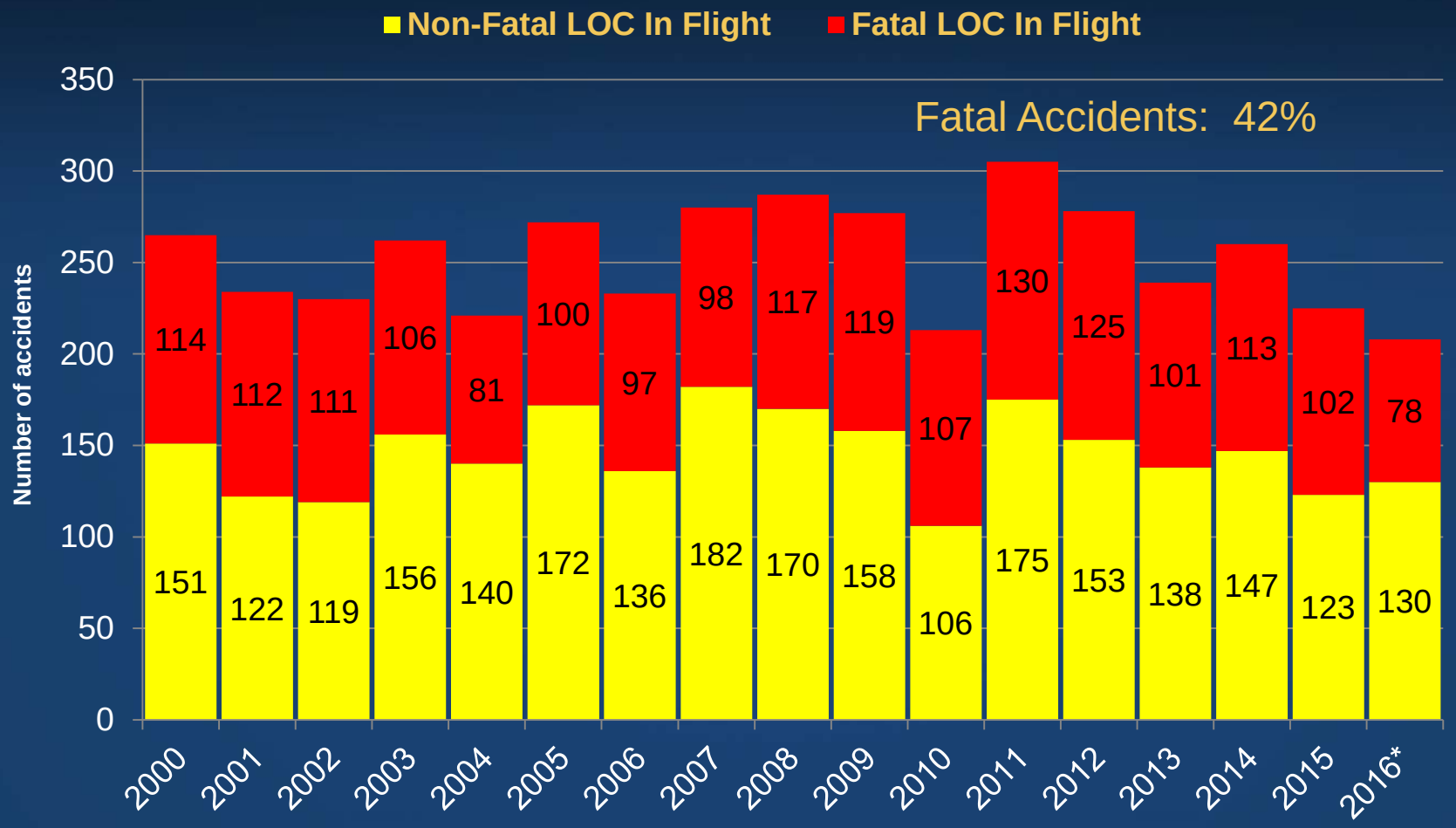
Personal Flying, 2008-2016



Loss of Control In-Flight, 2008-2016



GA LOC Accidents

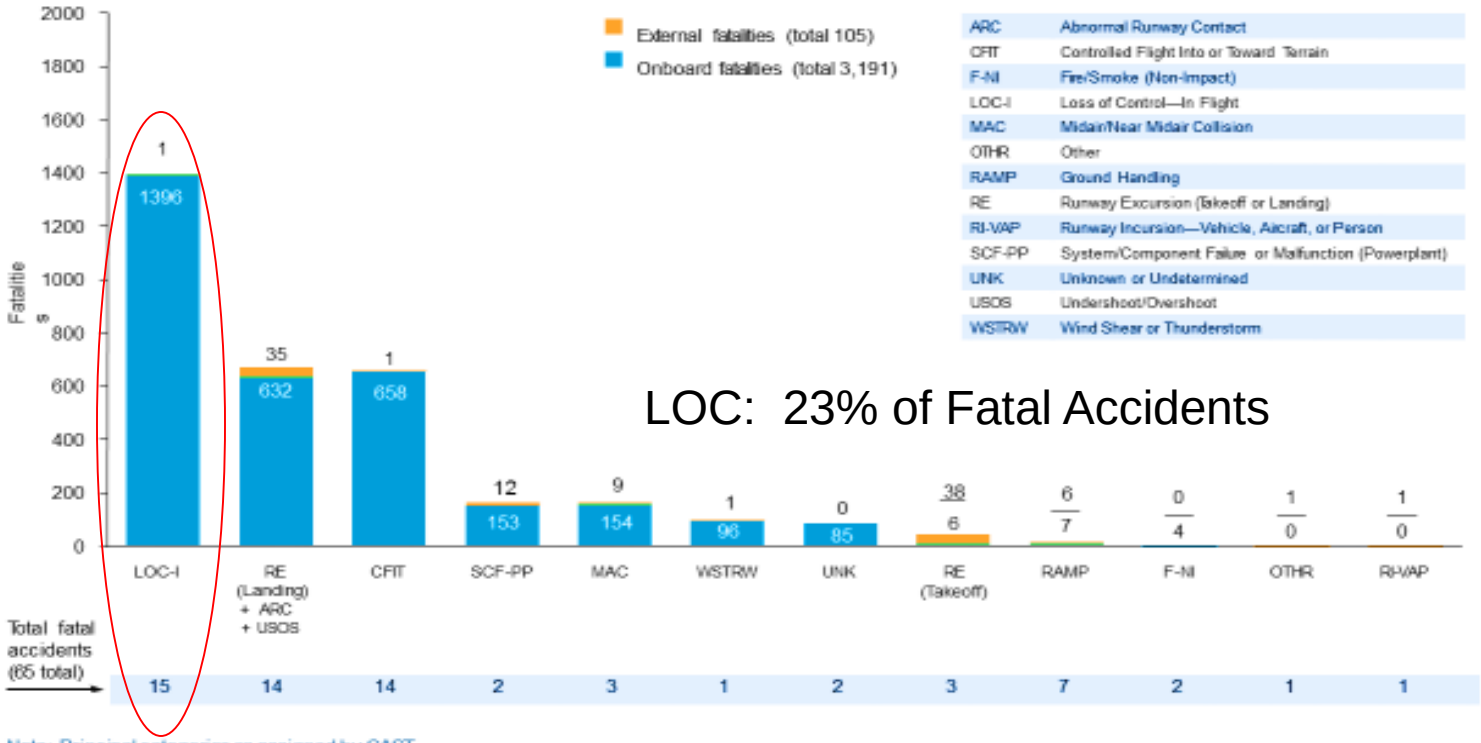


* 2016 Preliminary numbers

Worldwide Commercial Jets

Fatalities by CICTT Aviation Occurrence Categories

Fatal Accidents | Worldwide Commercial Jet Fleet | 2006 through 2015



ARC	Abnormal Runway Contact
CFIT	Controlled Flight Into or Toward Terrain
F-NI	Fire/Smoke (Non-Impact)
LOC-I	Loss of Control—In Flight
MAC	Midair/Near Midair Collision
OTHR	Other
RAMP	Ground Handling
RE	Runway Excursion (Takeoff or Landing)
RI-VAP	Runway Incursion—Vehicle, Aircraft, or Person
SCF-PP	System/Component Failure or Malfunction (Powerplant)
UNK	Unknown or Undetermined
USOS	Undershoot/Overshoot
WSTRW	Wind Shear or Thunderstorm

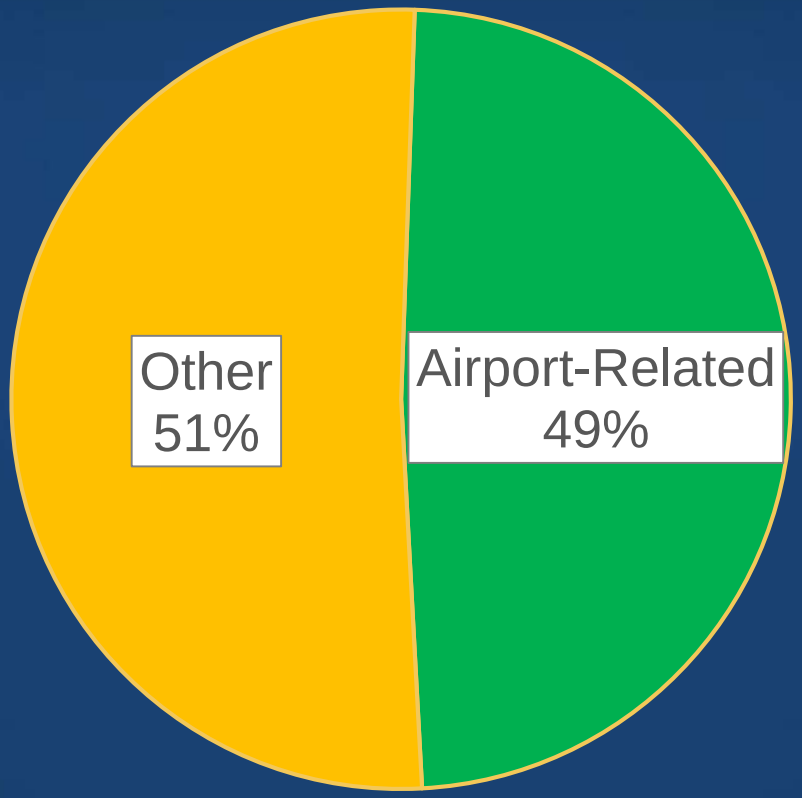
LOC: 23% of Fatal Accidents

Note: Principal categories as assigned by CAST.

For a complete description of CAST/ICAO Common Taxonomy Team (CICTT) Aviation Occurrence Categories, go to www.intlaviationstandards.org.

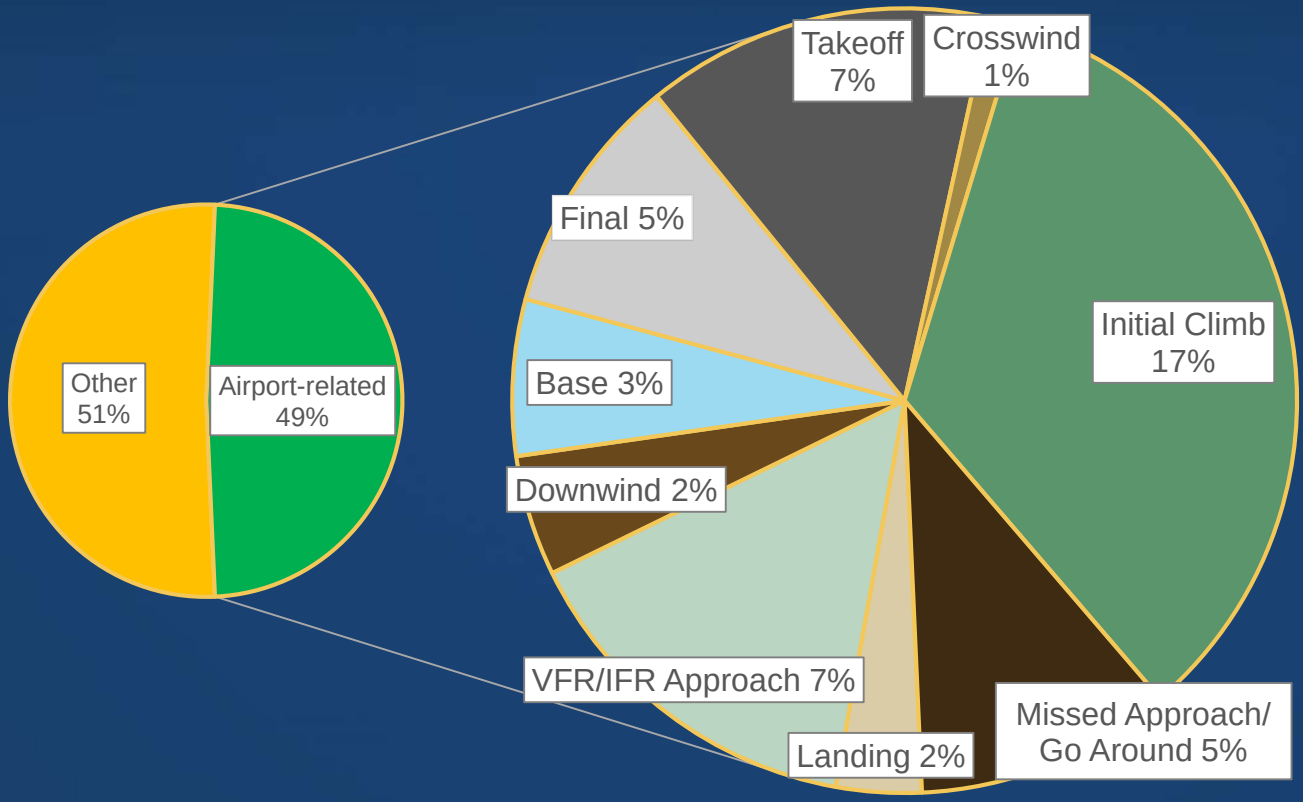
GA LOC: Where It Happens

Fatal GA Loss of Control Accidents by Phase of Flight, 2008-2016

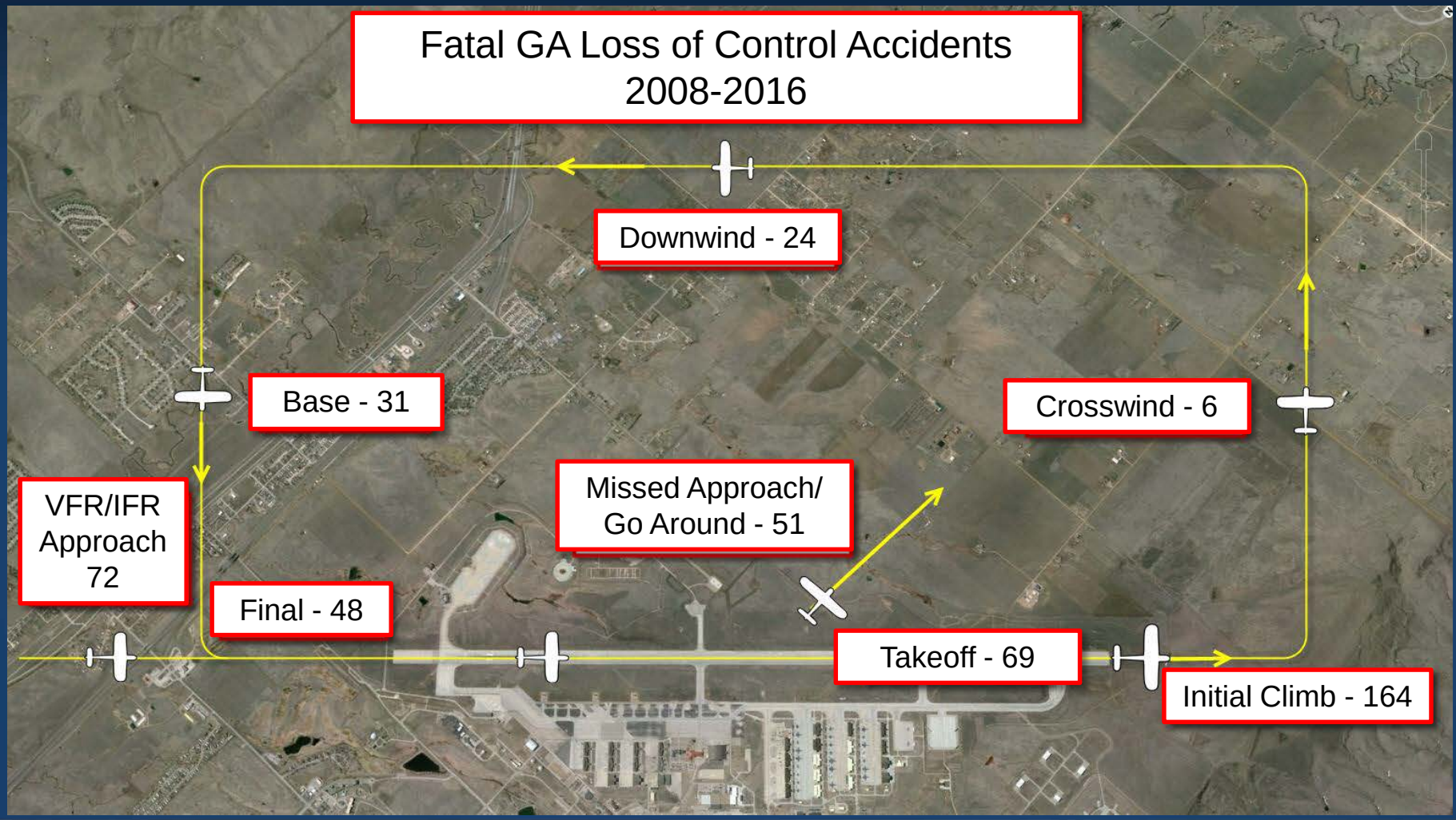


Airport-Related GA LOC

Fatal GA Airport-Related Loss of Control Accidents by Phase of Flight, 2008-2016



Airport-Related GA LOC



GAJSC
Who We Are…

Steering Committee

Co-chairs – Mike O'Donnell (FAA/AVP)
Sean Elliott (EAA)

Government
- FAA (AFS, AIR, ATO, AAM & ARP)
- NASA (Research),
- NTSB (Observer)

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

Douglas Adams
Author

"Human beings,
who are almost unique
in having the ability to learn
from the experience of others,
are also remarkable
for their apparent disinclination to do so."


MAKING TRANSPORTATION SAFER
NATIONAL TRANSPORTATION SAFETY BOARD
E PLURIBUS UNUM
1967
2017
YESTERDAY ★ TODAY ★ TOMORROW

Safety Management System

- Safety Policy
- Safety Risk Management
- Safety Assurance
- Safety Promotion

Changes to Safety Culture

Reactive & Forensic		Risk-based & Predictive
• Whack-a-mole management	→	• Risk management
• Crisis safety management	→	• Change management
• Silos of knowledge	→	• Data analysis and information sharing
• Data is collected	→	• Data answers questions

Changes to Safety Culture

Reactive & Forensic		Risk-based & Predictive
• "Off with their heads"	→	• Just culture
• Safety organization responsible for safety	→	• Everyone responsible for safety
• Regulator is dictatorial and despised	→	• Regulator is collaborative and respected
• Safety expected by regulations	→	• Safety enhanced via voluntary initiatives