NTSB National Transportation Safety Board

The NTSB Most Wanted List

USAF Directors of Safety Conference

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Member, NTSB

NTSB Mission

The NTSB is an independent US federal agency charged with determining the probable cause(s) of transportation accidents, making recommendations to prevent their recurrence, conducting special studies and investigations, and coordinating resources to assist victims and their families after an accident.

NTSB 2016 Most Wanted List

- Disconnect from Deadly Distractions
- End Substance Impairment in Transportation
- Expand Use of Recorders to Enhance Transportation Safety
- Improve Rail Transit Safety Oversight
- Prevent Loss of Control in Flight in General Aviation
- Promote Availability of Collision Avoidance Technologies in Highway Vehicles
- Promote the Completion of Rail Safety Initiatives
- Reduce Fatigue-Related Accidents
- Require Medical Fitness for Duty
- Strengthen Occupant Protection

Gray Summit, MO – bus/vehicle/truck crash

Distraction

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Distraction

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2016 MWL - Distractions

- ***Disconnect from Deadly Distractions***
  - A factor in all modes of transportation
- Aviation emphasis
  - Sterile Cockpit
  - Appropriate use of PEDs
  - Manage distractions

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Impairment

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2016 MWL - Impairment

- ***End Substance Impairment in Transportation***
  - A factor in all modes
- Fatally injured pilots - potentially impairing drugs
  - 11% average 1990 - 1997
  - 23% average 2008 - 2012

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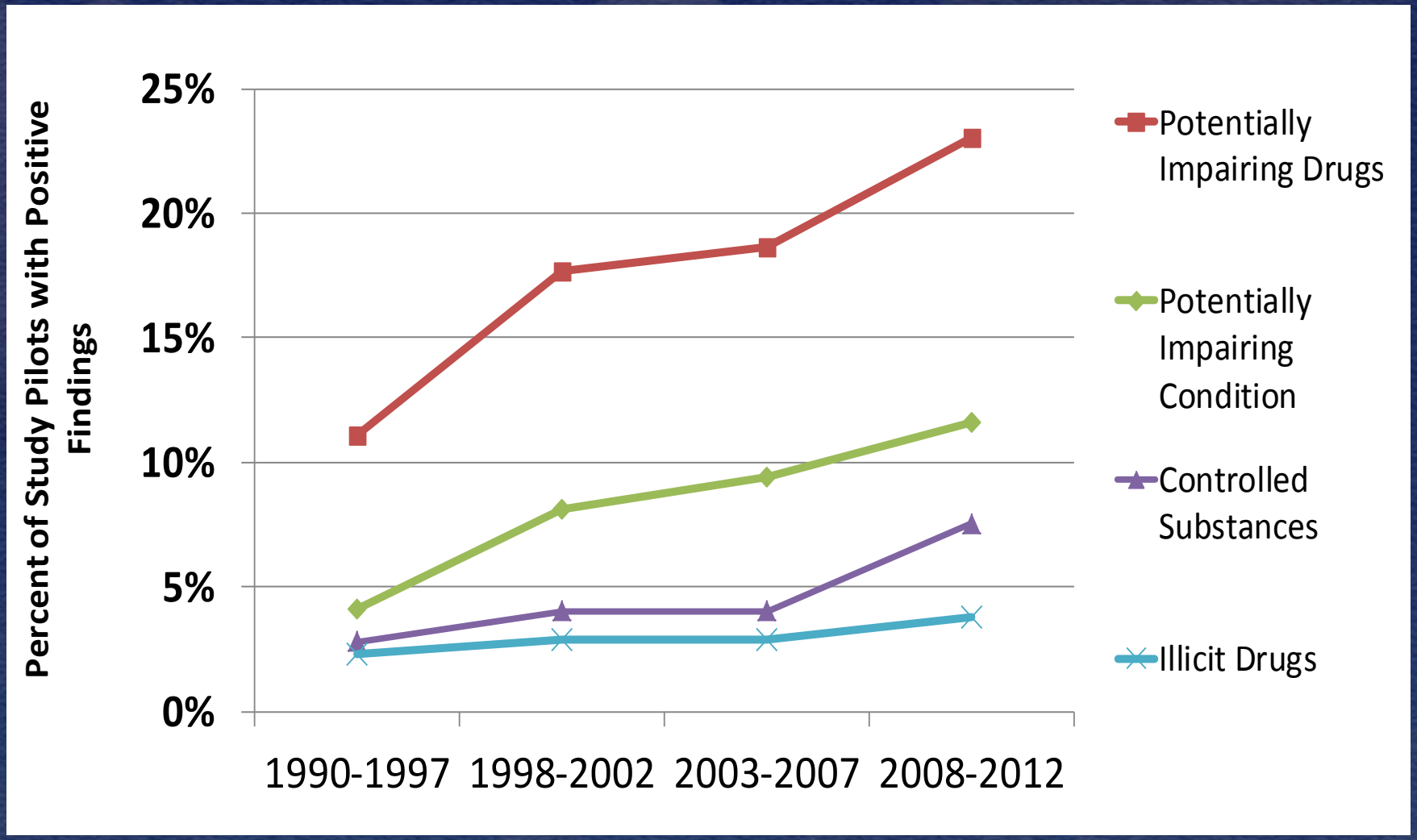
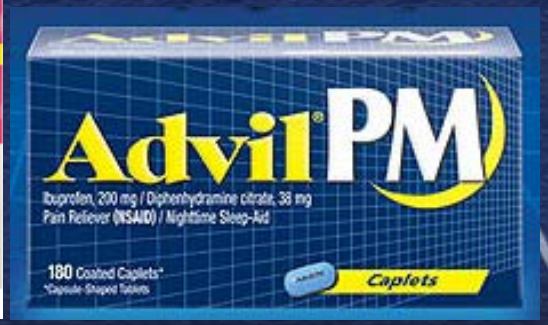
Toxicology Findings by Category, 1990-2012



Most Common Drugs

- Sedating antihistamines
  - Most common category
- Diphenhydramine
  - Most common individual drug
  - Most common potentially impairing drug
  - Use INCREASING



Medical Resources for Pilots

- General Aviation Joint Steering Committee (GAJSC)
  - 2013 Letter to pilots
  - 2014 Initiatives
    - Drug database
    - Training course

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Medical Resources for Pilots

- FAA Publications
  - *Medications and Flying*
  - *Guide for Aviation Medical Examiners*
- Aircraft Owners and Pilots Association (AOPA)
  - Member resources

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Medical Fitness for Duty

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Fitness for Duty

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2016 MWL – Fitness for Duty

- ***Require Medical Fitness for Duty***
  - A factor in all modes
- Airman Medical – fitness at exam time
- Pilots must self-assess fitness
  - Need for appropriate flight preparations
- Focus on medical conditions
  - Example – Obstructive Sleep Apnea
- Enhance medical knowledge

Fatigue

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2016 MWL - Fatigue

- ***Reduce Fatigue - Related Accidents***
  - A factor in all modes
  - 182 Major investigations (2001 – 2012)
    - 20% involved fatigue
  - Need
    - Research, education, training
    - Technologies
    - Hours of service, on/off duty policies
    - Medical treatment of sleep disorders

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BE A36 – 2 fatalities/2 survivors

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2016 MWL – Occupant Protection

- ***Strengthen Occupant Protection***
  - A factor in all modes
  - Numerous investigations showed potential for reduced injuries & fatalities
  - Need
    - Increased use of existing restraint systems
    - Designs that enhance survival space
    - Enhance ease of evacuation
    - Shoulder harnesses for GA aircraft

Recorders

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Recorders

- Expand use of recorders to enhance transportation safety
  - A factor in all modes
  - Critical in accident investigation
  - Install crash resistant image recorders in smaller turbine powered aircraft
  - Install flight recorders in transport category and HEMS aircraft

Loss of Control

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Loss of Control

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2016 MWL – Loss of Control

- ***Prevent Loss of Control in Flight in General Aviation***
- More than 40% fatal GA accidents were LOC during 2004 – 2014
- Most deadly flight phases
  - Approach to landing
  - Maneuvering
  - Climb

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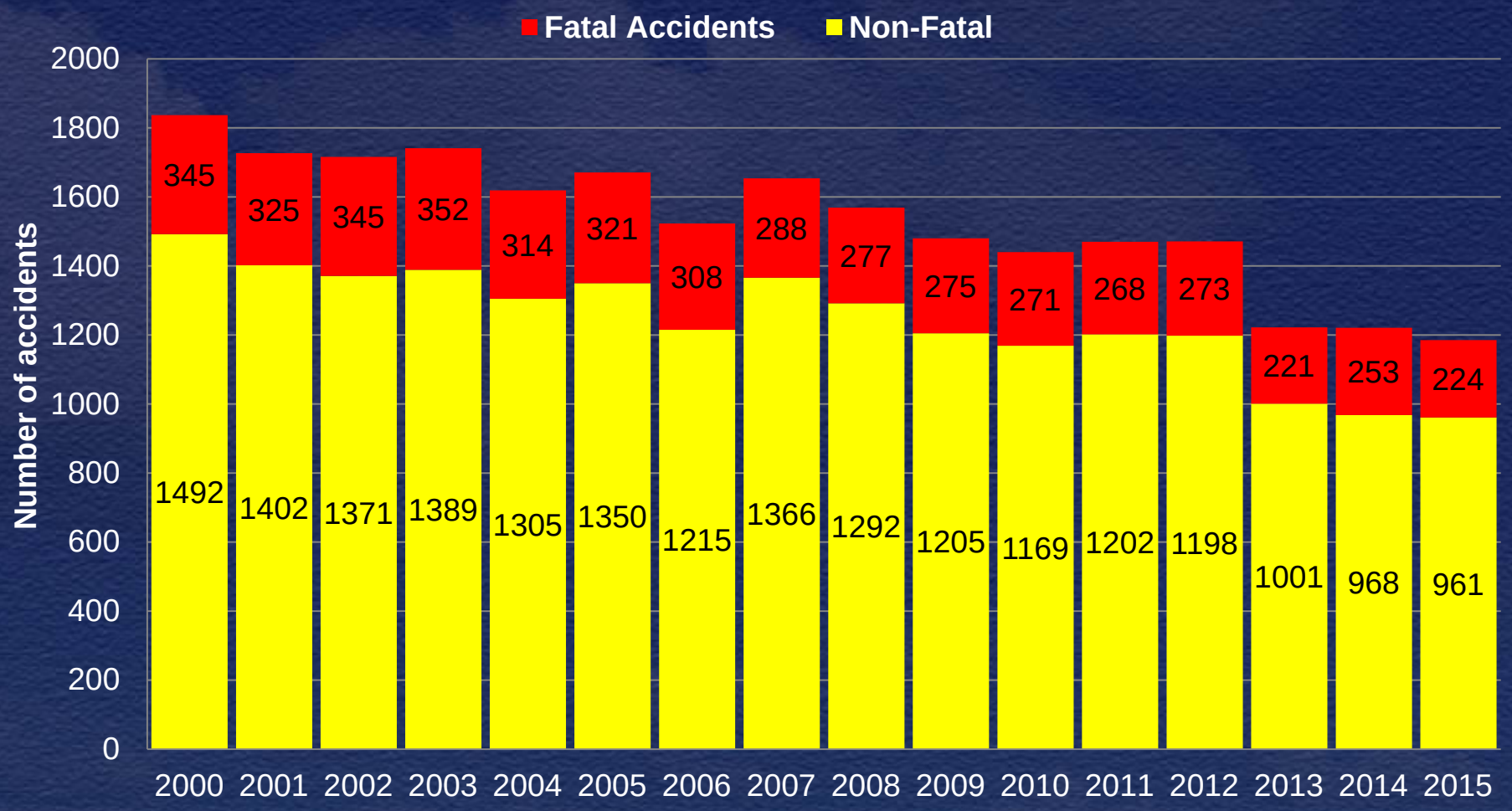
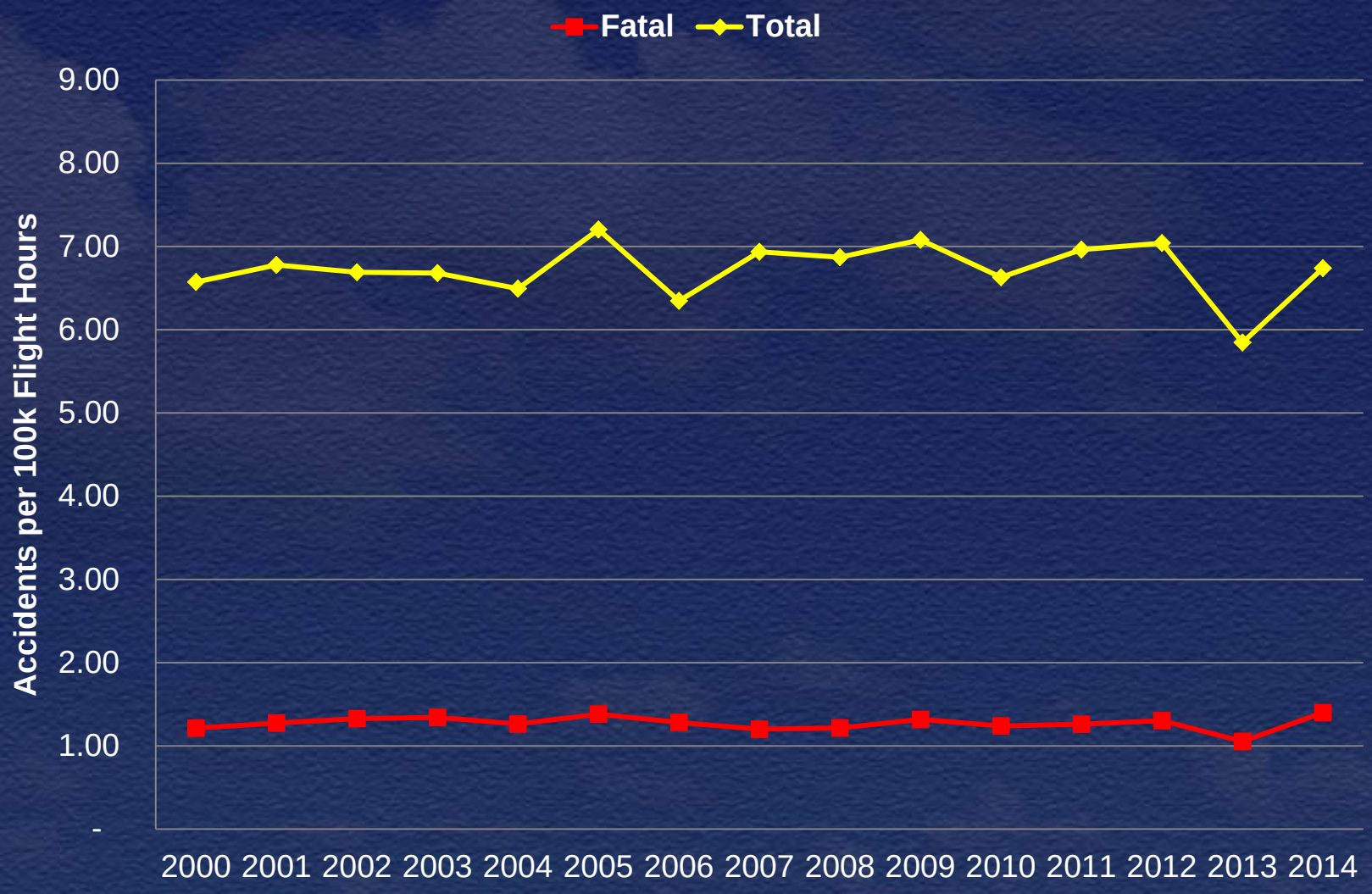
All GA Accidents



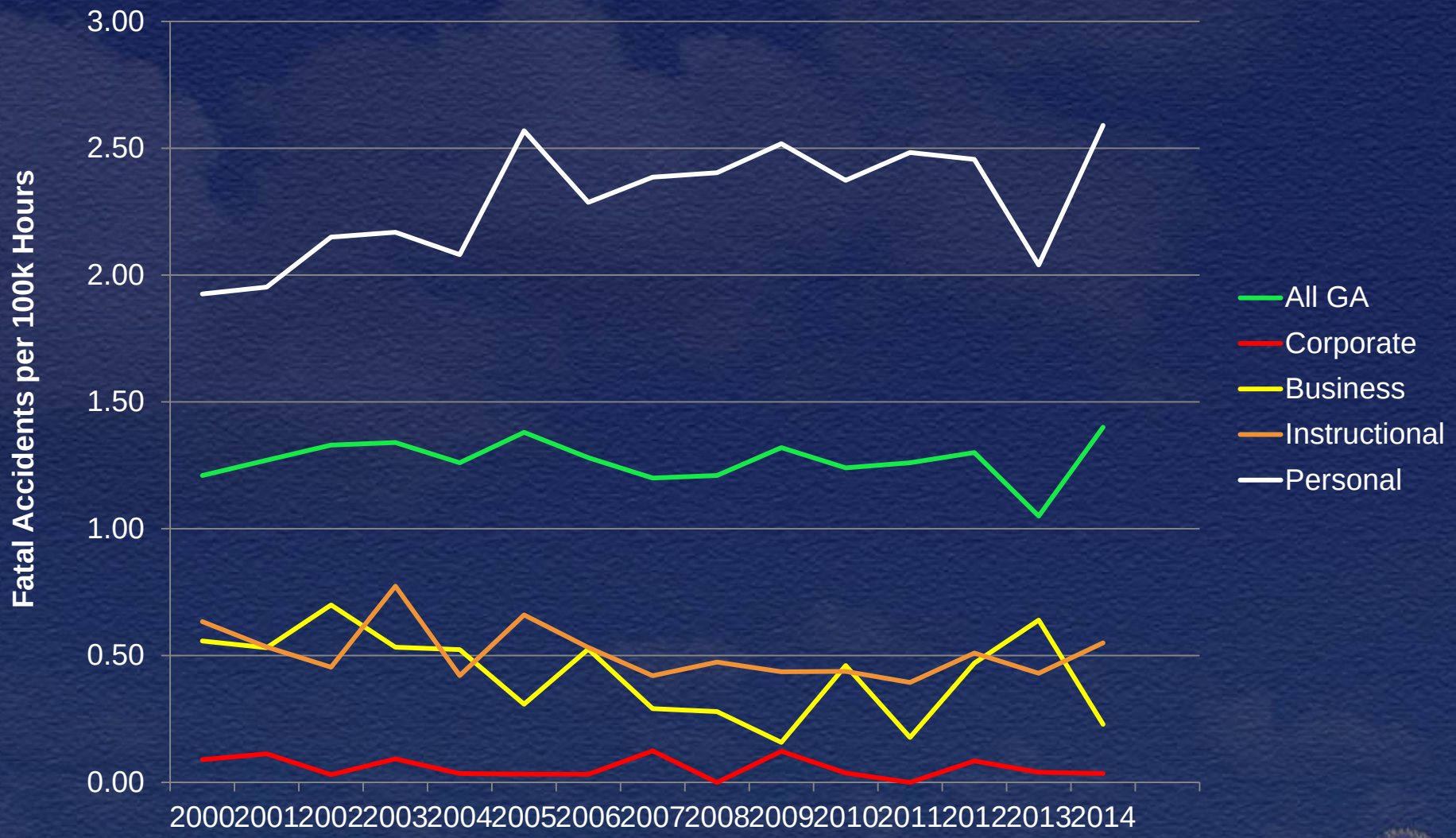
*2015 Preliminary numbers

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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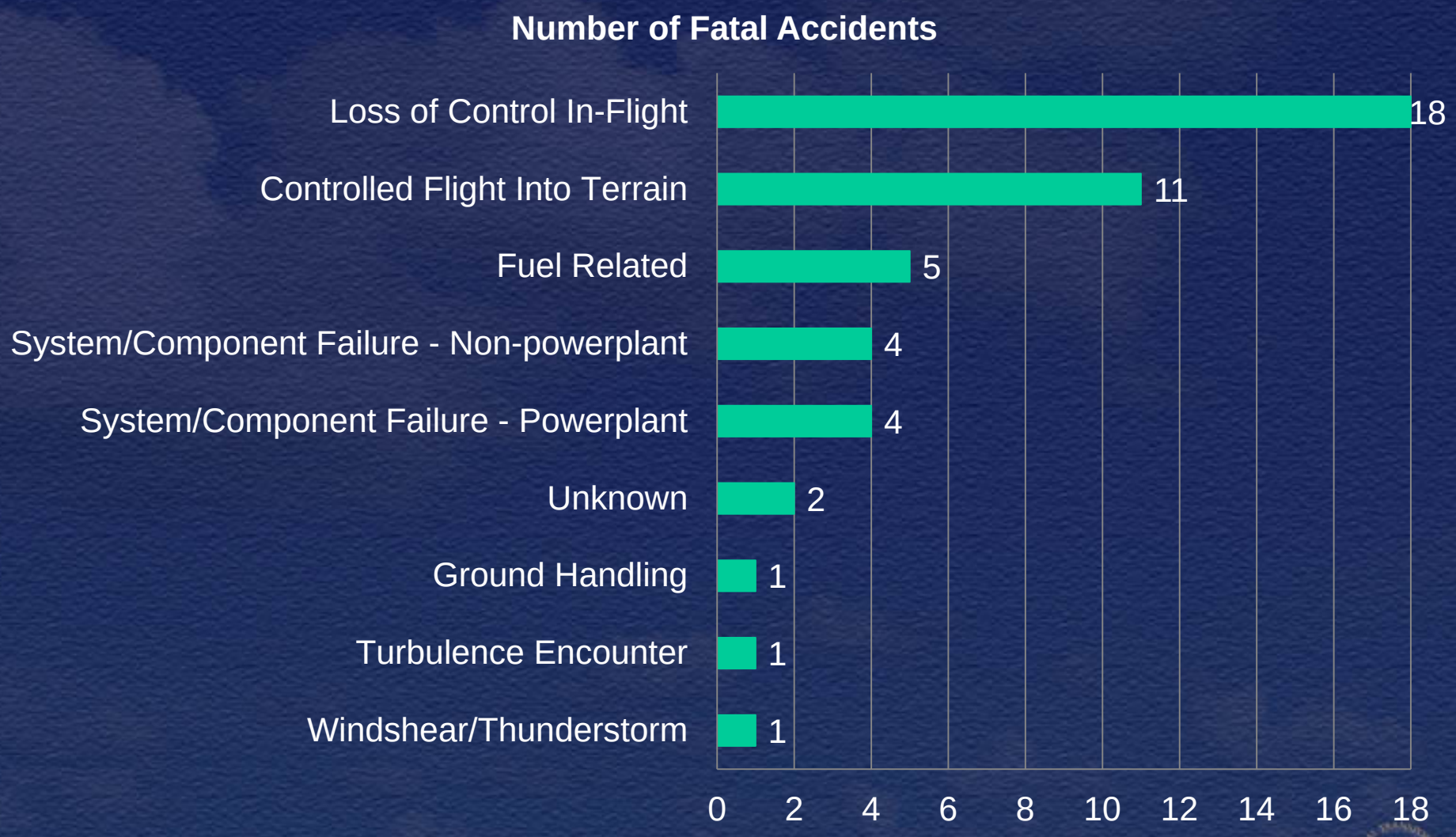
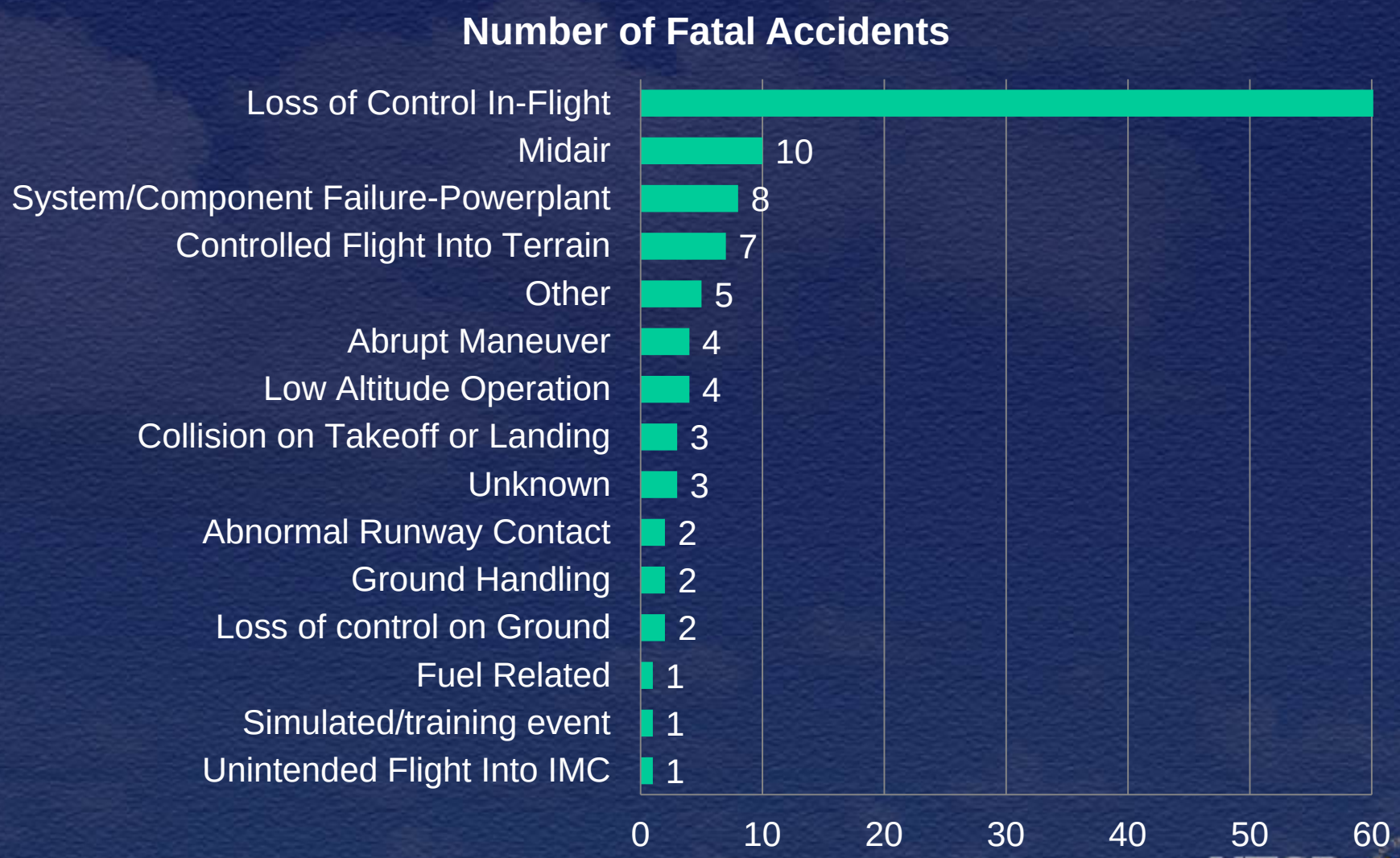
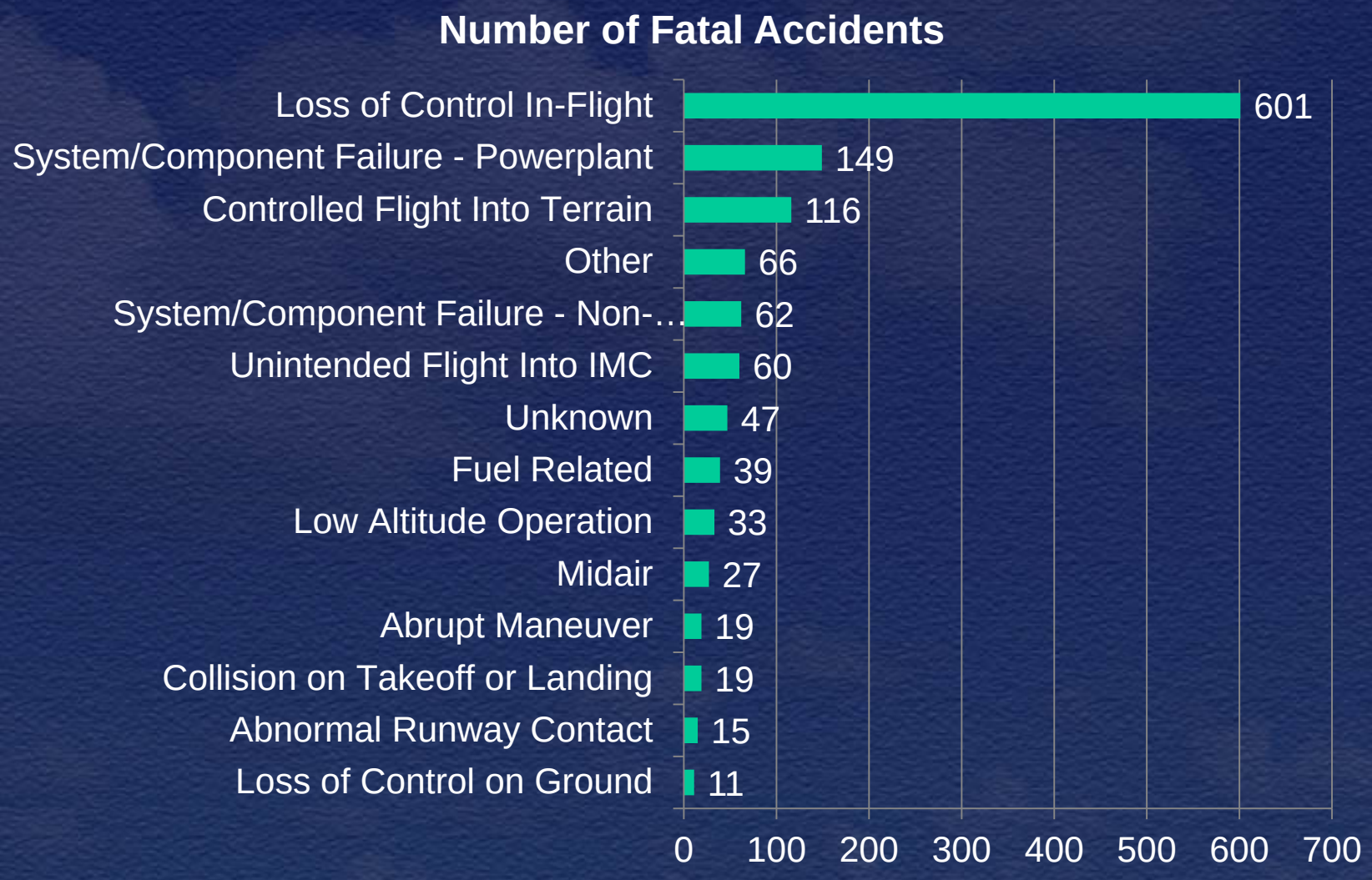
Business Flying, 2008-2014



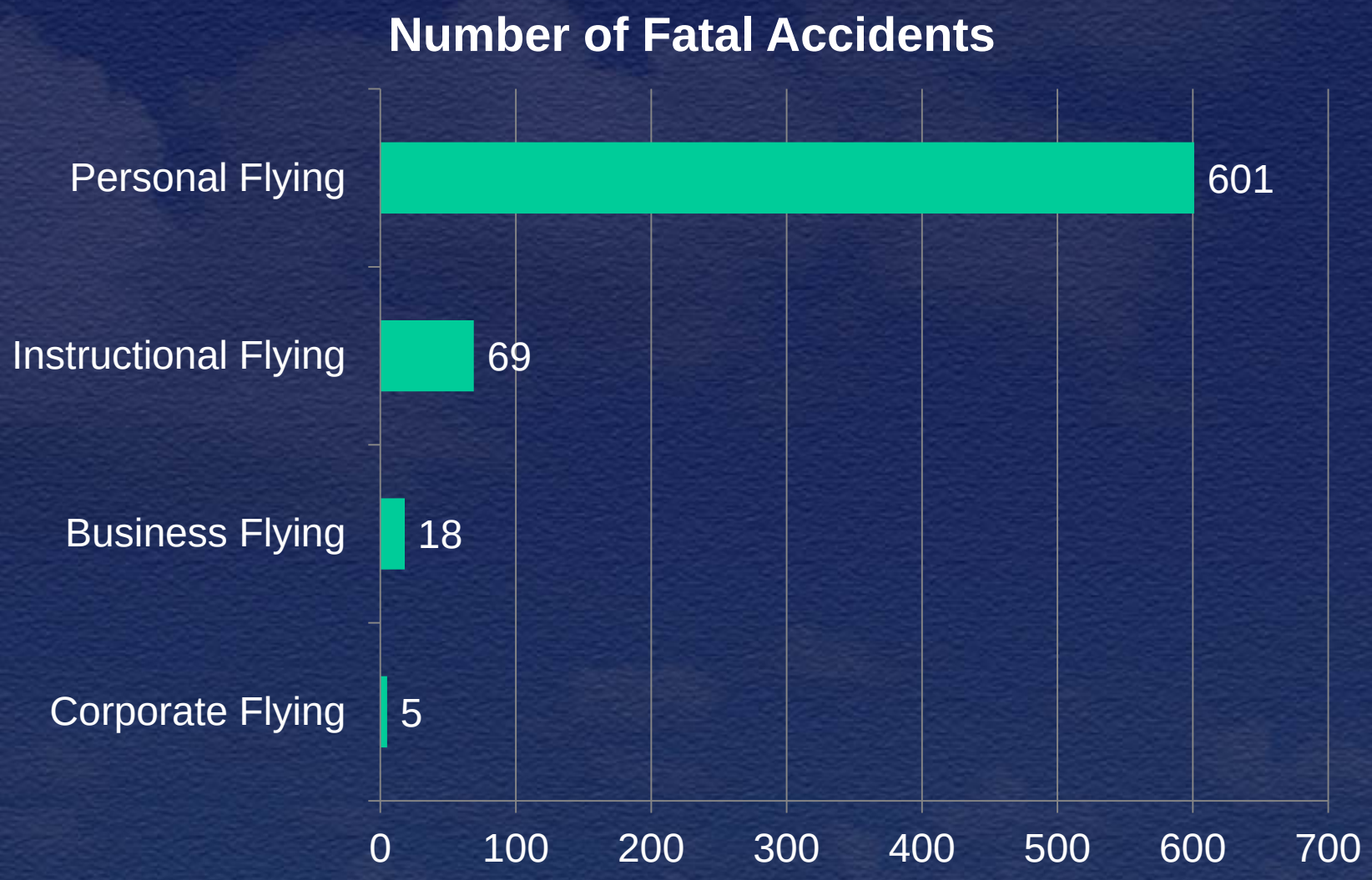
Instructional Flying, 2008-2014



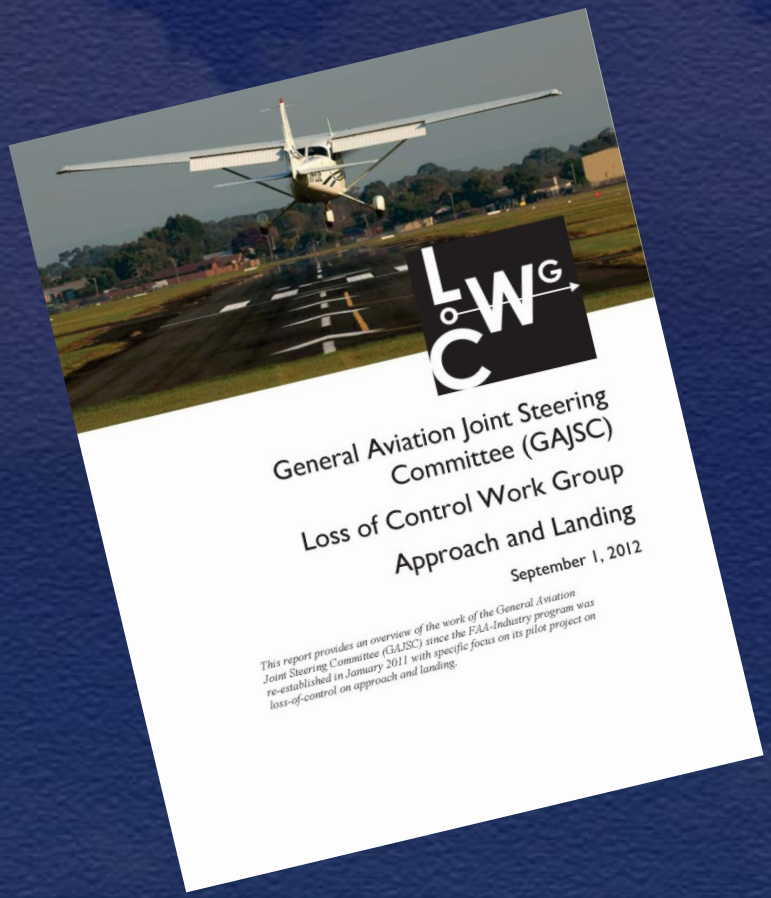
Personal Flying, 2008-2014



Loss of Control In-Flight, 2008-2014



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

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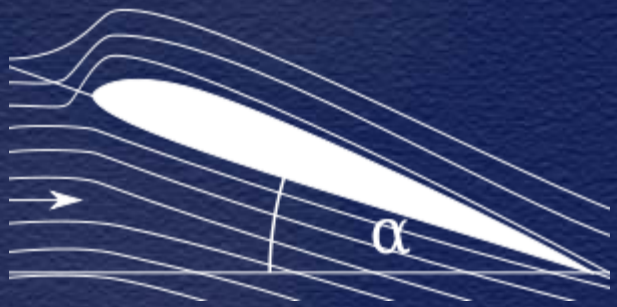
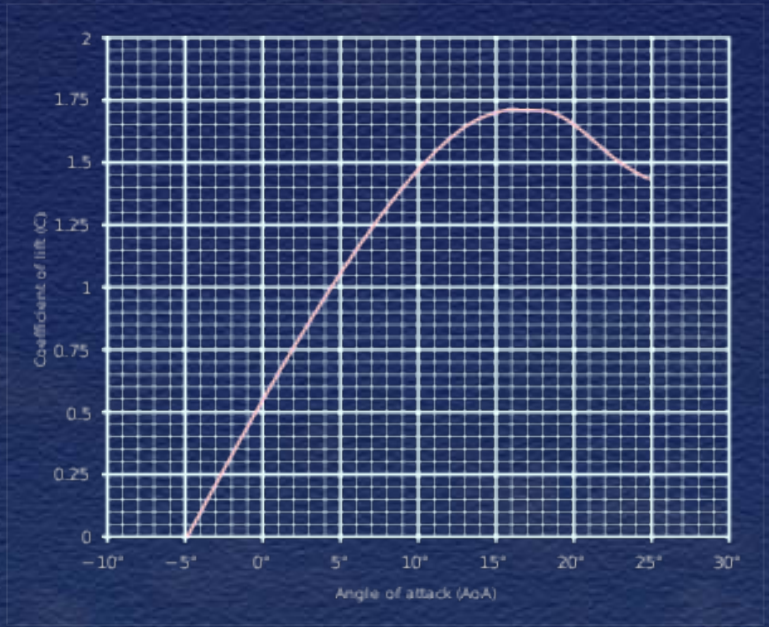
Lower Cost AOA Displays

- Stall occurs at a specific Angle-of-Attack
  - But not necessarily at the same airspeed



First of AOA indicators built to ASTM stds and installed as a minor mod



FAA installation policy changed

Why GA on the Most Wanted List?

- NTSB investigates approximately 1500 GA accidents per year over the last decade
- Overall GA accident rate flat
  - Has improved little over the last decade
  - Airline accident rate decreased more than 80%
- Personal flying accident rate
  - Increased 13% over last 10 years
  - Greater than 15% increase in fatals over that period

- ***<u>GA safety needs attention</u>***

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NATIONAL TRANSPORTATION SAFETY BOARD

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NTSB Mission

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Topics

- General Aviation Accident Trends
- Most Wanted List – 2016
  - Distraction
  - Substance Impairment
  - Medical Fitness for Duty
  - Fatigue
  - Occupant Protection
  - Recorders
  - Loss of Control