



Attack of the Drones

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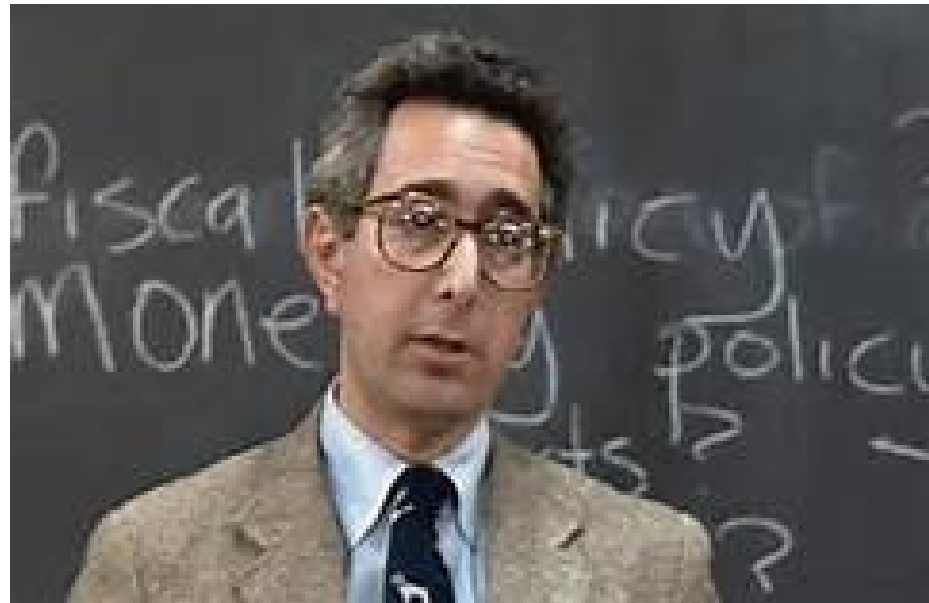
CAS Annual Meeting

November 14, 2016

Presentation Overview

- Brief Introduction of Drones and Aviation
- ISO Response – Coverage and Underwriting Considerations
- A View from the Aviation Insurance Market

What is a Drone?



What is a Drone?



Federal Aviation Administration

Unmanned Aerial Systems General Rules - August 29, 2016

▪ Fly for Fun

- No pilot requirement
- Must register if over 0.55 lbs. and less than 55 lbs.
- Must stay 5 miles from airports
- Always yield to manned aircraft
- Maintain visual line of sight
- Community-based safety guidelines
- Notify airport and traffic control if closer than 5 miles
- <https://registermyuas.faa.gov/>

▪ Fly for Work

- Remote Pilot Airman Certificate
- Must register if over 0.55 lbs. and less than 55 lbs.
- Class G airspace
- Always yield to manned aircraft
- Maintain visual line of sight
- Fly during day, under 400 feet, below 100 mph
- May not fly over people

UAV Usage

- Agriculture
- Architecture and construction
- Delivery (not allowed by FAA yet – VLOS limitation)
- Engineering (Oil and gas exploration)
- Environmental Monitoring
- Fire monitoring and fighting
- Law Enforcement
- Insurance Underwriting and Claims Adjusting
- Media
- Survey and Real Estate
- Weather
- Wireless Internet Access

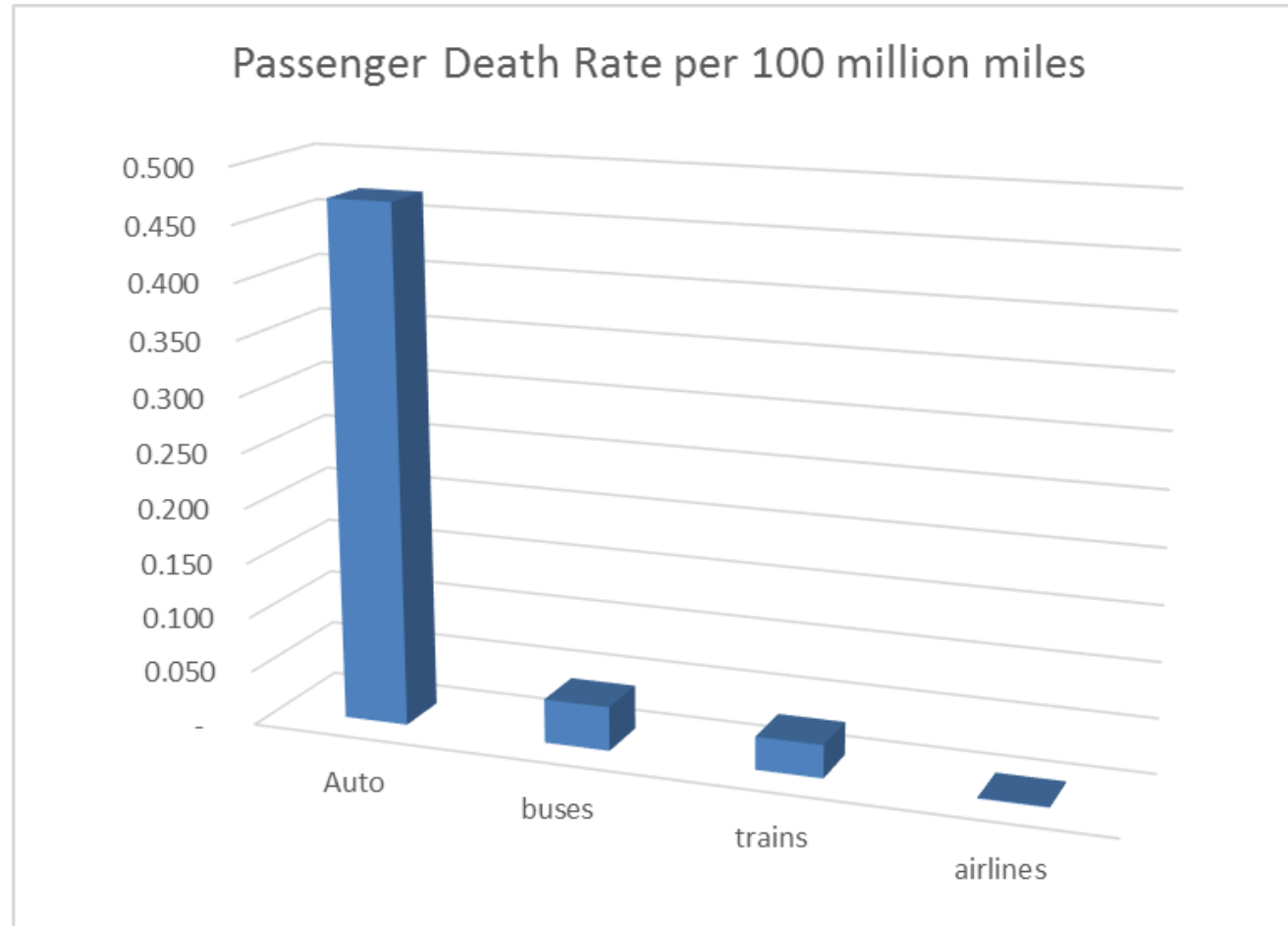
The Future of UAVs

- 300,000 owners registered their UAVs with FAA in the first 30 days of registration. https://www.faa.gov/news/press_releases/news_story.cfm?newsId=19914
- Commercial UAV sales expected to grow from 600,000 in 2016 to 2.7 million by 2020. <https://www.faa.gov/news/updates/?newsId=85227>
- Hobbyist UAV sales expected to grow from 1.9 million in 2016 to 4.3 million by 2020. <https://www.faa.gov/news/updates/?newsId=85227>
- “We project revenues from drones sales to top \$12 billion in 2021, up from just over \$8 billion last year.”
 - <http://www.businessinsider.com/uav-or-commercial-drone-market-forecast-2015-2>
- “UAV Drones Market worth 21.23 Billion USD by 2022”
 - <http://www.marketsandmarkets.com/PressReleases/commercial-drones.asp>
- “Agriculture Drone Market to Reach \$3.8 Billion by 2024”
 - <http://www.grandviewresearch.com/industry-analysis/agriculture-drones-market>

Drone Accidents

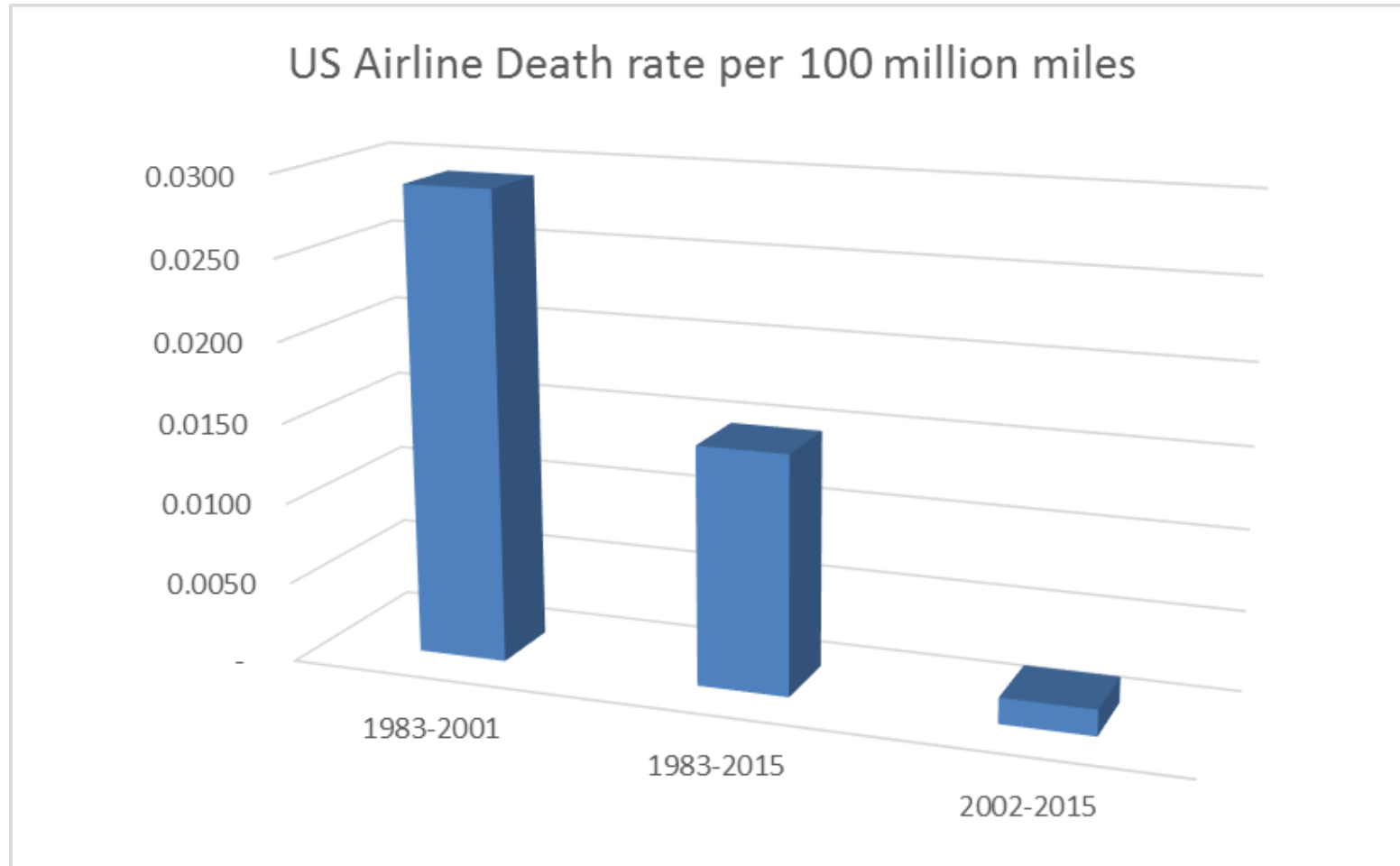
- <http://rochester.nydatabases.com/database/domestic-drone-accidents>
- [Search for Drone Accidents](#)
- https://www.youtube.com/watch?v=MvF49R_ZX5E

Death Risk by Type of Travel



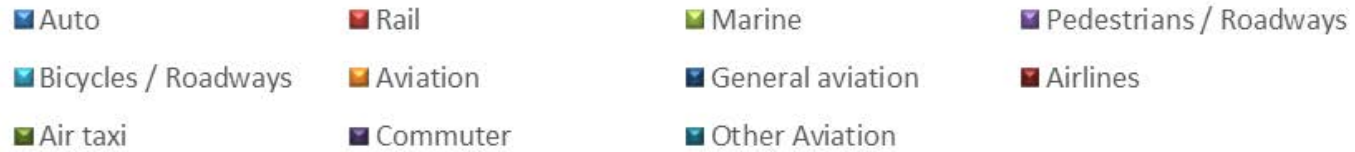
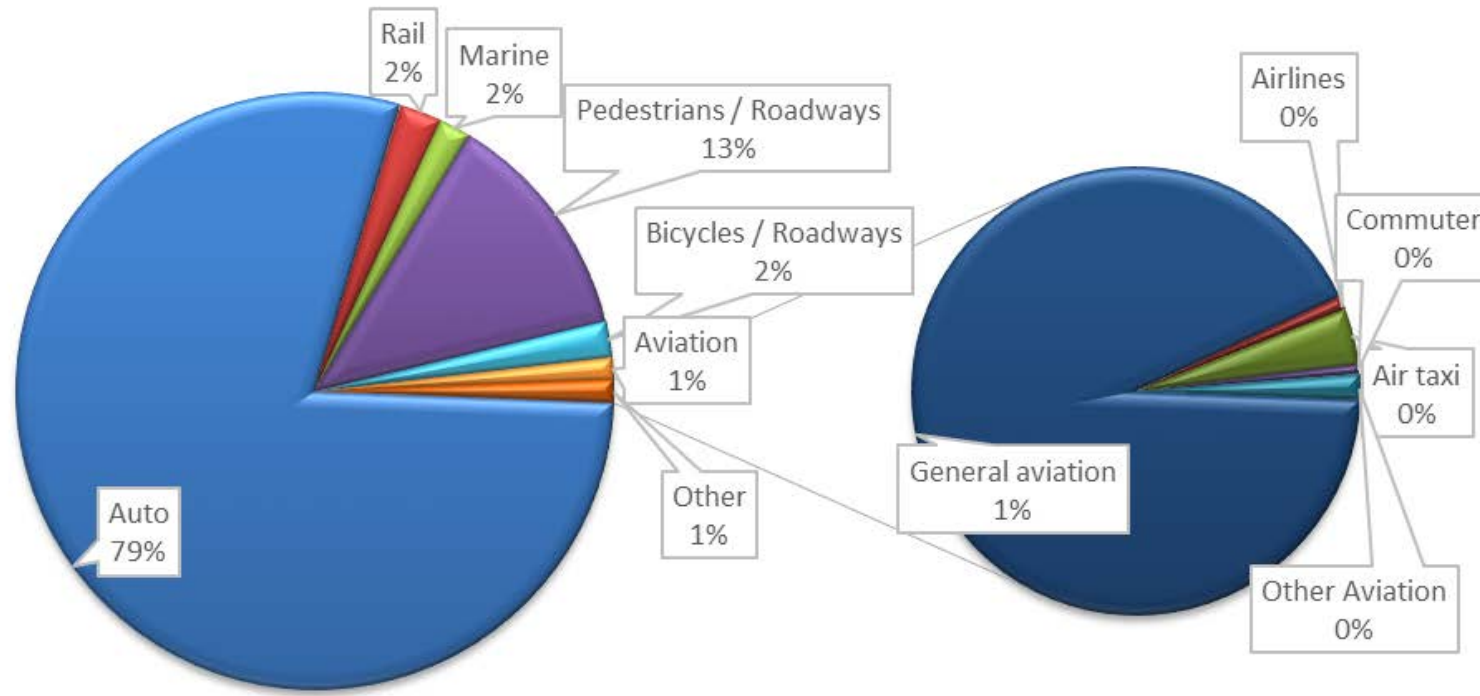
Source: National Safety Council Injury Facts

US Airline Death Stats By Time Period



Source: National Safety Council Injury Facts

Fatalities in the US by Transport Type 2012-13



Source: National Transportation Safety Board

Questions?





Thank you

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