



NTSB National Transportation Safety Board

Enhancing Aviation Safety: Issues and Opportunities

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ATA Safety Council
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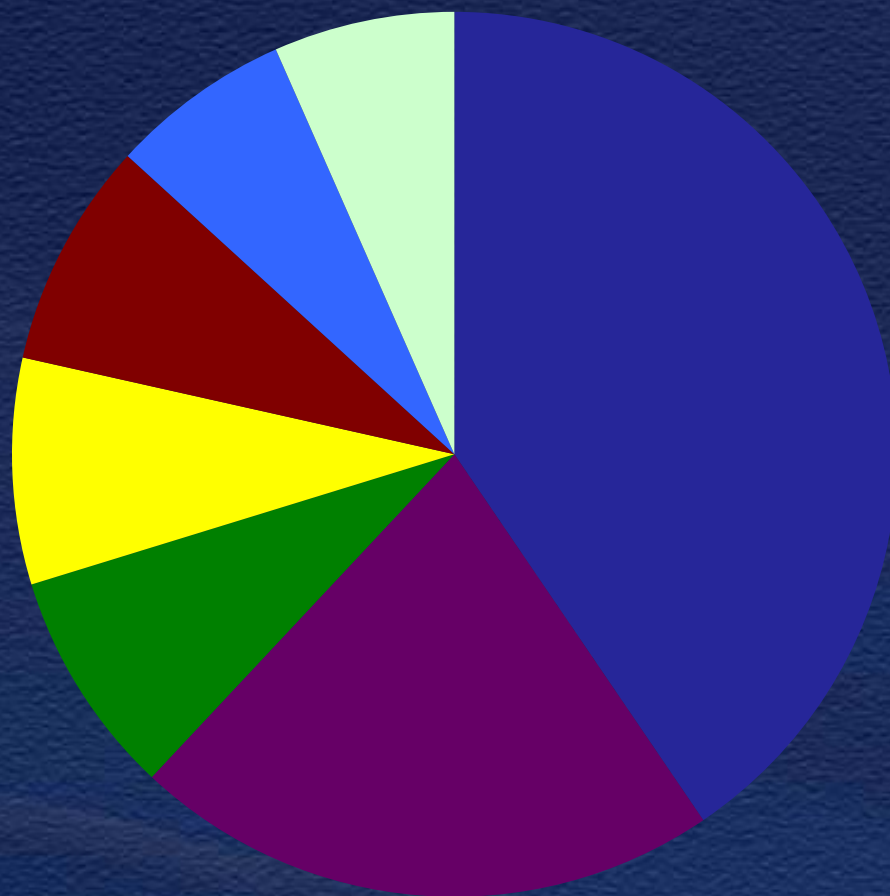
Issues and Opportunities

- NPRM: FAA regulatory efforts
- Commuting considerations
- Child Passenger Safety

NTSB Fatigue Recommendations

- MOST WANTED since 1990
- 150+ fatigue recommendations

Complex Issue: Requires Multiple Solutions



- Scheduling Policies and Practices
- Education
- Organizational Strategies
- Raising Awareness
- Healthy Sleep
- Vehicle and Environmental Strategies
- Research and Evaluation

NPRM: FAA Regulatory Efforts

- NPRM published Sept. 14, 2010
- Includes: time of day, length of duty day, workload, acclimated to new time zone, sleep under different circumstances
- 30+ new scientific factors included

NPRM: FAA Regulatory Efforts

- NTSB submitted comments on NPRM
- “NTSB commends the FAA for its efforts to develop this critically important rule using a broadly inclusive, scientifically based approach.”
- “yield expedited adoption of a final rule”

NPRM: FAA Regulatory Efforts

Outstanding Issues . . .

- Research unique fatigue issues in SH ops
- Expansion of flight time to 10 hrs
- Accommodate an 8 hr sleep opportunity
- Self-report as too fatigued
- Commuting as fitness for duty issue

NPRM: FAA Regulatory Efforts

Outstanding Issues . . .

- Identifying/treating sleep disorders
- Scientifically based personal strategies
- FRMS only for exemptions
- Robust data analysis (schedule/FFD)
- Part 135/91K; other safety critical personnel

Commuting Considerations

Continental Connection (Colgan Air)

Buffalo NY (February 12, 2009)



- 50 fatalities; commuting, acute sleep loss

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Colgan Crew Fatigue Factors

- Captain
 - acute sleep loss (lounge, interrupted)
 - cumulative sleep debt (6 – 12 hrs)
 - awake at least 15 hrs
 - landing at normal bedtime
- First Officer
 - commuted overnight from Seattle
 - 8.5 hrs sleep in previous 34 hrs
(in-flight, crew room)

NTSB Findings

24. The pilots' performance was likely impaired because of fatigue, but the extent of their impairment and the degree to which it contributed to the performance deficiencies that occurred during the flight cannot be conclusively determined.
25. All pilots, including those who commute to their home base of operations, have a personal responsibility to wisely manage their off-duty time and effectively use available rest periods so that they can arrive for work fit for duty; the accident pilots did not do so by using an inappropriate facility during their last rest period before the accident flight.
26. Colgan Air did not proactively address the pilot fatigue hazards associated with operations at a predominantly commuter base.
27. Operators have a responsibility to identify risks associated with commuting, implement strategies to mitigate these risks, and ensure that their commuting pilots are fit for duty.

NTSB Recommendation

Require all 14 *Code of Federal Regulations Part 121, 135, and 91K operators* to address fatigue risks associated with commuting, including identifying pilots who commute, establishing policy and guidance to mitigate fatigue risks for commuting pilots, using scheduling practices to minimize opportunities for fatigue in commuting pilots, and developing or identifying rest facilities for commuting pilots. (A-10-16)



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Geographic Distribution of Colgan Air Pilots Based at Newark, New Jersey

137 EWR pilots: 93 (68%) commuted

Less than 100 miles: 45 Connecticut, New Jersey, New York, Pennsylvania

100 to 199: 13 Maryland, Massachusetts, New York, Pennsylvania, Rhode Island

200 to 399: 29 Maine, Massachusetts, New Hampshire, New York, North Carolina, Pennsylvania, Virginia

400 to 999: 20 Florida, Georgia, Illinois, Iowa, Michigan, Ohio, South Carolina, Tennessee, West Virginia

1,000 or more: 29 California, Colorado, Florida, Louisiana, Minnesota, Nevada, Texas, Utah, Washington

Commuting Considerations

- Complexity
- Definition?
- Scheduling
- Science
- Fitness for Duty
- Regulatory vs advisory approach
- Prevent recurrence?

Child Passenger Safety

- NTSB recommends: require child restraint
- Quantify: how many lap children?
- Parent education, resources, options
- Website: purchase seat for <2 y.o.?
 - 'opt out' vs. 'opt in' for seat
 - provide child restraint (Virgin Atlantic)
- Opportunity for creativity and innovation!



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