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Transportation Safety

Ian Savage
Northwestern University

100 years ago last Saturday . . .



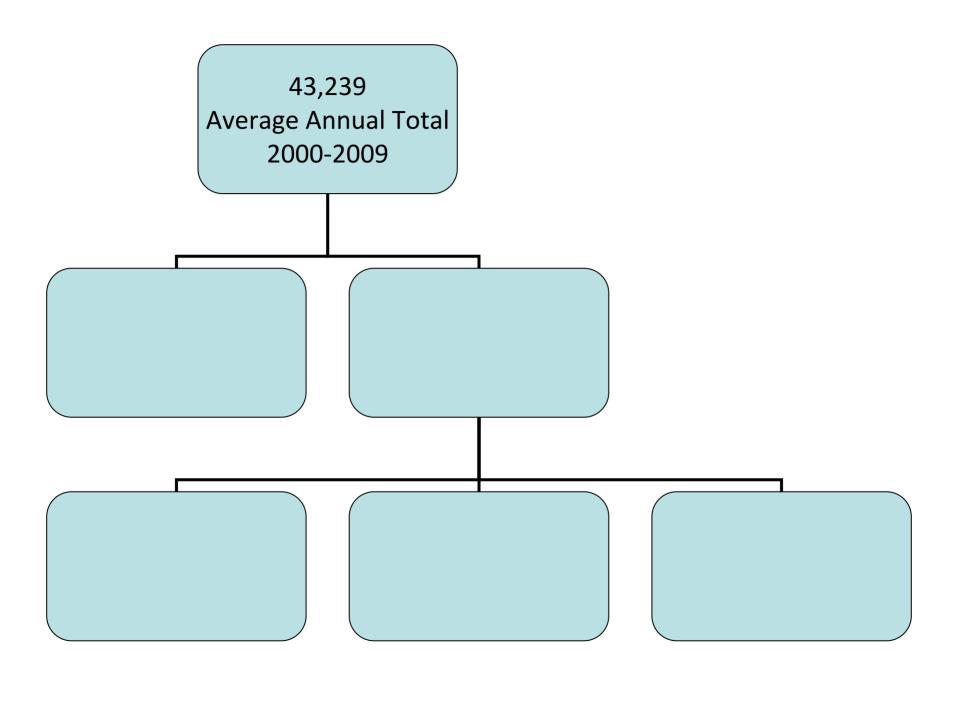
- Design
- Environment / weather
- Navigation
- Time of day (11:40pm)
- Safety equipment or lack thereof
- Crew action
- 1914 SOLAS Convention

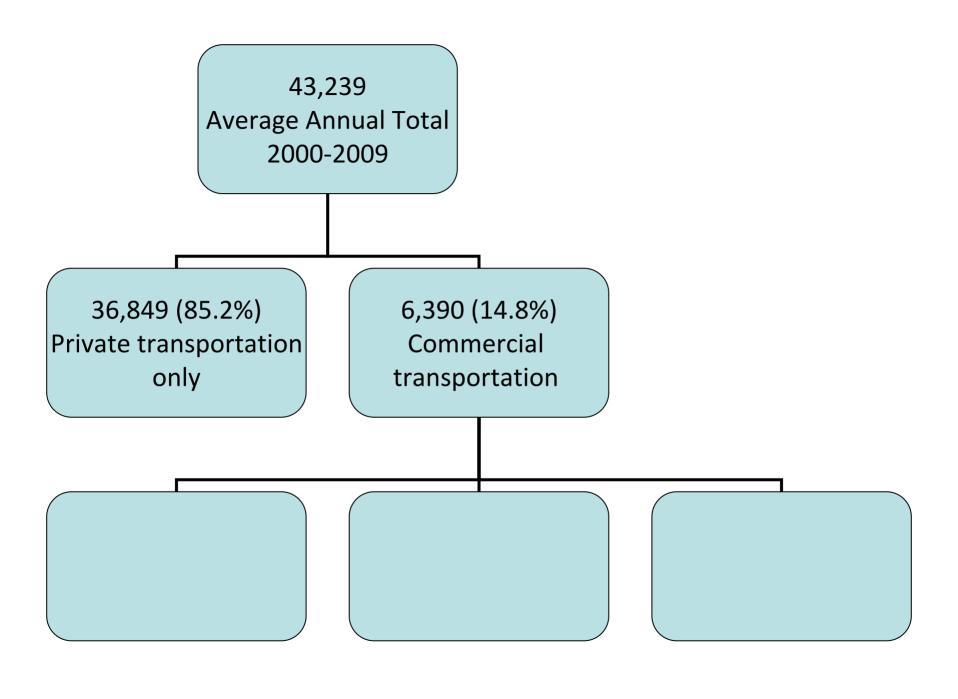


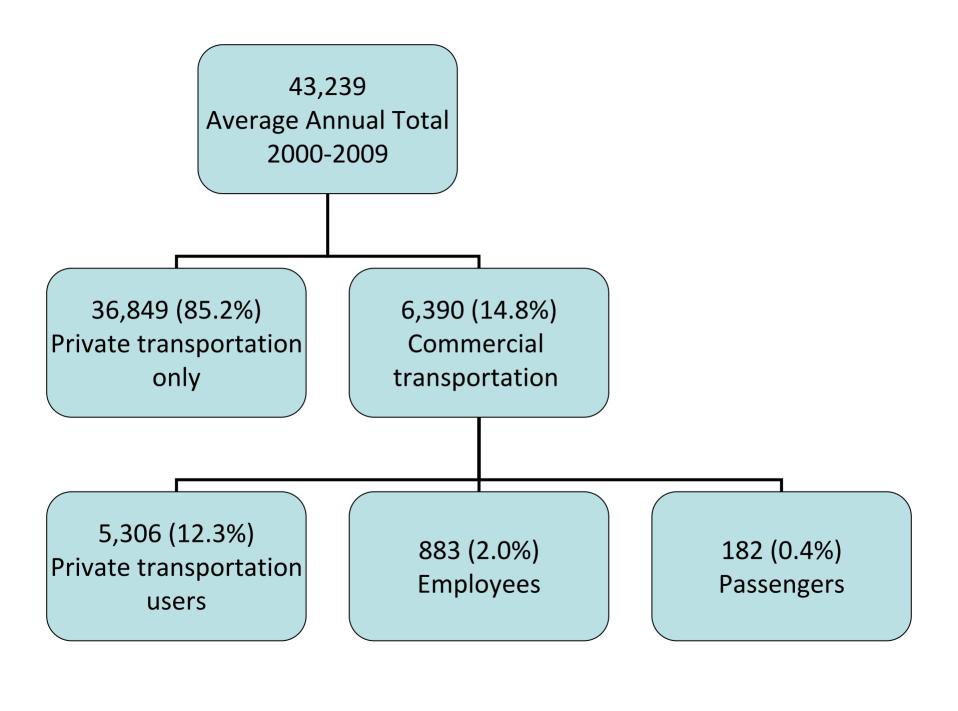
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Magnitude of the Risks . . .

- Transportation related fatalities are 1 in every 56 deaths in the United States (average over period 2000-2009)
- But are 38% of all "unintentional injury deaths"
- Equivalent to the sum of the 2nd and 3rd most prevalent causes (falls and poisonings)
- Over the 2000-09 decade annual average fatalities were 43,239







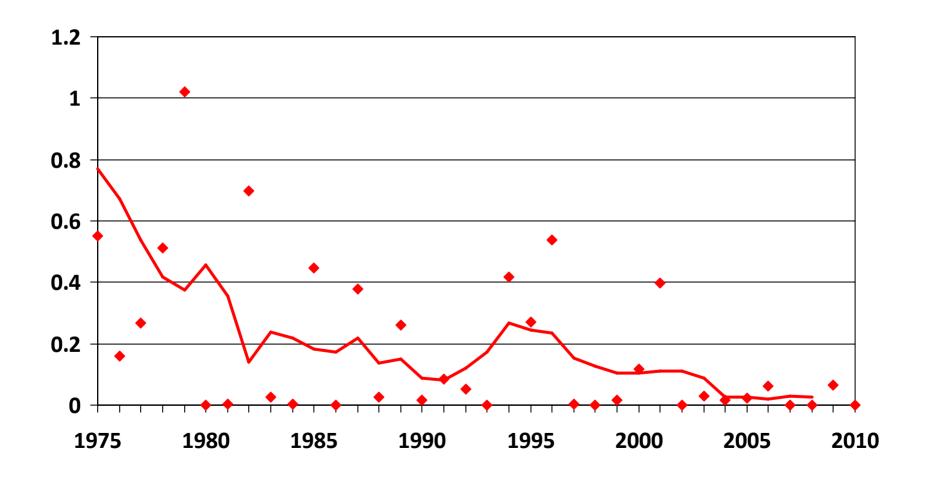
Passenger fatalities per billion passenger miles 2000-09

Riding a motorcycle	212.57
Driving or passenger in car and light truck	7.28
Passenger on commuter rail and Amtrak	0.43
Passenger on urban mass transit rail	0.24
Passenger on a bus (holding more than 10 passengers – transit, intercity, school, charter)	0.11
Passenger on commercial aviation	0.07

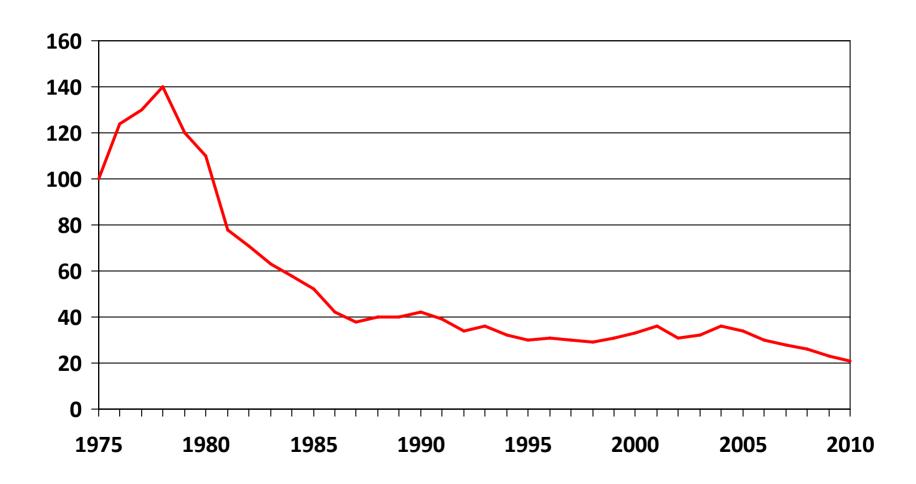
Rates per 1,000 Employees 2009

	Fatality	Non-fatal Injury
Fishing	8.81	15
Agriculture	0.76	53
Taxi and limousine	0.62	37
Truck transportation	0.29	57
Water transportation	0.24	33
Construction	0.12	47
Pipeline transportation	0.10	15
Rail transportation	0.06	23
Air transportation	0.06	71
Utilities	0.03	31
Bus transportation	0.03	33-48
Manufacturing	0.03	50

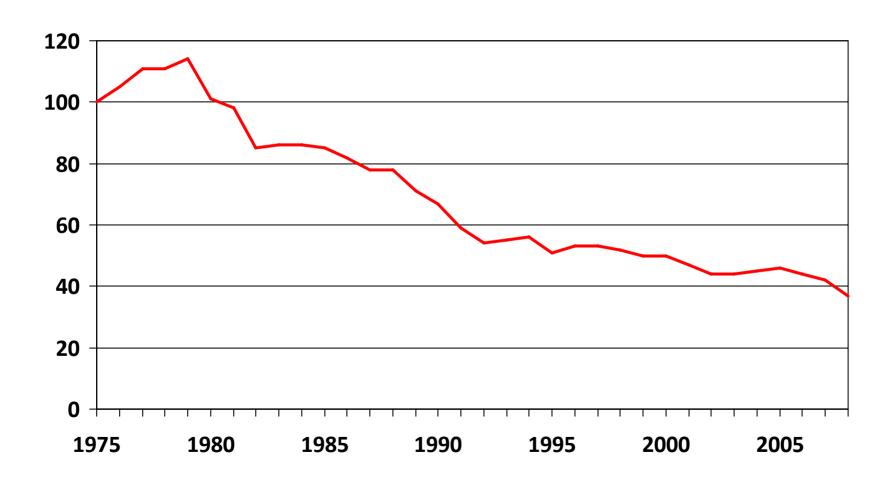
Aviation (Pt 121 scheduled) passenger fatalities per million enplanements (with 5yr m.a.)



Railroad collisions and derailments per train mile (1975=100)



Large truck-involved fatal crashes per truck mile (1975=100)





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Three projects I am involved in . . .

Deregulation and safety retrospective

 Special issue on safety of Research in Transportation Economics

Analysis of railroad-related pedestrian fatalities



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- 25th anniversary of landmark 1987 conference
- Thursday May 3
- Truck Aviation Railroads
- Were the concerns of the mid 1980s justified?
- What public policy changes arose from the debate, and were these changes justified or effective?
- Were there other issues that did not become apparent until much later?
- To what extent are contemporary safety issues still tied up with the deregulation debate?



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- Editing of a special edition on safety in Research in Transportation Economics
- Bring together the (small) group of economists who think about safety
- Presentation of these papers:
 - May 3 Deregulation and Safety event
 - Special session at 2012 International Transportation Economists Association conference in Berlin



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Fatalities on mainline railroads in the Metro Chicago region 2004-10 . . .

<u>Pedestrians</u>		Other Fatalities	
Crossings/Stations	59	Vehicle Occupants	29
Trespassers	81	Employees	5
Suicides	<u>120</u>	Contractors	6
	260	Passengers on Trains	4
		Misc. other	<u>3</u>
			47



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And now to our panel . . .