



CARE RESEARCH
& DEVELOPMENT
LABORATORY

Risky Driving Behavior

Effects on the Odds of Being Killed

Dave Brown and Nancy Rhodes
CARE Research and Development Lab
The University of Alabama
brown@cs.ua.edu

www.SafeHomeAlabama.gov



THE UNIVERSITY OF
ALABAMA
ENGINEERING

Traffic Safety Community

Our Responsibility to ...

- **Use Available Information**
 - Statewide 2006=1208 fatalities; 2007 = 1110
 - National
- **Influence the Hard Decisions**
 - Allocate the resources entrusted to us
 - To reduce the odds of fatal crashes
- **Communicate Necessity for Tradeoffs**
 - To decision makers: need for systems approach
 - To the general public (who influence these decisions)

Risky Driving

Definition

- **Driving Behavior Per Se**
 - Absence of reasonable care
 - Disregard for rules of the road
 - Thrill seeking – age and **social/cultural influences**
- **Activities While Driving**
 - Driving not seen as productive activity
 - Preoccupations, e.g., ...
 - Reading
 - Cell phones
 - Eating



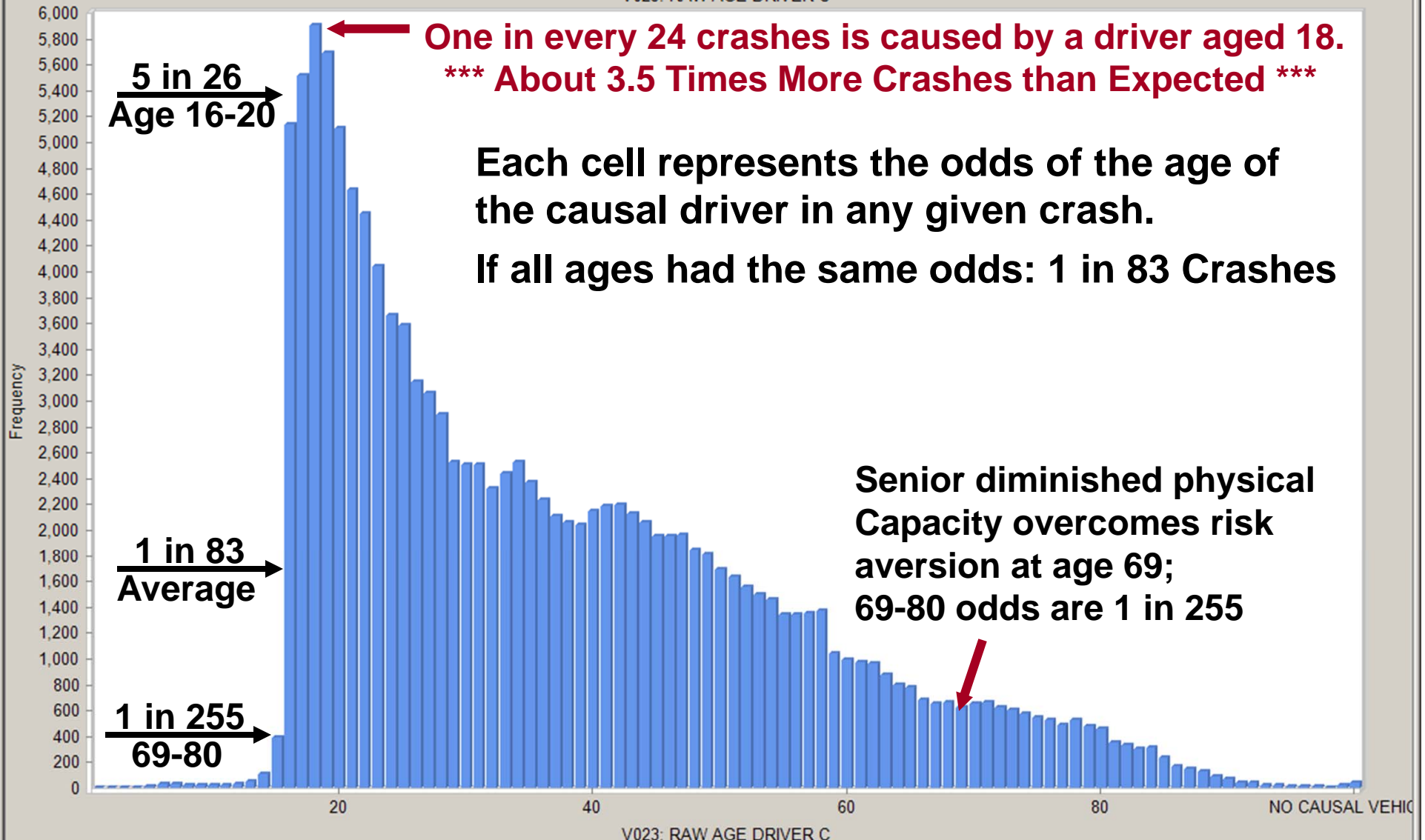
Major Causes of Fatal Crashes

- **Lack of Restraint Usage**
- **Alcohol or Drugs**
- **Speed**
- **Driver age factors**
 - **Youth risk-taking**
 - **Senior perception factors**
- **Ambulance response time**



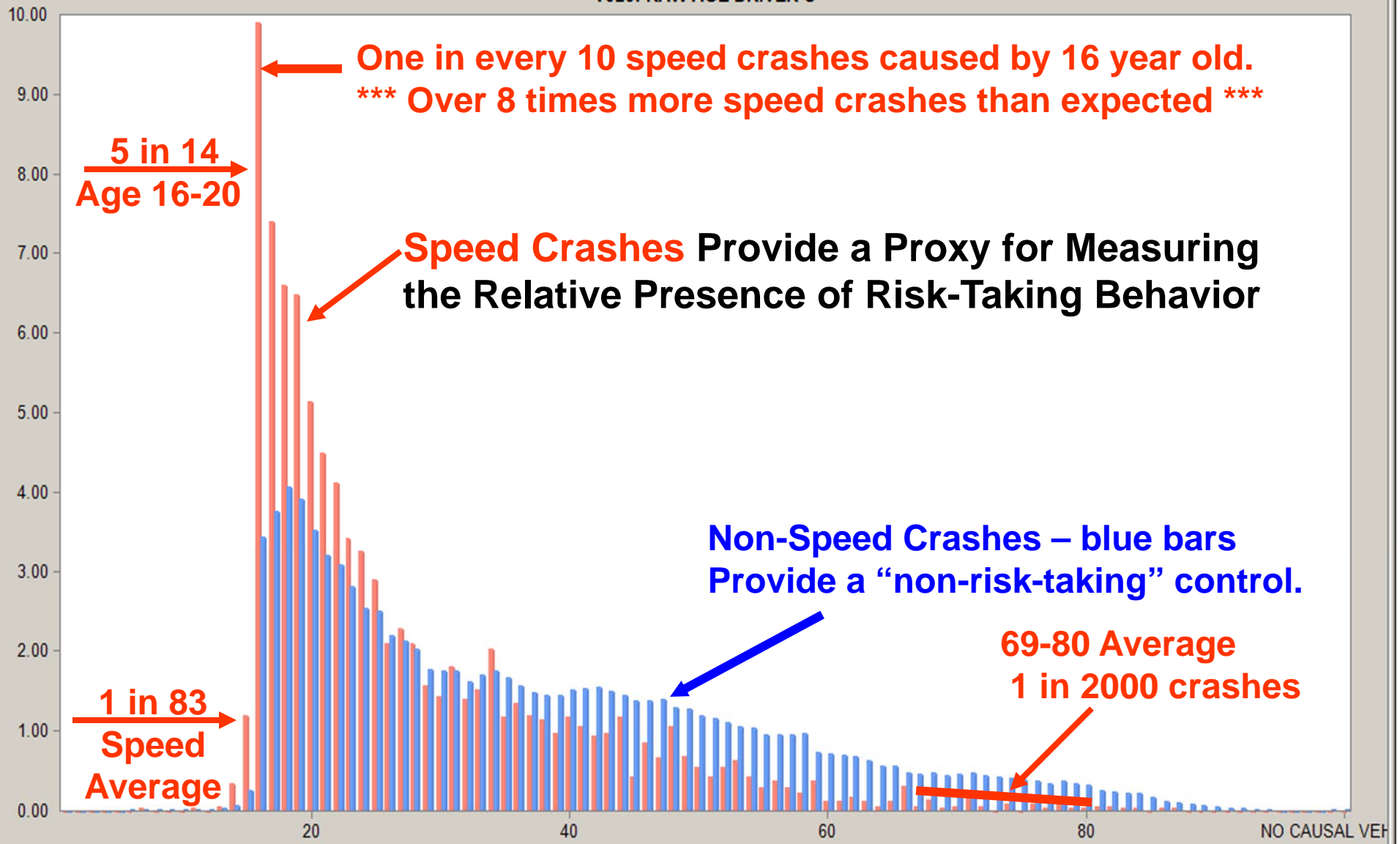
All Crashes 2005 by Age

2005 Alabama Crash-Road Data
V023: RAW AGE DRIVER C



Speed vs. Non-Speed by Age

IMPACT Results - 2005 Alabama Crash-Road Data - Over Speed Limit vs. Not Over Speed Limit
V023: RAW AGE DRIVER C



Counter Argument

- **Fact:** Young people constitute a higher percentage of the driver population.
- **Question:** Is it *that* much higher?
 - Age 16-20 are **9.5%** of driving population
 - They have:
 - **19%** of crashes (twice expected)
 - **35%** of speed crashes (3.6 expected)

Countermeasures

- **Focus Group Feedback (Perceptions)**
 - I don't do it, but I do laugh at it (observed)
 - The cops are doing it (speeding and not restrained)
 - I got a warning! (something to brag about)
- **Teen Misperceptions (Invulnerability)**
 - The only problem is DUI (not for 16-17)
 - Being risky is cool (cultural norm)
- **Potential Approaches**
 - Peer-level motivation (making it un-cool)
 - Imaging the worst (before driving)
 - Pre-occupation with moving to safer position
 - Stronger GDL

Crashes by Crash Type – 2005

Yellow = Predominantly Risk Taking

Crash Type	Fatalities	Crashes
1. Restraint Not Used	546	14,353
2. Speeding	331	7,917
3. Alcohol/Drug	212	7,482
4. Obstacle Removal	178	7,957
5. Youth - Age 16-20 (5 years)	157	27,471
6. License Status Deficiency	133	5,799
7. Mature - Age > 64 (15+ years)	112	11,861
8. Ambulance Delay > 45 Min.	97	2,127

Crashes by Crash Type – 2005

Yellow = Predominantly Risk Taking

Crash Type	Fatalities	Crashes
9. School Bus/Ped/Bicycle	85	1,355
10. Pedestrian	73	667
11. Motorcycle	61*	1,808
12. Stop/Yield Sign Violation	74*	8,642
13. Red Light Violation	35*	9,801
14. Heavy Truck Caused	43*	6,300
15. Utility Pole	26	2,526

* 2004 Ordering

Crashes by Crash Type – 2005

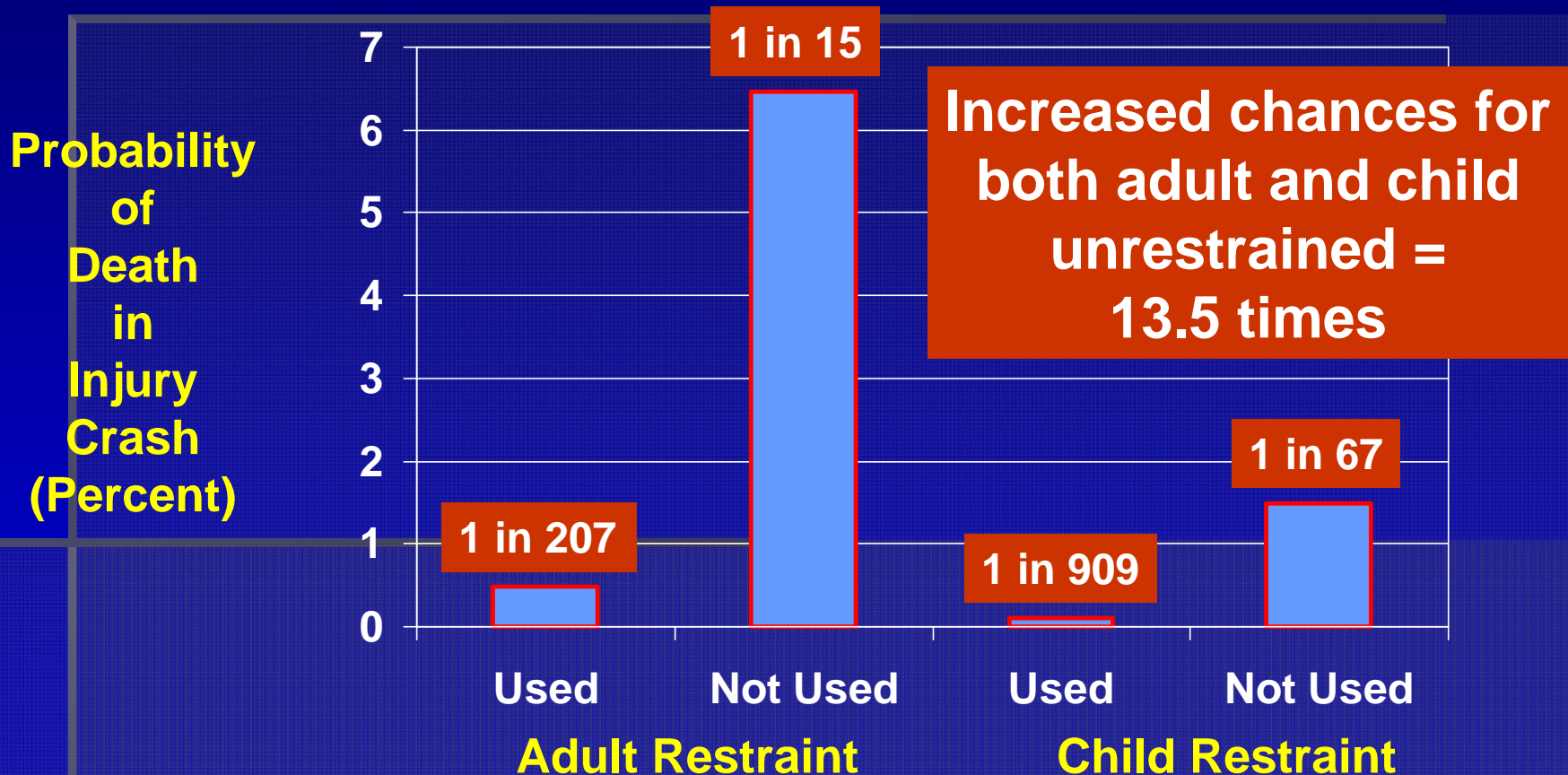
Yellow = Predominantly Risk Taking

Crash Type	Fatalities	Crashes
16. Roadway Defects	27*	3,624
17. Construction Zone	40*	2,915
18. Vehicle Defect	20	2,791
19. Vision Obscured	17	1,616
20. Child Not Restrained	14	1,420
21. Railroad Trains	12	95
22. Bicycle	12	287

Summary: 67% Risktaking

#1 Restraint Not Used

Injury Crashes



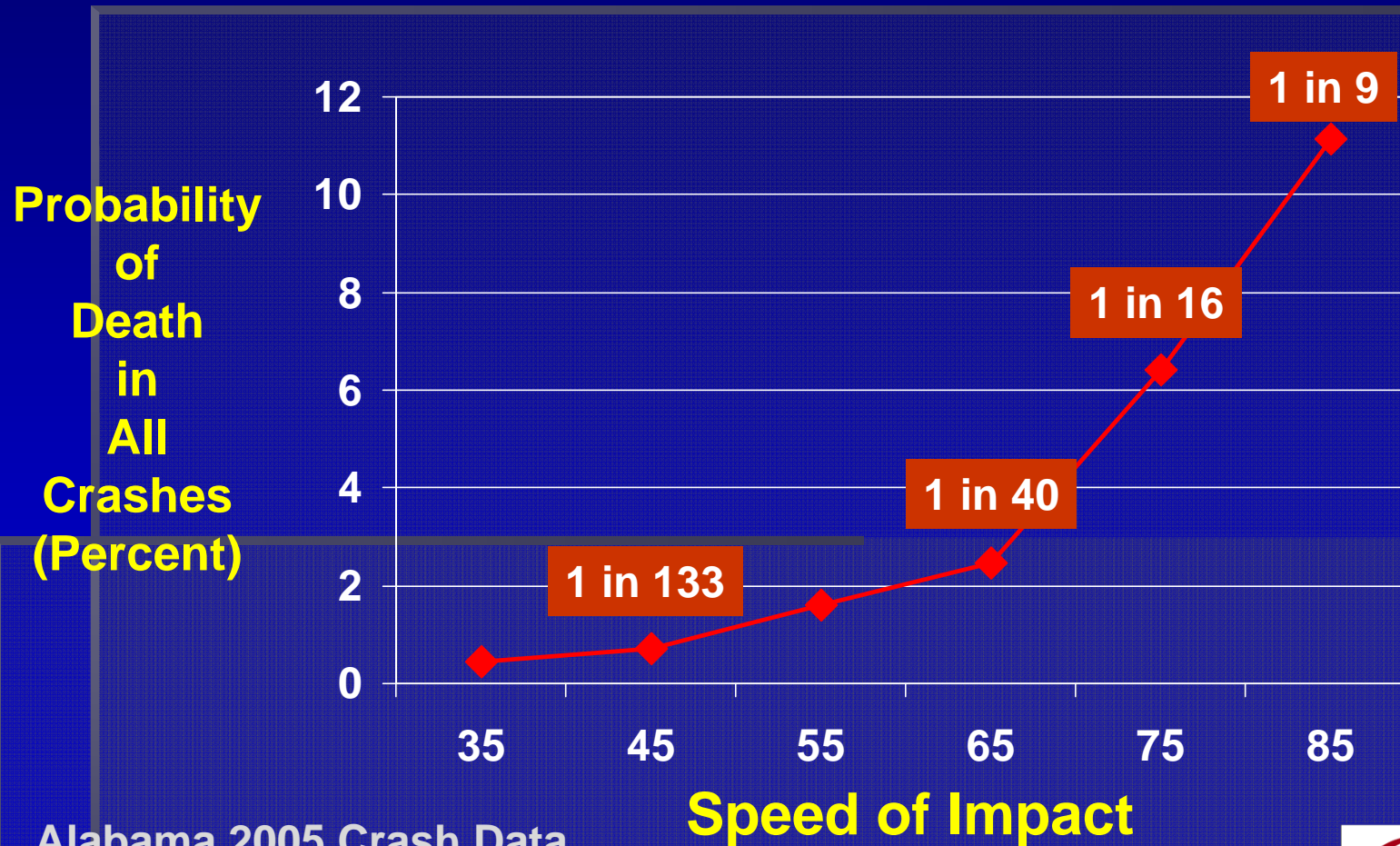
Alabama 2005 Crash Data

The driver of this vehicle, who was the victim of a DUI, walked away with minor injuries only because she took two seconds to buckle up.



Chance of Fatal Crash by Speed

Doubles Every 10 MPH



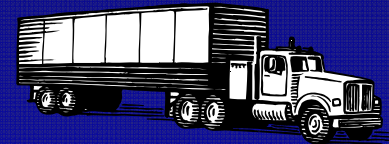
Alabama 2005 Crash Data

Vehicle Type

Question

In 2005, the driver of which vehicle type caused more fatal crashes:

- Tractor Trailer Drivers?
- Motorcycle Drivers?



Answer:

- Tractor Trailer Drivers = 29
- Motorcycle Drivers = 36

Fatal vs. Non-Fatal by Causal Vehicle

CARE 8.2.10.0 - [IMPACT Results - 2005 Alabama Crash-Road Data - Fatal Crashes Common Vehicle Causal Types vs. Not Fatal Crashes Common Vehicle Causal Types]

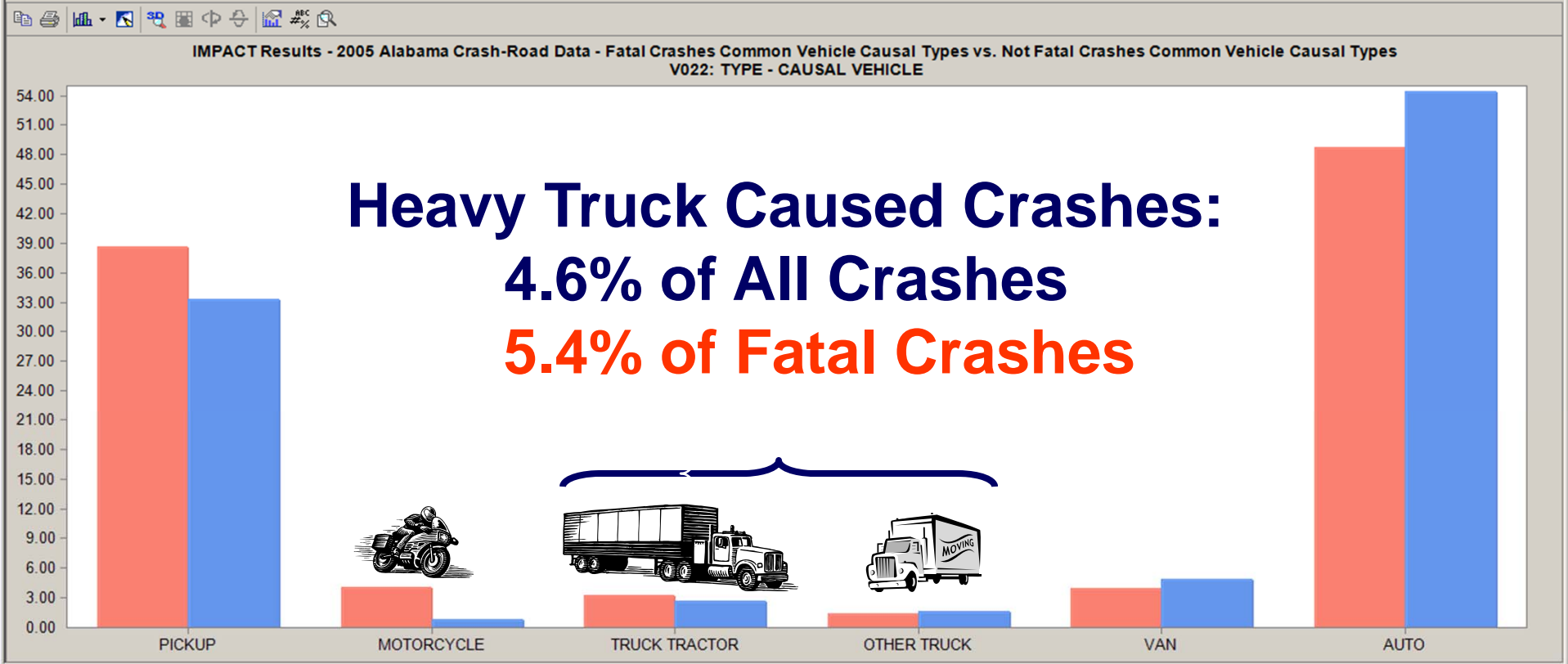
File Filters Analysis Locations Search Continuous Impact Tools Window Help

Default Data Source: 2005 Alabama Crash-Road Data | Default Filter: Fatal Crashes Common Vehicle Causal Types | Filter Logic: (V022: TYPE - CAUSAL VEHICLE = AUTO OR V022: TYPE - CAUSAL VEHICLE = PIC

Order By: Max Gain (Descending) | Suppress Zero-Valued Rows: | Over Representation: | Threshold: 2.0 | Max Gain:

V022: TYPE - CAUSAL VEHICLE							V022: TYPE - CAUSAL VEHICLE
	Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
PICKUP		342	38.644	47404	33.304	1.160*	47.259
MOTORCYCLE		36	4.068	1160	0.815	4.991*	28.788
TRUCK TRACTOR		29	3.277	3865	2.715	1.207	4.969
OTHER TRUCK		12	1.356	2341	1.645	0.824	-2.555
VAN		35	3.955	6858	4.818	0.821	-7.641
AUTO		431	48.701	77537	54.474	0.894*	-51.097

Sort by Sum of Max Gain



Truck-Car Crashes

Question

In 2005, for fatal crashes that involved a truck and another vehicle, which driver was most often at fault?

- Truck Drivers?
- Other Drivers?

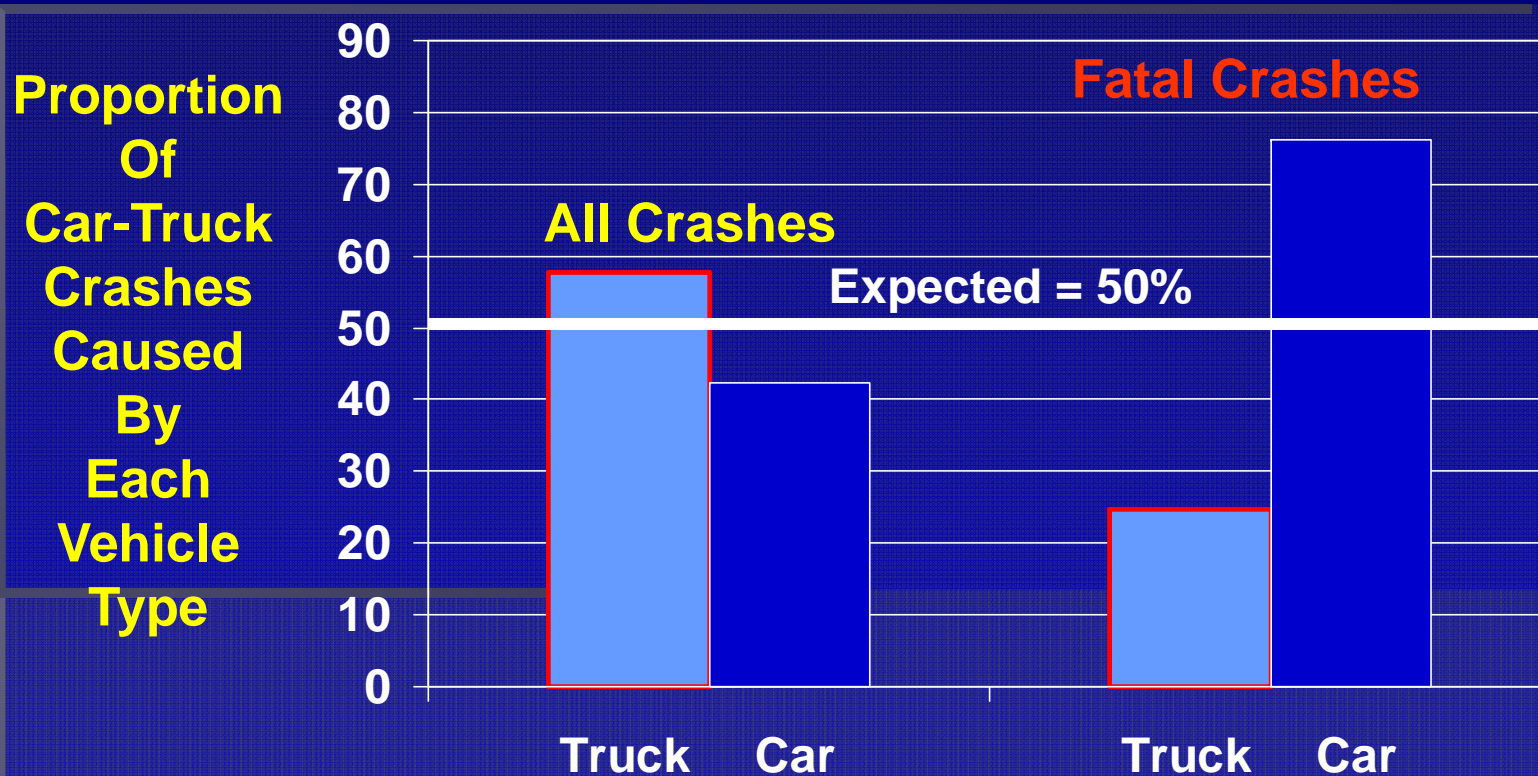


Answer:

- Truck Driver = 25%
- Other Driver = 75%

Responsible Driver

Car-Truck Crashes Only



Alabama 2002-2005 Crash Data

QUESTIONS PPP

