

Impaired Driving in the US: Progress and Research Needs

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Administrator

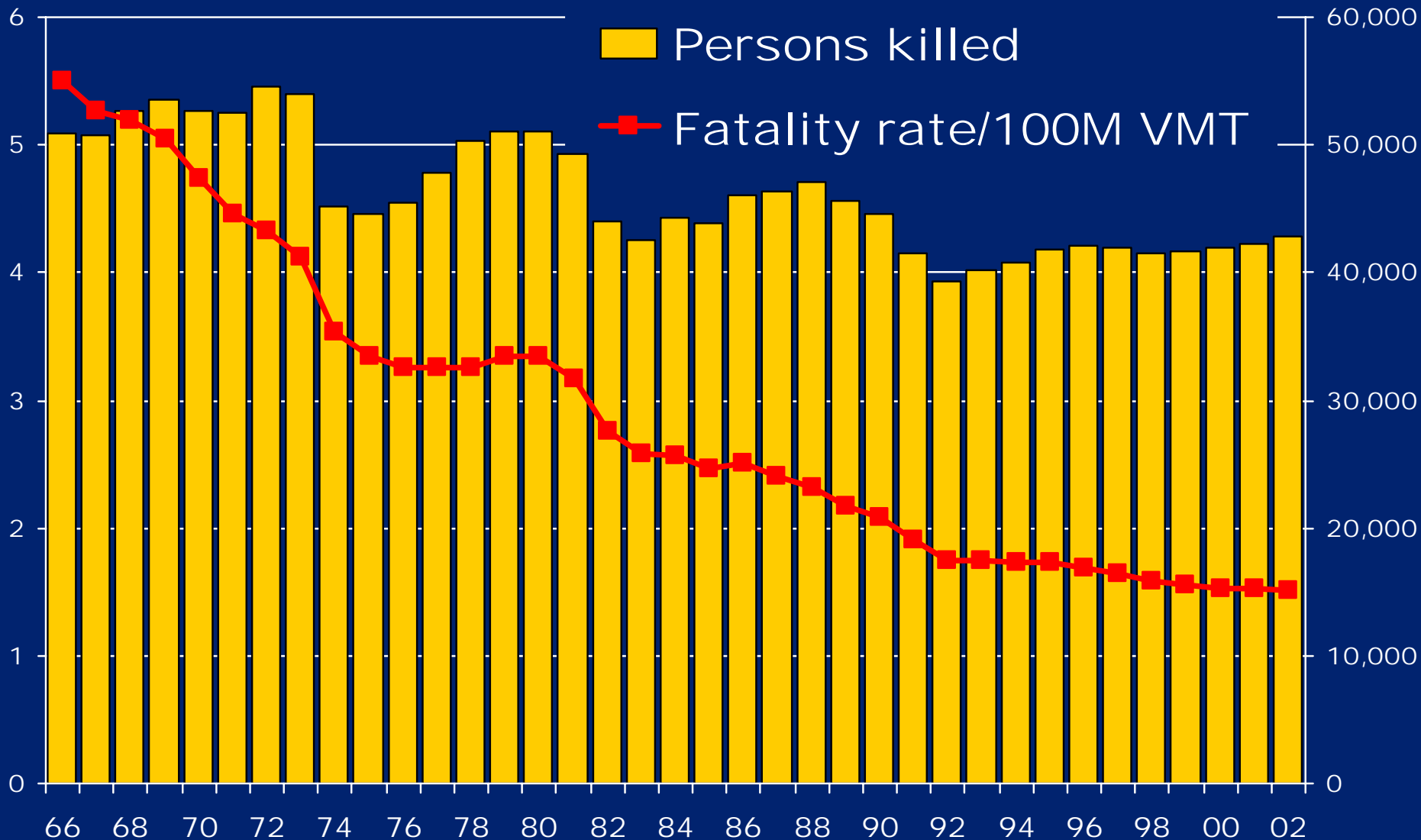
National Highway

Traffic Safety Administration

October 21, 2003



Persons Killed and Rate per 100M VMT

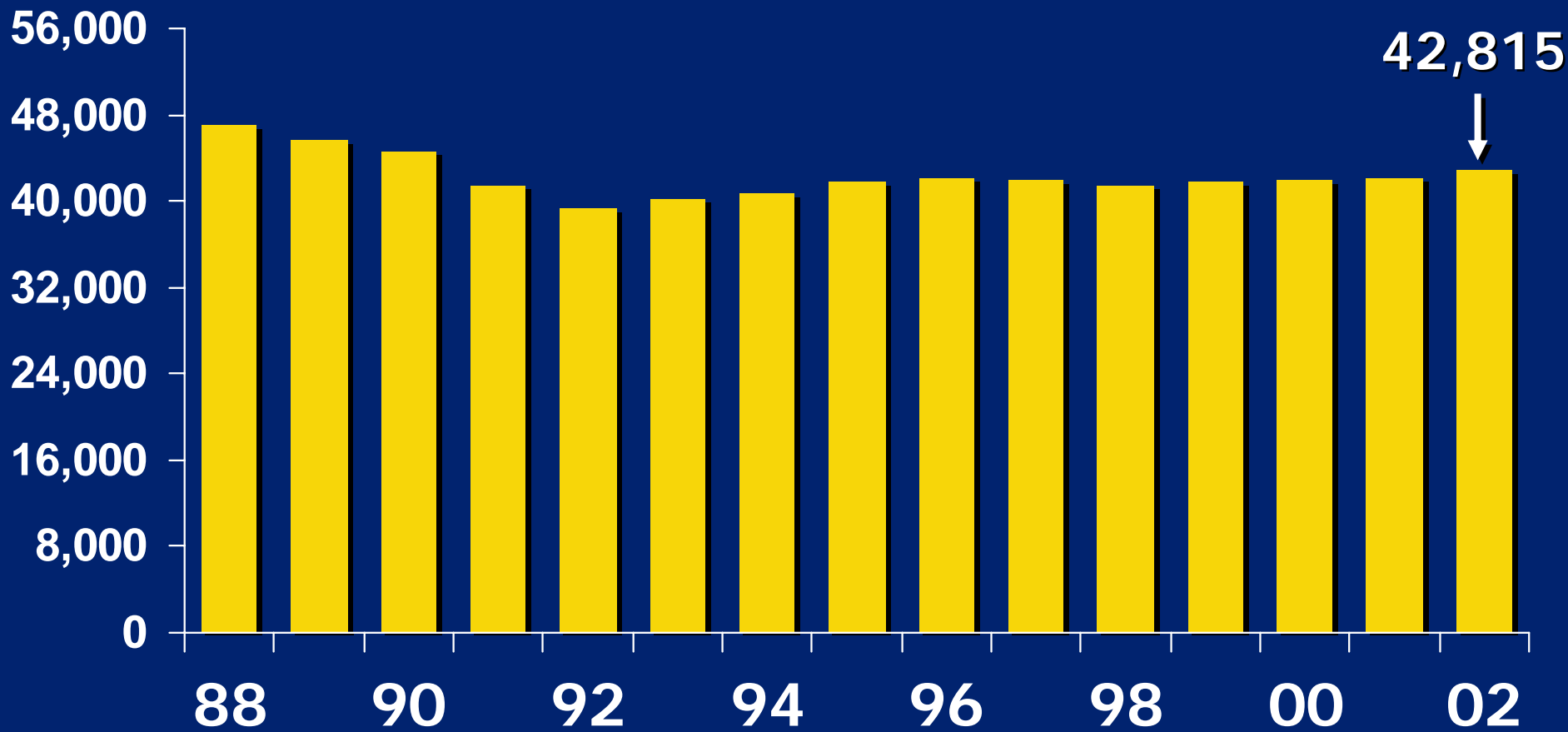


Source: 2002 FARS

Persons Killed and Injured in Crashes

	Year		% Change
	2001	2002	
Persons Killed	42,196	42,815	+1.5%
Persons Injured	3,033,000	2,926,000	-3.5%

Persons Killed in Traffic Crashes by Year



Motor Vehicle Traffic Crashes as a Leading Cause of Death in the United States, 2000

RANK	Cause of Death by Age											Years of Life Lost ¹
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages	
							25-34	35-44	45-64			
1	Perinatal Period 13,918	Congenital Anomalies 447	MV Traffic Crashes 567	MV Traffic Crashes 1,681	MV Traffic Crashes 5,873	MV Traffic Crashes 3,982	MV Traffic Crashes 6,716	Malignant Neoplasms 16,520	Malignant Neoplasms 137,039	Heart Disease 593,707	Heart Disease 710,760	Malignant Neoplasms 23% (8,468,700)
2	Congenital Anomalies 5,743	MV Traffic Crashes 430	Malignant Neoplasms 426	Malignant Neoplasms 827	Homicide 2,476	Homicide 2,385	Suicide 4,792	Heart Disease 13,181	Heart Disease 98,879	Malignant Neoplasms 392,366	Malignant Neoplasms 553,091	Heart Disease 22% (8,091,669)
3	Other Symptoms 3,639	Accidental Drowning 427	Smoke Exposure 202	Suicide 489	Suicide 1,911	Suicide 1,900	Homicide 4,274	MV Traffic Crashes 6,757	Stroke 15,967	Stroke 148,045	Stroke 167,661	Stroke 5% (1,708,035)
4	Oth/Unsp Nontransport 572	Homicide 323	Accidental Drowning 200	Homicide 431	Malignant Neoplasms 794	Malignant Neoplasms 788	Malignant Neoplasms 3,916	Suicide 6,562	Diabetes 14,140	Obstructive Pulmonary 106,375	Obstructive Pulmonary 122,009	MV Traffic Crashes 5% (1,674,868)
5	Heart Disease 493	Malignant Neoplasms 312	Nervous Disease 183	Nervous Disease 374	Accidental Poisoning 468	Accidental Poisoning 669	Heart Disease 2,958	HIV 5,919	Obstructive Pulmonary 13,990	Pneumonia 57,011	Diabetes 69,301	Obstructive Pulm Disease 4% (1,414,309)
6	Homicide 349	Other Symptoms 228	Congenital Anomalies 173	Congenital Anomalies 330	Heart Disease 443	Heart Disease 519	HIV 2,437	Accidental Poisoning 4,663	Liver Disease 12,428	Diabetes 52,414	Pneumonia 63,548	Prenatal Period 3% (1,080,590)
7	Nervous Disease 293	Oth/Unsp Nontransport 222	Homicide 127	Accidental Drowning 300	Other Symptoms 380	Other Symptoms 444	Accidental Poisoning 2,380	Liver Disease 3,371	MV Traffic Crashes 8,583	Alzheimer's 48,993	Alzheimer's 49,558	Suicide 3% (1,032,765)
8	Pneumonia 280	Smoke Exposure 221	Oth/Unsp Nontransport 112	Heart Disease 269	Accidental Drowning 366	Oth/Unsp Nontransport 286	Other Symptoms 1,554	Homicide 3,320	Suicide 8,382	Mental Retardation 36,656	MV Traffic Crashes 41,995	Diabetes 3% (970,832)
9	Septicemia 274	Nervous Disease 209	Heart Disease 89	Oth/Unsp Nontransport 239	Nervous Disease 330	Nervous Disease 249	Oth/Unsp Nontransport 895	Other Symptoms 2,987	Other Symptoms 5,395	Nephritis 31,225	Mental Retardation 38,882	Other Symptoms 2% (825,216)
10	Other Respiratory 254	Heart Disease 163	Other Symptoms 75	Metabolic Disorder 174	Oth/Unsp Nontransport 322	Accidental Drowning 221	Injury Intent Unk. 679	Stroke 2,599	HIV 5,381	Septicemia 24,786	Nephritis 37,251	Homicide 2% (792,291)
ALL*	28,035	4,195	2,823	6,933	15,727	14,021	40,451	89,798	401,187	1,799,825	2,403,351	All Causes 100% (36,067,102)

Sources: National Center for Health Statistics Mortality Data 2000

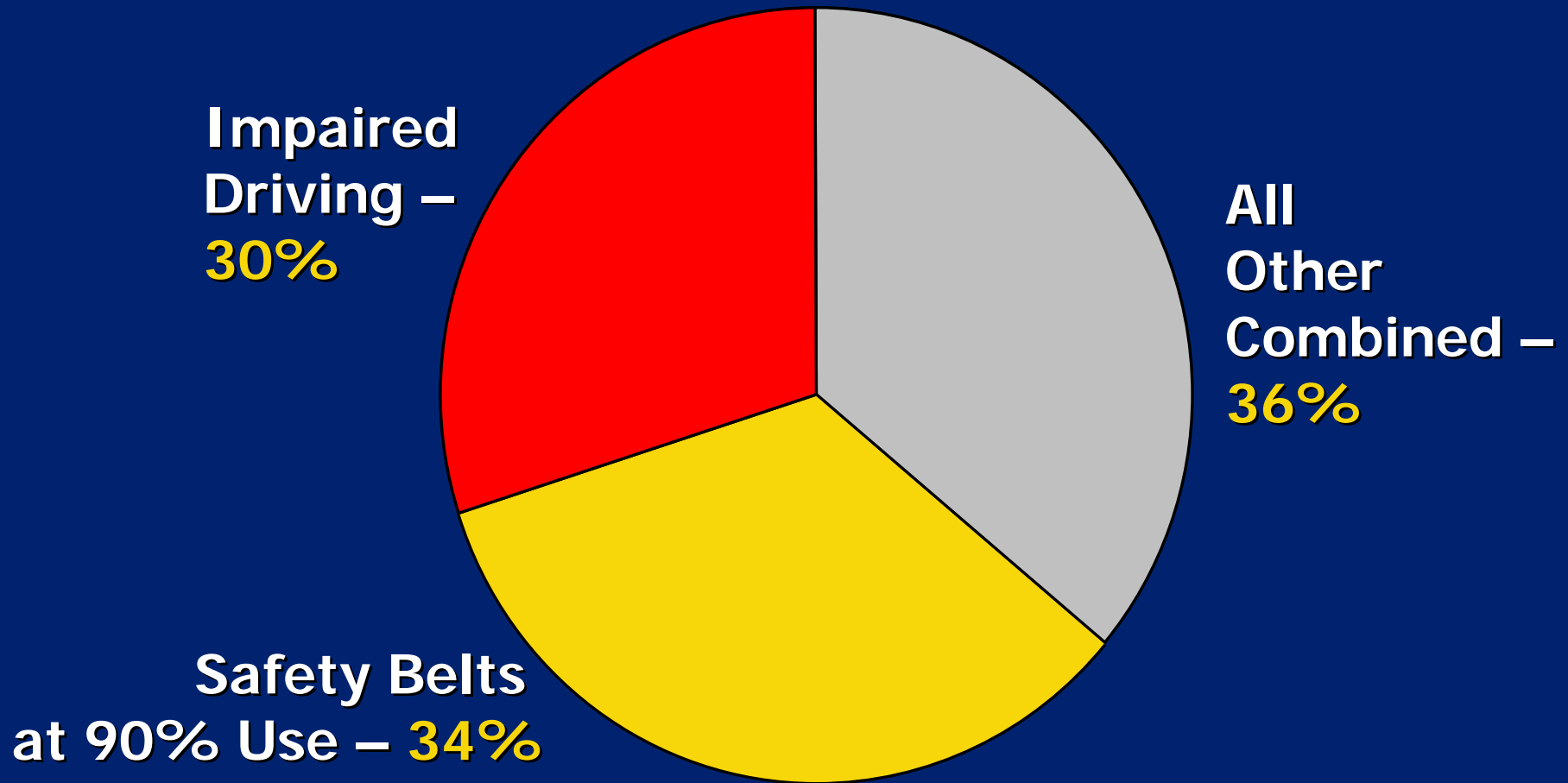
Note: Causes of death classification based on NHTSA (Revised 70 Causes of Death listing). *Not a total of top 10 causes of death.

Cost of Motor Vehicle Crashes



- Total annual cost – **\$230.6 billion (2000)**
- Highlights
 - Impaired driving – **\$51 billion (2000)**
 - Speeding – **\$40 billion (2000)**
 - Non-use of belts **\$17 billion (2003)**

Predicted Lives Saved by Countermeasure



Alcohol-Related Fatalities United States

	Year		%
	2001	2002	Change
Total Alcohol-Related	17,400	17,419	+0.1%
Alcohol Fat/100M VMT	0.63	0.62	
$0.01 \leq \text{BAC} \leq 0.07$	2,542	2,401	-5.5%
$\text{BAC} \geq 0.08$	14,858	15,019	+1.1%

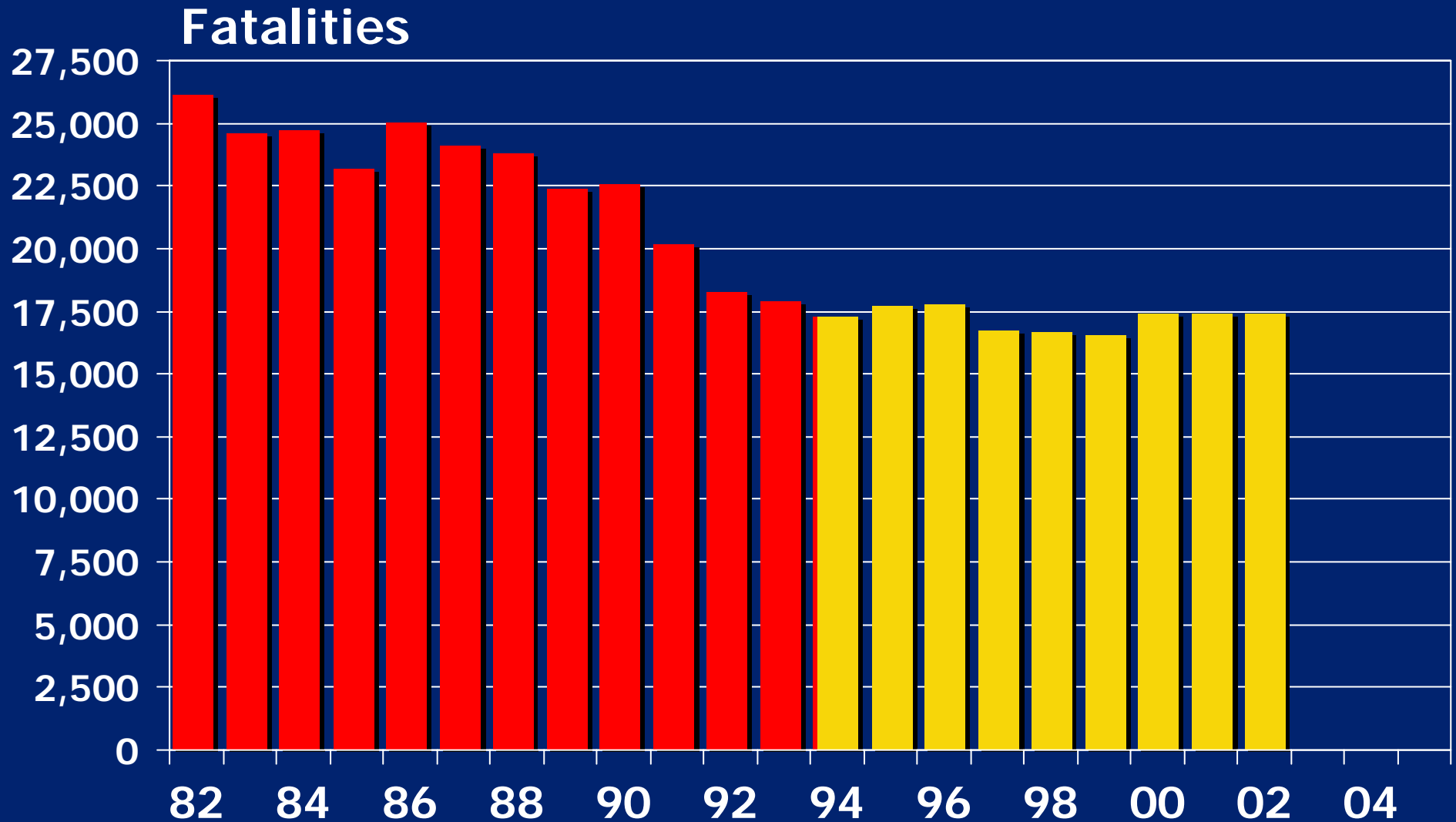
Source: FARS

Impaired Driving

Not more than

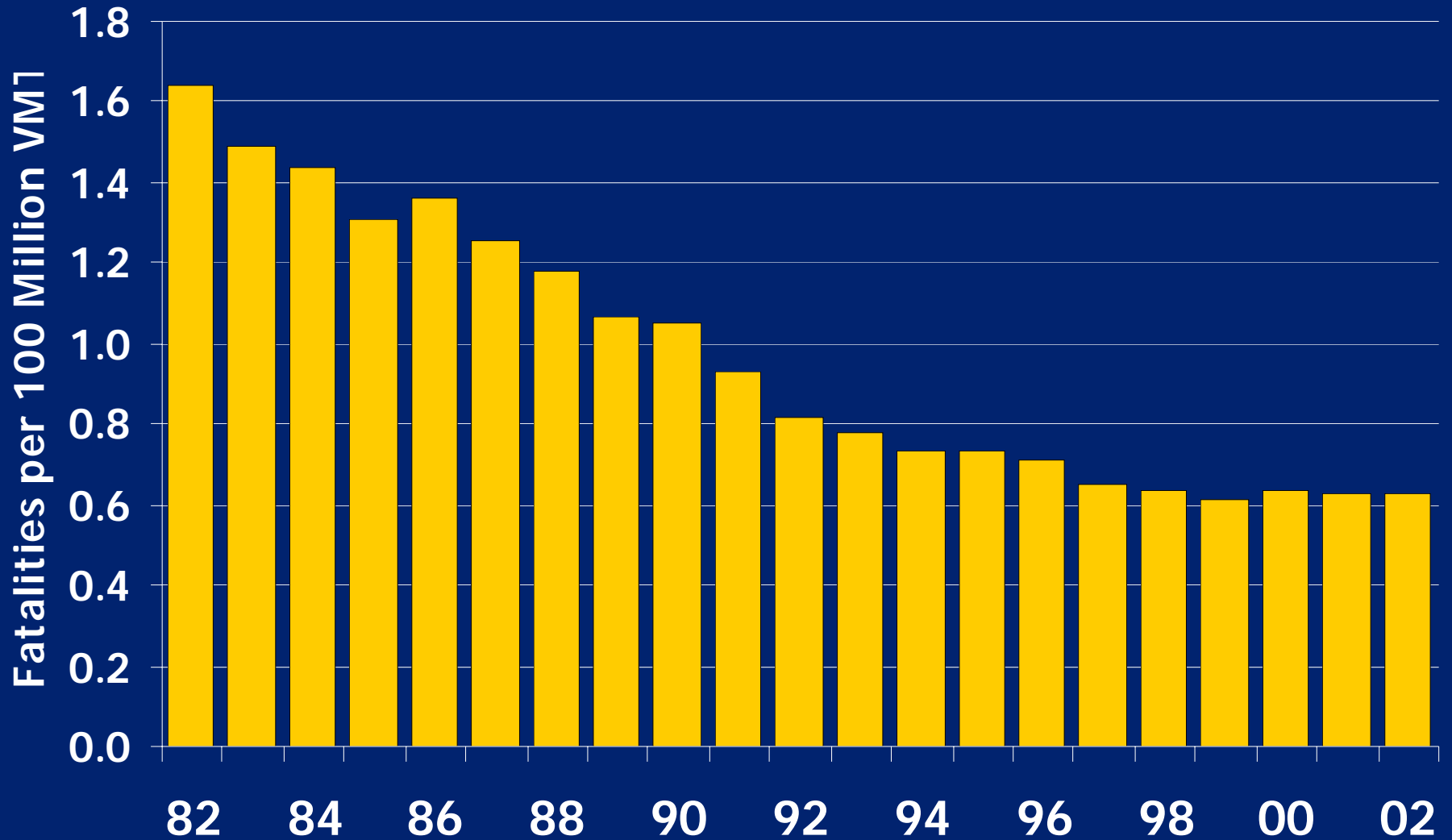
**.53 Alcohol-Related Fatalities
per 100M VMT by end of 2004**

Number of Alcohol-Related Fatalities

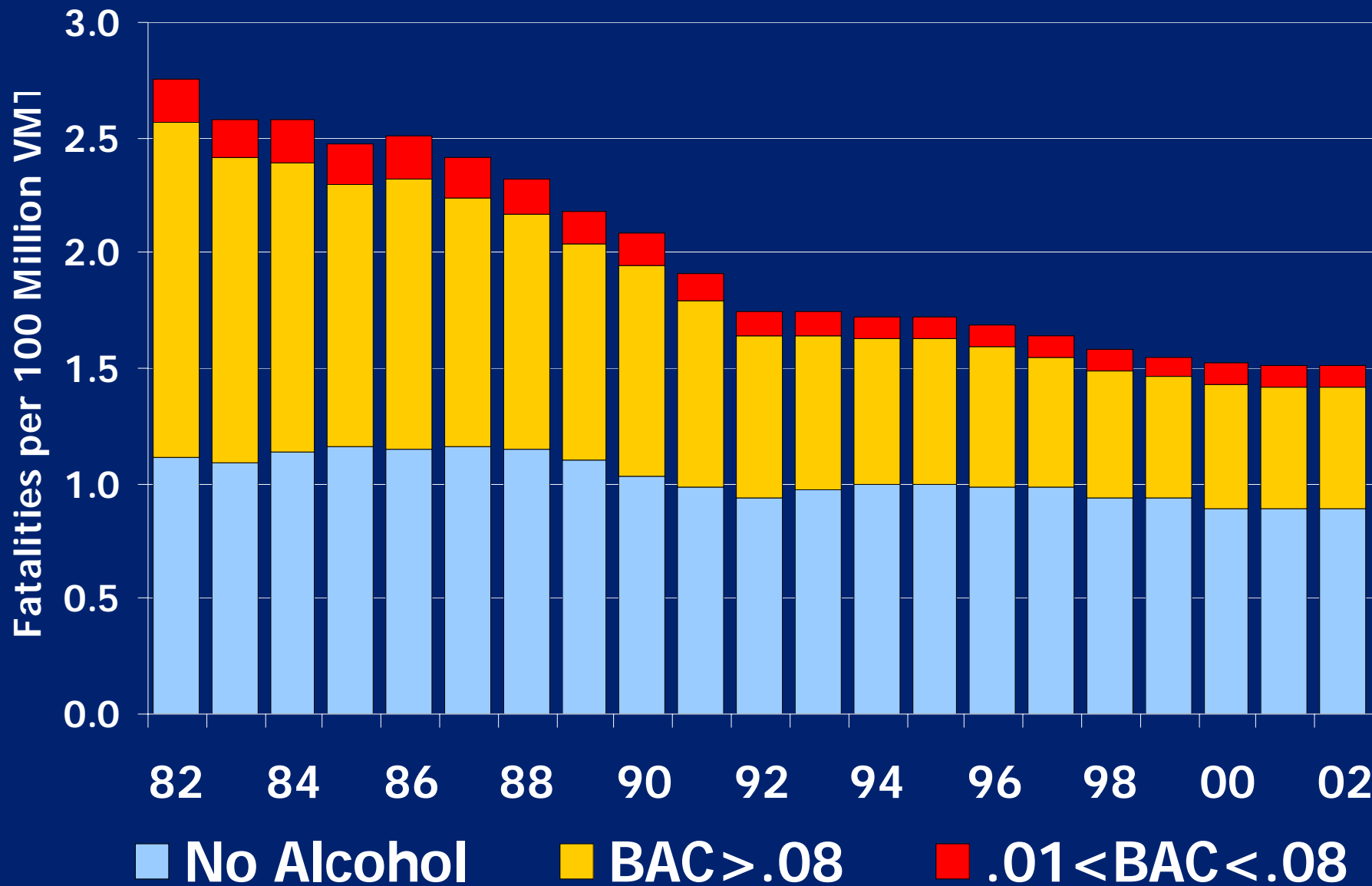


Source: FARS

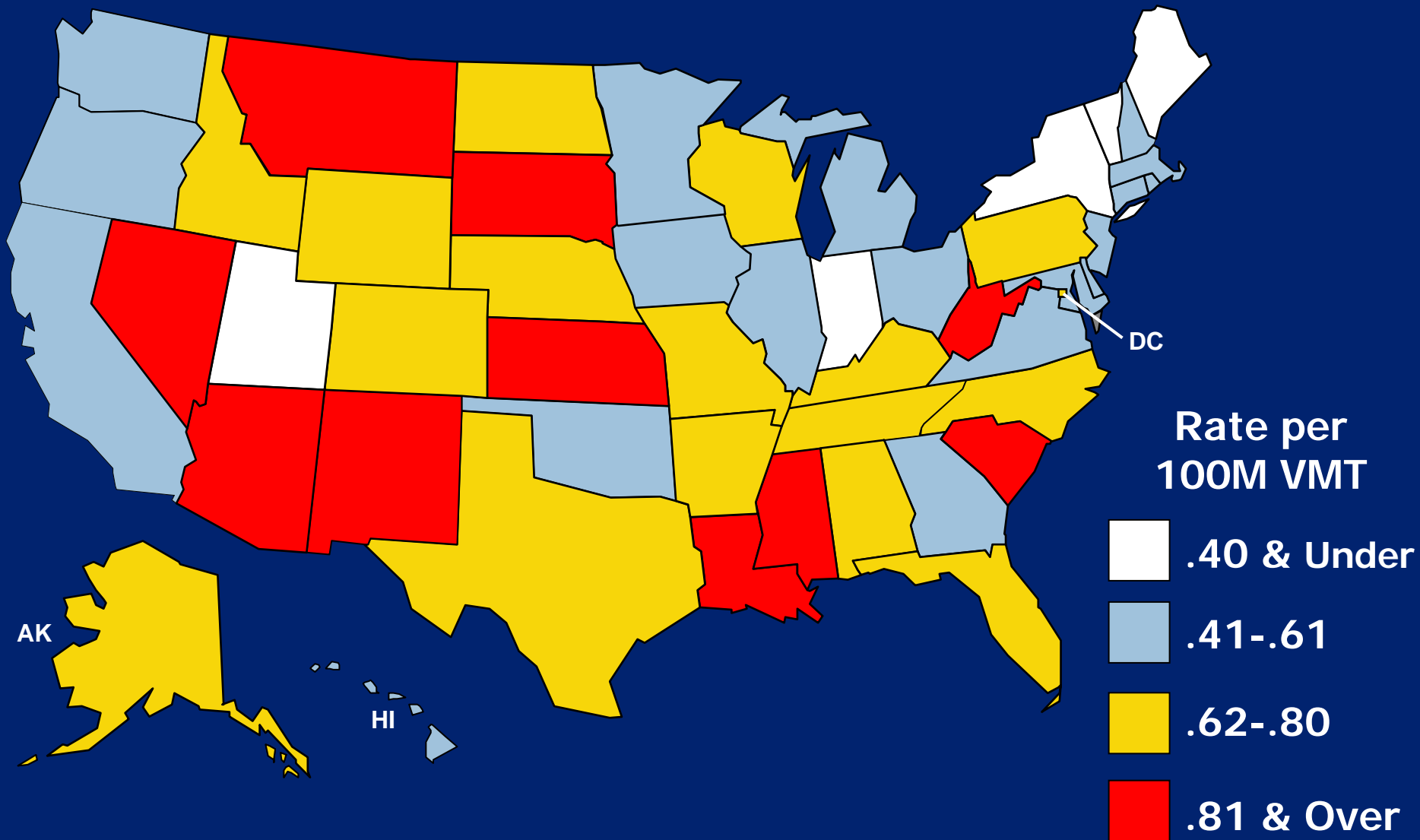
Alcohol-Related Fatality Rate



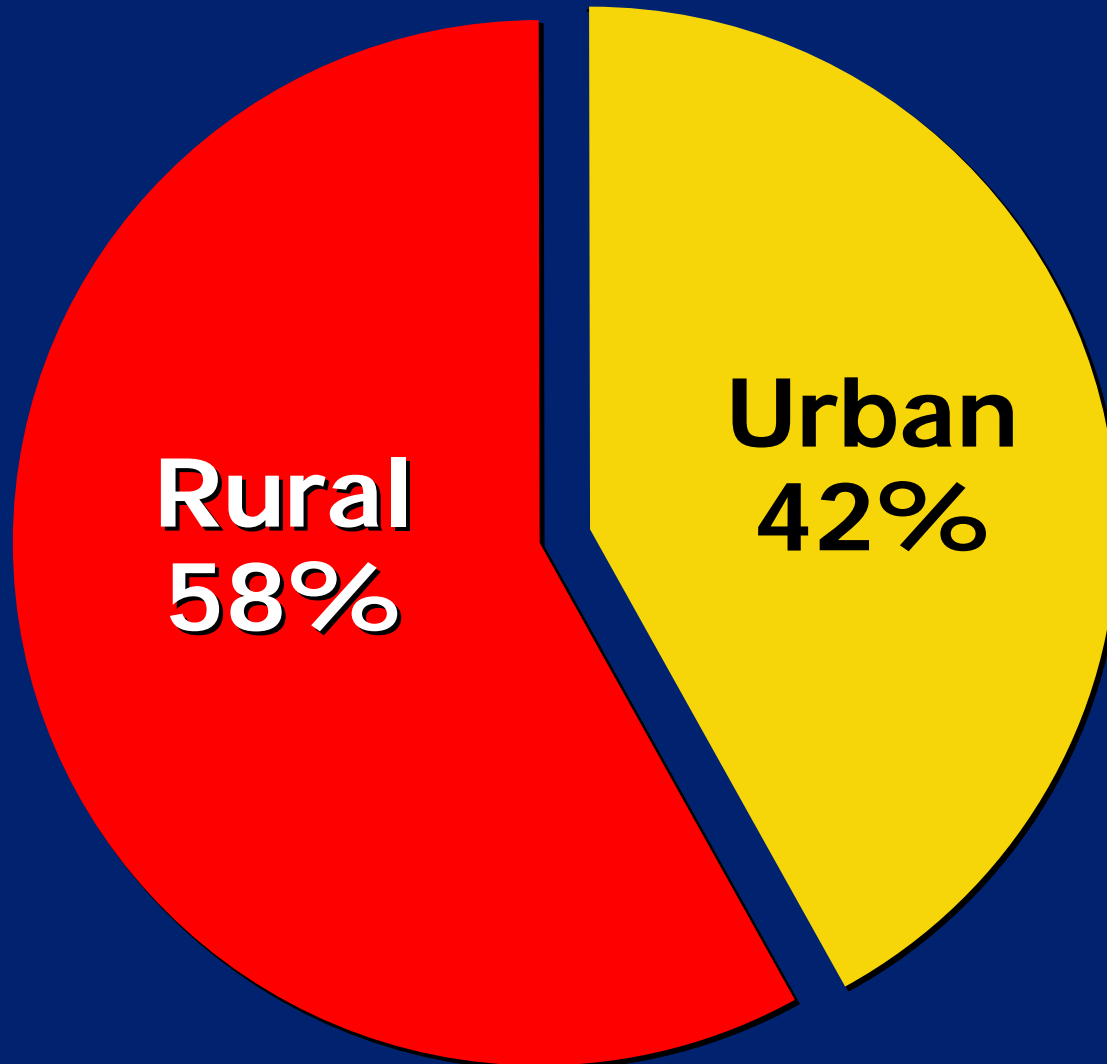
Fatality Rate By BAC Level



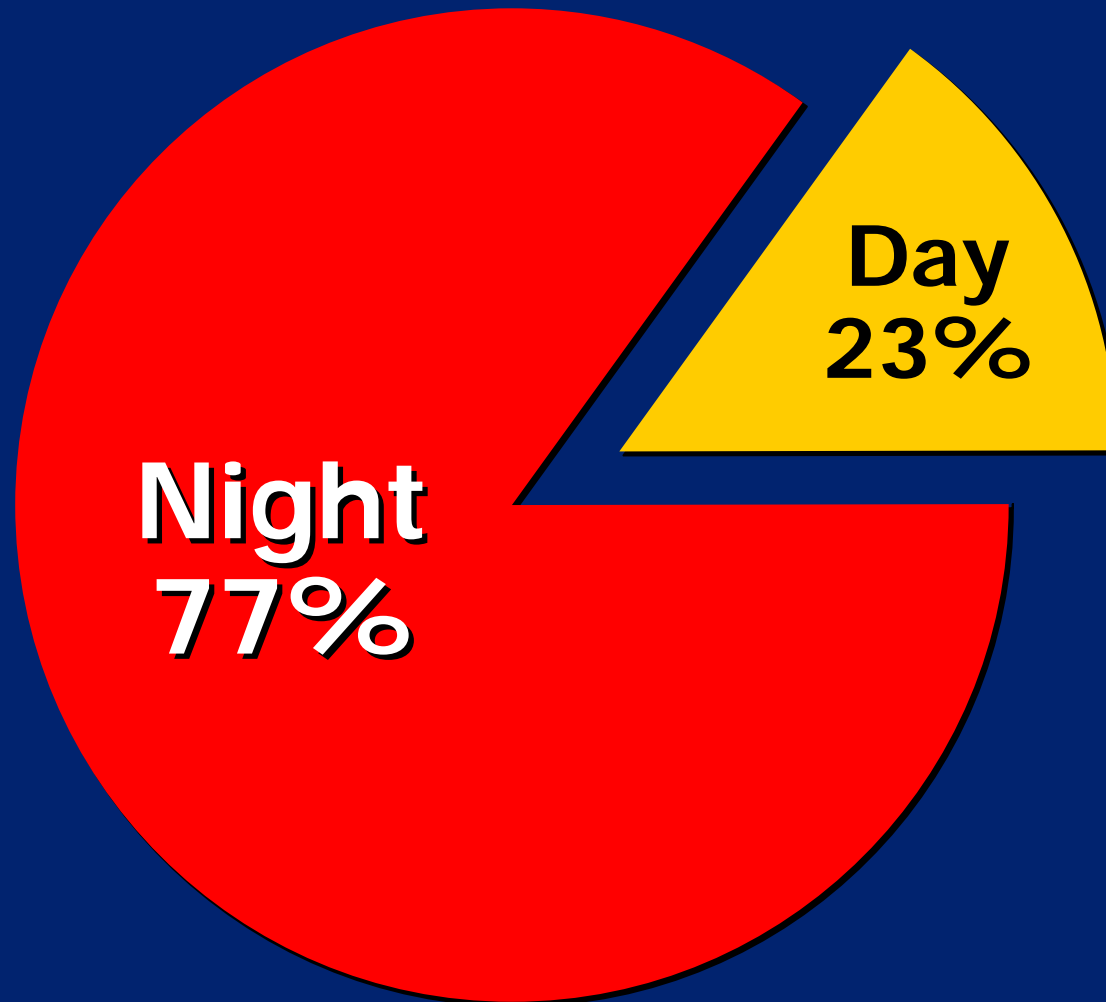
Alcohol-Related Fatality Rate by State, 2002



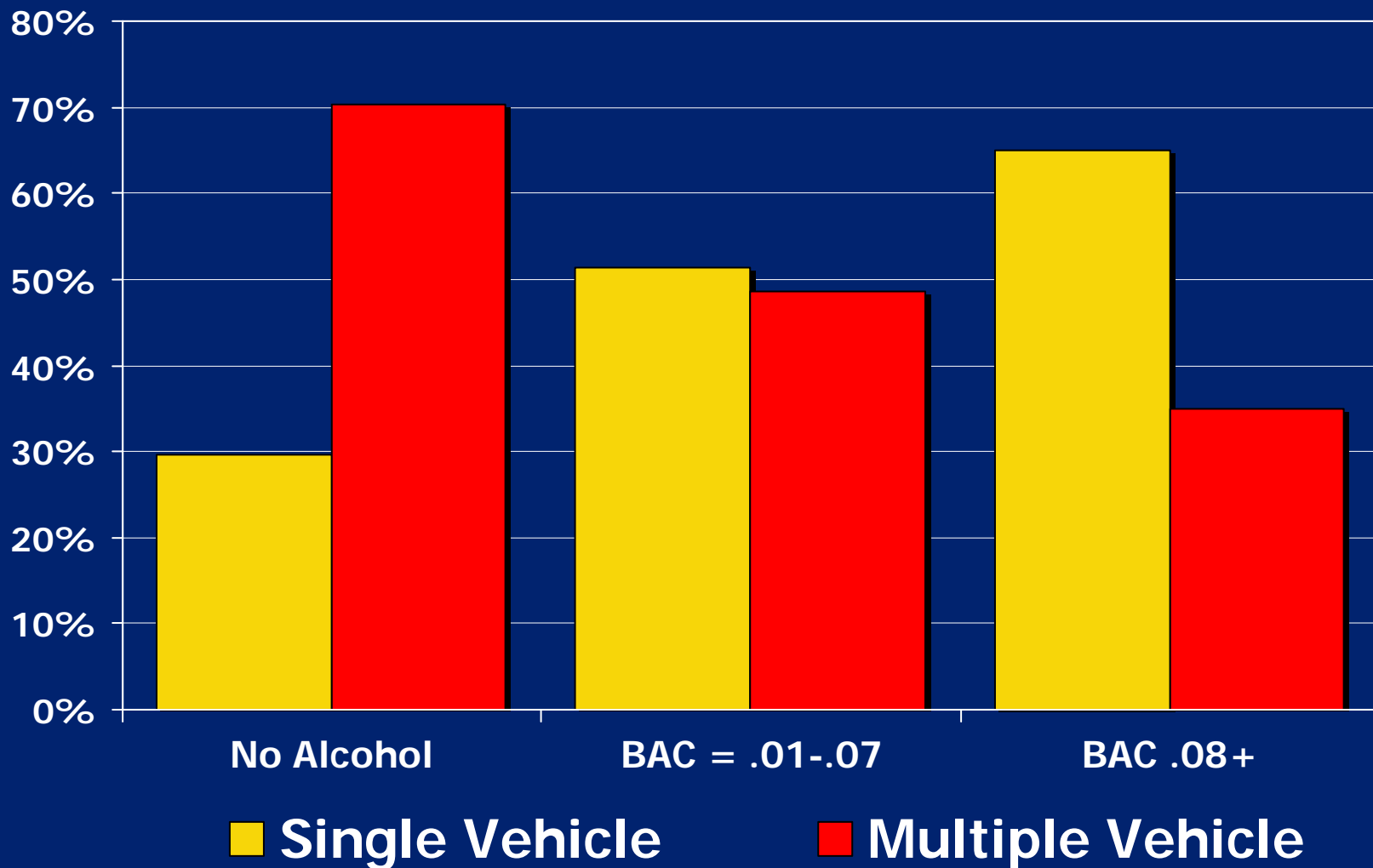
Alcohol-Related Fatalities by Location, 2002



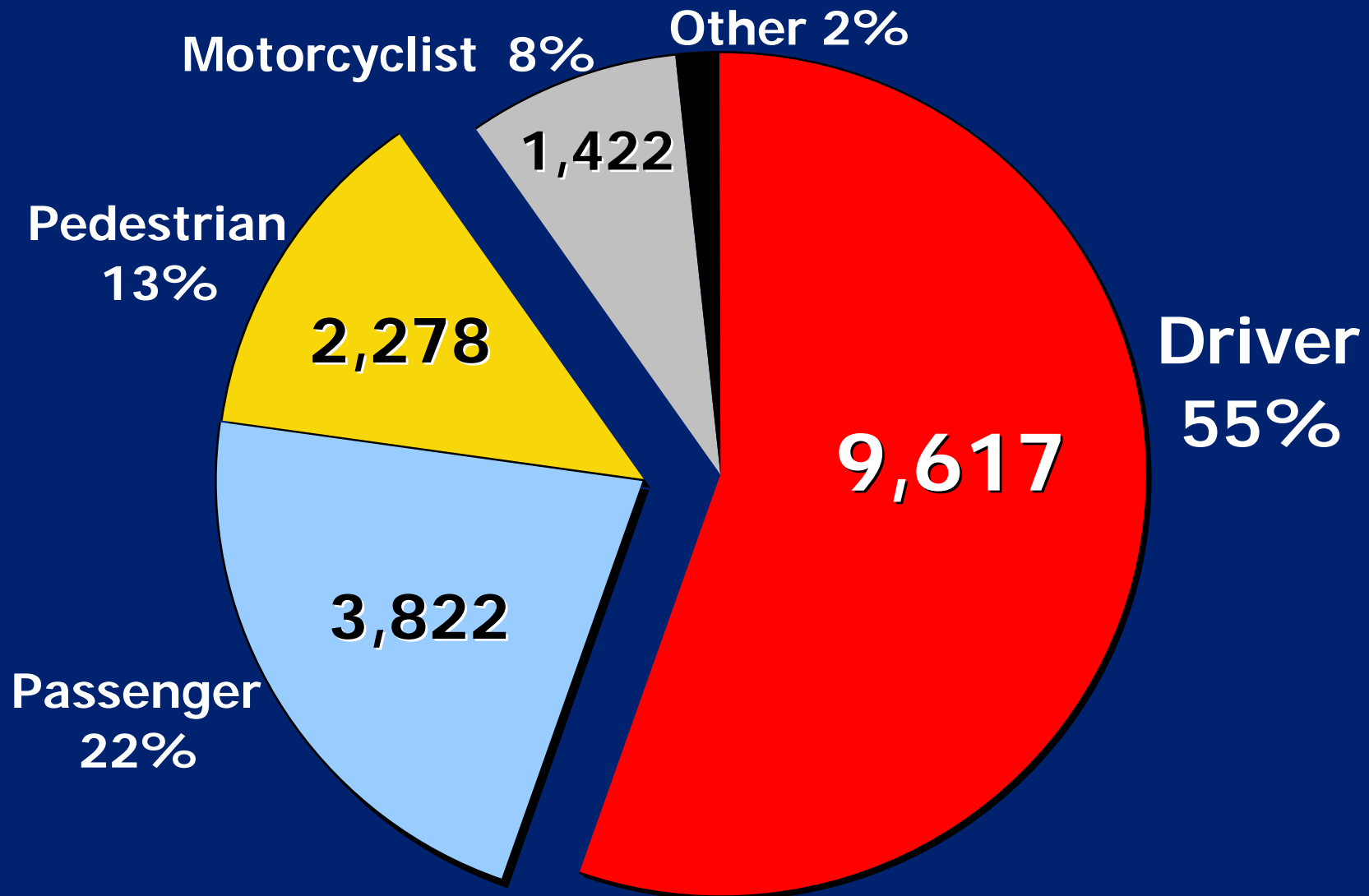
Alcohol-Related Fatalities by the Time of the Day, 2002



Crash Type By Driver BAC

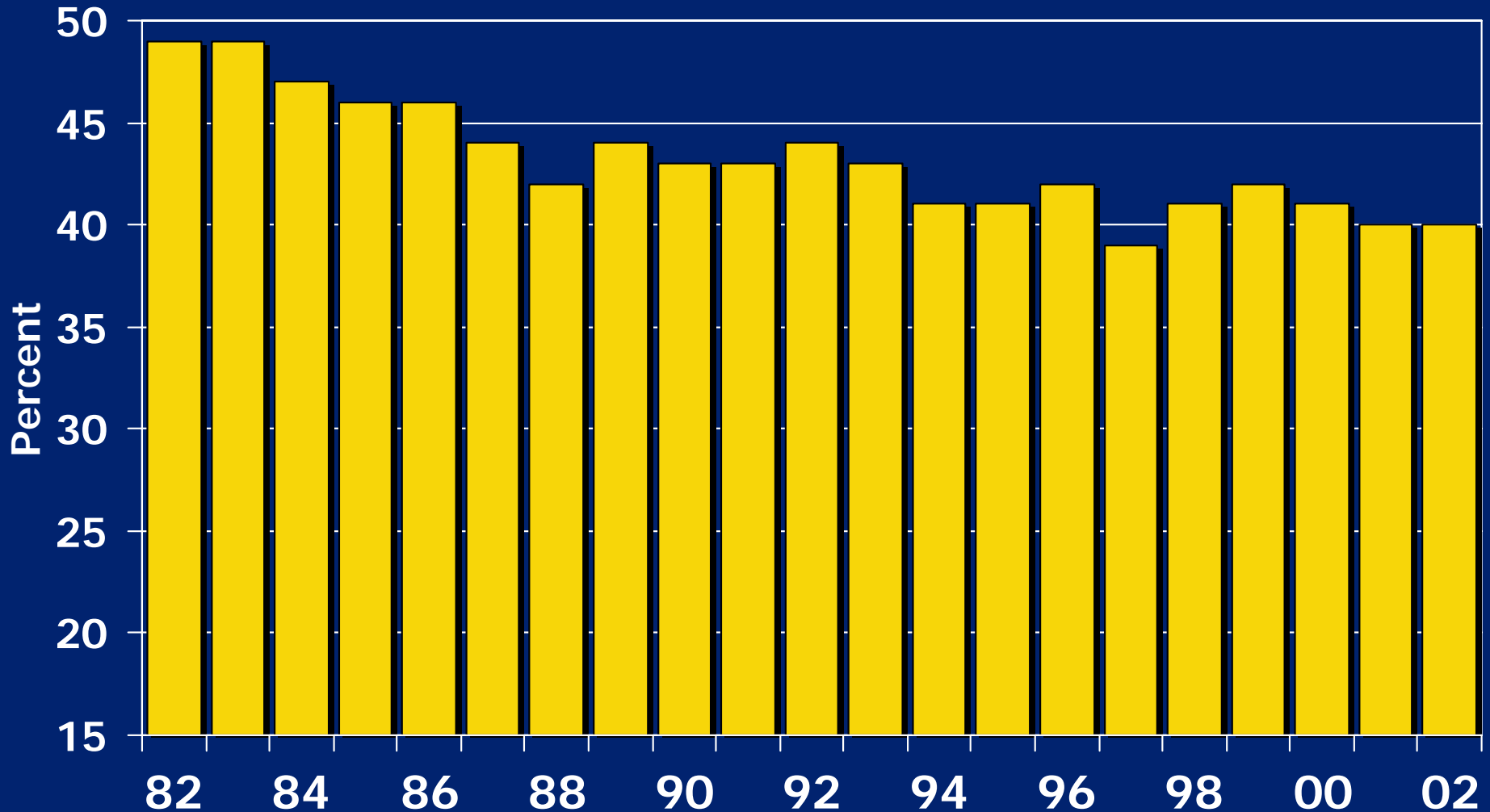


Fatalities in Alcohol-Related Crashes by Role, 2002



Alcohol Involvement (BAC > 0) Among Fatally Injured Adult Pedestrians (14+ years)

Percent of All Pedestrian Fatalities

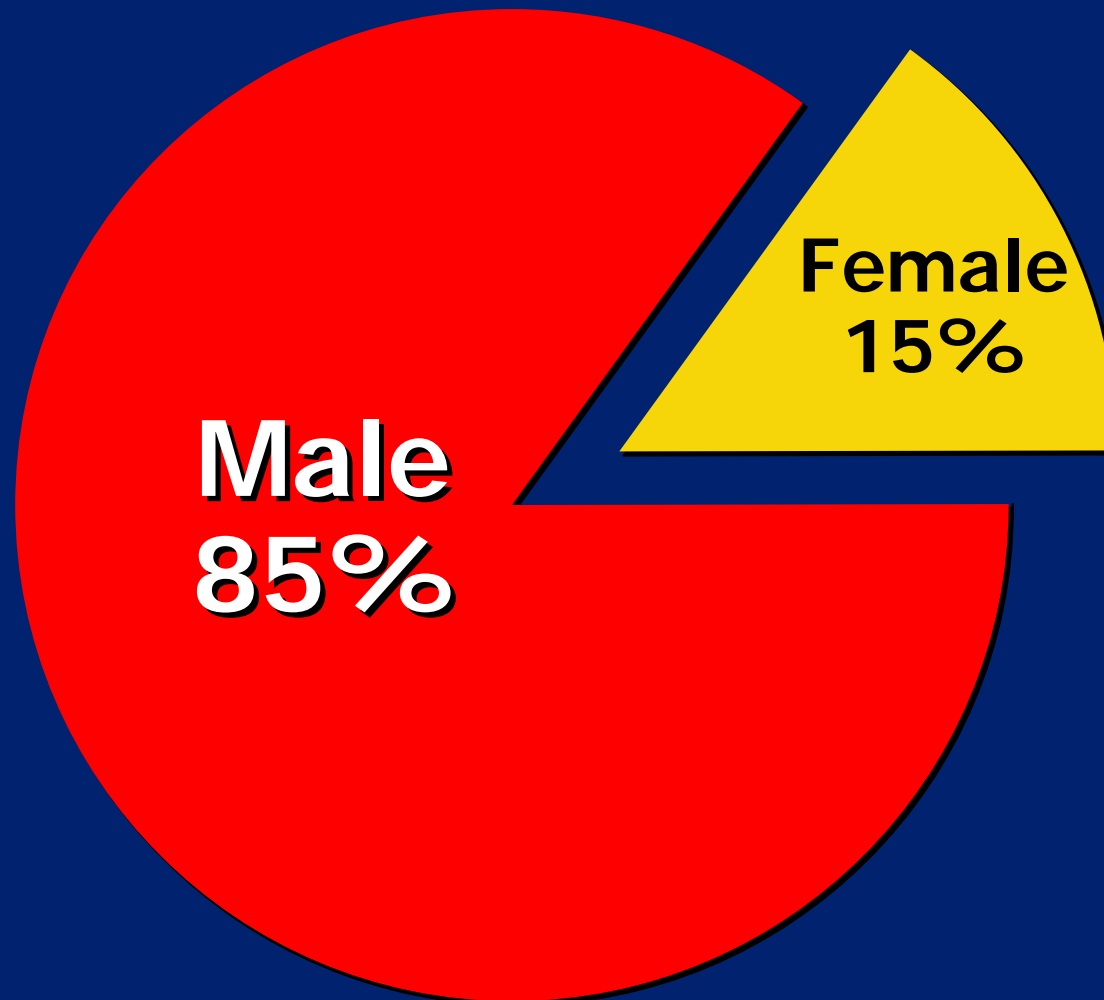


Source: 1982-2002 Final 2002 ARF FARS

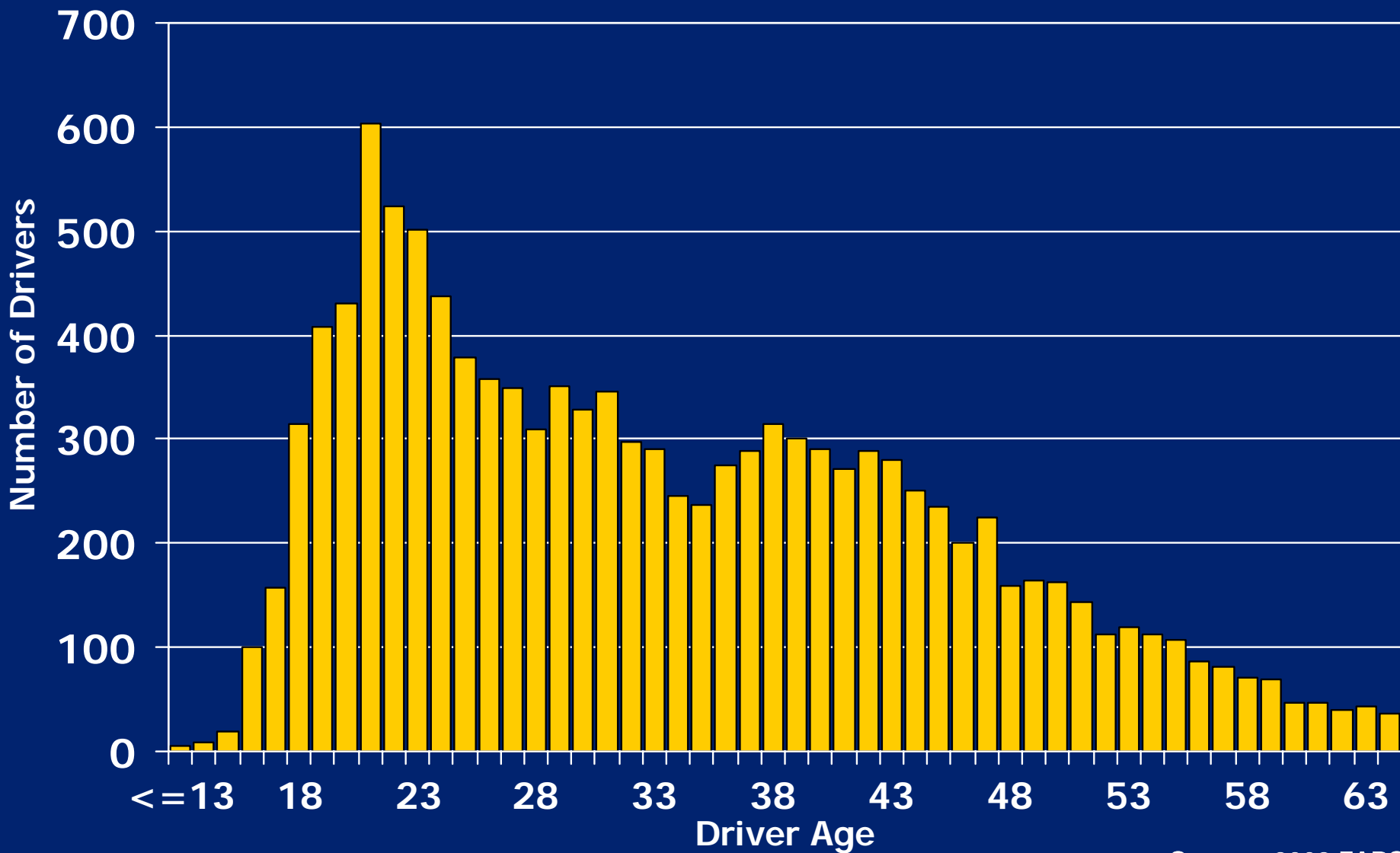
Proportion of Alcohol Involved Drivers in Fatal Crashes by Vehicle Type

Vehicle Type	Year				
	98	99	00	01	02
Pass. Car	26%	25%	28%	27%	27%
SUV	26%	25%	26%	26%	26%
Van	17%	17%	17%	16%	18%
Pickup	30%	30%	30%	31%	31%
Motorcycle	41%	40%	40%	37%	39%

Drivers With BAC .08 and Above by Gender, 2002

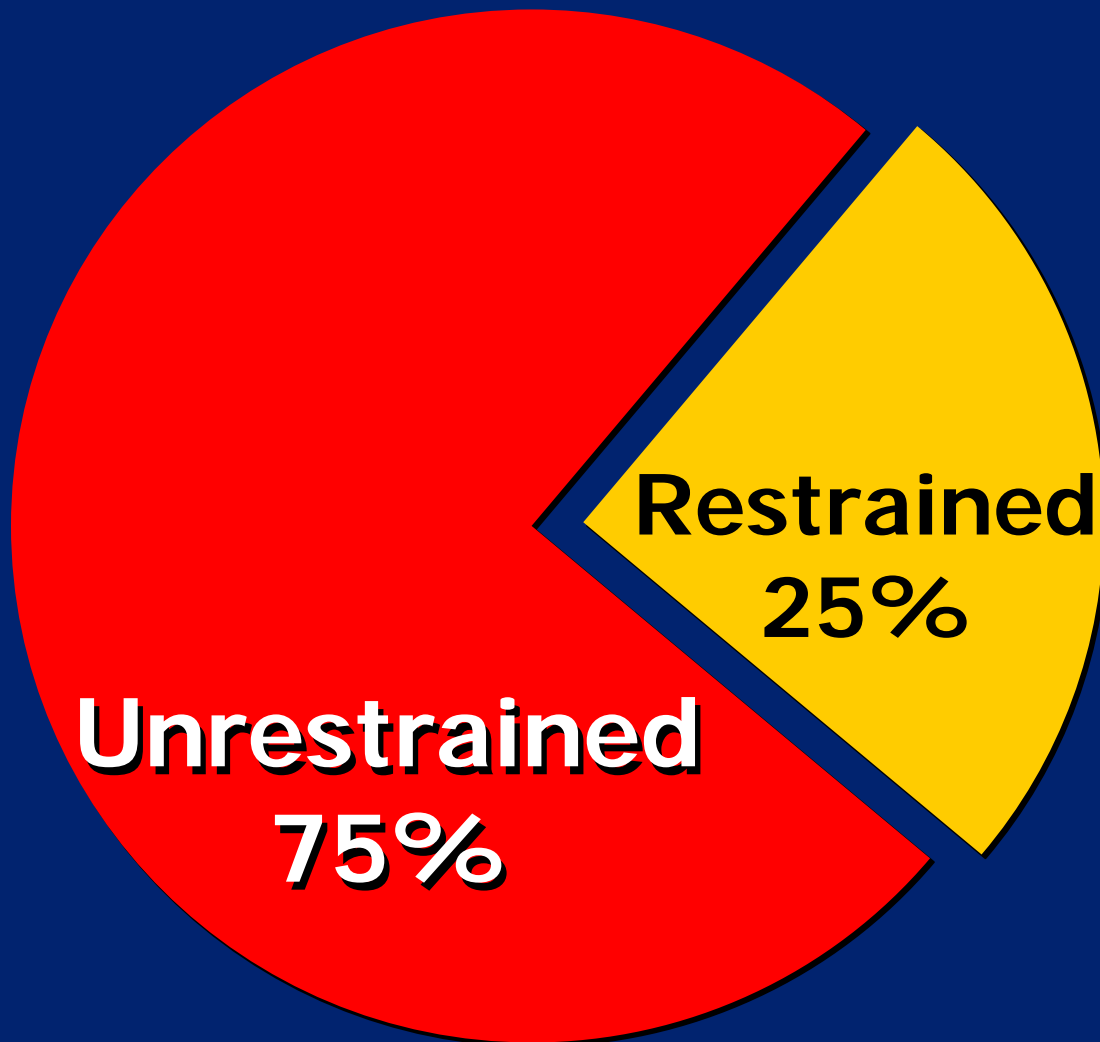


Driver Fatalities (BAC .08 and Above) by Age, 2002

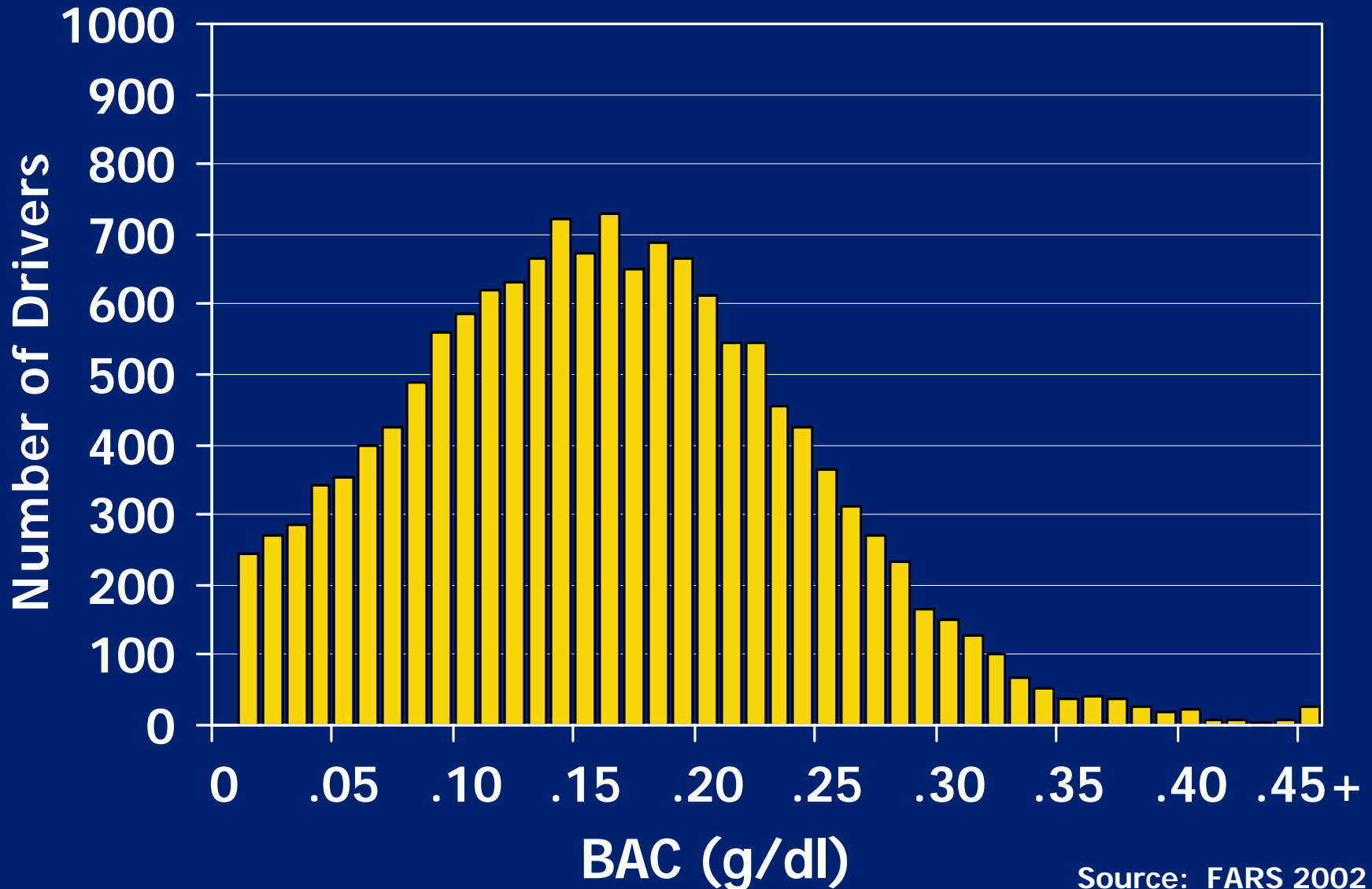


Source: 2002 FARS

Restraint Use Among Fatally Injured Passenger Vehicle Drivers in Alcohol-Related Crashes, 2002



BAC Levels for Alcohol Positive Drivers in Alcohol-Related Fatal Crashes, 2002



Source: FARS 2002 ARF

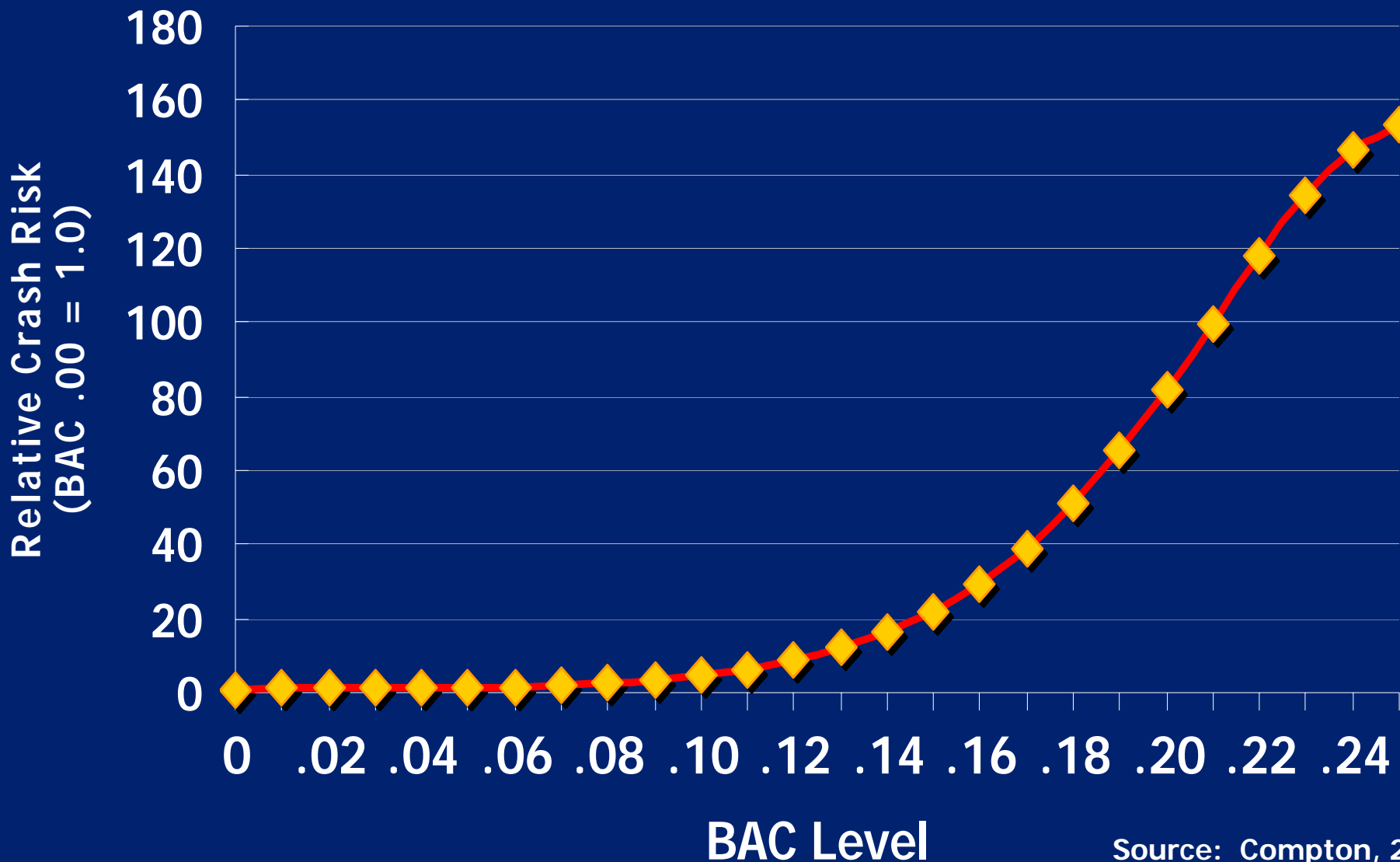
Alcohol Beverage of Choice: Drivers Arrested for DWI



Prior DWI Convictions

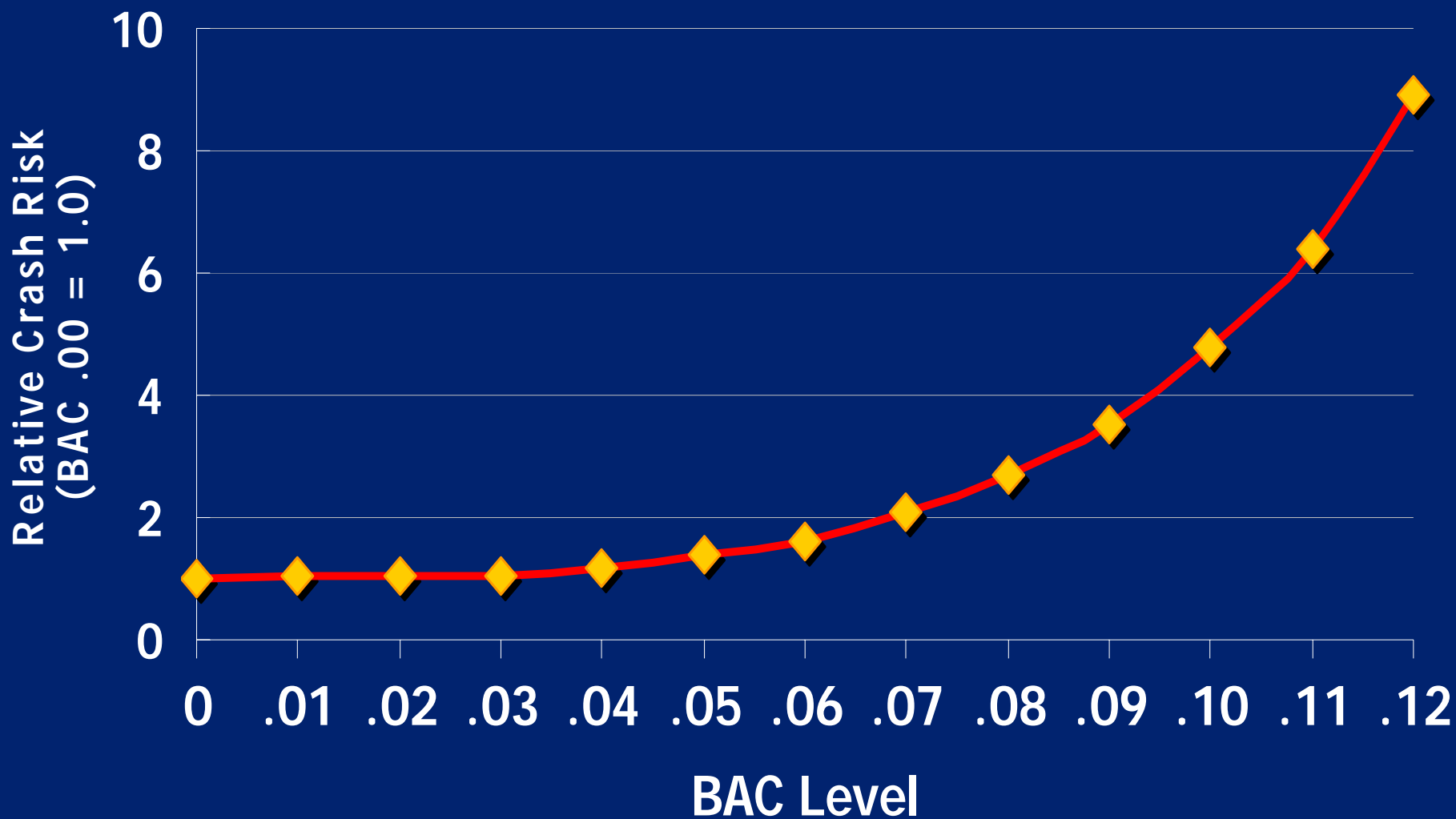
- In 2002, 1,343 fatalities occurred in crashes involving alcohol impaired or intoxicated driver(s) who had at least one previous DWI conviction within the past 3 years
 - Accounting for about 7.7 % of all alcohol-related fatalities.

Relative Crash Risk, 0-.24 BAC



Source: Compton, 2002

Relative Crash Risk, 0-.12 BAC



Source: Compton, 2002

Strategies for Reducing Impaired Driving

- **Deploy High-Visibility Law Enforcement**
- **Expand DWI Courts and Dedicated Prosecutors**
- **Screening and Brief Intervention**

Research Needs

- **Epidemiological research**
 - Socio-demographic characteristics and drinking patterns
 - Differences between high BAC drinkers, drivers, DWI arrestees, repeat offenders, and crash involved drivers
- **Outcomes research**
 - CM effectiveness
 - ◆ Legal sanctions
 - ◆ Education and training
 - ◆ Treatment

Legal Countermeasures

- License suspension/revocation
- Fines
- Insurance penalties
- Social stigma
- Ignition interlock devices
- Home detention

Education and Training

- **Education/Training/Rehabilitation**
 - School based programs
 - Driver education
 - Driver improvement/DWI school
- **Social Marketing**
 - Consequences
 - Social responsibility

Treatment

- Intake
- Program effectiveness
- Meshing program approaches with different populations



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