

# Motorcycle Rider Fatalities: Where are the Increases?

National Center for Statistics & Analysis



*Based on*  
*The Fatality Analysis Reporting System*  
*(FARS)*

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- **Crash Data**
  - ◆ **Fatality Analysis Reporting System (FARS)**
    - **2002 (and prior years) Final File**
    - **2003 Annual Report File**
- **Exposure Data**
  - ◆ **Registered Vehicles and Vehicle Miles Traveled (VMT)**
    - **Based on R.L.Polk and FHWA Registered Vehicles**
    - **FHWA VMT**

## ➤ **Motorcycle Rider Fatalities**

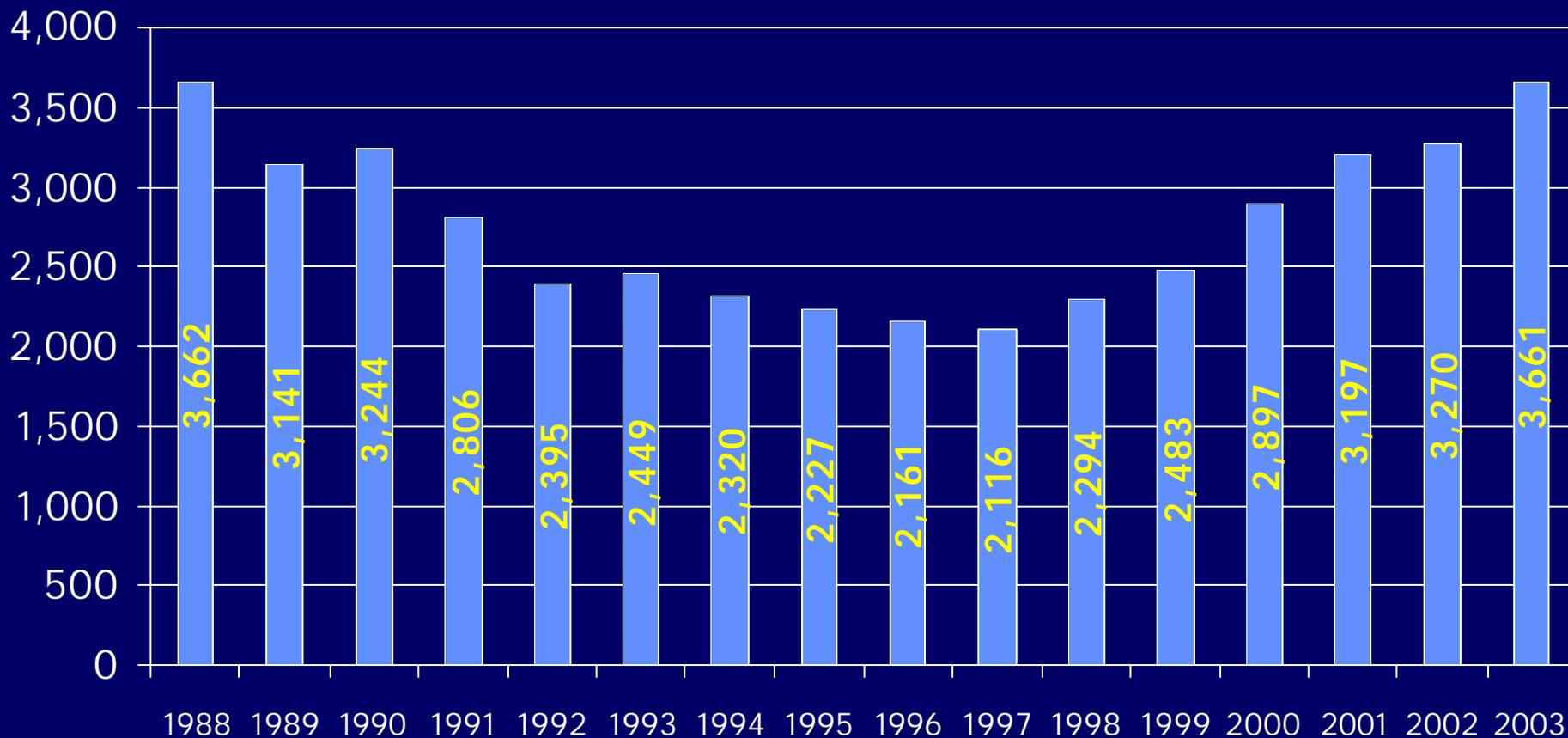
*Increased 6<sup>th</sup> Year in a Row*

*Compared to 1997, an **increase** of  
73% -- 1,545 more Fatalities*

- ◆ Reaching the levels last seen in 1988
- ◆ 2<sup>nd</sup> largest percentage **increase** since 1988

# Motorcycle Riders Killed by Year

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Source: FARS

# Motorcycle Riders Killed and Injured, by Year, 1997-2003

National Center for Statistics & Analysis



	Year						
	1997	1998	1999	2000	2001	2002	2003
<b>Total Killed</b>	42,013	41,501	41,717	41,945	42,196	43,005	42,643
<b>Change</b>	---	-512	+216	+228	+251	+809	-362
<b>Motorcycle Riders Killed</b>	2,116	2,294	2,483	2,897	3,197	3,270	3,661
<b>Change</b>	---	+178	+189	+414	+300	+73	+391
<b>%Change</b>	---	8.4%	8.2%	17%	9.4%	2.3%	12%
<b>Percent of all Fatalities</b>	5.0%	5.5%	6.0%	6.9%	7.6%	7.6%	8.6%
<b>Motorcycle Riders Injured</b>	53,000	49,000	50,000	58,000	60,000	65,000	67,000

Source: FARS, NASS GES

- **Motorcycle rider fatalities increased in every age group**

**But . . .**

**the largest percentage increase was in the under 20 age group, followed by the 40 and over age groups**

# Motorcycle Riders Killed, by Age Group

National Center for Statistics & Analysis



Age Group	Year		Change	% Change
	2002	2003		
Under 20	177	224	+47	+27%
20 - 29	866	937	+71	+8.2%
30 - 39	781	824	+43	+5.5%
40 - 49	770	894	+124	+16%
50 & Over	674	780	+106	+16%
Unknown	2	2	--	--%
<b>Total</b>	<b>3,270</b>	<b>3,661</b>	<b>+391</b>	<b>+12%</b>

Source: FARS

- Motorcycle rider fatalities and Motorcycle registrations have both been on the rise since 1997.
- In most of these years the rate of increase of Motorcycle rider fatalities has been higher than the rate of increase in Motorcycle registrations.

# Motorcycle Rider Fatality Rates, by Year, 1997-2002

National Center for Statistics & Analysis



Rate	Year						
	1997	1998	1999	2000	2001	2002	2003*
<b>Motorcyclists Killed</b>	<b>2,116</b>	<b>2,294</b>	<b>2,483</b>	<b>2,897</b>	<b>3,197</b>	<b>3,270</b>	<b>3,661</b>
/100M VMT	20.99	22.31	23.46	27.67	33.17	34.23	N/a
/100K Reg. Vehicles	55.30	59.13	59.80	66.66	65.20	65.35	N/a
*2003 VMT and registered vehicle data not available.							Source: FARS, FHWA

# Where are the Increases?

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- **10-Year Trend by Age Group Show**
  - ◆ Decline in under 30 group
  - ◆ Over one-fourth increase in 30-39 age group
  - ◆ Over 200 percent increase in 40+ age group
    - 300 percent increase in 50+ age group
- **10-Year Trend by Engine Size Show**
  - ◆ Declines in under 500 cc engine size
  - ◆ Remained the same in 501-1,000 cc engine size
  - ◆ Over 100 percent increase in 1,001-1,500 cc engine size

# Motorcycle Rider Fatalities by Age Group and Year

National Center for Statistics & Analysis

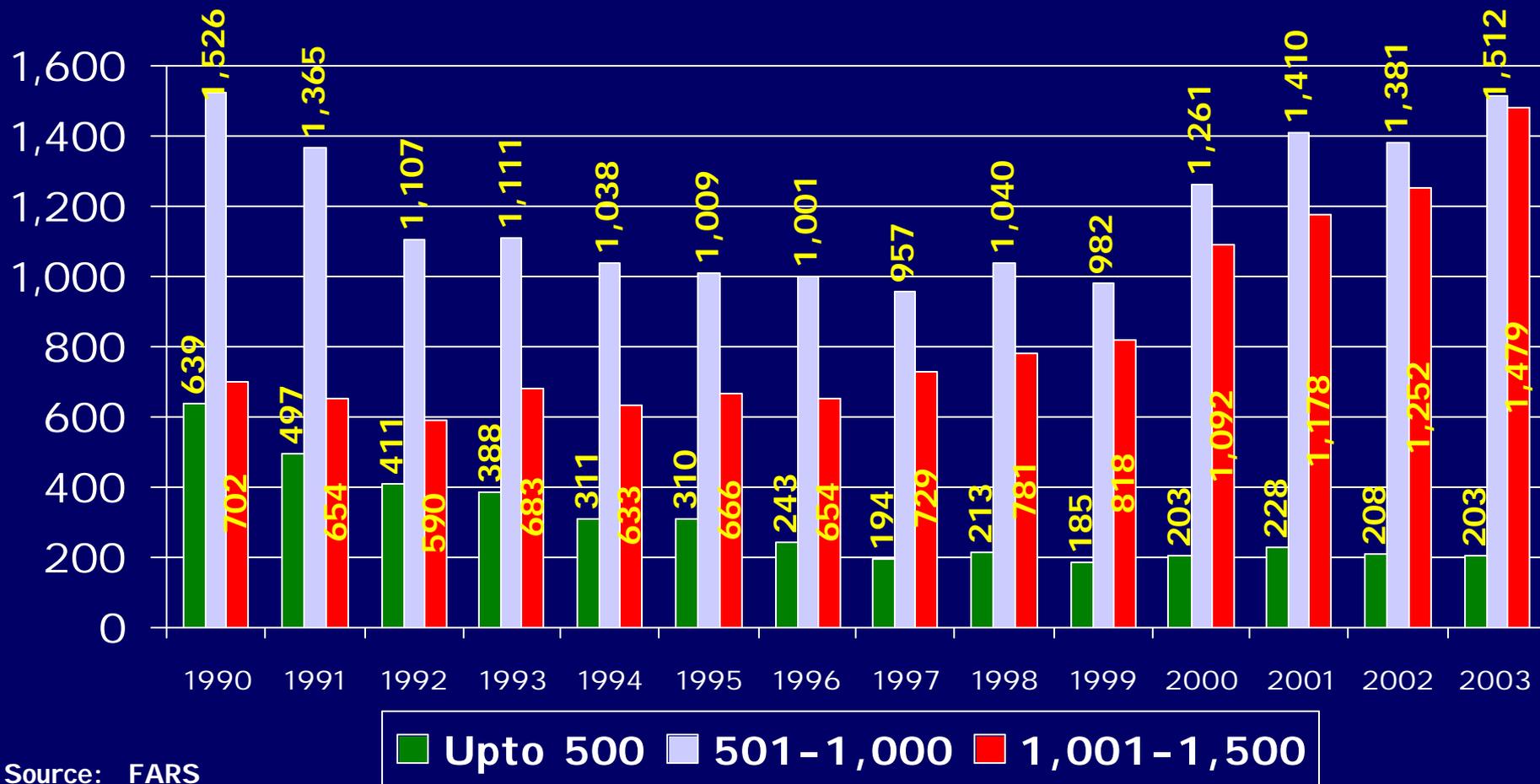


Year	Age Group						Total
	<20	20-29	30-39	40-49	50+	Unknown	
1994	260	910	608	346	195	1	2,320
1995	195	909	576	359	188	0	2,227
1996	202	763	555	420	221	0	2,161
1997	166	694	556	405	294	1	2,116
1998	201	720	612	475	285	1	2,294
1999	137	761	612	570	403	0	2,483
2000	189	818	707	677	501	5	2,897
2001	211	925	798	729	532	2	3,197
2002	177	866	781	770	674	2	3,270
2003	224	937	824	894	780	2	3,661

Source: FARS

# Motorcycle Riders Killed by Engine Size cc and Year

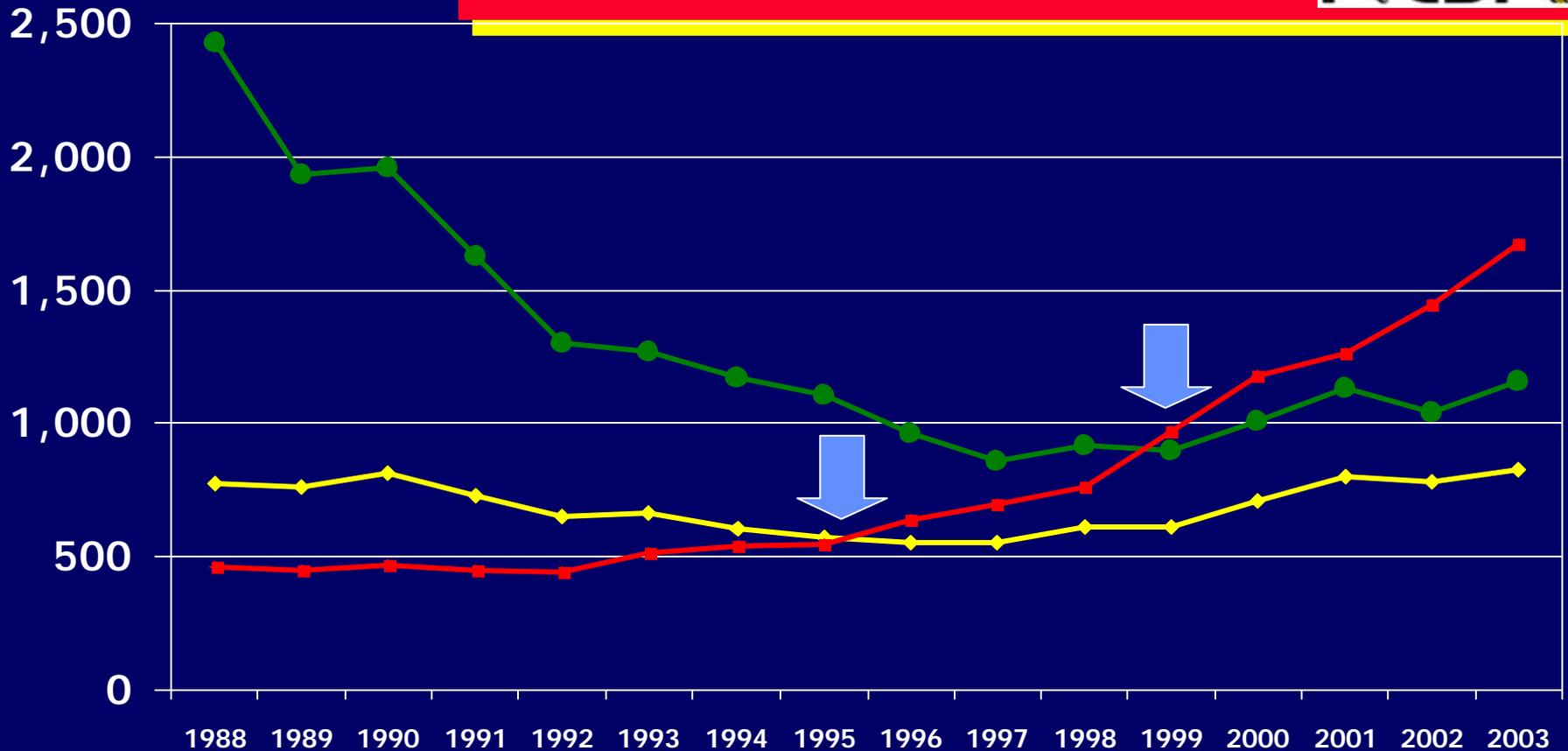
National Center for Statistics & Analysis



Source: FARS

# Motorcycle Riders Killed, by Age Group and Year

National Center for Statistics & Analysis



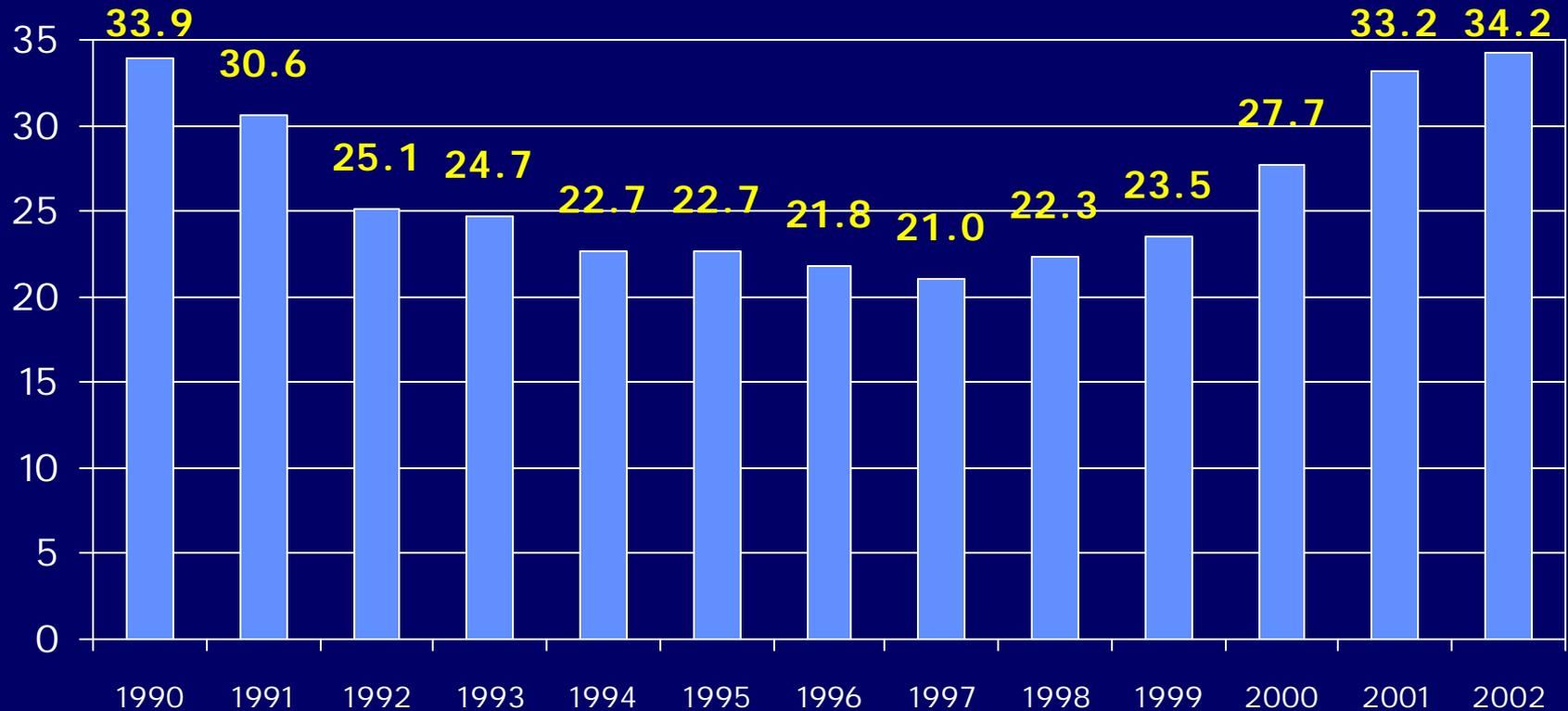
● Ages < 30   
 ◆ Ages 30 - 39   
 ■ Ages 40 and over

Source: FARS

# *Long Term Trends*

# Motorcycle Rider Fatality Rate per 100 Million VMT by Year

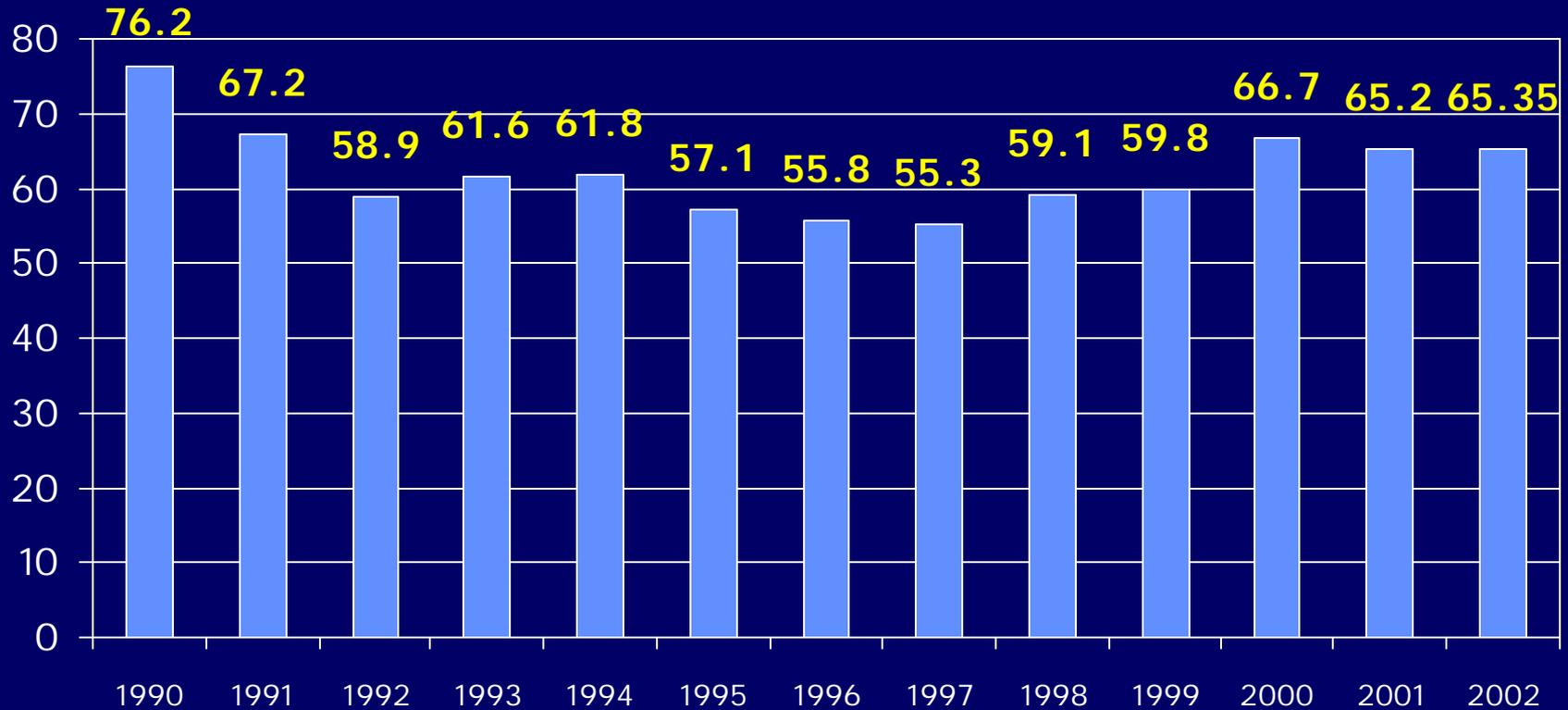
National Center for Statistics & Analysis



Source: FARS/FHWA

# Motorcycle Rider Fatality Rate per 100,000 Registered Motorcycles by Year

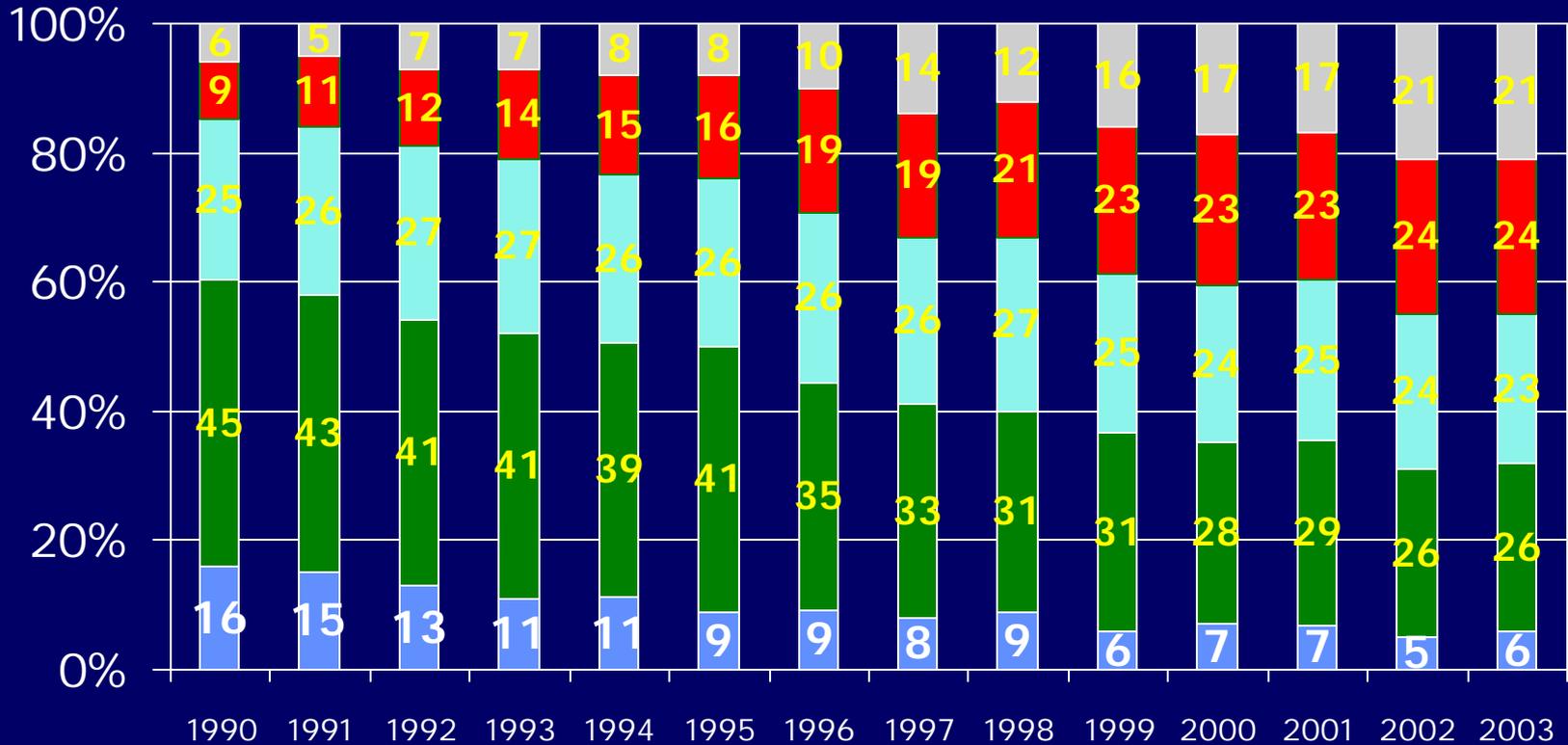
National Center for Statistics & Analysis



Source: FARS/FHWA

# Motorcycle Riders Killed (percent) by Age Group and Year

National Center for Statistics & Analysis



Source: FARS



# Motorcycle Riders Killed on 1,001 to 1,500 cc Engine Size Motorcycles, by Age Group

National Center for Statistics & Analysis

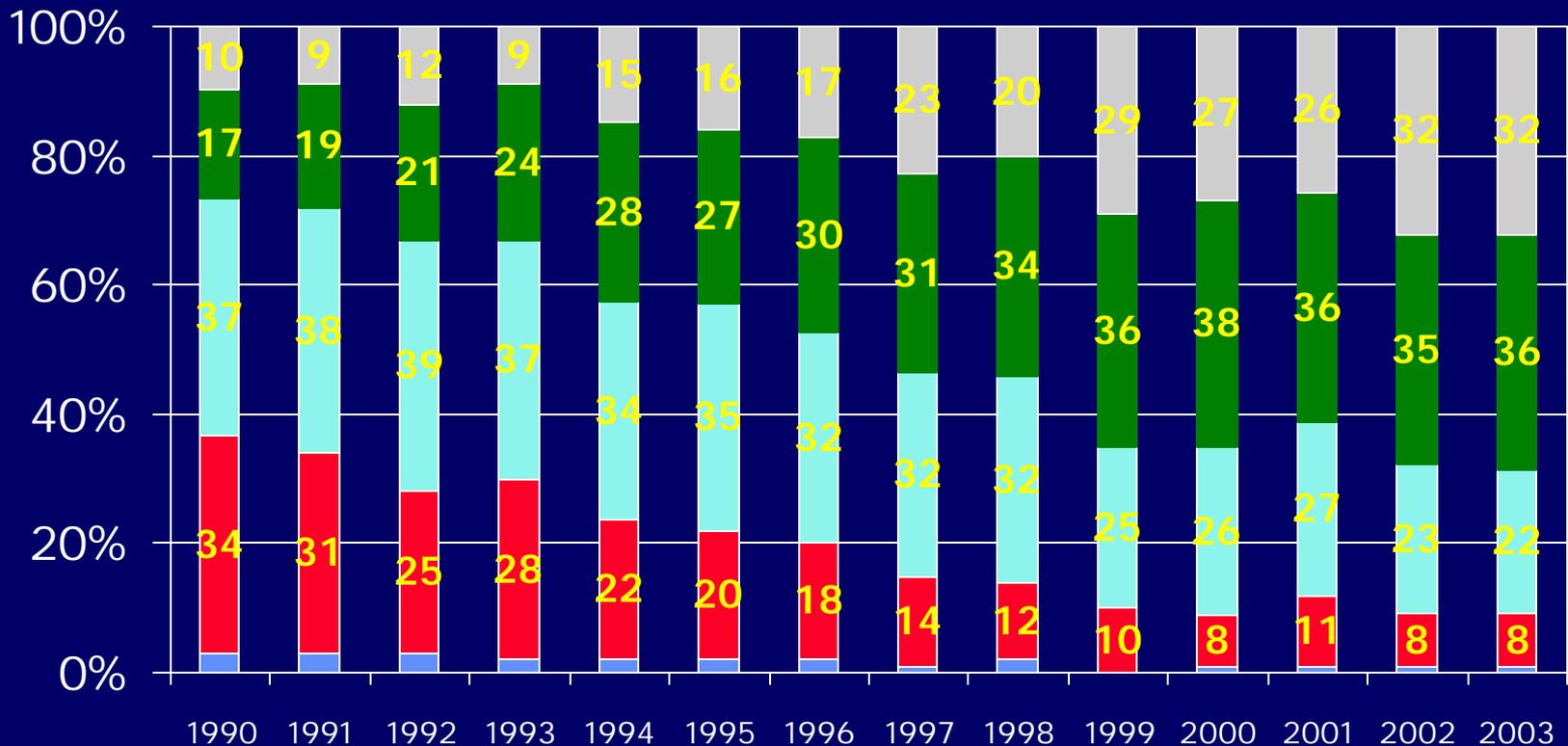


Age Group	Year		Change	% Change
	2002	2003		
Under 20	9	17	+8	+89%
20 - 29	105	119	+14	+13%
30 - 39	290	332	+42	+14%
40 - 49	443	533	+90	+20%
50 & Over	405	478	+73	+18%
<b>Total</b>	<b>1,252</b>	<b>1,479</b>	<b>+227</b>	<b>+18%</b>

Source: FARS

# Motorcycle Riders Killed (percent) on 1,001-1,500 cc Engine Size by Age Group and Year

National Center for Statistics & Analysis

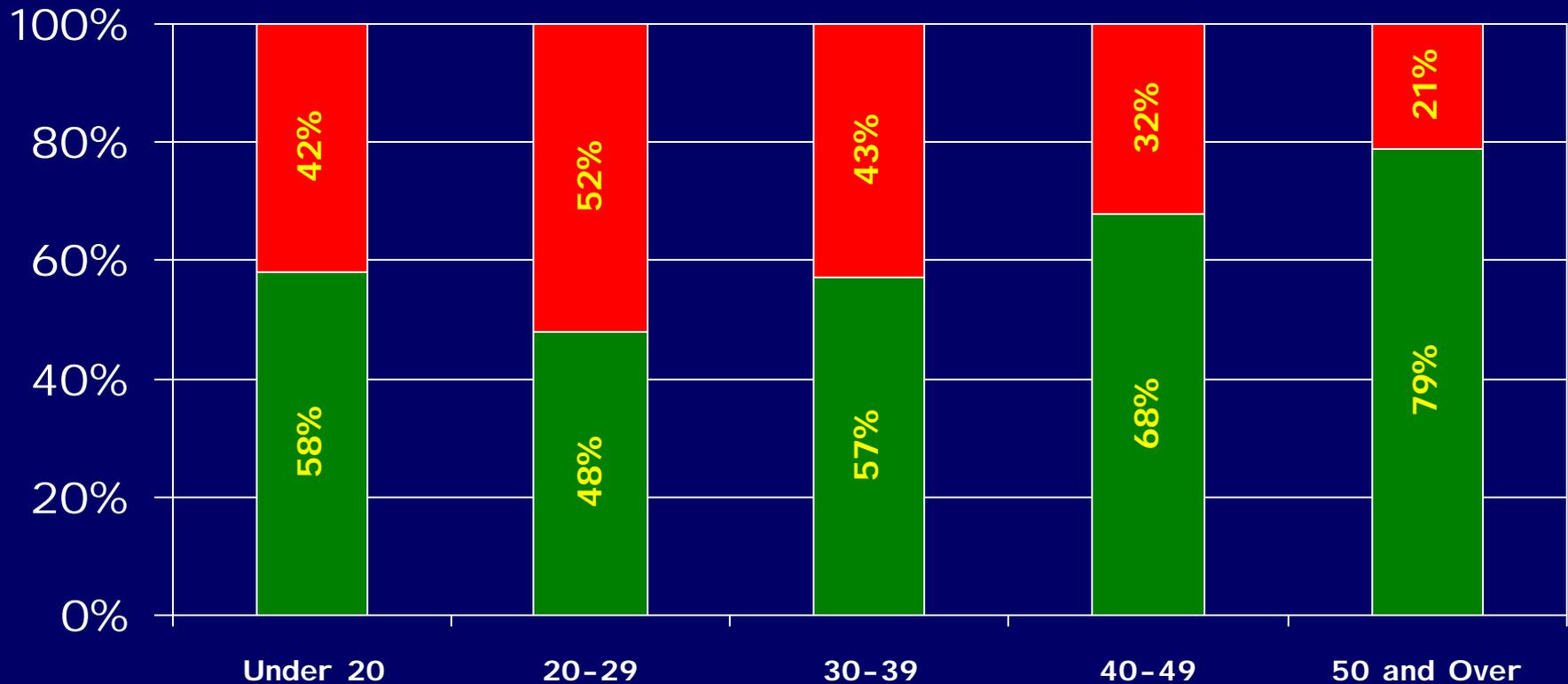


Source: FARS



# Motorcycle Operators Killed by Speeding Factor and Age Group

National Center for Statistics & Analysis



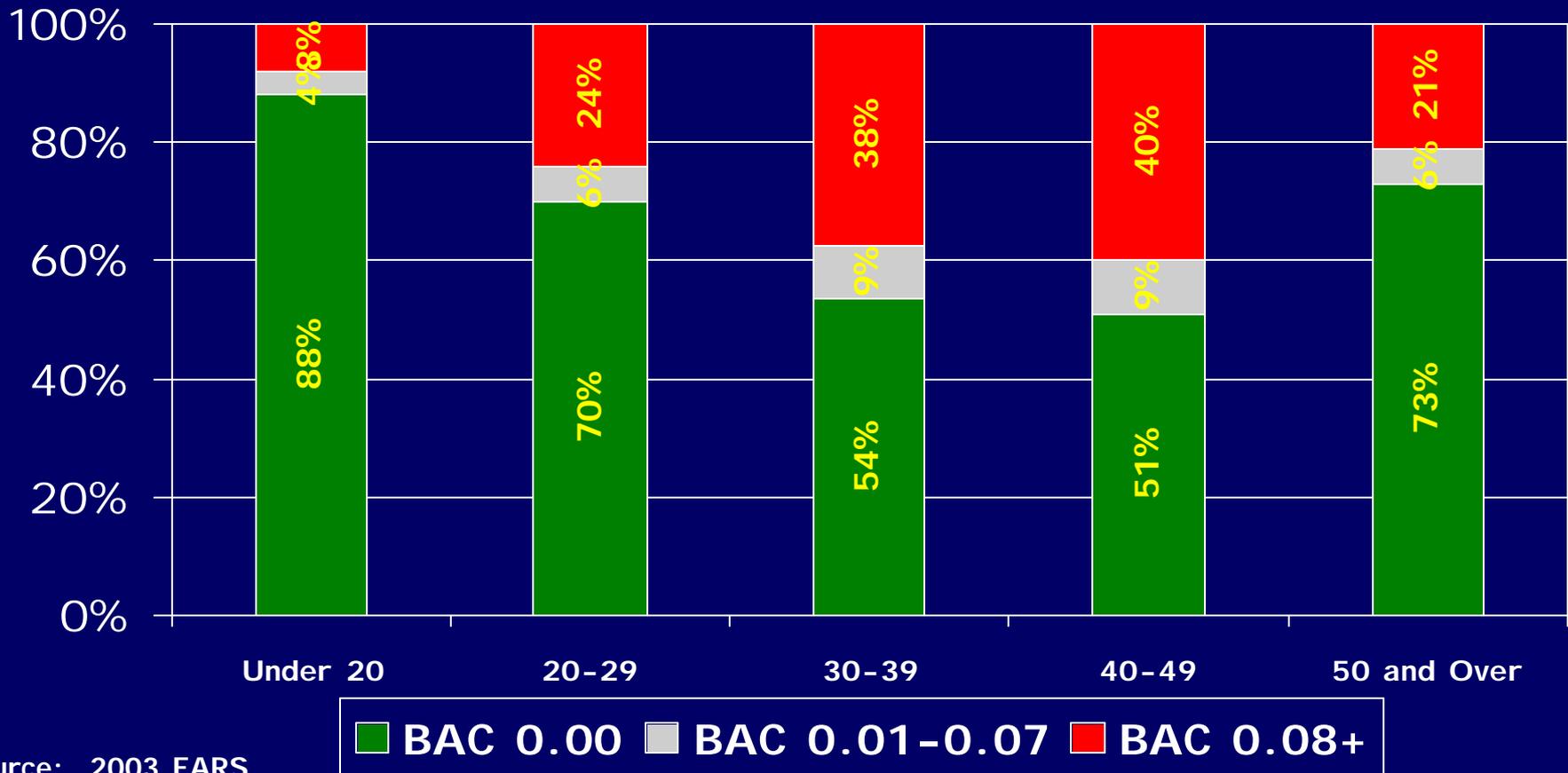
Source: 2003 FARS

\*Speeding cited as a factor in the crash.

■ Not Speeding ■ Speeding\*

# Motorcycle Operators Killed by Alcohol Level and Age Group

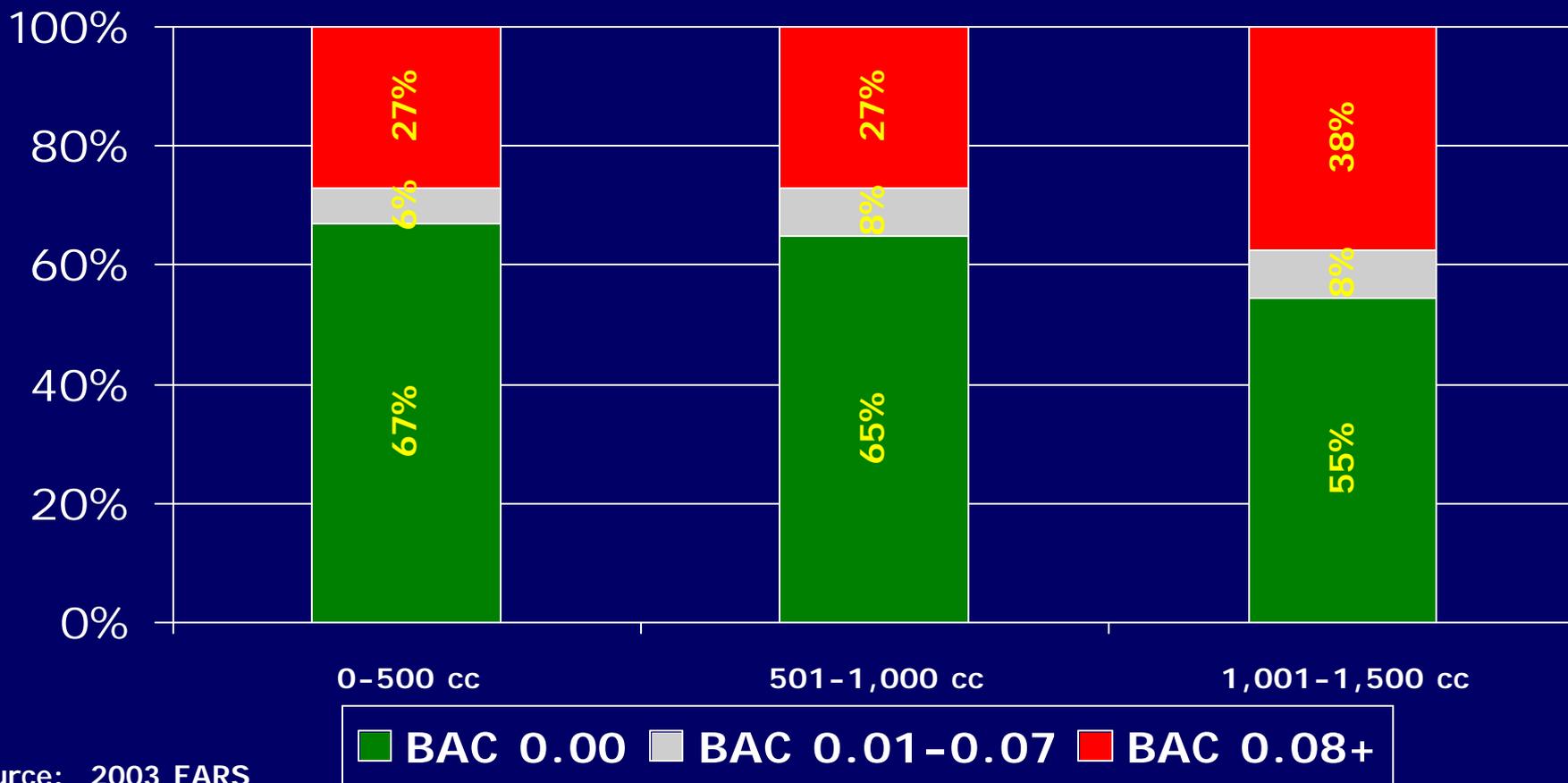
National Center for Statistics & Analysis



Source: 2003 FARS

# Motorcycle Operators Killed by Alcohol Level and Engine Size

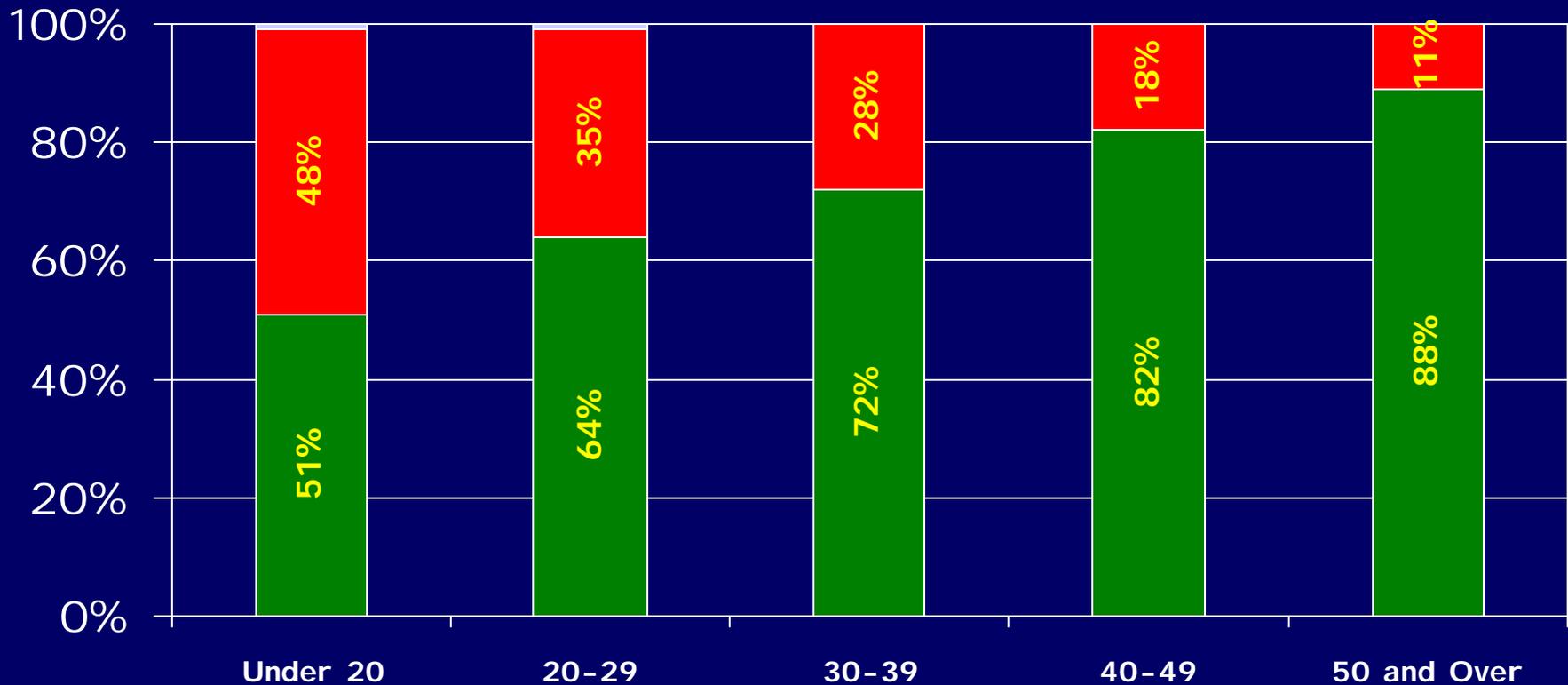
National Center for Statistics & Analysis



Source: 2003 FARS

# Motorcycle Operators Killed by Licensing and Age Group

National Center for Statistics & Analysis

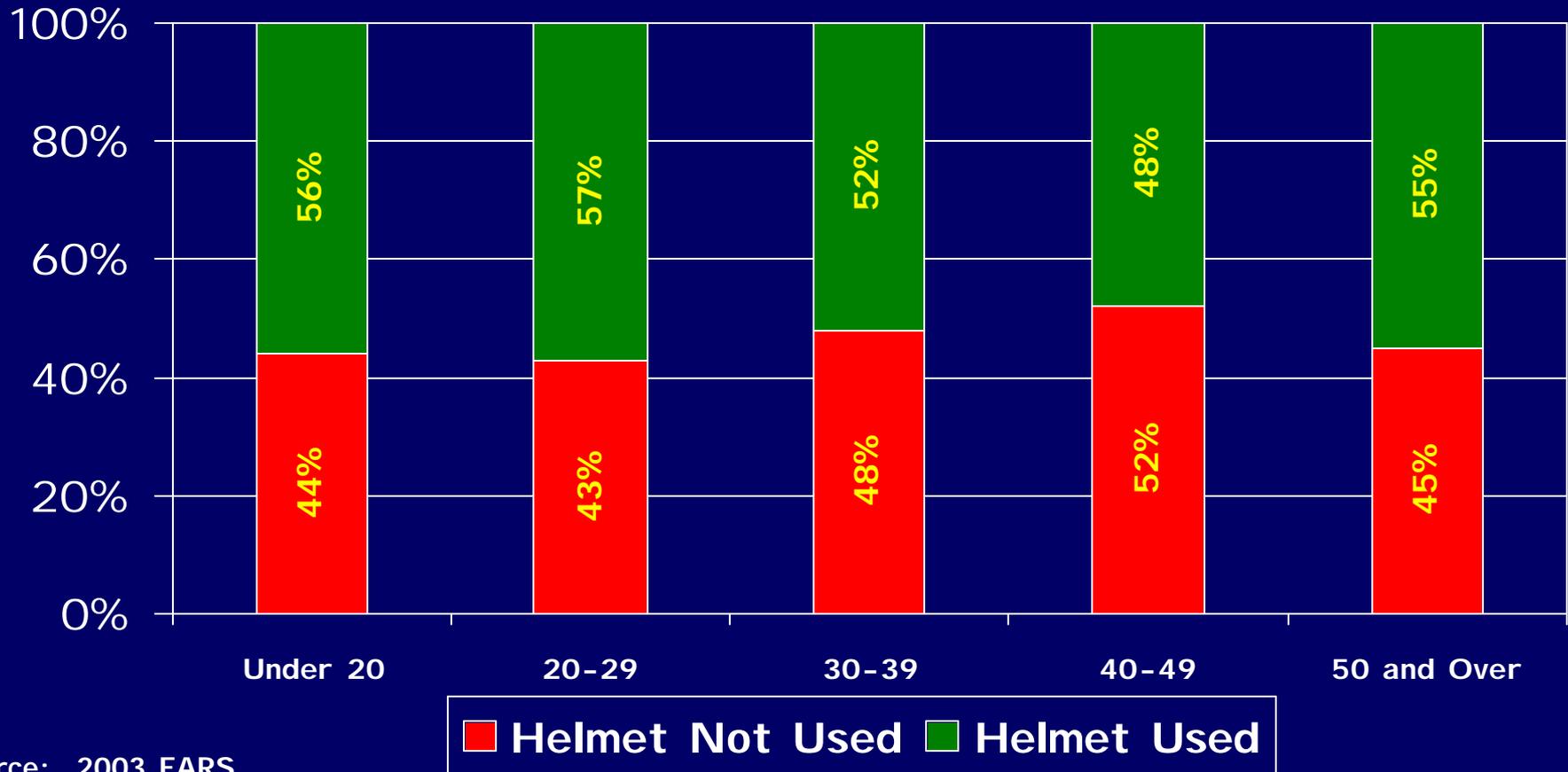


■ Properly Licensed 
 ■ Improperly Licensed 
 ■ Unknown

Source: 2003 FARS

# Motorcycle Operators Killed by Helmet Use and Age Group

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Source: 2003 FARS

# *Last 10 Year Data Show ...*

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- Mean age of Motorcyclist killed is increasing
- Mean engine size of motorcycle involved in a fatal crash is increasing

# Mean Age of Motorcycle Rider Killed and Mean Engine Size Involved in Fatal Crashes

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Year	Mean Age	Mean Engine Size (cc)
1994	31.8	837
1995	32.1	842
1996	33.4	865
1997	34.8	899
1998	34.6	904
1999	36.5	922
2000	36.8	957
2001	36.3	958
2002	37.9	1,002
2003	38.1	1,013

Source: FARS

- **DOT HS 809 271 – Recent Trends in Fatal Motorcycle Crashes:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2001/809-271.pdf>
- **DOT HS 809 360 – Fatal Single Vehicle Motorcycle Crashes:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2001/809-360.pdf>
- **DOT HS 809 387 – Motorcyclist Fatalities in 2000:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2001/809-387.pdf>
- **DOT HS 809 548 – Motorcyclist Fatalities in 2001:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2003/809-548.pdf>
- **DOT HS 809 576 – Alcohol Involvement in Fatal Motorcycle Crashes:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2003/809-576.pdf>
- **DOT HS 809 734 – Motorcycle Riders in Fatal Crashes – Crash Stats:** <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2004/809734.pdf>

