



*Why are we not seeing  
reduction in highway fatalities?*

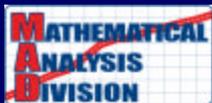
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# *Analysis of FARS and Exposure Data between 1982 and 2002*

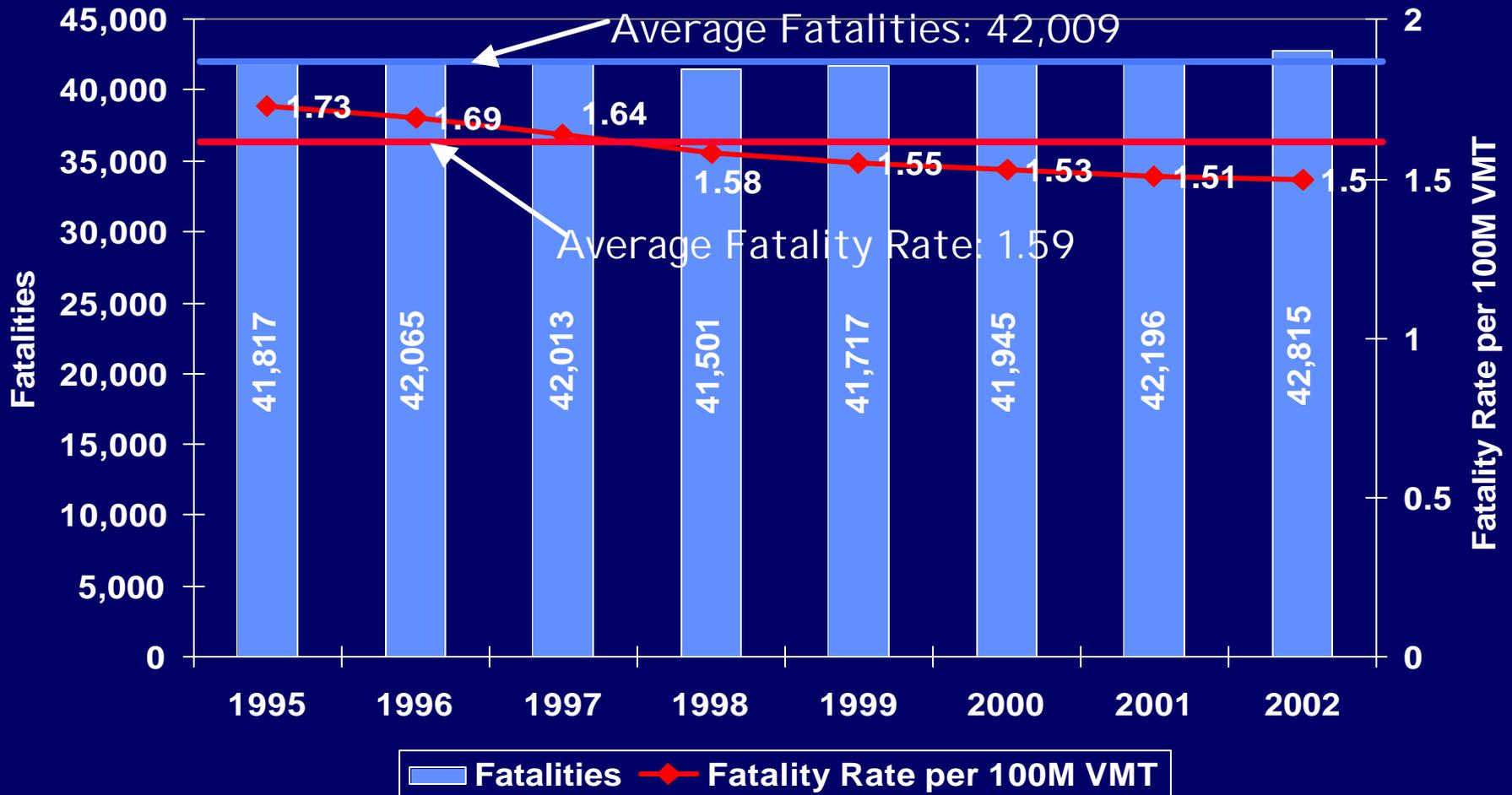
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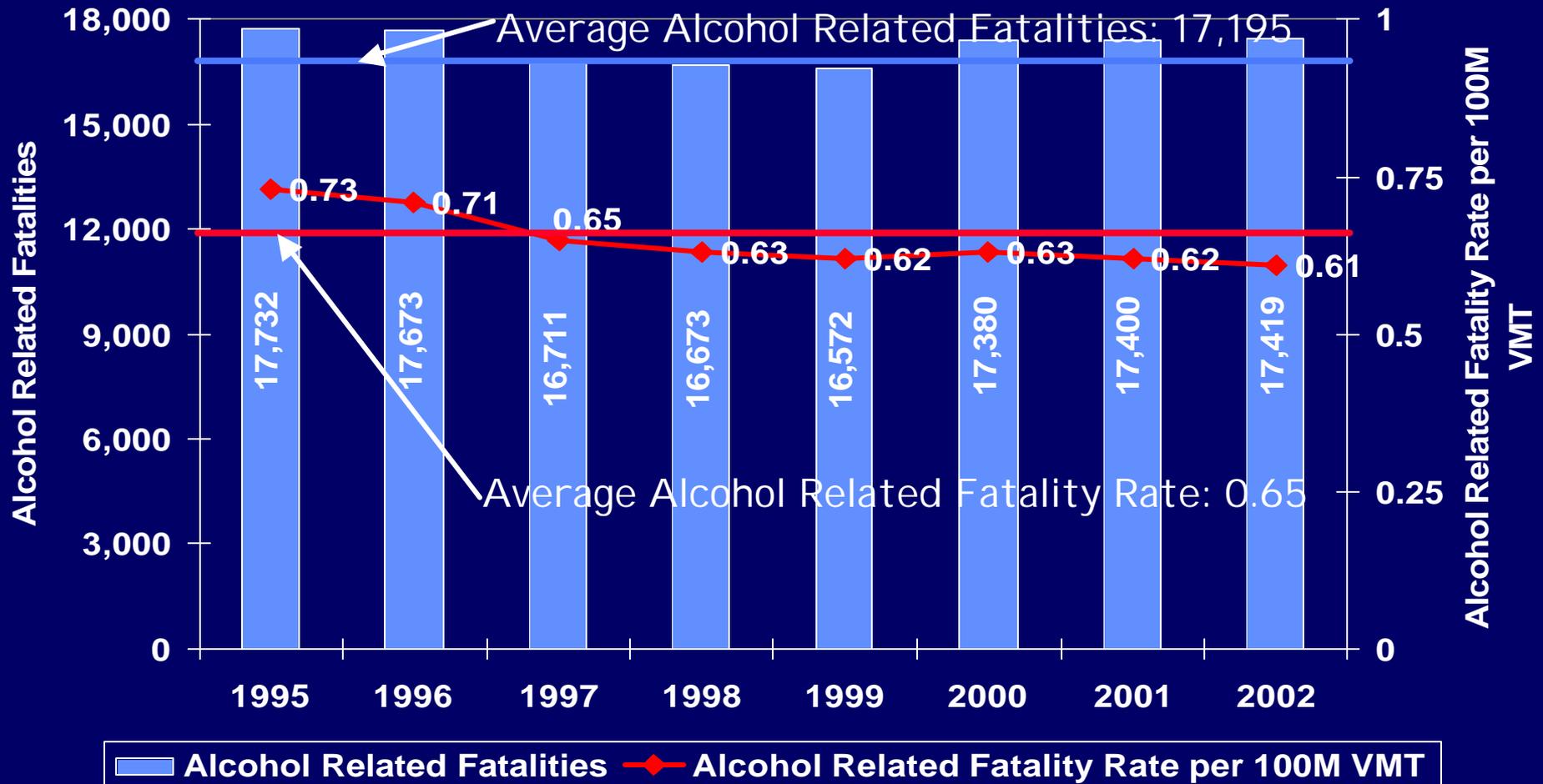
# Fatalities are Essentially Flat Since 1995 - Rate Declined

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# Alcohol Related Fatalities are ALSO Essentially Flat Since 1995 - Rate Declined

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# Total VMT Increased - Light Truck VMT More Than Tripled

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Exposure Type	Percent Change from 1982 to		
	1992	1995	2002
Total VMT	+41	+52	+79
Rural	+28	+35	+64
Urban	+50	+64	+91
Passenger Car	+25	+29	+40
Light Truck	+99	+133	+216
Large Truck	+38	+60	+93
Motorcycle	-4	-1	-4
Total Population	+10	+13	+24
Male	+11	+14	+26
Female	+10	+13	+23

# Largest Population Increase Among 45-54 and Over 74 Ages

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Age Group	Percent Change from 1982 to		
	1992	1995	2002
<5	+13	+13	+14
5-9	+15	+20	+25
10-15	-1	+4	+16
16-20	-15	-13	-1
21-24	-12	-17	-7
25-34	+8	+3	+1
35-44	+42	+52	+60
45-54	+22	+39	+79
55-64	-5	-4	+21
65-74	+14	+16	+13
>74	+30	+40	+62
Total	+10	+13	+24

# VMT Increased as Also Registered Vehicles

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Exposure Type	1982	1992	1995	2002
Reg Veh per Population	0.65	0.73	0.75	0.78
<b>VMT per Vehicle</b>				
Total	10,553	12,151	12,294	12,654
Passenger Car	10,715	11,932	11,996	12,382
Light Truck	9,967	11,932	11,996	12,382
Large Truck	19,931	25,373	26,514	27,062
Motorcycle	1,722	2,351	2,514	1,909

# Mix of Vehicles Changed - Largest Increase in SUVs

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Vehicle Type	Percent Change from 1982 to		
	1992	1995	2002
Total	+22	+30	+49
Passenger Cars	+13	+15	+21
Light Trucks	+67	+94	+154
SUVs	n/a	+49	+238
Pickups	n/a	+25	+41
Vans	n/a	+33	+66
Other Light Trucks	n/a	-61	-85
Large Trucks	+8	+20	+42
Motorcycles	-29	-32	-13

# *Increasing Daytime and Female Fatalities*

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Fatality Type	Percent Change in Fatalities from 1982 to		
	1992	1995	2002
Total	-11	-5	-3
Alcohol Related	-30	-32	-33
SV Crashes	-14	-11	-7
MV Crashes	-6	+3	+4
Daytime	+7	+20	+23
Nighttime	-22	-21	-19
Rural	-9	-2	+3
Urban	-13	-8	-10
Male	-16	-13	-8
Female	+3	+17	+12

# Largest Fatality Increase Among 45-54 and Over 74 Ages

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Age Group	Percent Change from 1982 to		
	1992	1995	2002
<5	-17	-16	-39
5-9	-13	-12	-38
10-15	-15	-5	-23
16-20	-33	-29	-21
21-24	-33	-33	-31
25-34	-13	-15	-26
35-44	+16	+33	+40
45-54	+7	+25	+69
55-64	-13	-7	+11
65-74	+15	+19	+7
>74	+42	+63	+61
Total	-11	-5	-3

# Large Increases in SUV and Van Occupant Fatalities

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Person Type	Percent Change in Fatalities from 1982 to		
	1992	1995	2002
Pass. Car Occupants	-8	-4	-12
LT Occupants	+27	+50	+92
SUVs	+82	+163	+444
Pickups	+17	+29	+32
Vans	+59	+101	+157
La Truck Occupants	-38	-31	-28
Motorcycles	-46	-50	-27
Pedestrians	-24	-24	-34
Bicyclists	-18	-6	-25

# Rollover Fatalities\* in SUVs Increased Four Fold

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Vehicle Type	Percent Change from 1982 to		
	1992	1995	2002
Passenger Car	-14	-8	-14
SUV	+65	+140	+386
Pickup	+30	+36	+45
Van	+98	+128	+145

\*Vehicle occupant fatalities.

# Fatality Rates Declined

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Fatality Rate Type	Percent Change in Fatality Rate from 1982 to		
	1992	1995	2002
<b>VMT Rate</b>			
Total	-37	-37	-46
Alcohol	-50	-55	-63
Passenger Cars	-27	-25	-38
Light Trucks	-36	-35	-39
Large Trucks	-55	-58	-62
Motorcycles	-44	-49	-24
Population Rate	-19	-16	-22
Reg. Veh. Rate	-27	-27	-35
Lic. Driver Rate	-22	-19	-25

# Lowest Fatality Rate\* Decline Among Older Age Groups

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Age Group	Percent Change from 1982 to		
	1992	1995	2002
<5	-27	-26	-47
5-9	-24	-27	-50
10-15	-14	-9	-34
16-20	-21	-18	-20
21-24	-24	-20	-26
25-34	-20	-17	-27
35-44	-18	-13	-13
45-54	-12	-10	-5
55-64	-8	-3	-8
65-74	+0	+2	-6
>74	+9	+17	-1

\*Rate per 100,000 resident population

# Rollover Fatality Rate\* Declined

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Vehicle Type	Percent Change from 1992 to	
	1995	2002
Passenger Car	-3	-7
SUV	-4	-13
Pickup	-23	-21
Van	-7	-26

\*Occupant fatality rate per 100,000 registered vehicles

# Where would we be in 2002?

- **Fatality rate in**
  - ◆ 1982 was 2.76
  - ◆ 2002 was 1.50 - 46 percent reduction
- **If 1982 fatality rate had persisted we would have about 79,000 fatalities in 2002**
- **Fatality rate has declined in spite of over 79 percent increase in the total VMT**
- **One interpretation is that safety programs have saved about 36,000 lives in 2002**
  - ◆ Cumulative lives saved between 1982 and 2002 is 396,000

# Where did we save lives?

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- **Increase in observed safety belt use**
  - ◆ Safety belt use in fatal crashes is much lower than the observed safety belt Use
- **Unrestrained fatalities declined from 89 percent in 1982 to 59 percent in 2002**
- **Reduction in alcohol related fatalities**
  - ◆ In 2002 we had 17,419 fatalities compared to 26,172 fatalities in 1982
- **Introduction of airbags in vehicles**
- **Increased use of child restraints**
- **Improved vehicle design**
- **Other highway safety initiatives**

# What do the trends show?

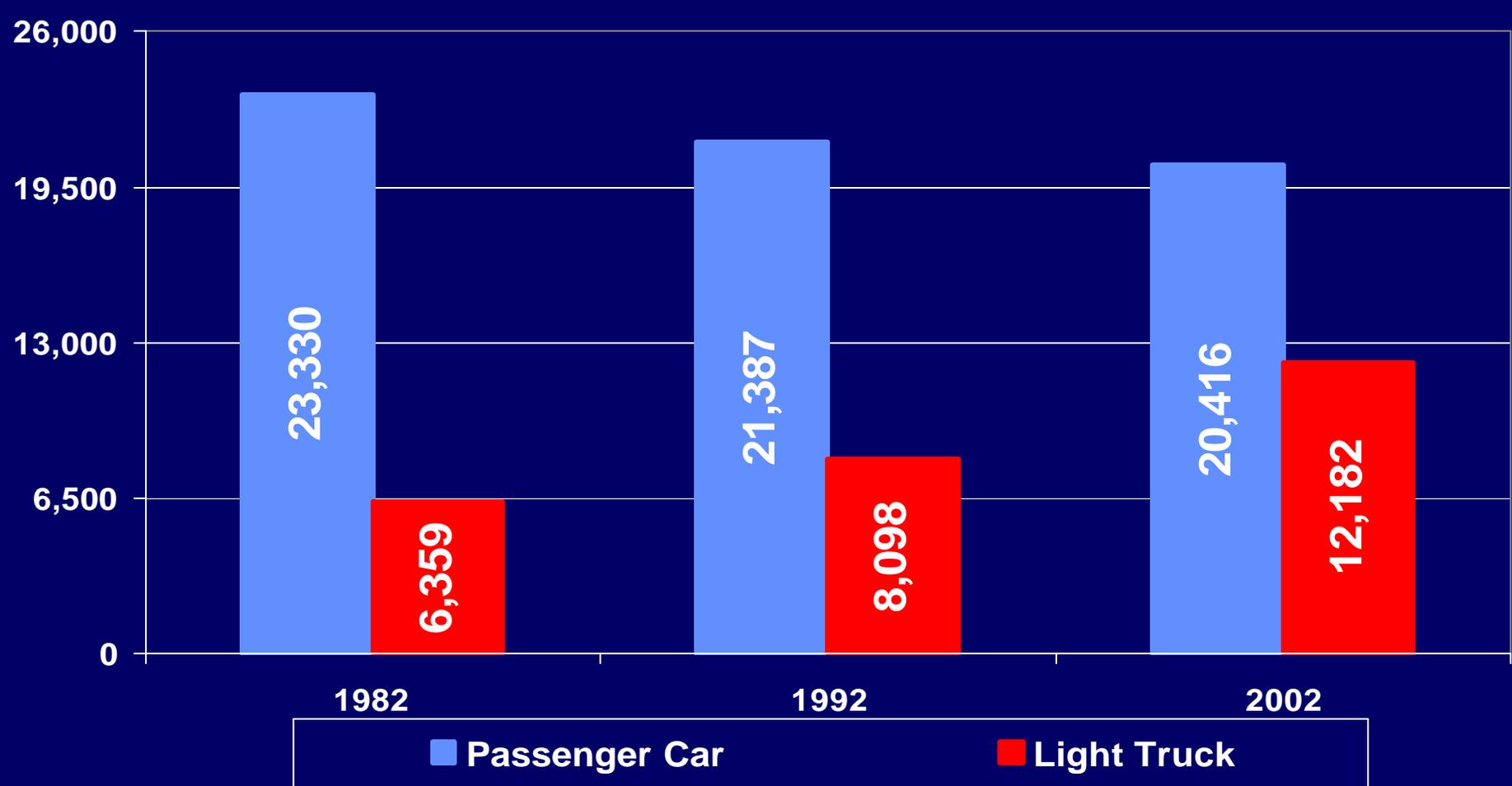
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- **A flat trend especially since 1995 in overall and alcohol related fatalities with increases in**
  - ◆ LTV fatalities (exposure-vehicles) offsetting the decline in passenger car fatalities
    - **Especially in SUVs**
  - ◆ Motorcycle fatalities (exposure and other factors)
  - ◆ Rollover fatalities (exposure-vehicles)
    - **Especially in SUVs**
  - ◆ Fatalities during daytime
  - ◆ Fatalities among females
  - ◆ 35+ age fatalities

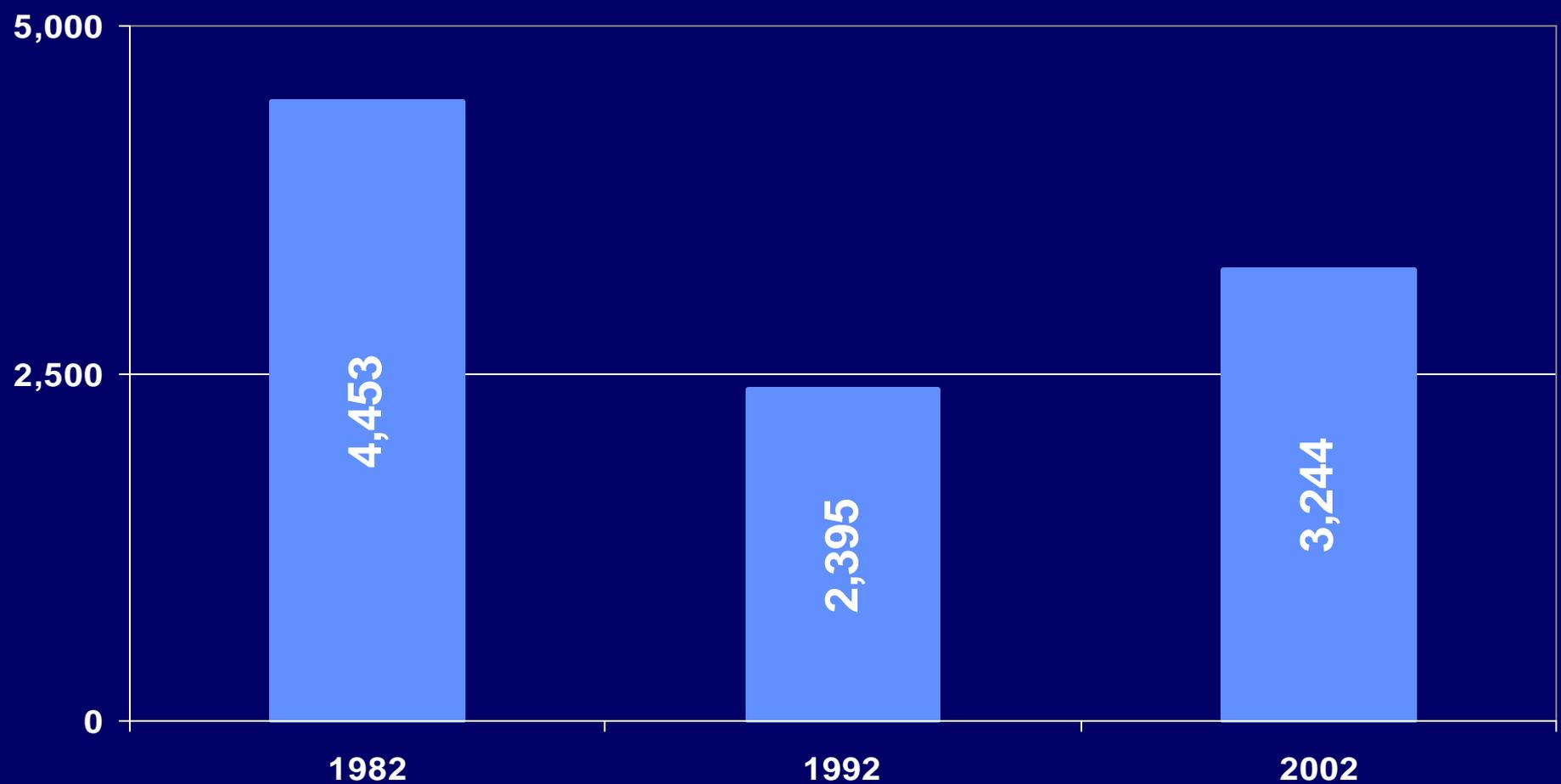
# Passenger Car and Light Truck Occupant Fatalities

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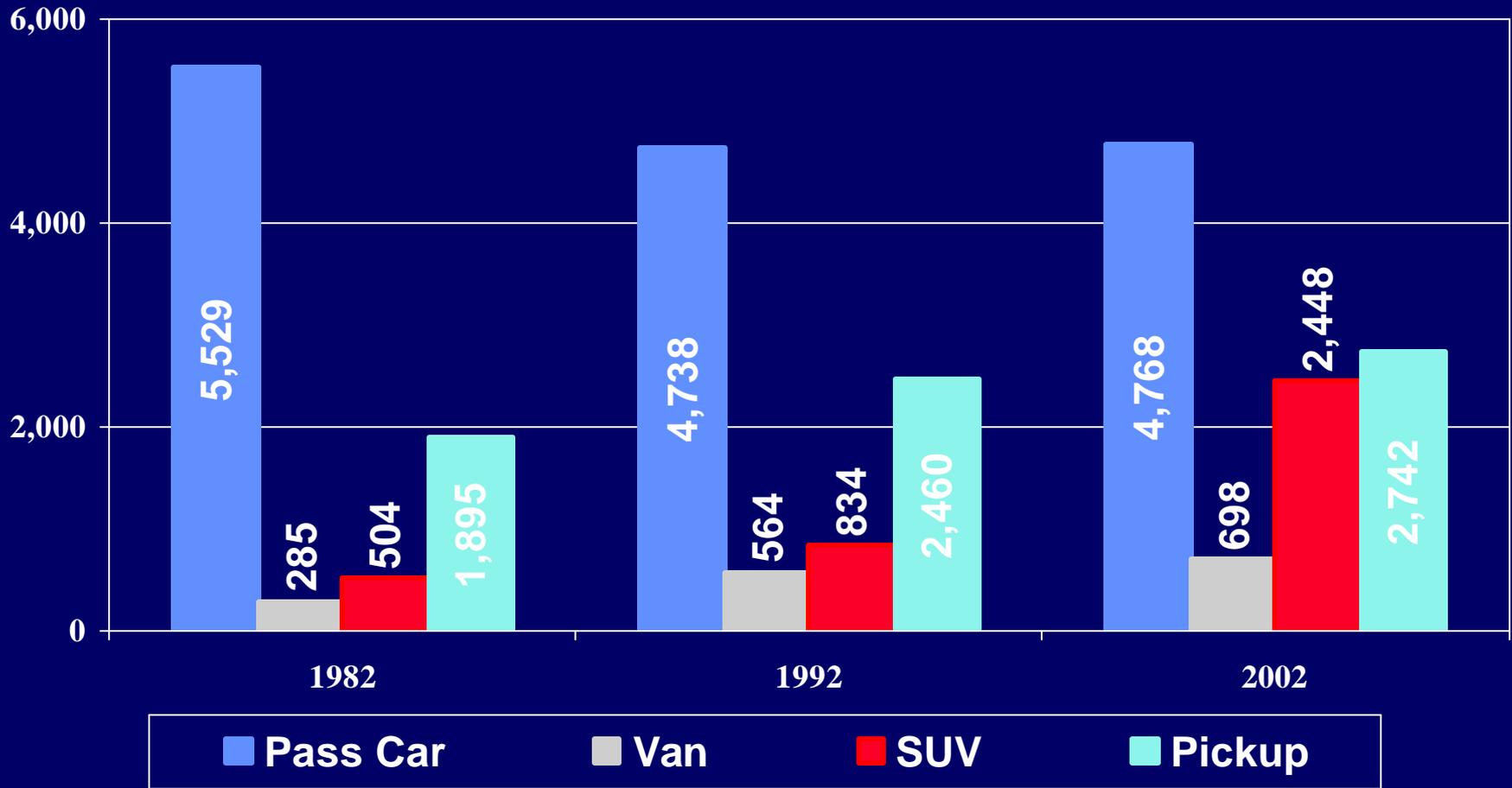
# Motorcyclist Fatalities

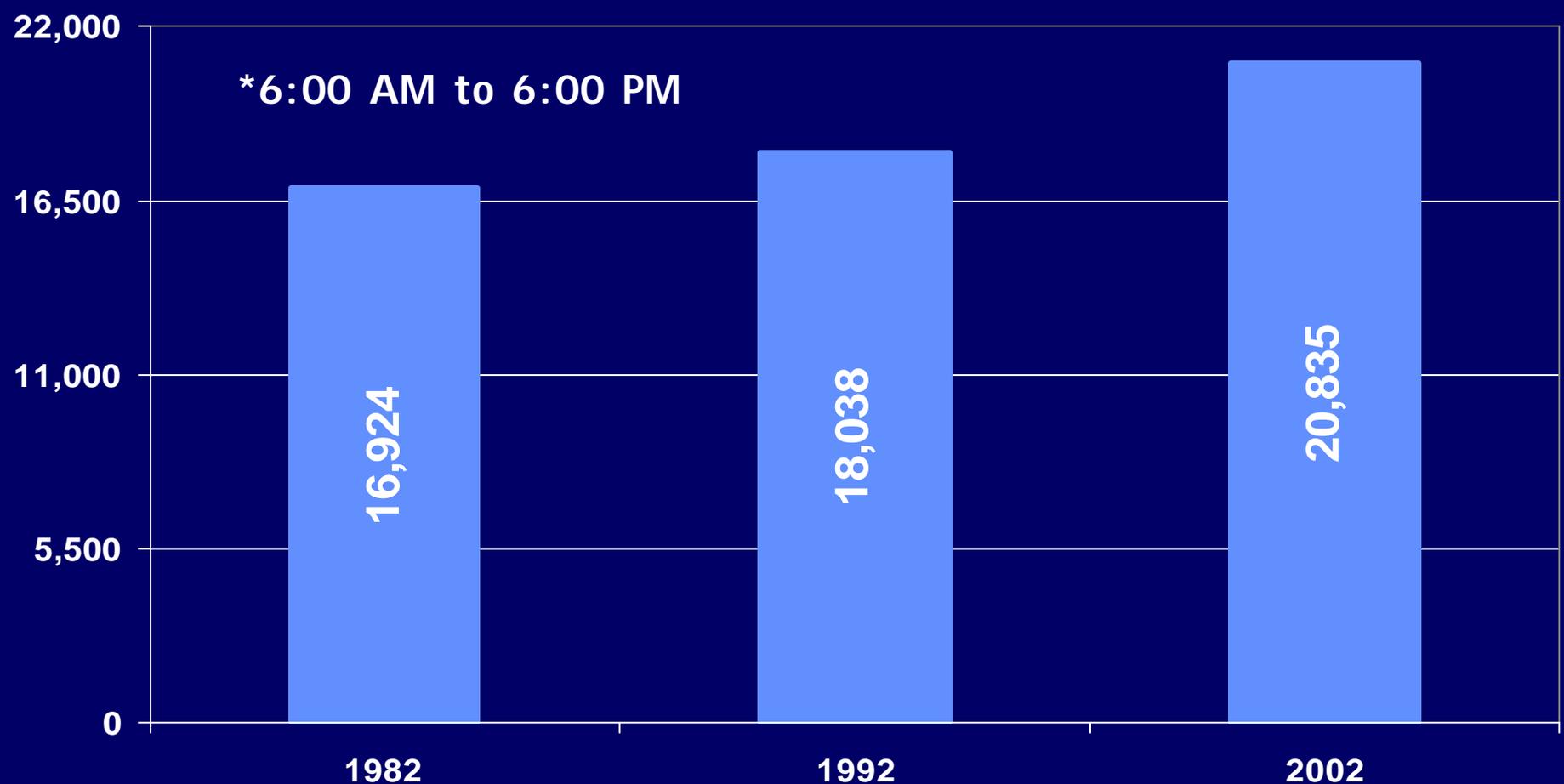
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# Passenger Vehicle Occupants Killed in Rollover Crashes, by Vehicle Type

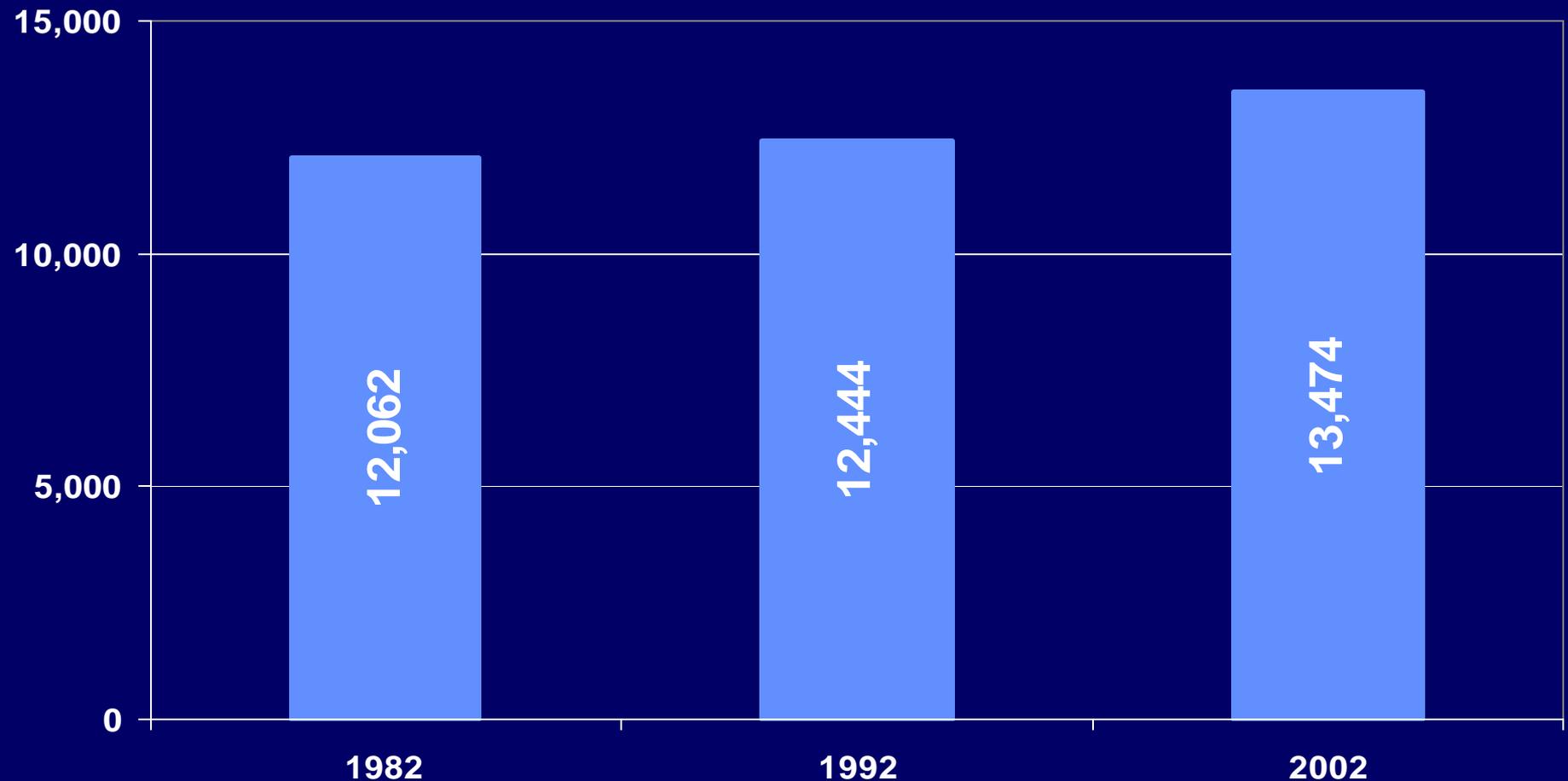
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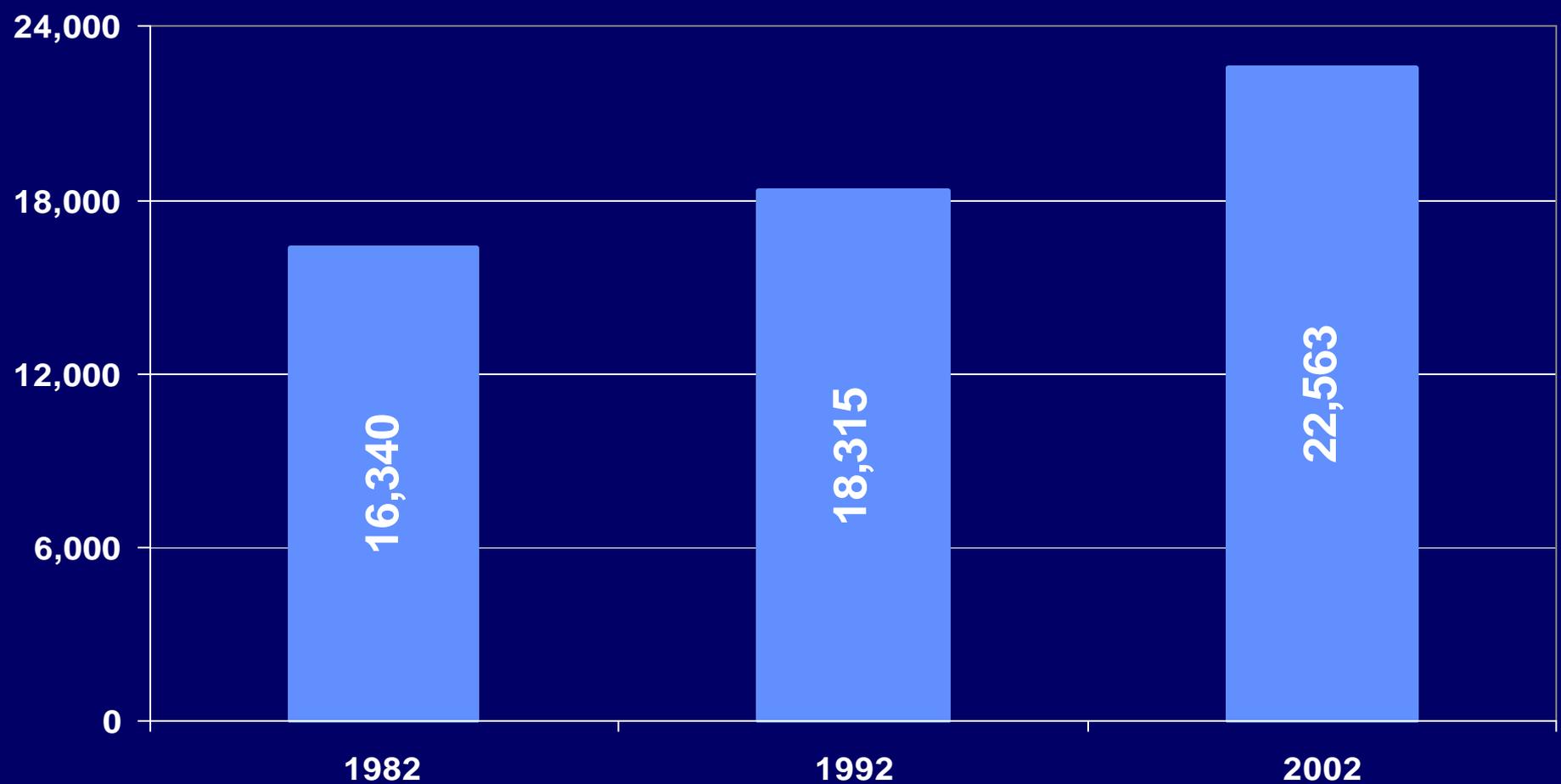


# Fatalities Among Females

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- **Number of states have shown an increase in fatalities from 1982**
  - ◆ However, the fatality rates for all states have declined due to increased exposure (VMT)
    - **Similar to national trend**

# One Scenario to illustrate lives saved between 1982 and 2002

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\*Based on 1982 rate less 30% for double counts

# *Questions?*