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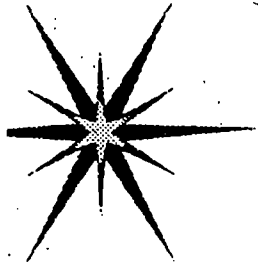
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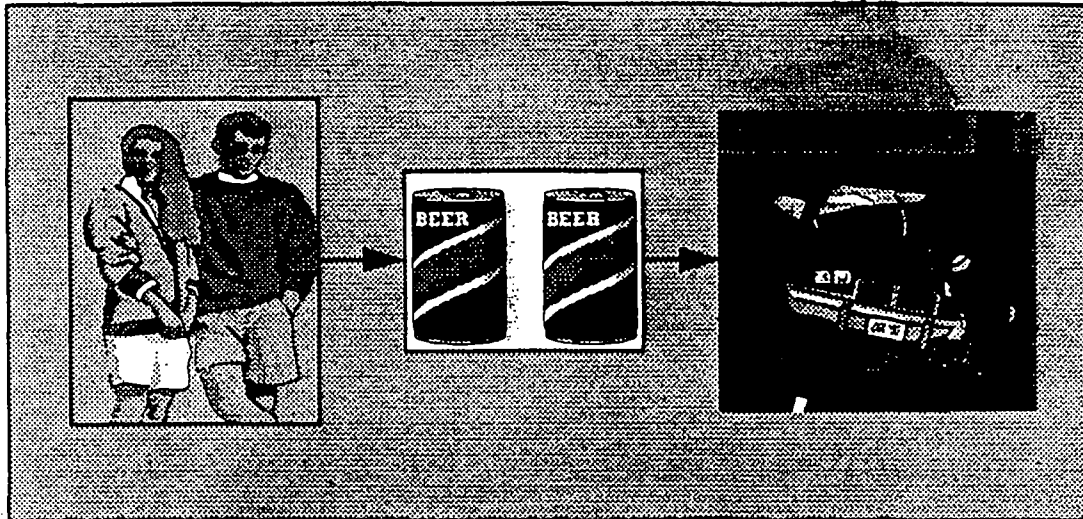
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Youth Fatal Crash and Alcohol Facts 1993



**National Highway Traffic Safety Administration
Alcohol and State Programs**

YOUTH MOTOR VEHICLE FATALITIES

1982 - 1993

Preface

The figures and data contained in this report focus on impaired driving fatal crashes by young people, ages 15 through 20, from 1982 to 1992. The data selected to illustrate this problem fall into four categories:

- o Youth Fatalities -- Those who died in motor vehicle crashes (drivers, passengers, or non-occupant) who were 15 to 20 years old. An "alcohol-related" fatality occurs if any driver or non-occupant involved in the crash had been drinking (i.e., their BAC was greater than zero). The young person killed, therefore, may or may not have been drinking.
- o Young Drivers Involved in Fatal Crashes -- 15-to-20-year-old drivers involved in a crash that resulted in a fatality. These drivers may have been fatally injured in the crash or survived the crash and the fatality may have been a youth or an adult.
- o Young Drivers Killed -- 15-to-20-year-old drivers who were killed in a motor vehicle crash.
- o Youth Fatalities by Alcohol-Involvement of Young Drivers -- Youth who were killed in a motor vehicle accident in which a young person was driving. The fatality could have been the driver, a passenger, or a non-occupant 15 to 20 years old. The young driver (also aged 15 through 20) involved in the crash may or may not have been "at fault."

The data in these four categories are broken out by alcohol-related (A/R) involvement. If a fatality is alcohol-related, a driver or non-occupant had a measurable blood alcohol content (BAC). The alcohol involvement is further broken down to indicate if the BAC was between .01 and .09 percent (which is within the "legal limit" in most States) or if it was greater than or equal to .10 percent, which is over the legal limit in most States. (It should be noted that 30 States have set lower BAC limits for young drivers as of Sept. 1, 1994.)

Some of the data are shown in figures to highlight interesting trends or problem areas.

Unless otherwise noted, the sources of all data contained in this report are from the Fatal Accident Reporting System, National Center For Statistics And Analysis, National Highway Traffic Safety Administration. Other data were derived from the current population surveys of the Bureau of the Census, driver licensing data from the Federal Highway Administration and alcohol consumption data from the National Institute on Drug Abuse.

The national effort to reduce motor vehicle deaths and injuries of young people, ages 15 through 20, has been a success story. Although far too many youth still die tragically in these crashes, fatality reductions over the past decade, especially those that are alcohol-related, have been remarkable. Just eleven years ago 8,508 young Americans died in crashes. In 1993, that number has been reduced to 5,905, a reduction of 30 percent. For alcohol-related fatalities, over 3,000 fewer young people died in 1993 compared to 1982, a reduction of over 56 percent. Few social programs aimed at reducing mortality can measure success with the magnitude of these numbers.

What is causing these fatality reductions? There are numerous reasons, none of which can be proven to be the single cause. Age 21 drinking laws and other youth directed legislation have been shown to have had a significant impact on fatalities. The emergence of a wide range of prevention programs directed at youth coupled with public awareness campaigns have coincided with the fatality reductions. Enforcement efforts have begun to prevent underage drinking and to target the likely places where youth drink and drive. Finally, youth themselves have taken action to make other youths aware of the dangers of drinking and impaired driving and not wearing seat belts and have taken positive steps to prevent their peers from engaging in dangerous behavior.

Why should we continue to emphasize programs that target teenage motor vehicle fatalities? The reasons are many:

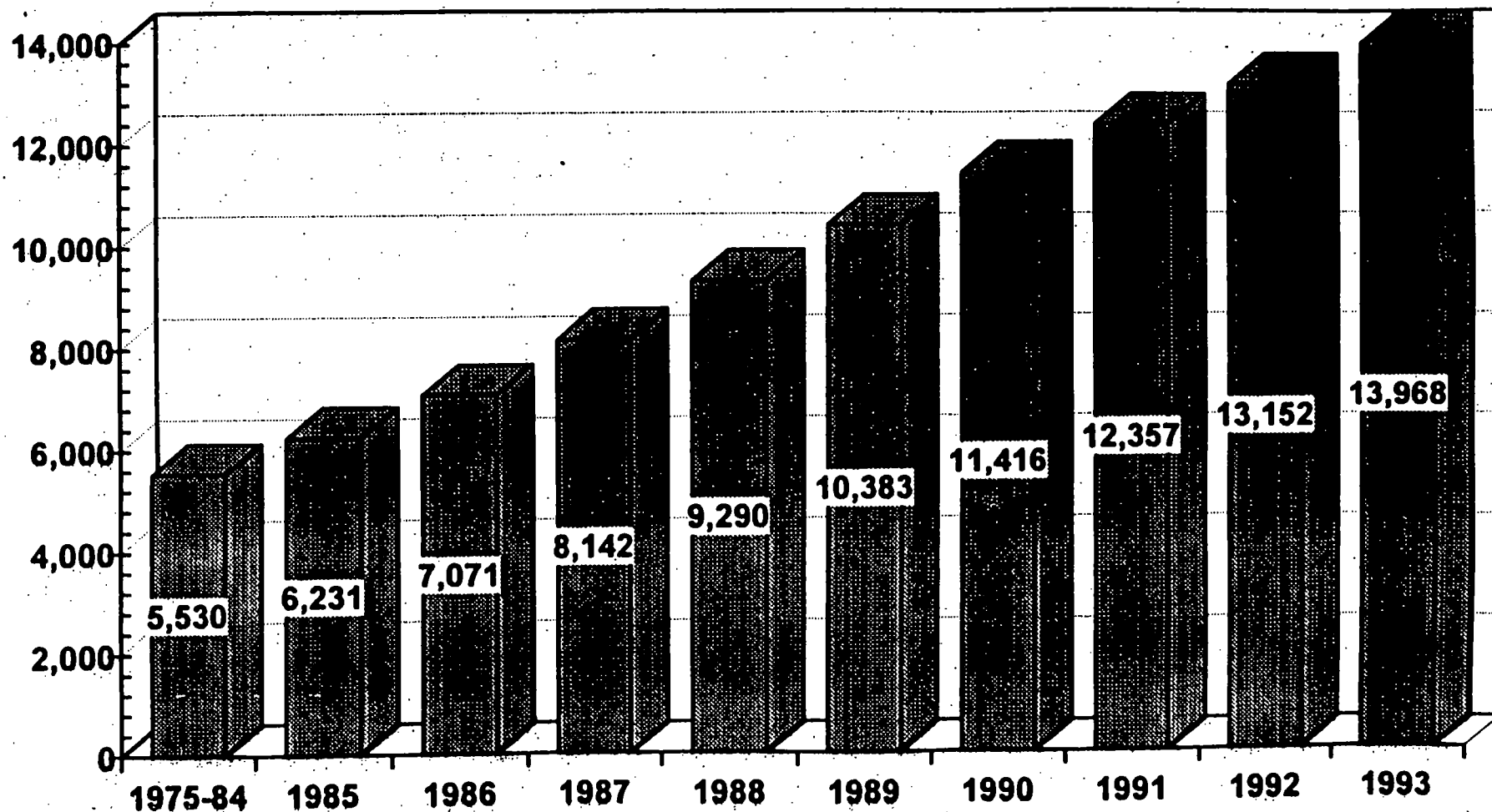
- o Youth are still overrepresented in motor vehicle crashes compared to adults.
- o A young fatality is particularly tragic considering the years of potential life lost or the years, and cost, of a debilitating injury.
- o Changing behavior early in the driving experience will impact the high risk years of the early 20s and beyond.
- o Efforts directed at younger ages clearly have a big payoff. Lives can be saved in significant numbers.

What follows is a series of charts, graphs and bulleted information which describes the fatality trends since 1982.

GENERAL FACTS - 1993

- o Over 40 percent of all deaths for people ages 15 to 20, result from motor vehicle crashes. Two out of five motor vehicle fatalities involve alcohol. Close to 62 percent of these young people died without using a seat belt.
- o Since less than half of teenage motor vehicle fatalities are alcohol-related, drinking and driving is no longer the leading cause of death for teenagers. Motor vehicle crashes remain so, however, by far.
- o The highest number of youth fatalities occur in July and August. The fewest occur in the winter months.
- o About twice as many young people die in weekend crashes, per day, as on weekdays.
- o The proportions of young (aged 15 through 20) fatally injured drivers and young drivers involved in fatal crashes who were intoxicated have decreased significantly since 1982. The reduction in the number of drivers who were intoxicated dropped by over 60 percent in both categories - the largest decline of any age group.
- o The number of young people who died in a crash where an intoxicated young driver was involved declined by over 60% since 1982, from 2,763 to 1,081.
- o Even with the reduction in fatalities over the past decade, young people aged 15 thru 20 are still overrepresented in fatal crashes compared to the older population. The rate of involvement is greater for young people for both alcohol and non-alcohol-related crashes based on the total population and on the licensed driver population.
- o There were 15 young drinking drivers involved in fatal crashes for every 100,000 young licensed drivers in 1993. This is almost twice the rate for drivers aged 21 and older.
- o The population of the United States, ages 15 through 20, has decreased from 24.2 million in 1982 to 20.8 million in 1993 -- a decrease of 14 percent. During this same time period, motor vehicle fatalities for this age group decreased by 31 percent, while alcohol-related fatalities decreased by over 56 percent.
- o NHTSA estimates that minimum drinking age laws have saved 13,968 lives since 1975. All states and the District of Columbia now have 21-year-old minimum drinking age laws. As of September, 1994 twenty-nine states and the District of Columbia have set lower illegal blood alcohol levels for youth. Most of these states have set .02 or lower for all youth under 21.

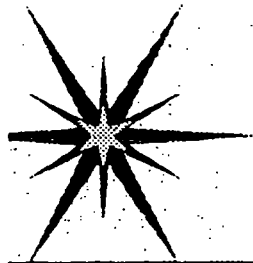
Cummulative Estimated Number of Lives Saved by Minimum Drinking Age Laws 1975-1993



YOUTH POPULATION

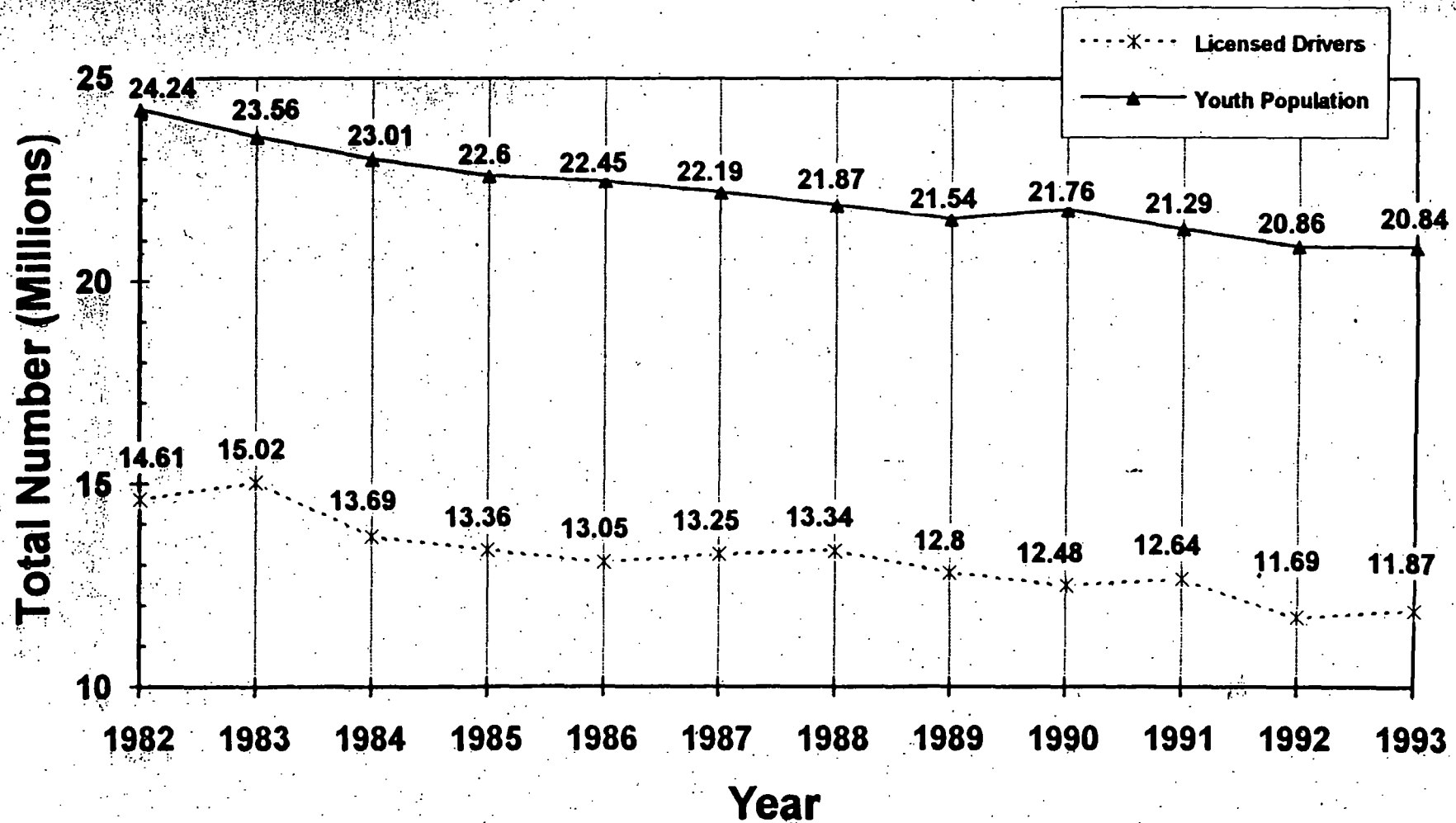
The Bureau of the Census estimates that there were almost 21 million young people aged 15 through 20 in the United States during 1993. The number of licensed drivers in this age group was estimated at just under 12 million.

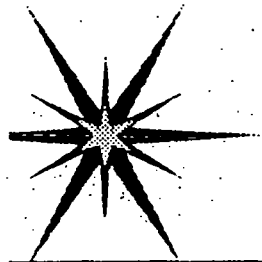
- o The youth population decreased by 14 percent since 1982 and decreased slightly since 1992.
- o The number of young licensed drivers decreased by almost 19% since 1982 but increased by almost 2 percent since 1992.
- o The youth population has decreased every year except one (1990) during the last 11 years. However, the youth population is expected to increase every year for the next 10 years.
- o The U.S. Census Bureau estimates that in the year 2000, the youth population will be 23.7 million, an increase of 14 percent from 1993.



Youth Population - Ages 15 Through 20

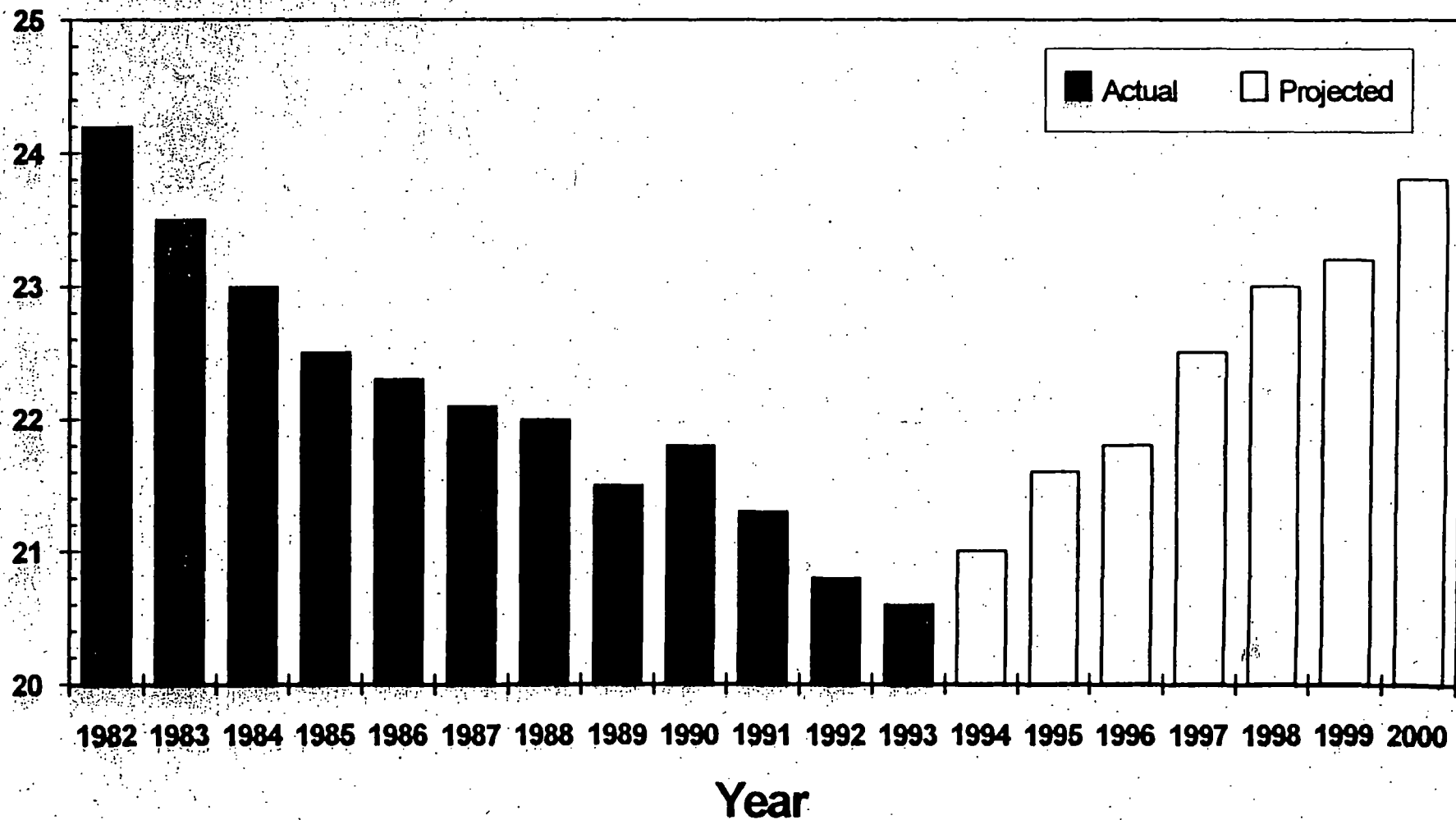
Total Population vs. Licensed Drivers





Youth Population (Ages 15-20)

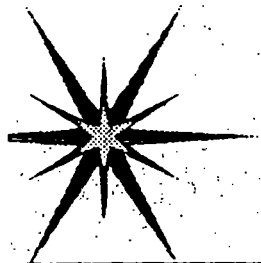
Projected to Year 2000



YOUTH FATALITIES

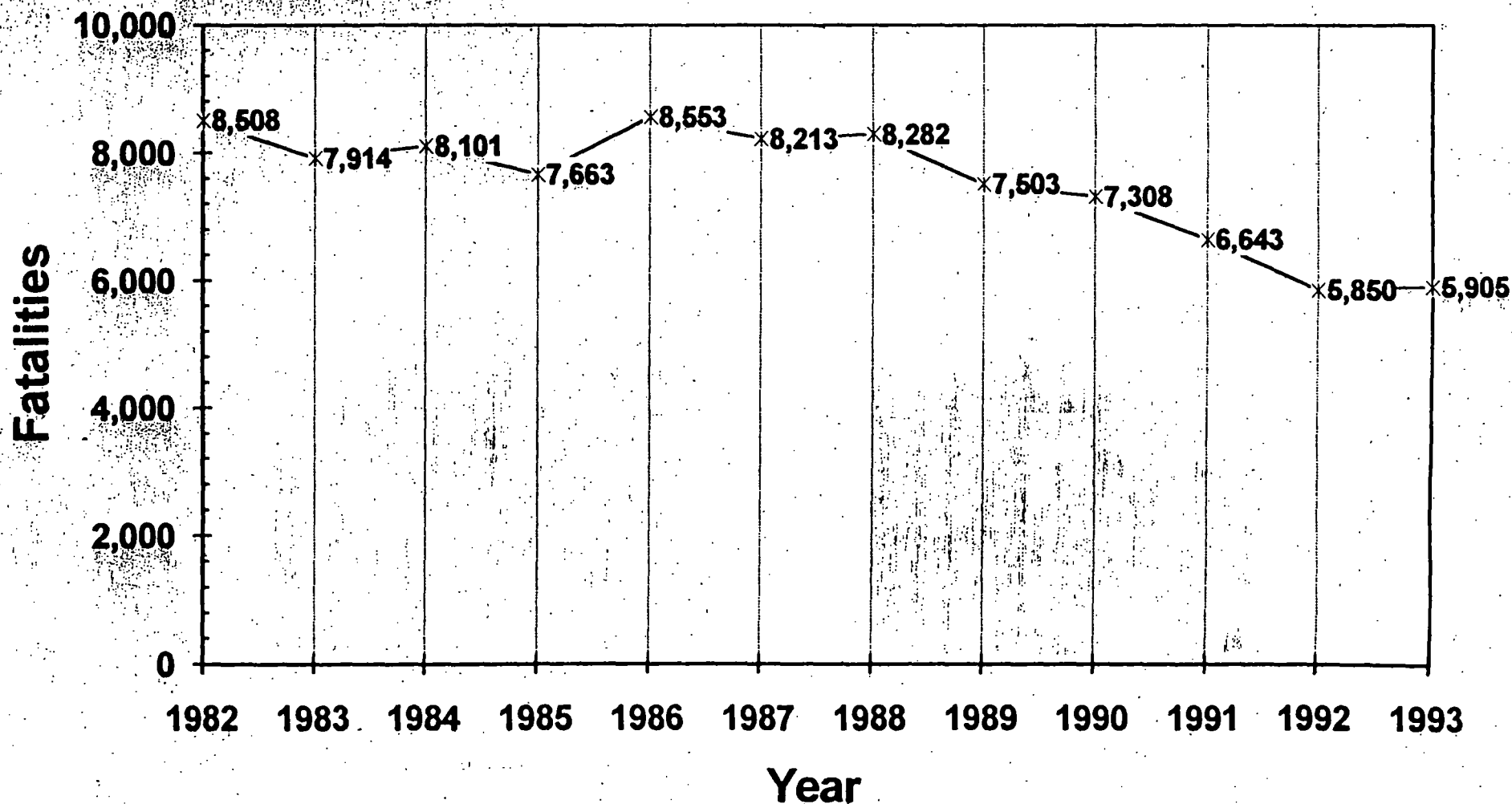
5,905 young people died in motor vehicle crashes in 1993. An estimated 2,364 (40%) of these fatalities were alcohol-related.

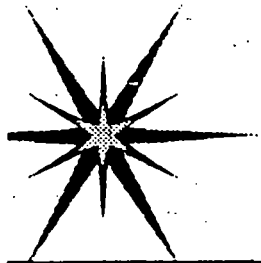
- o Youth fatalities increased by almost one percent from 1992 to 1993. Alcohol-related fatalities declined by 4.6 percent while non-alcohol-related fatalities increased by 5 percent.
- o Since 1982, youth fatalities have declined by almost 31 percent. Alcohol-related fatalities declined by over 56 percent while non-alcohol-related fatalities increased by over 13 percent during this time period. However, except for 1993, the trend for non-alcohol-related fatalities is downward since 1988.
- o By comparison, adult fatalities (over 21 years of age) declined by only 2 percent since 1982. Alcohol-related fatalities declined by 23 percent. However, non-alcohol-related fatalities increased by 27 percent for adults.
- o Young males continue to outnumber young females by a wide margin in fatalities. In 1993, over 70 percent of the youth fatalities (ages 15 through 20) were males. The long-term trend in closing the gap between male and female fatalities was reversed in 1993 with an increase in male and a decrease in female fatalities from 1992.
- o Young female fatalities have declined by 15 percent since 1990. However, during the same time period, young male fatalities have declined by over 21 percent.
- o During 1993, a young person died in a traffic crash an average of once an hour during the weekend and once every two hours on weekdays.
- o More than half of all youth weekend fatalities were alcohol-related compared to just 30 percent for weekdays.
- o There were 1,823 fewer alcohol-related youth fatalities in 1993 than there were in 1988.



Youth Fatalities (Ages 15-20)

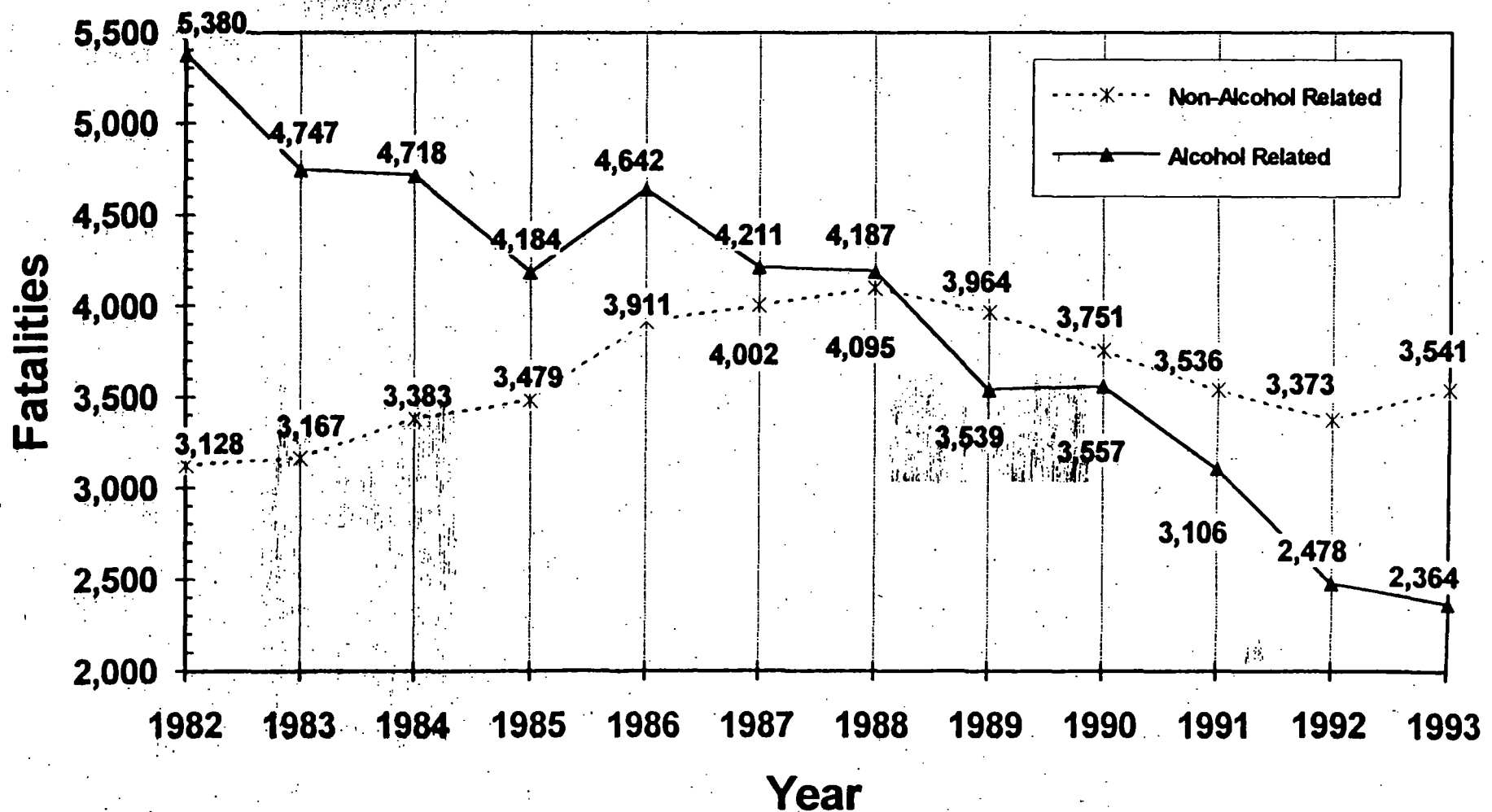
Motor Vehicle Deaths, 1982 - 1993



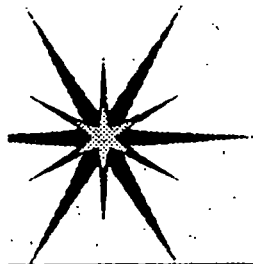


Youth Fatalities (Ages 15-20)

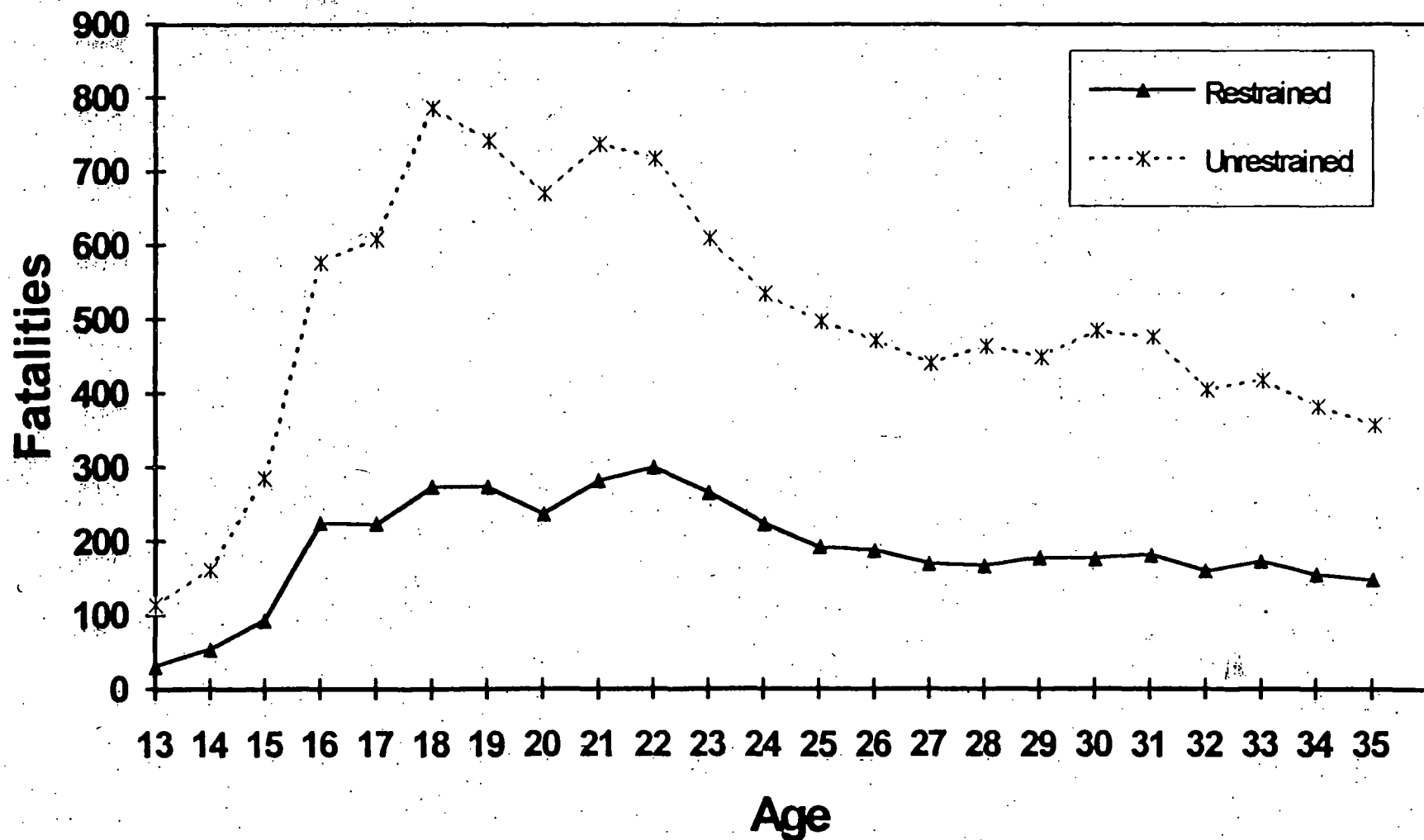
Alcohol vs. Non-Alcohol Related

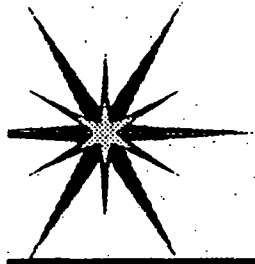


Note: Alcohol related fatalities include youths hit by older drinking drivers



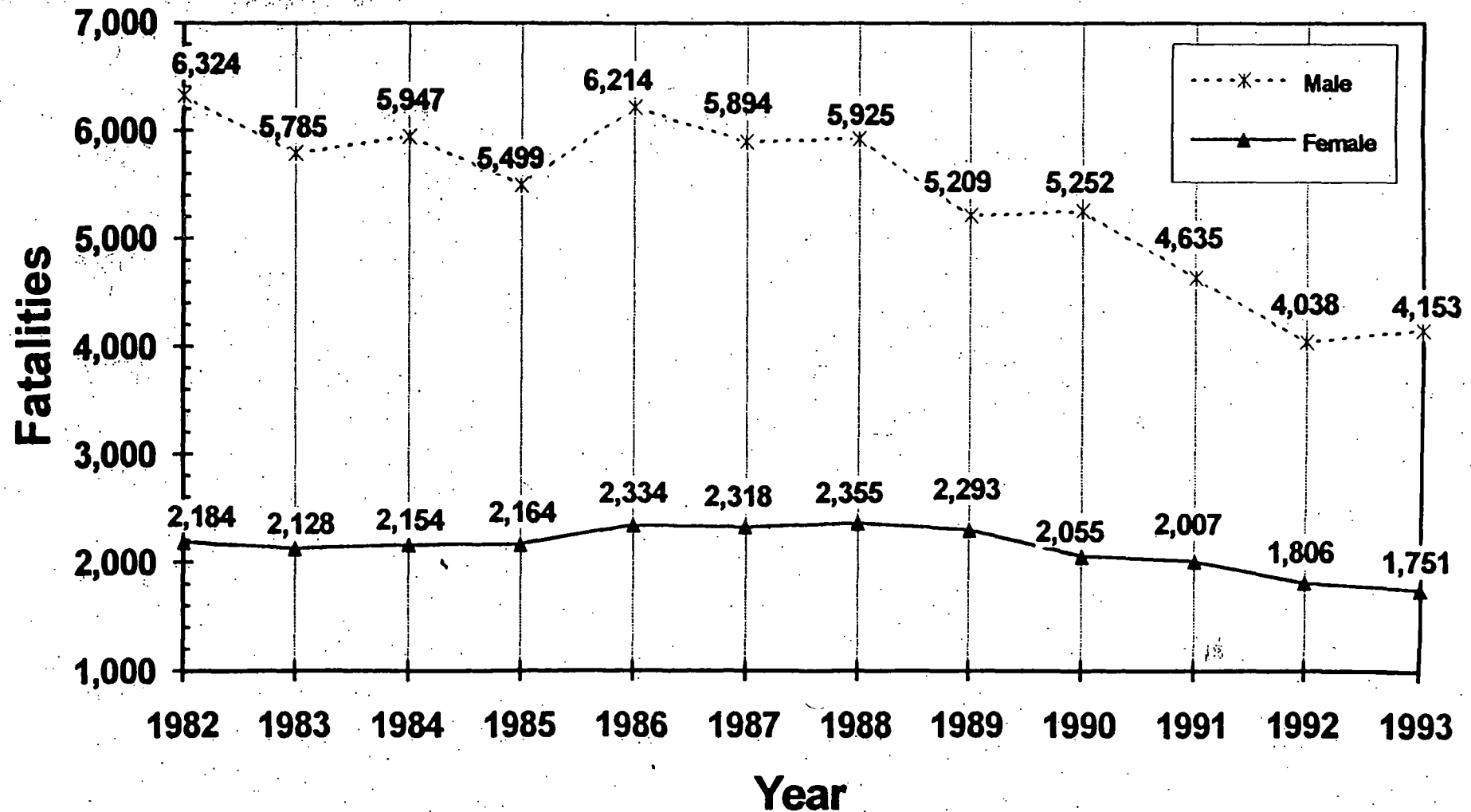
Motor Vehicle Traffic Fatalities by Use of Seat Belts

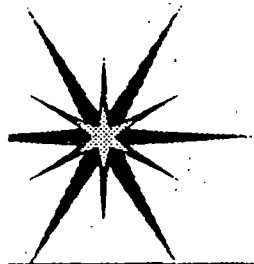




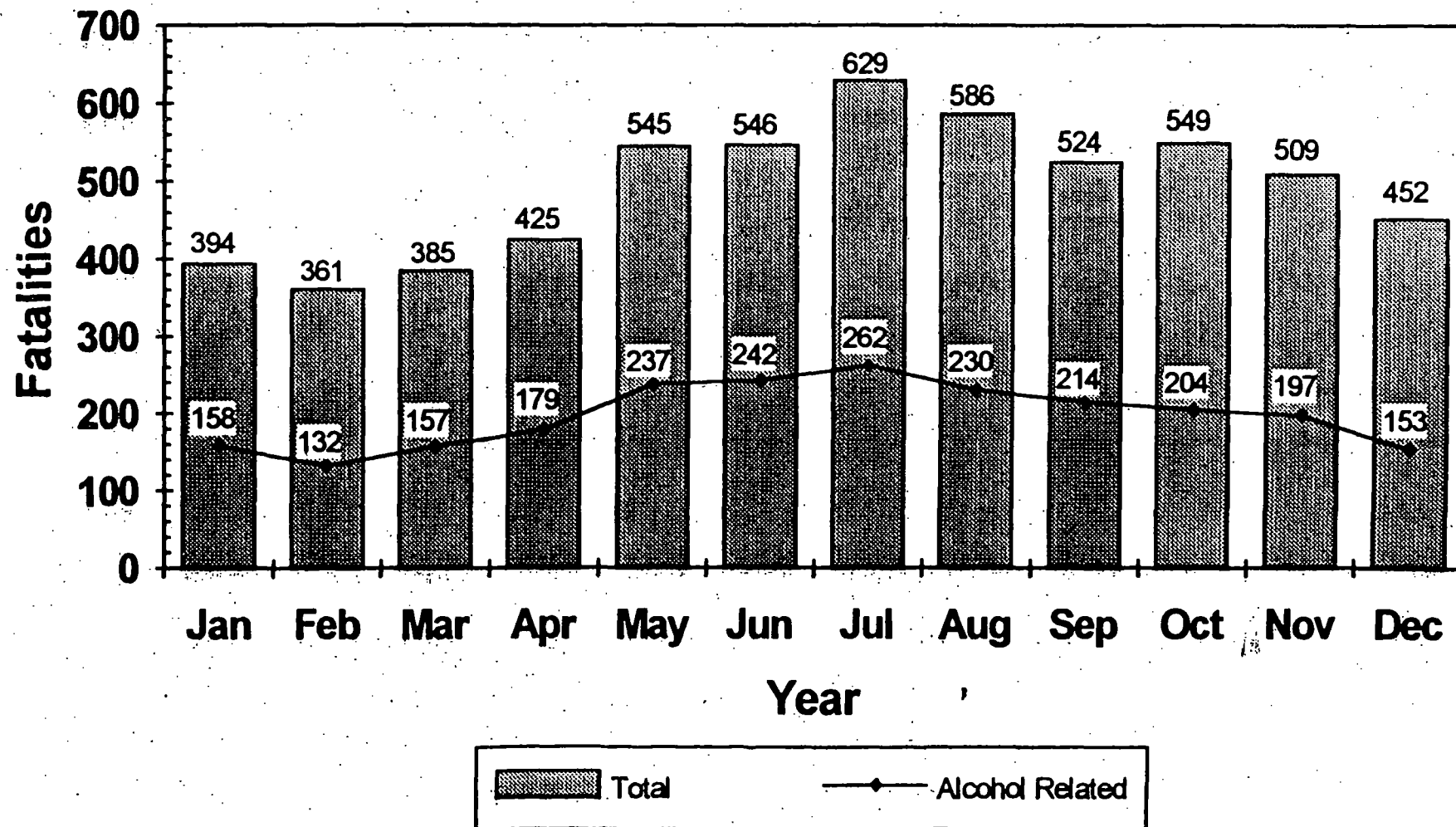
Fatalities by Sex (Ages 15-20)

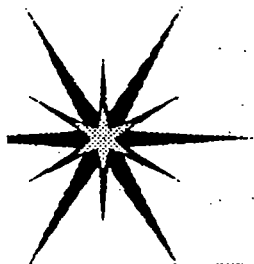
1982 - 1993





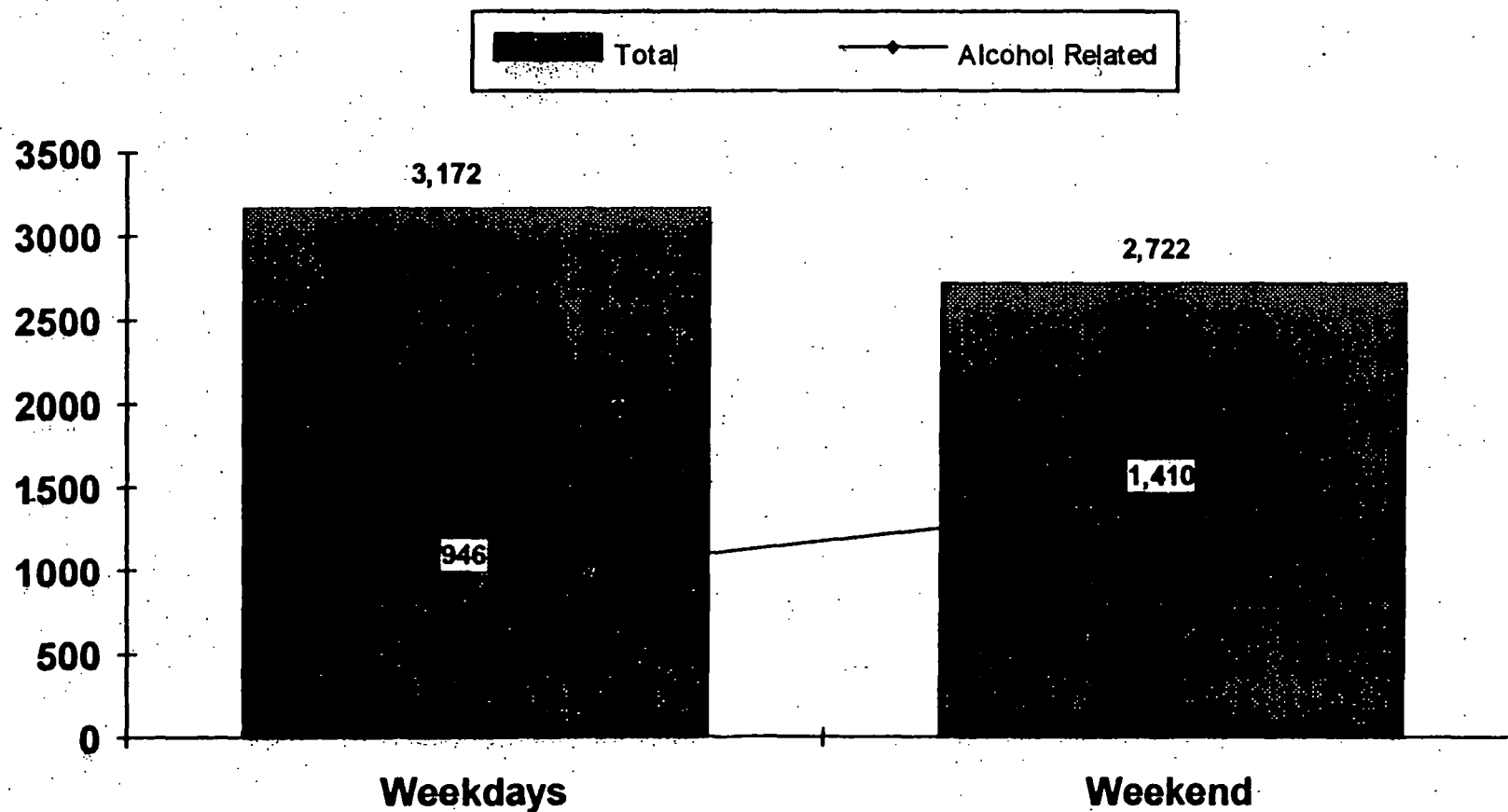
Motor Vehicle Fatalities by Month (Ages 15-20)





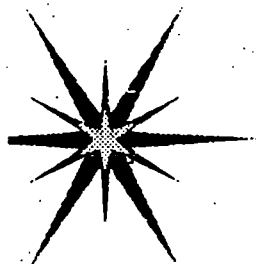
Youth Fatalities (Ages 15-20)

Weekdays vs. Weekend

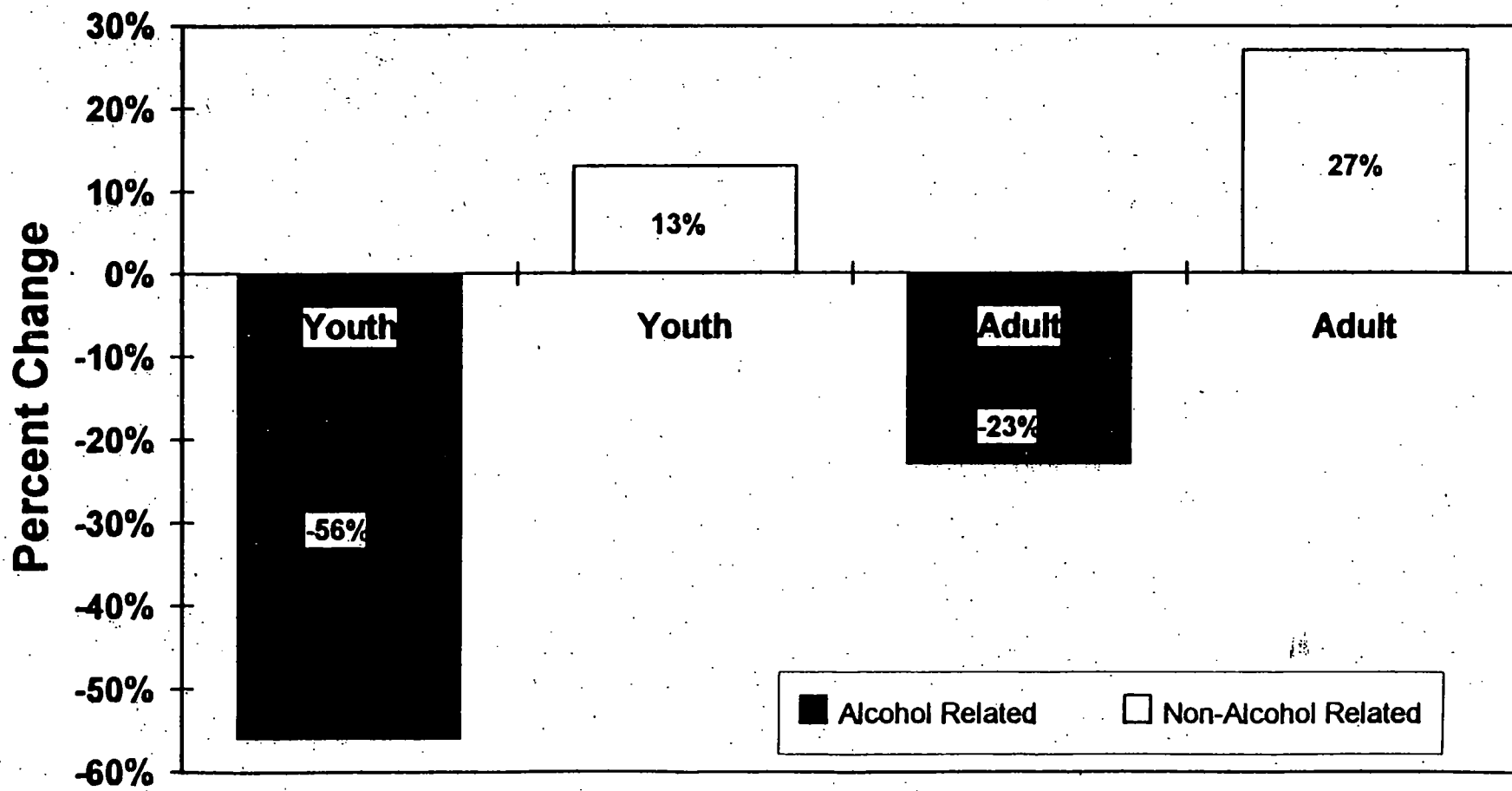


Weekdays = Midnight Sunday-Friday (7:59 p.m.)

Weekend = Friday (8 p.m.) - Sunday (11:59 p.m.)



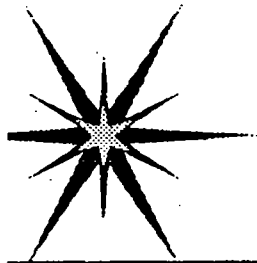
Adult vs. Youth Fatalities 1982 - 1993



YOUTH CRASH FATALITY RATES

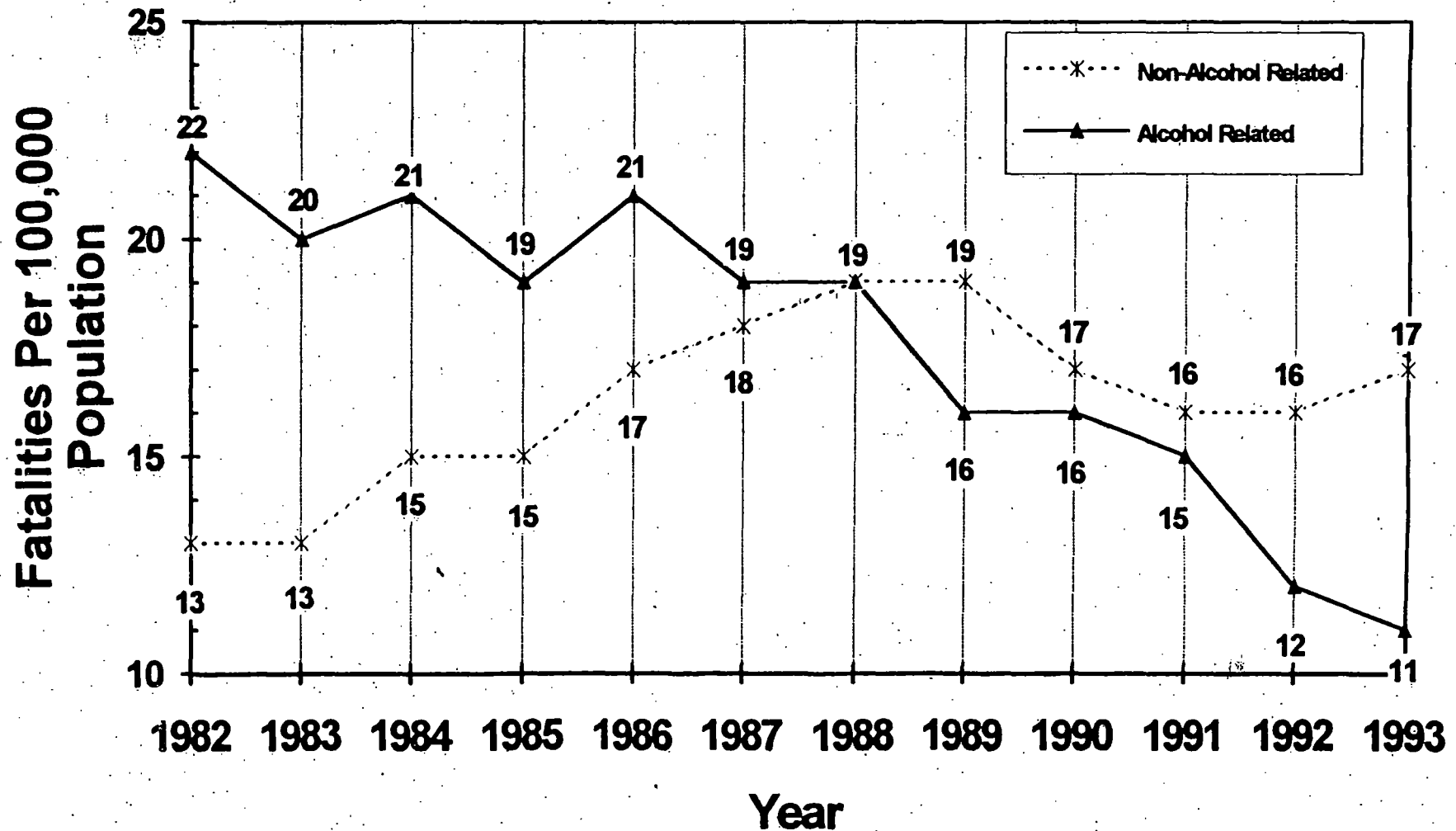
The youth population has declined since 1982, and a reduction in fatalities would be expected. The fatality rate (young people killed per 100,000 of the youth population), provides another perspective on trends that is not dependent on population size. Since 1982, the alcohol-related fatality rate has steadily declined. The non-alcohol-related rate increased until 1988 and then that rate also started to decline only to increase again in 1993. Consequently, the overall fatality rate increased slightly until 1988, and then consistently dropped each year. In 1993 the overall rate remained the same as in 1992.

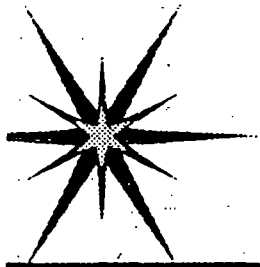
- o The motor vehicle fatality rate for youth in 1993 remains the lowest since 1982 -- 28 deaths per 100,000 youth.
- o The alcohol-related fatality rate for youth has been cut in half since 1982 -- from 22 to 11 deaths per 100,000 youth.
- o Compared to adults, youth are still overrepresented in both alcohol- and non-alcohol related fatality rates. Youth are overrepresented in non-alcohol-related crashes by a factor of almost 2 to 1 (17 to 9). On the alcohol side the gap is closing. There, the overrepresentation is less than 3 to 2 (11 to 8). In 1982, youth were overrepresented in alcohol-related fatality rates by a factor of almost 2 to 1 (22 to 12).
- o The alcohol-related fatality rate for adults has also dropped since 1982, although not as precipitously as for youth. The alcohol-related rate has dropped from 12 to 8 deaths per 100,000.
- o If young people died each year at the 1982 alcohol fatality rate (per 100,000 population), over 11,500 additional youth would have died in alcohol-related crashes during the last eleven years.
- o In the year 2000, with increased population estimates, 770 more young people will die in motor vehicle crashes than in 1993, if the fatality rate remains constant. If the fatality rate reverts back to the 1982 level, an estimated 2,400 more young people will die than in 1993.



Youth Crash Fatality Rate - Ages 15 Through 20

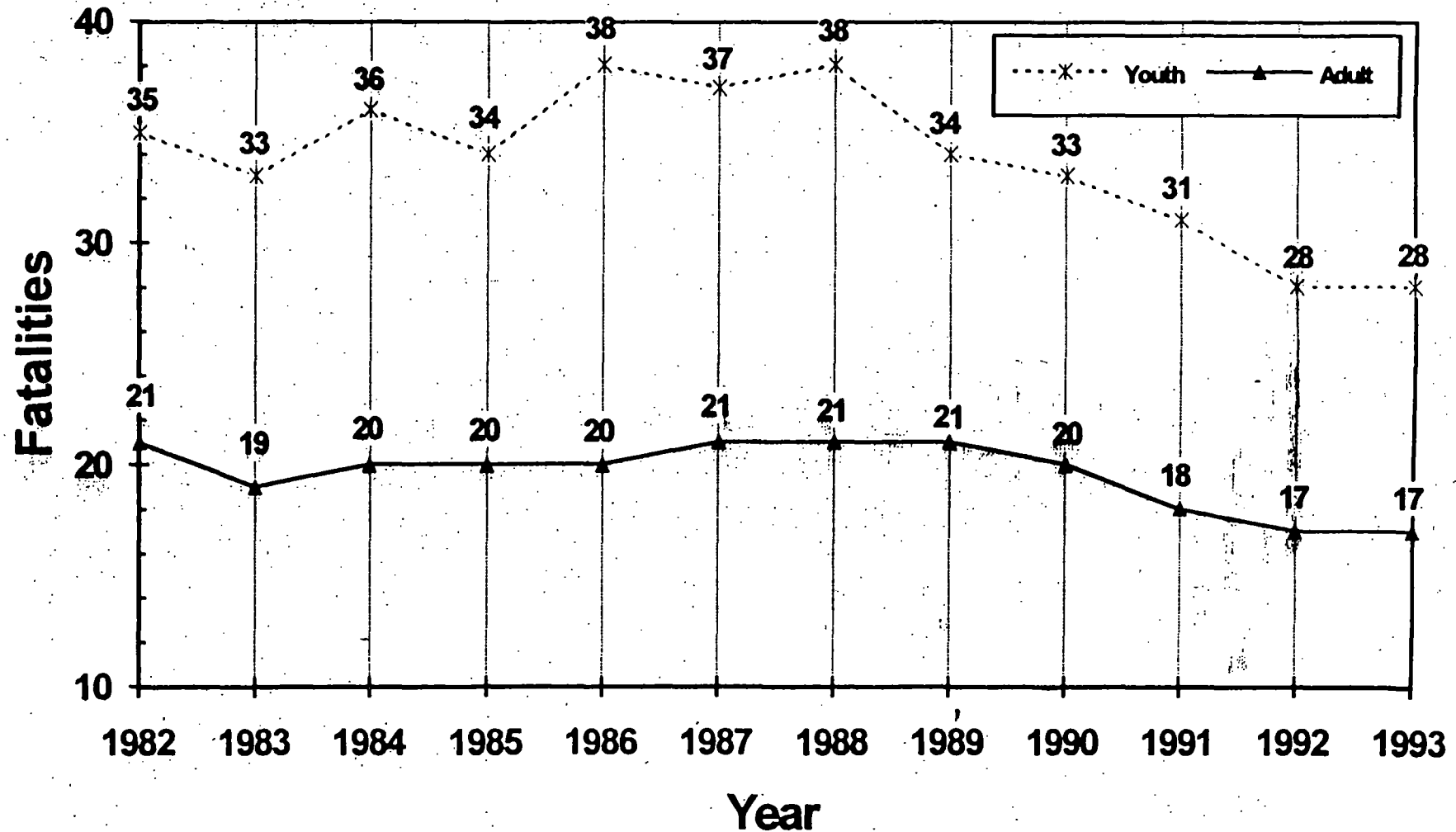
Number of Young People Killed 100,000 Population

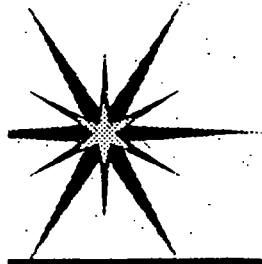




Crash Fatality Rates: Adult vs. Youth

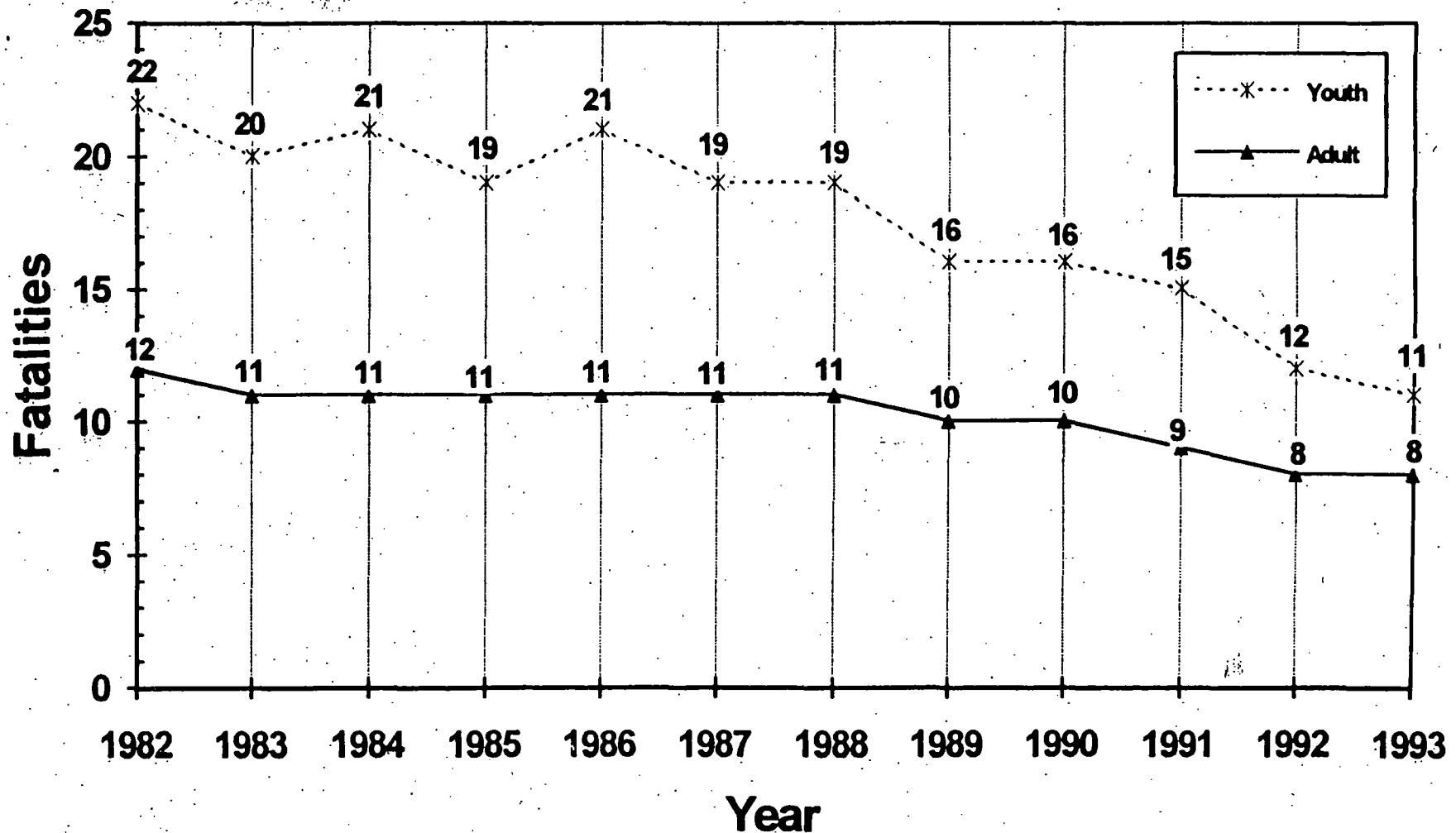
Numbers Killed 100,000 Population





Alcohol - Related Fatality Rates: Adult vs. Youth

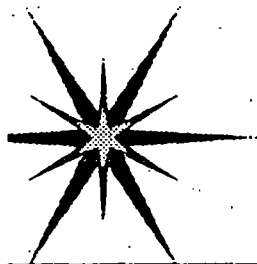
Numbers Killed Per 100,000 Population



ALCOHOL-RELATED PERCENTAGES

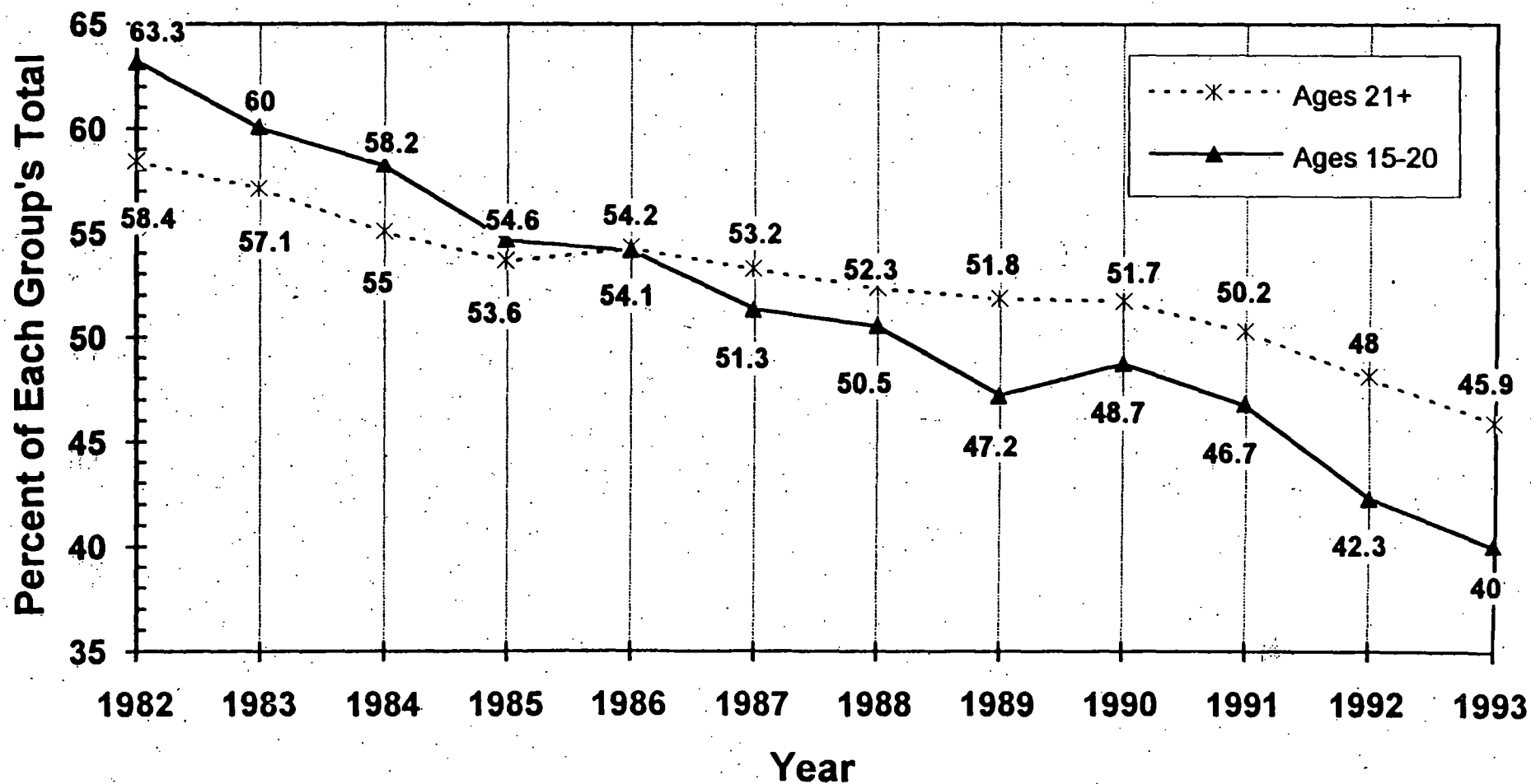
The percentage of youth fatalities that were alcohol-related in 1993 was 40.0. This is the lowest percentage since accurate nationwide data first became available in 1982. By comparison, the percentage of adult fatalities that were alcohol-related was 45.9.

- o The proportion of youth fatalities that were alcohol-related dropped by over 23 percentage points since 1982 (63.3% to 40.0%). This is a decline of about 37 percent in that proportion.
- o Since 1982, the proportion of adult fatalities that were alcohol-related dropped by over 12 percentage points (58.4% to 45.9%), a 21 percent reduction in that proportion.



Youth vs. Adult Motor Vehicle Fatalities

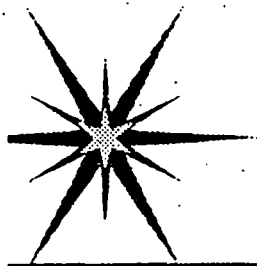
Alcohol-Related Percent of Each Total



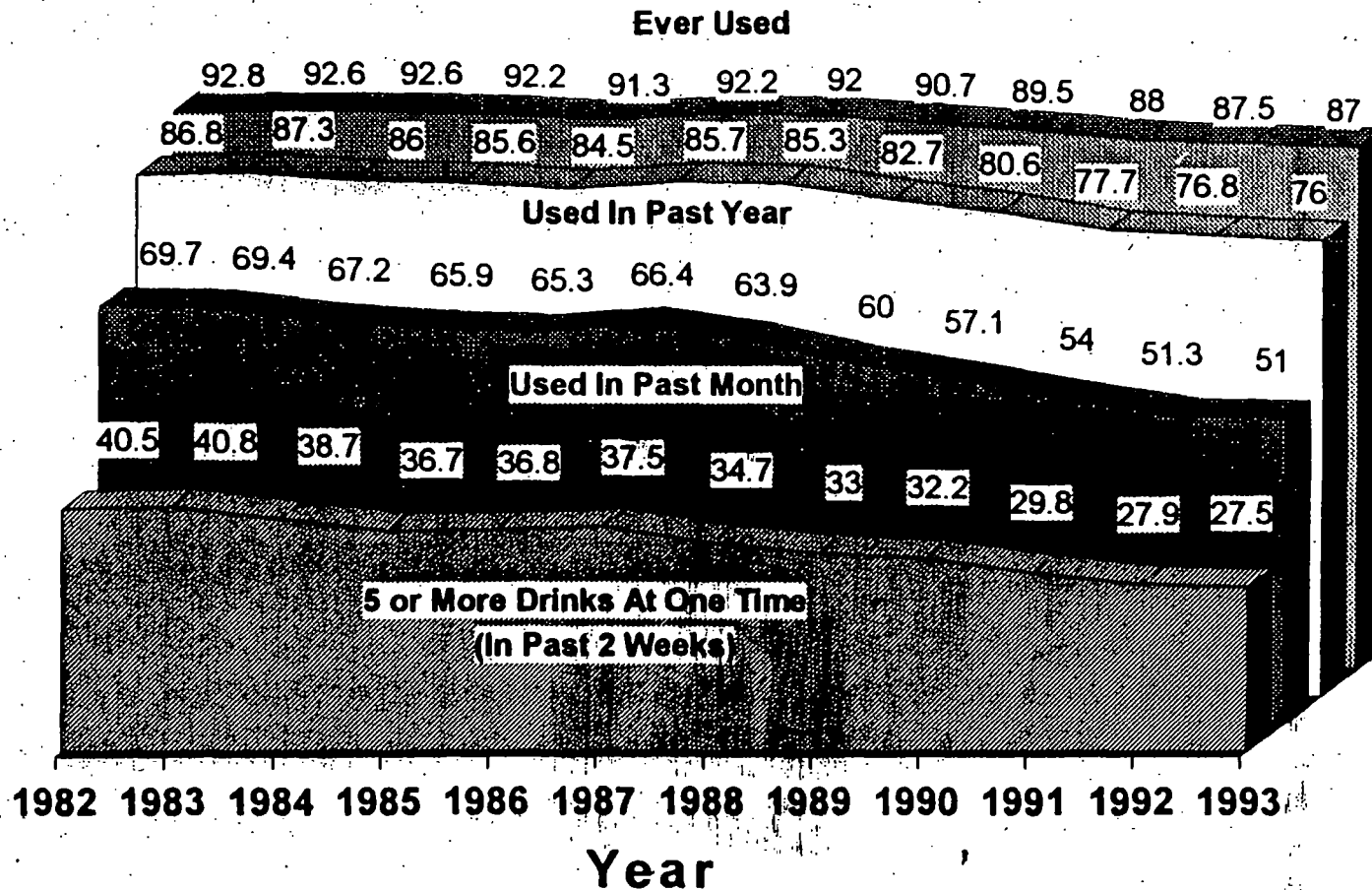
YOUTH ALCOHOL CONSUMPTION

"Monitoring the Future," a yearly survey of approximately 17,000 high school seniors conducted by the University of Michigan and funded by the National Institute on Drug Abuse, has tracked alcohol and other drug use by seniors since 1975. Since 1982, all categories of alcohol use have declined according to the self-report of students. These data correlate with, but do not approach the magnitude of, the declines in youth alcohol-related fatalities.

- o Self-reported alcohol use by high school seniors has declined since 1982. However, declines in self-reported alcohol use were less than declines in alcohol-related fatalities for this age group.
- o The percentage of high school seniors who have acknowledged ever using alcohol, using in the past year, and using in the past month have declined by 6.3%, 12.4% and 26.8% respectively, since 1982.
- o By comparison, the percentage of fatalities that were alcohol-related among those 15 thru 20 years of age declined by almost 37% and the percentage of young drivers involved in fatal crashes that were drinking declined by almost 44% since 1982.
- o Binge drinking remains a serious threat to highway safety by high school seniors. In 1993, 27.5% of seniors acknowledged having five or more drinks in a row during the previous two weeks. Since 1992, the percentage reporting binge drinking has declined by 1.4% and by 32% since 1982.
- o By contrast, the percentage of young drivers involved in fatal crashes who were intoxicated (BAC greater than or equal to 0.10%) declined by almost 8% from 1992 and by over 48% since 1982.



Alcohol Use by High School Seniors

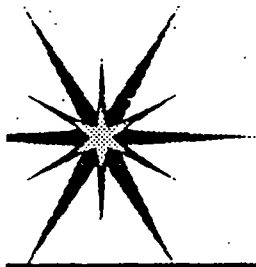


NIDA - "Monitoring the Future"

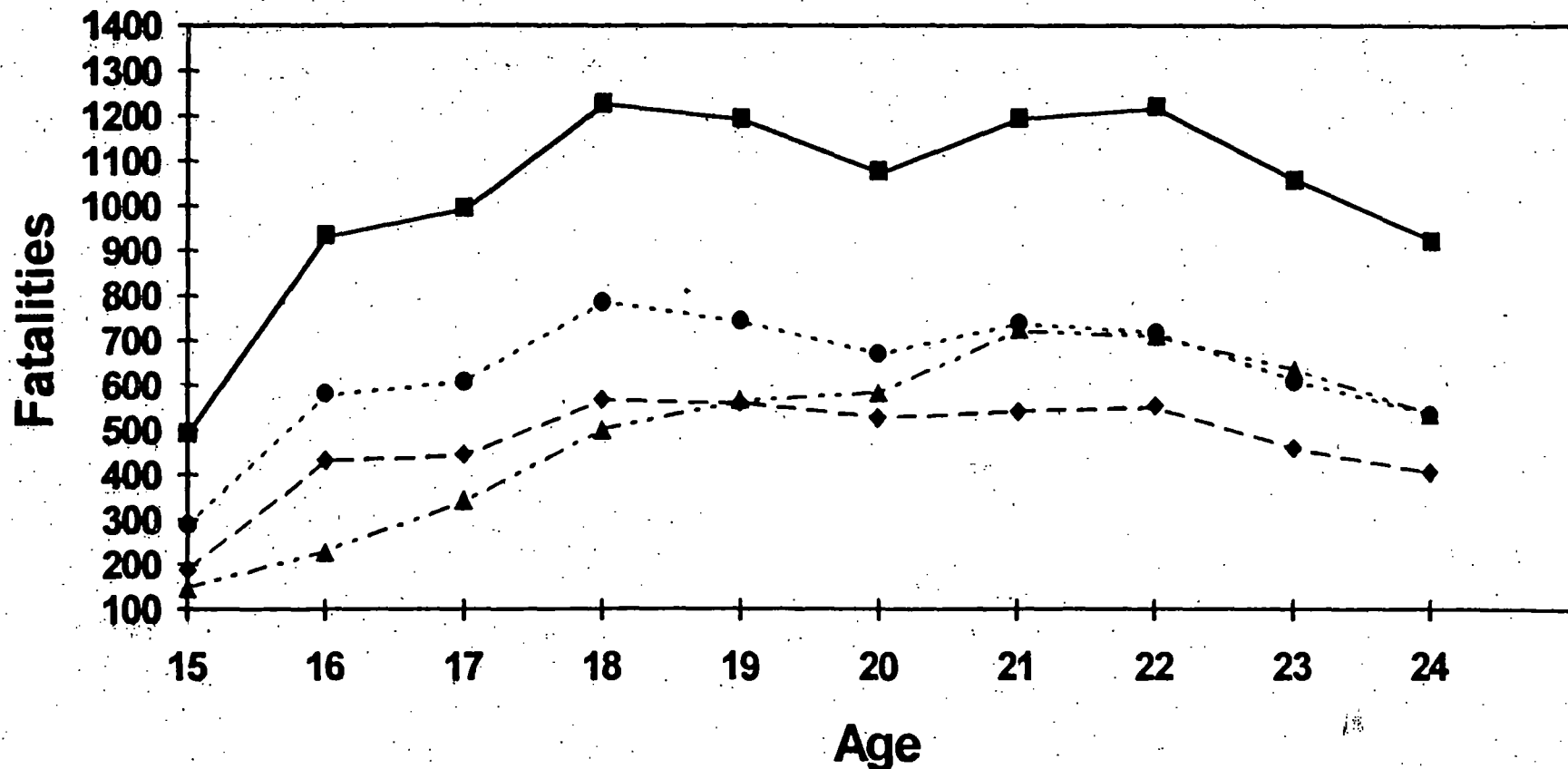
YOUTH FATALITIES BY SPECIFIC AGE

In 1993, more 18 year-olds died in traffic crashes than any other specific age. The next most fatal ages were 22, 21 and 19, respectively. Historically, 18 or 19 year-olds have recorded the most fatalities each year. In 1991 and 1992, the peak year shifted to 21.

- o In 1993, the seven ages with the most fatalities -- 17, 18, 19, 20, 21, 22 and 23 -- represented only 10 percent of the total population. However, they accounted for 20 percent of the total fatalities.
- o In 1993, 21 year-olds recorded the most alcohol-related fatalities, though the number is down from 1992. 18 year-olds recorded the most speed-related fatalities and fatalities where no seat belt was used.
- o Until last year, all specific ages from 16 to 23 had been experiencing a downward trend in motor vehicle fatalities. However, in 1993 fatalities were up in ages 16, 18, 19, 22, and 23 corresponding to the ages of increased fatalities where no seat belt was used. However, alcohol-related fatalities increased only in ages 22 and 23.



1993 Youth Traffic Fatalities by Age



—■— Total - - - ▲ - - - Drinking Driver or Pedestrian ·····●····· No Seat Belt Used - · - · - ◆ - - - Excessive Speed Involved

Youth Fatalities and A/R Fatalities 1982-1993
Ages 15 through 20

	1982	1992	1993	Percent Change	
				82-93	92-93
<u>Youth (15-20) Fatalities</u>					
Total Fatalities	8,508	5,850	5,905	-30.6	0.9
A/R Fatalities	5,380	2,478	2,364	-56.1	-4.6
% of Total	63.3	42.3	40.0	-36.8	-5.4
.01-.09 BAC	1,257	720	698	-44.5	-3.1
% of Total	14.8	12.3	11.8	-20.3	-4.1
.10+ BAC	4,123	1,758	1,666	-59.6	-5.2
% of Total	48.5	30.0	28.2	-41.9	-6.0
<u>Young Drivers Involved in Fatal Accidents</u>					
Total Drivers	10,080	7,403	7,472	-25.9	0.9
A/R Drivers	4,379	1,952	1,810	-58.7	-7.3
% of Total	43.5	26.3	24.3	-44.1	-7.6
.01-.09 BAC	1,287	677	626	-51.4	-7.5
% of Total	12.8	9.1	8.4	-34.4	-7.7
.10+ BAC	3,092	1,275	1,184	-61.7	-7.1
% of Total	30.7	17.2	15.9	-48.2	-7.6
<u>Young Drivers Killed</u>					
Total Drivers	4,526	3,153	3,224	-28.8	2.3
A/R Drivers	2,501	1,105	1,073	-57.1	-2.9
% of Total	55.3	35.0	33.3	-39.8	-4.9
.01-.09 BAC	548	310	300	-45.3	-3.2
% of Total	12.1	9.8	9.3	-23.1	-5.1
.10+ BAC	1,953	795	773	-60.4	-2.8
% of Total	43.2	25.2	24.0	-44.4	-4.8
<u>Youth Fatalities by Alcohol Involvement of Young Drivers</u>					
Total Fatalities	6,723	4,762	4,868	-27.6	2.2
A/R Fatalities	3,753	1,649	1,608	-57.2	-2.5
% of Total	55.8	34.6	33.0	-40.9	-4.6
.01-.09 BAC	990	542	527	-46.8	-2.8
% of Total	14.7	11.4	10.8	-26.5	-5.3
.10+ BAC	2,763	1,107	1,081	-60.9	-2.3
% of Total	41.1	23.2	22.2	-46.0	-4.3

**THE ACCURACY OF BREATH TEST INSTRUMENTS
AT LOW BLOOD ALCOHOL CONCENTRATIONS
(September 1992)**

BACKGROUND

Breath alcohol test instruments were initially developed to measure alcohol in the breath at concentrations that impair the ability to drive safely. When the instruments were first developed, the common BAC limit for driving while intoxicated was high by today's standards -- 0.15 BAC. BAC levels of 0.05 and above were easily measured using the instrumentation available.

As more instruments were manufactured, NHTSA became involved in their evaluation, so that states utilizing Federal funds to purchase equipment would be assured that the instruments met certain minimum specifications governing accuracy and precision. The NHTSA Model Specifications for Evidential Breath Test Instruments (49 FR 48855) call for evaluation of instruments at 0.05, 0.10, and 0.15 BAC, which establishes their accuracy across the present critical BAC range.

Today, the current unlawful alcohol level for the offense of driving while intoxicated in most states is 0.10 BAC (one-tenth of a gram of alcohol per 100 milliliters of blood or, equivalently, per 210 liters of breath). In five states, this level is 0.08 BAC. A number of states also have a lesser offense of driving while impaired at lower BACs (e.g., 0.05 - 0.09), and a few states have "youthful offender" statutes. The BACs at which penalties are assessed for youthful offenders in these states range from any measurable amount of alcohol to 0.06. Further, by Federal statute, commercial vehicle operators are subject to alcohol testing, with thresholds of 0.02 and 0.04 BACs for action against the driver.

RESEARCH

In view of the need to measure low BACs accurately, NHTSA undertook a study to determine if instruments in use were accurate at BACs below those tested for the Model Specifications ("The Accuracy of Evidential Breath Testers at Low BACs", NHTSA Technical Note DOT HS 807 415, May 1989). This study evaluated a representative sampling of breath test models in use by law enforcement. Using normal police procedures without special preparation of the instruments, tests were performed at the following BACs: 0.00, 0.01, 0.02, 0.03, 0.04, and 0.10. All of the devices tested were found to be accurate to within 0.005 BAC when tested at 0.03 BAC or higher, and six of the seven devices tested were found to be that accurate at 0.02 BAC. All of the devices read 0.000 at zero BAC, except for one that consistently read 0.001. It is expected that if calibration tests had been performed on these instruments at lower BACs in addition to the usual 0.10 level, all of the devices tested would have been in conformance with a 0.005 BAC accuracy requirement down to the 0.01 BAC.

CONCLUSION

Police breath test instruments currently in use, if properly calibrated, are accurate to within 0.005 BAC at levels of 0.02 BAC and above.

DISCUSSION

The accuracy of an instrument at a low BAC is sometimes confounded by the possibility of interference in the breath test by substances other than alcohol. The likelihood of this occurring, however, is very low and is limited to volatile organic substances which may appear in the blood at high enough concentrations. Such substances remaining in the mouth after eating or drinking dissipate within the 15-minute waiting period which precedes a police breath test. The potential for interference in the breath test by unusually high levels of acetone in the blood (which may be the case with diabetics or dieters) was shown to be not significant at current high unlawful alcohol levels ("The Likelihood of Acetone Interference in Breath Alcohol Measurement", NHTSA Technical Report DOT HS 806 922, September 1985). However, this may not be the case at low levels (0.00 to 0.04 BAC). It was found that acetone concentrations high enough to cause an erroneous reading as high as 0.01 BAC could occur in the drunk driver populations as often as 3 times in 10,000 cases. Industrial vapors absorbed into the blood of workers constitutes a possible additional source for interference, but of much lesser potential than acetone and for which there is practically no documentation. Due to the method employed to analyze a breath sample for the presence of alcohol, certain instruments are ethanol-specific and are not susceptible to acetone interference. Those that are susceptible are usually equipped with additional detectors that produce error signals when enough acetone is present to cause an error as high as 0.01 BAC. Therefore, the potential for chemical interference in the breath alcohol test at low levels is low. However, it may be somewhat higher than it is at higher alcohol levels.

Since the instruments' sensitivity to substances other than alcohol could produce a reading above 0.00 BAC for some alcohol-free subjects, it is prudent to establish a "cutoff level" to eliminate false positives. A cutoff level of 0.02 BAC will virtually eliminate enforcement action against truly alcohol-free subjects, while only minimally impacting on the zero tolerance posture for under-age drinkers.

UNIFORM VEHICLE CODE
and
MODEL TRAFFIC ORDINANCE



**Revised
1992**

**NATIONAL COMMITTEE
ON
UNIFORM TRAFFIC LAWS AND ORDINANCES**

**405 Church Street
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DRIVERS' LICENSES

§ 6-204—Nonresident Violator Compact

The department may enter and carry out the provisions of the Nonresident Violator Compact. (NEW, 1979; RENUMBERED, 1986.)

§ 6-205—When court to forward license to department and report convictions

(a) Whenever any person is convicted of any offense for which this code makes mandatory the revocation of the license of such person by the department, the court in which such conviction is had shall require the surrender to it of any driver's license then held by the person so convicted and the court shall thereupon forward the same together with a record of such conviction to the department.¹⁵

(b) Every court having jurisdiction over offenses committed under this code, or any other law of this State or municipal ordinance adopted by a local authority regulating the operation of motor vehicles on highways, shall forward to the department within 10 days a record of the conviction of any person in said court for a violation of any said laws other than regulations governing standing or parking, and may recommend the suspension of the driver's license of the person so convicted. The court shall also report to the department any conviction of a person for violating § 16-210, any violation of a person's written promise to appear given to an officer upon issuance of a traffic citation, and any failure to appear in court at the time specified by the court. (REVISED, 1979.)

(c) For purposes of this chapter, the term "conviction" shall mean that the court of original jurisdiction has made an adjudication of guilt. Also, for the purposes of this chapter an unvacated forfeiture of bail or collateral deposited to secure a defendant's appearance in court, a plea of nolo contendere accepted by the court, the payment of a fine, a plea of guilty or a finding of guilt on a traffic violation charge, shall be equivalent to a conviction, regardless of whether the penalty is rebated, suspended or probated. (REVISED, 1975; SECTION RENUMBERED, 1986; SECTION REVISED, 1992.)

§ 6-206—Mandatory revocation of license by department

The department shall forthwith revoke the license of any driver upon receiving a record of such driver's conviction of any of the following offenses:

1. Homicide by vehicle (or manslaughter resulting from the operation of a motor vehicle); (REVISED, 1971.)
2. Driving or being in actual physical control of a motor vehicle while under the influence of alcohol or any drug as prohibited by § 11-902; (REVISED, 1971.)
3. Any felony in the commission of which a motor vehicle is used;
4. Failure to stop, render aid, or identify the driver as required by § 10-102 in the event of a motor vehicle accident resulting in the death or personal injury of another; (REVISED, 1992.)
5. Perjury or the making of a false affidavit or statement under oath to the department under this code or under any other law relating to the ownership or operation of motor vehicles;
6. Unauthorized use of a motor vehicle belonging to another which act does not amount to a felony.¹⁶
7. The unlawful use of a license as prohibited by § 6-301(a). (NEW, 1992; SECTION REVISED, 1968, 1992; SECTION RENUMBERED, 1986, 1992.)

§ 6-207—Revocation of license for refusal to submit to chemical test or having BAC of 0.08 or more¹⁷

(a) Any person who operates a motor vehicle upon the highways of this State shall be deemed to have given consent, subject to the provisions of § 11-903, to a test or tests of such operator's blood, breath, or urine for the purpose of determining operator's alcohol concentration or the presence of other drugs. The test or tests shall be administered at the direction of a law enforcement officer who has probable cause to believe the person has been violating § 11-902 (a), and one of the following conditions exists:

1. The person has been arrested for violating § 11-902 (a) or any other offense alleged to have been committed while the person was violating § 11-902 (a);
2. The person has been involved in an accident;
3. The person has refused to submit to the preliminary screening test authorized by § 6-209; or
4. The person has submitted to the preliminary screening test authorized by § 6-209 which disclosed an alcohol concentration of 0.08 or more.

The law enforcement agency by which such officer is employed shall designate which of the aforesaid tests shall be

¹⁵This paragraph is desirable as a means to carry out mandatory revocation as hereinafter provided.

¹⁶Where the offenses above enumerated are defined in the traffic and motor vehicle laws or criminal code of the state, it would be sufficient in the above section to refer by number to the pertinent sections of those laws or code without specifically describing such offenses in the above section.

¹⁷Generally known as the "implied consent law." A state contemplating the enactment of this section should refer also to §§ 11-902; 11-903; 6-209; 6-210; 6-212; 6-214; 6-215; and 1-167.

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administered. (REVISED, 1984.)

(b) Any person who is dead, unconscious or who is otherwise in a condition rendering one incapable of refusal, shall be deemed not to have withdrawn the consent provided by paragraph (a) of this section and the test or tests may be administered, subject to the provisions of § 11-903. (REVISED, 1971.)

(c) A person requested to submit to a test as provided above shall be warned by the law enforcement officer requesting the test that a refusal to submit to the test will result in revocation of such person's license to operate a motor vehicle for (six months) (one year). Following this warning, if a person under arrest refuses upon the request of a law enforcement officer to submit to a test designated by the law enforcement agency as provided in paragraph (a) of this section, none shall be given. (REVISED, 1984.)

(d) If the person refuses testing or submits to a test which discloses an alcohol concentration of 0.08 or more under this section, the law enforcement officer shall submit a sworn report to the department, certifying that the test was requested pursuant to subsection (a) and that the person refused to submit to testing or submitted to a test which disclosed an alcohol concentration of 0.08 or more. (NEW, 1984.)

(e) Upon receipt of the sworn report of a law enforcement officer submitted under subsection (d), the department shall revoke the driver's license of the person for the periods specified in § 6-214. (NEW, 1984.)

(f) On behalf of the department, the law enforcement officer submitting the sworn report under subsection (d) shall serve immediate notice of the revocation on the person, and the revocation shall be effective (7) (10) (15) days after the date of service. If the person has a valid license, the officer shall take the driver's license of the person, and issue a temporary license valid for the notice period. The officer shall send the license to the department along with the sworn report under subsection (d). (NEW, 1984.)

In cases where no notice has been served by the law enforcement officer, the department shall give notice as provided in § 2-314 and the revocation shall be effective (7) (10) (15) days after the date of service. If the address shown in the law enforcement officer's report differs from that shown on the department records, the notice shall be mailed to both addresses. (NEW, 1984; SECTION RENUMBERED, 1986.)

§ 6-208—Revocation of license for refusal to submit to chemical test or having BAC of any measurable and detectable amount for person under age (21)

(a) The phrase "any measurable and detectable amount of alcohol" shall be defined as the alcohol concentration in a person's blood or breath which is 0.02 or more based on the definition of blood and breath units as defined in § 11-903 (a)(5).

(b) Any person under age (21) who drives or is in actual physical control of any vehicle upon the highways of this State shall be deemed to have given consent, subject to the provisions of § 11-903, to a test or tests of such person's blood, breath, or urine for the purpose of determining such person's alcohol concentration or the presence of other drugs. The test or tests shall be administered at the direction of a law enforcement officer who has probable cause to believe the person has been violating § 11-902 (a), and one of the following conditions exists:

1. The person under age (21) has been arrested for violating § 11-902 (a) or any other offense alleged to have been committed while the person was violating § 11-902 (a);
2. The person under age (21) has been involved in an accident;
3. The person under age (21) has refused to submit to the preliminary screening test authorized by § 6-209; or
4. The person under age (21) has submitted to the preliminary screening test authorized by § 6-209; which disclosed an alcohol concentration of any measurable and detectable amount.

The law enforcement agency by which such officer is employed shall designate which of the aforesaid tests shall be administered.

(c) Any person under age (21) who is dead, unconscious or who is otherwise in a condition rendering such person incapable of refusal, shall be deemed not to have withdrawn the consent provided by paragraph (b) of this section and the test or tests may be administered, subject to the provisions of § 11-903.

(d) A person under age (21) requested to submit to a test as provided above shall be warned by the law enforcement officer requesting the test that a refusal to submit to the test will result in revocation of such person's license to operate a vehicle for (six months) (one year). Following this warning, if a person under arrest refuses upon the request of a law enforcement officer to submit to a test designated by the law enforcement agency as provided in paragraph (b) of this section, none shall be given.

(e) If the person under the age (21) refuses testing or submits to a test which discloses an alcohol concentration of any measurable and detectable amount under this section, the law enforcement officer shall submit a sworn report to the department, certifying that the test was requested pursuant to subsection (b) and that the person refused to submit to testing or submitted to a test which disclosed an alcohol concentration of any measurable and detectable amount.

(f) Upon receipt of the sworn report of a law enforcement officer submitted under subsection (e), the department shall revoke the driver's license of the person for the periods specified in § 6-214.

(g) On behalf of the department, the law enforcement officer submitting the sworn report under subsection (e) shall serve

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immediate notice of the revocation on the person, and the revocation shall be effective (7) (10) (15) days after the date of service. If the person has a valid license, the officer shall take the driver's license of the person, and issue a temporary license valid for the notice period. The officer shall send the license to the department along with the sworn report under subsection (e).

In cases where no notice has been served by the law enforcement officer, the department shall give notice as provided in § 2-314 and the revocation shall be effective (7) (10) (15) days after the date of service. If the address shown in the law enforcement officer's report differs from that shown on the department records, the notice shall be mailed to both addresses. (NEW, 1992).

§ 6-209—Preliminary breath test

When a law enforcement officer has articulable grounds to suspect that a person may have been violating § 11-902(a), the officer may request the suspect to submit to a preliminary screening test of suspect's breath to determine such person's alcohol concentration using a device approved by the (State Department of Health) for that purpose. In addition to this test, or upon a refusal to submit to testing, the officer may require further testing under § 6-207. (NEW, 1984; RENUMBERED, 1986; REVISED AND RENUMBERED, 1992.)

§ 6-210—Chemical test of drivers in serious personal injury or fatal crashes

Notwithstanding the provisions of § 6-207, when the driver of a vehicle is involved in an accident resulting in death or serious personal injury of another person, and there is reason to believe that the driver is guilty of a violation of § 11-902(a), the driver may be compelled by a police officer to submit to a test or tests of driver's blood, breath, or urine to determine the alcohol concentration or the presence of other drugs. (NEW, 1984; RENUMBERED, 1986; REVISED AND RENUMBERED, 1992.)

§ 6-211—Authority of department to suspend or revoke license

(a) The department is hereby authorized to suspend the license of a driver upon a showing by its records or other sufficient evidence that the licensee: (REVISED, 1975.)

1. Has committed an offense for which mandatory revocation of license is required upon conviction;
2. Has been convicted with such frequency of serious offenses against traffic regulations governing the movement of vehicles as to indicate a disrespect for traffic laws and a disregard for the safety of other persons on the highways;
3. Is an habitually reckless or negligent driver of a motor vehicle, such fact being established by the point system in subsection (b), by a record of accidents, or by other evidence;
4. Is incompetent to drive a motor vehicle;
5. Has permitted an unlawful or fraudulent use of such license;
6. Has violated driver's written promise to appear given to an officer upon the issuance of a traffic citation in this or any other state or has failed to appear in court in this or any other state at the time specified by the court; (NEW, 1971; REVISED, 1979, 1992.)
7. Has been convicted of fleeing or attempting to elude a police officer; or
8. Has been convicted of racing on the highways. (REVISED, 1968.)
9. Has failed to comply with the compulsory insurance or financial responsibility requirements of chapter 7, where license suspension is specifically authorized under that chapter. (NEW, 1992.)

(b) For the purpose of identifying habitually reckless or negligent drivers and habitual or frequent violators of traffic regulations governing the movement of vehicles, the department shall adopt regulations establishing a uniform system assigning demerit points for convictions of violations of chapter 11 of this code or of ordinances adopted by local authorities regulating the operation of motor vehicles. The regulations shall include a designated level of point accumulation which so identifies drivers.¹⁸ The department may assess points for convictions in other states of offenses which, if committed in this State, would be grounds for such assessment. Notice of each assessment of points may be given, but notice is required when the point accumulation reaches _____ percent of the number at which suspension is authorized.¹⁹ No points shall be assessed for

¹⁸In formulating the administrative point system authorized by this section, each department is urged to consider, in the interest of interstate uniformity, authorizing suspension for an accumulation of 12 or more points as a result of offenses committed during any consecutive 12-month period or 18 or more points as a result of offenses committed during any 24-month period; assigning six points for convictions of reckless driving (willful and wanton disregard for the safety of persons or property, as in § 11-901) and for convictions of speeding when the licensee drove at least 20 miles per hour over the lawful limit; four points for convictions of relatively serious offenses; and three points for less serious offenses.

¹⁹It is suggested that a percentage low enough to give the driver opportunity to protest any erroneous entry and to improve such person's driving habits prior to any suspension be specified. Fifty percent might be appropriate. (REVISED, 1992.)

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violating a provision of this code or municipal ordinance regulating standing, parking, equipment, size or weight.²⁰ In case the conviction of a licensee of two or more traffic violations committed on a single occasion, such licensee shall be assessed points for one offense only and if the offenses involved have different point values, such licensee shall be assessed for the offense having the greater point value. The department is authorized to suspend the license of a driver when such person's driving record identifies driver as an habitually reckless or negligent driver or as an habitual or frequent violator under this subsection. The department may, in accordance with its rules and regulations, order the licensee to attend a group or private driver improvement interview regarding such person's driving ability and record. (REVISED, 1975 & 1979; SECTION RENUMBERED 1986; REVISED AND RENUMBERED, 1992.)

§ 6-212—Opportunity for hearing required

(a) A suspension or revocation of a license under §§ 6-114, 6-211, or 10-109 shall not become effective until the person is notified in writing and given an opportunity for a hearing. (REVISED, 1984.)

1. The hearing shall be held within 20 days after receipt of a request for a hearing in the county where the alleged offense occurred unless the department and the licensee agree to a hearing in some other county. A record of all hearings shall be made. (REVISED, 1984, REVISED AND RENUMBERED, 1992.)

2. Upon such hearing, the department shall rescind its order of revocation or suspension or, good cause appearing therefor, may modify or reaffirm its order. (RENUMBERED, 1992.)

(b) A revocation of license under Section 6-207 shall become effective (7) (10) (15) days after the date of service of the notice of revocation. (NEW, 1984)

1. At any time prior to the hearing provided in subsection (b)2, the person may request in writing an administrative review of the order of revocation. Upon receiving the request the department shall review the order, the evidence upon which it is based, including whether the person was driving or in actual physical control of a motor vehicle, and any other material information brought to the attention of the department, and determine whether sufficient cause exists to sustain the order. Within 15 days of receiving the request, the department shall report in writing the results of the review. The availability of the administrative review of the order shall have no effect upon the availability of judicial review as provided in § 6-219. (NEW, 1984; REVISED AND RENUMBERED, 1992.)

2. Any person whose license is revoked under § 6-207 may request a hearing in writing. The request shall state the grounds upon which the person seeks to have the revocation rescinded. The filing of the request shall not stay the revocation. The hearing shall be held within 20 days after filing of the request in the county in which the alleged offense occurred, unless the person and the department agree to a different location. The hearing shall be recorded, and be conducted by the department's designated agent. The hearing may be conducted upon a review of the law enforcement officer's own reports; provided, however, that the person may subpoena the officer. The department may issue subpoenas to compel the attendance of witnesses.

The scope of the hearing shall be limited to the issues of:

- (1) Whether the law enforcement officer requested the test pursuant to § 6-207;
- (2) Whether the person was warned as required by § 6-207(c);
- (3) Whether the person was driving or in actual physical control of a motor vehicle;
- (4) Whether the person refused to submit to the testing as provided in § 6-207; or
- (5) Whether a properly administered test or tests disclosed an alcohol concentration of 0.08 or more. (NEW, 1984; SECTION REVISED AND RENUMBERED, 1992.)

§ 6-213—Department may require reexamination

(a) The department, having good cause to believe that a licensed driver is incompetent or otherwise not qualified to be licensed, may upon written notice of at least five days to the licensee require such person to submit to an examination. Upon the conclusion of such examination, the department shall take action as may be appropriate and may suspend or revoke the license of such person or permit such person to retain such license, or may issue a license subject to restrictions as permitted under § 6-114 or restrictions as to the type or class of vehicles that may be driven. Refusal or neglect of the licensee to submit to such examination shall be ground for suspension or revocation of such person's license. (RELETTERED, 1975; REVISED, 1992.)

(b) The department shall reexamine any person when requested to do so by a court. Upon the conclusion of such examination, the department may take any of the actions described in subsection (a) and shall report its findings and action to the court if such report is requested. (NEW, 1975; SECTION RENUMBERED, 1986 AND 1992.)

§ 6-214—Period of revocation

(a) Unless the revocation was for a cause which has been removed, any person whose license or privilege to drive a motor

²⁰In addition, it is suggested that no points be assessed for violations by pedestrians, passengers or bicycle riders, or for violations of provisions relating to the preservation of the condition of traffic-control devices or the highway.

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vehicle on the public highways has been revoked shall not be eligible to apply for a new license nor restoration of such person's nonresident operating privilege until the expiration of:

1. (Six months) (One year) from the date on which the revoked license was surrendered to and received by the department or from such other date as shall be determined by the department in cases of revocation for refusal to submit to a chemical test under the provisions of § 6-207. (REVISED, 1984.)
2. (Three months) (Six months) from the date on which the revoked license was surrendered to and received by the department or from such other date as shall be determined by the department in cases of revocation for submitting to a test disclosing an alcohol concentration of 0.08 or more under the provisions of § 6-207. (NEW, 1984.)
3. One year from the date on which the license was surrendered to a court under § 6-205. (RENUMBERED, 1984.)
4. One year from the date on which the revoked license was surrendered to and received by the department. (RENUMBERED, 1984.)
5. Or, in all other revocation cases, one year commencing on a date determined by the department. (RENUMBERED, 1984.)

(b) Following a license revocation under §§ 6-206(2) or 6-207, the department shall not issue a new license or otherwise restore the driving privilege unless and until the person presents evidence satisfactory to the department that it will be reasonably safe to permit the person to drive a motor vehicle upon the highways. No driving privilege may be restored until all applicable reinstatement fees have been paid. (NEW, 1984.)

(c) Except for revocations under §§ 6-206(2) and 6-207, the department shall not issue a new license nor restore a person's revoked nonresident operating privilege unless and until it is satisfied after investigation of the character, habits and driving ability of such person that it will be safe to grant the privilege of driving a motor vehicle on the highways. (REVISED, 1968, 1984.)

(d) Where a license or driving privilege has been revoked under § 6-207 and the person is also convicted on criminal charges arising out of the same event for a violation of an offense under § 11-902(a), and a revocation has been imposed under § 6-206(2), both revocations shall be imposed but the total period of revocation shall not exceed the longer of the two revocation periods. (NEW, 1984; SECTION RENUMBERED, 1986 AND 1992.)

§ 6-215—Limited license

Notwithstanding §§ 6-214 and 6-303, following a license revocation under §§ 6-206(2) or 6-207, the department may issue after 30 days a limited license to the driver if no prior limited license has been issued within the preceding 12 months and there have been no other such prior revocations. The department in issuing a limited license may impose the conditions and limitations which in its judgment are necessary to the interests of the public safety and welfare. The license may be limited to the operation of particular vehicles and to particular classes and time of operation. The limited license issued by the department shall clearly indicate the limitations imposed and the driver operating under a limited license shall have the license in driver's possession at all times when operating as a driver. (NEW, 1984; SECTION RENUMBERED, 1986; REVISED AND RENUMBERED, 1992.)

§ 6-216—Period of suspension

(a) The department shall not suspend a driver's license or privilege to drive a motor vehicle on the public highways for a period of more than one year, except as permitted under § 6-303 or under chapter 7. (REPOSITIONED, 1968; REVISED, 1992.)

(b) At the end of the period of suspension a license surrendered to the department under § 6-217 shall be returned to the licensee. (NEW, 1968; SECTION RENUMBERED, 1986 AND 1992.)

§ 6-217—Surrender and return of license; duty of officers

(a) The department upon canceling, suspending or revoking a license shall require that such license shall be surrendered to and be retained by the department. (REVISED AND REPOSITIONED, 1968.)

(b) Any person whose license has been canceled, suspended or revoked shall immediately return the license to the department. (NEW, 1968; REVISED, 1992.)

(c) A law enforcement officer who in the course of duty encounters any canceled, suspended, or revoked drivers license shall seize and return such license to the department immediately. (SECTION RENUMBERED, 1986; REVISED AND RENUMBERED, 1992.)

§ 6-218—No operation under foreign license during suspension or revocation in this State

Any resident or nonresident whose driver's license or privilege to operate a motor vehicle in this State has been suspended or revoked as provided in this code shall not operate a motor vehicle in this State under a license or permit issued by any other jurisdiction or otherwise during such suspension or after such revocation until a new license is obtained when and as permitted under this chapter. (REVISED AND RENUMBERED, 1968, 1986, AND 1992.)

(b) No person shall drive a vehicle over any bridge or other elevated structure constituting a part of a highway at a speed which is greater than the maximum speed which can be maintained with safety to such bridge or structure, when such structure is signposted as provided in this section.

(c) The (State highway commission) and local authorities on highways under their respective jurisdictions may conduct an investigation of any bridge or other elevated structure constituting a part of a highway, and if it shall thereupon find that such structure cannot with safety to itself withstand vehicles traveling at the speed otherwise permissible under this chapter, the (commission) or local authority shall determine and declare the maximum speed of vehicles which such structure can safely withstand, and shall cause or permit suitable signs stating such maximum speed to be erected and maintained before each end of such structure. (REVISED, 1971.)

(d) Upon the trial of any person charged with a violation of this section, proof of said determination of the maximum speed by said (commission) and the existence of said signs shall constitute conclusive evidence of the maximum speed which can be maintained with safety to such bridge or structure. (SECTION RENUMBERED, 1986.)

§ 11-808—Charging violations and rule in civil actions

(a) In every charge of violation of any speed regulation in this article the complaint, also the summons or notice to appear, shall specify the speed at which the defendant is alleged to have driven, also the maximum speed applicable within the district or at the location.

(b) The provision of this article declaring maximum speed limitations shall not be construed to relieve the plaintiff in any action from the burden of proving negligence on the part of the defendant as the proximate cause of an accident. (SECTION REVISED, 1956; RENUMBERED, 1986.)

§ 11-809—Racing on highways

(a) No person shall drive any vehicle in any race, speed competition or contest, drag race or acceleration contest, test of physical endurance, exhibition of speed or acceleration, or for the purpose of making a speed record, and no person shall in any manner participate in any such race, competition, contest, test, or exhibition.

(b) Drag race is defined as the operation of two or more vehicles from a point side by side at accelerating speeds in a competitive attempt to outdistance each other, or the operation of one or more vehicles over a common selected course, from the same point to the same point, for the purpose of comparing the relative speeds or power of acceleration of such vehicle or vehicles within a certain distance or time limit.

(c) Racing is defined as the use of one or more vehicles in an attempt to outgain, outdistance, or prevent another vehicle from passing, to arrive at a given destination ahead of another vehicle or vehicles, or to test the physical stamina or endurance of drivers over long distance driving routes.

(d) Any person convicted of violating this section shall be punished as provided in § 17-101(b). (NEW SECTION, 1968; RENUMBERED, 1986.)

ARTICLE IX—SERIOUS TRAFFIC OFFENSES⁸

§ 11-901—Reckless driving

(a) Any person who drives any vehicle in willful or wanton disregard for the safety of persons or property is guilty of reckless driving.

(b) Every person convicted of reckless driving shall be punished upon a first conviction by imprisonment for a period of not less than five days nor more than 90 days, or by a fine of not less than \$25 nor more than (\$500), or by both such fine and imprisonment, and on a second or subsequent conviction shall be punished by imprisonment for not less than 10 days nor more than six months, or by a fine of not less than \$50 nor more than (\$500) or by both such fine and imprisonment. (REVISED, 1971.)

§ 11-902—Driving while under the influence of alcohol or drugs⁹

(a) A person shall not drive or be in actual physical control of any vehicle while:

1. The alcohol concentration in such person's blood or breath is 0.08 or more based on the definition of blood and breath units in § 11-903(a)(5); (NEW, 1971; REVISED, 1979, 1984, 1992.)

OPTIONAL 1. The alcohol concentration in such person's blood or breath as measured within three hours of the time of

⁸This article covers what are generally regarded as relatively serious offenses carrying significantly higher penalties. All sections in this article apply on and off the highways under § 11-101.

⁹Drafters should cross-reference this Section with § 6-520.

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driving or being in the actual physical control is 0.08 or more based on the definition of blood and breath units in § 11-903. If proven by a preponderance of evidence, it shall be an affirmative defense to a violation of this subsection that the defendant consumed a sufficient quantity of alcohol after the time of driving or actual physical control of a vehicle and before the administration of the evidentiary test to cause the defendant's alcohol concentration to be 0.08 or more. The foregoing provision shall not limit the introduction of any other competent evidence bearing upon the question whether or not the person violated this section, including tests obtained more than three hours after such alleged violation. (NEW, 1992.)

2. Under the influence of alcohol; (REVISED, 1971.)

3. Under the influence of any other drug or combination of other drugs to a degree which renders such person incapable of safely driving; or (FORMERLY § 11-902.1; REVISED, 1971, 1979, 1984, 1992.)

4. Under the combined influence of alcohol and any other drug or drugs to a degree which renders such person incapable of safely driving. (NEW, 1971; REVISED, 1979, 1984, 1992.)

(b) The fact that any person charged with violating this section is or has been legally entitled to use alcohol or other drug shall not constitute a defense against any charge of violating this section. (FORMERLY § 11-902.1; REVISED, 1971, 1984.)

(c) In addition to the provisions of § 11-904, every person convicted of violating this section shall be punished by imprisonment for not less than 10 days or more than one year, or by fine of not less than \$100 nor more than \$1,000, or by both such fine and imprisonment and on a second or subsequent conviction, such person shall be punished by imprisonment for not less than 90 days nor more than one year, and, in the discretion of the court, a fine of not more than \$1,000. (FORMERLY § 11-902.2; REVISED, 1971, 1984, & 1992.)

§ 11-903—Chemical and other tests

(a) Upon the trial of any civil or criminal action or proceeding arising out of acts alleged to have been committed by any person while driving or in actual physical control of a vehicle while under the influence of alcohol or other drugs, evidence of the concentration of alcohol or other drugs in a person's blood or breath at the time alleged, as determined by analysis of the person's blood, urine, breath or other bodily substance, shall be admissible. Where such a test is made the following provisions shall apply: (NEW, 1971; REVISED, 1979, 1984.)

1. Chemical analyses of the person's blood, urine, breath, or other bodily substance to be considered valid under the provisions of this section shall have been performed according to methods approved by the (State department of health) and by an individual possessing a valid permit issued by the (State department of health) for this purpose. The (State department of health) is authorized to approve satisfactory techniques or methods, to ascertain the qualifications and competence of individuals to conduct such analyses, and to issue permits which shall be subject to termination or revocation at the discretion of the (State department of health). (FORMERLY § 11-902(c).)

2. When a person shall submit to a blood test at the request of a law enforcement officer under the provisions of § 6-207 or § 6-210, only a physician or a registered nurse (or other qualified person) may withdraw blood for the purpose of determining the alcoholic or other drug content therein. This limitation shall not apply to the taking of breath or urine specimens. (FORMERLY § 11-902(d).)

3. The person tested may have a physician, or a qualified technician, chemist, registered nurse, or other qualified person of such person's own choosing administer a chemical test or tests in addition to any administered at the direction of a law enforcement officer. The failure or inability to obtain an additional test by a person shall not preclude the admission of evidence relating to the test or tests taken at the direction of a law enforcement officer. (FORMERLY § 11-902(e); REVISED, 1992.)

4. Upon the request of the person who shall submit to a chemical test or tests at the request of a law enforcement officer, full information concerning the test or tests shall be made available to the person or such person's attorney. (FORMERLY § 11-902(f); REVISED, 1992.)

5. Alcohol concentration shall mean either grams of alcohol per 100 milliliters of blood or grams of alcohol per 210 liters of breath. (FORMERLY § 11-902(b)(4); REVISED, 1979.)

(b) Upon the trial of any civil or criminal action or proceeding arising out of acts alleged to have been committed by any person while driving or in actual physical control of a vehicle while under the influence of alcohol, the concentration of alcohol in the person's blood or breath at the time alleged as shown by analysis of the person's blood, urine, breath, or other bodily substance shall give rise to the following presumptions: (REVISED, 1979.)

1. If there was at that time an alcohol concentration less than 0.08, such fact shall not give rise to any presumption that the person was or was not under the influence of alcohol, but such fact may be considered with other competent evidence in determining whether the person was under the influence of alcohol. (REVISED, 1979, 1984; REVISED AND RENUMBERED, 1992.)

2. If there was at that time an alcohol concentration of 0.08 or more, it shall be presumed that the person was under the influence of alcohol. (REVISED, 1979, 1984; RENUMBERED, 1992.)

3. The foregoing provisions of this subsection shall not be construed as limiting the introduction of any other competent evidence bearing upon the question whether the person was under the influence of alcohol. (FORMERLY § 11-902(b); RENUMBERED, 1992.)

UNIFORM VEHICLE CODE

(c) If a person under arrest refuses to submit to a chemical test under the provisions of § 6-207, evidence of refusal shall be admissible in any civil or criminal action or proceeding arising out of acts alleged to have been committed while the person was driving or in actual physical control of a motor vehicle while under the influence of alcohol or other drugs. (FORMERLY § 11-902(g), REVISED, 1984; RENUMBERED, 1986.)

§ 11-904—Post conviction examination and remedies

(a) Before sentencing any person convicted of violating § 11-902, the court shall conduct or order an appropriate examination or examinations to determine whether the person needs or would benefit from treatment for alcohol or other drug abuse. (REVISED, 1984.)

(b) In addition to the penalties imposed by § 11-902(c), and after receiving the results of the examination in subsection (a) or, upon a hearing and determination that the person is an habitual user of alcohol or other drugs, the court may order supervised treatment on an outpatient basis, or upon additional determinations that the person constitutes a danger to self or others and that adequate treatment facilities are available, the court may order such person committed for treatment at a facility or institution approved by the (State department of health). (REVISED, 1984, 1992.)

(c) Any person subject to this section may be examined by a physician of such person's own choosing and the results of any such examination shall be considered by the court. (REVISED, 1992.)

(d) No commitment or supervised treatment on an outpatient basis ordered under subsection (b) shall exceed one year. Upon motion duly made by the convicted person, an attorney, a relative or an attending physician, the court at any time after an order of commitment shall review said order. After determining the progress of treatment, the court may order its continuation or the court may order the person's release, supervised treatment on an outpatient basis, or it may impose penalties specified by this code giving credit for the time of commitment. (REVISED, 1992.)

(e) Upon application by any person under an order of commitment or supervised treatment for a driver's license, the results of the examination referred to in subsection (a) and a report of the progress of the treatment ordered shall be forwarded by the applicant to the department for consideration by the health advisory board (appointed under § 6-119).

(f) The department may after receiving the advice of the health advisory board issue a license to such person with conditions and restrictions consistent with the person's rehabilitation and with protection of the public notwithstanding the provisions of § 6-214. (NEW, 1971; SECTION RENUMBERED, 1986.)

§ 11-905—Limits on Plea Bargaining

When the prosecution agrees to a plea of guilty or nolo contendere to a charge of a violation other than § 11-902(a) in satisfaction of, or as a substitute for, an original charge of a violation of § 11-902(a), the prosecution shall state for the record a factual basis for the satisfaction, or substitution, including whether or not there had been consumption of any alcoholic beverage or ingestion or administration of any other drug, or both, by the defendant in connection with the offense. (NEW, 1984; RENUMBERED, 1986.)

§ 11-906—Homicide by vehicle

(a) Whoever shall unlawfully and unintentionally cause the death of another person while engaged in the violation of any state law or municipal ordinance applying to the operation or use of a vehicle or to the regulation of traffic shall be guilty of homicide when such violation is the proximate cause of said death. (REVISED, 1968.)

(b) Any person convicted of homicide by vehicle shall be fined not less than \$500 nor more than \$2,000, or shall be imprisoned in the county jail not less than three months nor more than one year, or may be so fined and so imprisoned, or shall be imprisoned in the penitentiary for a term not less than one year nor more than five years. (REVISED, 1962; SECTION RENUMBERED, 1986, 1992.)

§ 11-907—Fleeing or attempting to elude a police officer

(a) Any driver of a motor vehicle who willfully fails or refuses to bring his or her vehicle to a stop, or who otherwise flees or attempts to elude a pursuing police vehicle, when given visual or audible signal to bring the vehicle to a stop, shall be guilty of a misdemeanor. The signal given by the police officer may be by hand, voice, emergency light or siren. The officer giving such signal shall be in uniform, prominently displaying officer's badge of office, and officer's vehicle shall be appropriately marked showing it to be an official police vehicle. (REVISED, 1992.)

(b) Every person convicted of fleeing or attempting to elude a police officer shall be punished by imprisonment for not less than 30 days nor more than six months or by a fine of not less than \$100 nor more than \$500, or by both such fine and imprisonment. (NEW SECTION, 1968; SECTION RENUMBERED 1986, 1992.)

Traffic Safety Facts 1994

U.S. Department of Transportation
National Highway Traffic
Safety Administration



Young Drivers

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There were 175.1 million licensed drivers in the United States in 1994. Young drivers, between 15 and 20 years old, accounted for 6.7 percent (11.7 million) of the total number of U.S. licensed drivers in 1994, a 14 percent decrease from the 13.7 million young drivers in 1984.

In 1994, 7,957 15- to 20-year-old drivers were involved in fatal crashes—a 23 percent decrease from the 10,046 involved in 1984. Driver fatalities for this age group decreased by 24 percent between 1984 and 1994.

Motor vehicle crashes are the leading cause of death for 15 to 20 year olds (based on 1991 figures, which are the latest mortality data currently available from the National Center for Health Statistics). In 1994, an estimated 3,446 drivers 15 to 20 years old were killed, and an additional 330,000 were injured, in motor vehicle crashes.

In 1994, 14 percent (7,957) of all the drivers involved in fatal crashes (57,512) were young drivers 15 to 20 years old, and 16 percent (1,859,000) of all the drivers involved in police-reported crashes (11,421,000) were young drivers.

"Motor vehicle crashes are the leading cause of death for people from 15 to 20 years old."

Figure 1. Driver Fatalities and Drivers Involved In Fatal Crashes Among Drivers 15 to 20 Years Old, 1984-1994

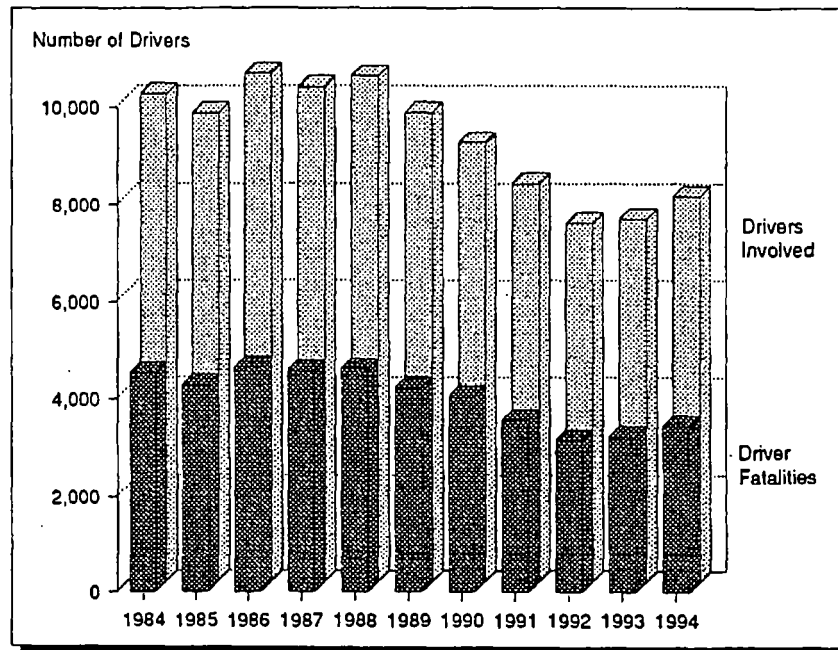


Table 1. Drivers Involved in Fatal Crashes by Age Group, 1994

	Age Group (Years)							
	15-20	21-24	25-34	35-44	45-54	55-64	65-69	70+
Licensed Drivers (Percent)	6.7	7.9	22.7	22.1	15.7	10.9	5.0	9.0
Population (Percent)	8.1	5.7	15.9	16.0	11.5	8.1	3.8	8.9
Drivers Involved in Fatal Crashes (Percent)								
Single-Vehicle	18.4	13.6	24.1	16.9	9.8	5.5	2.3	5.7
Multi-Vehicle	12.3	10.3	23.3	19.0	13.1	7.9	3.4	9.6
All Fatal Crashes	14.6	11.5	23.6	18.2	11.9	7.0	3.0	8.1
Drivers Involved in Fatal Crashes per 100,000 Licensed Drivers	67.8	45.3	32.5	25.6	23.5	20.0	18.7	28.2

Nearly one-third of the 15- to 20-year-old drivers involved in fatal crashes who had an invalid operator's license at the time of the crash also had a previous license suspension or revocation. For the same age group, approximately one-third of the drivers who were killed in motor vehicle crashes during 1994 had been drinking. Restraint use decreases significantly among drinking drivers.

Table 2. Drivers 15 to 20 Years Old Involved in Fatal Crashes by Previous Driving Record and License Status, 1994

Driving Record	License Status					
	Valid (6,769)		Invalid (1,087)		Total (7,856)	
	Number	Percent	Number	Percent	Number	Percent
Previous Recorded Crashes	1,454	21.5	178	16.4	1,632	20.8
Previous Recorded Suspensions or Revocations	431	6.4	352	32.4	783	10.0
Previous DWI Convictions	61	0.9	51	4.7	112	1.4
Previous Speeding Convictions	1,672	24.7	188	17.3	1,860	23.7
Previous Other Harmful or Moving Convictions	1,232	18.2	239	22.0	1,471	18.7

For 77 percent of the drivers 15 to 20 years old who were involved in fatal crashes in 1994, police reported one or more errors or other factors related to the driver's behavior. The factor most often noted was "failure to keep proper lane or running off the road," followed by "driving too fast."

In 1994, the estimated economic cost of police-reported crashes involving drivers between 15 and 20 years old was \$7777.

"In 1994, 14 percent of all the drivers involved in fatal crashes were between 15 and 20 years old."

Motorcycles

An estimated 297 young motorcycle drivers (15-20 years old) were killed and an additional 8,000 were injured during 1994.

Helmets are estimated to be 29 percent effective in preventing fatalities among motorcyclists. NHTSA estimates that helmets saved the lives of 518 motorcyclists in 1994, and that if all motorcyclists had worn helmets, an additional 300 lives could have been saved.

During 1994, 47 percent of the motorcycle drivers between 15 and 20 years old who were fatally injured in crashes were not wearing helmets.

Of the young motorcycle drivers involved in fatal crashes in 1994, about one-quarter (24 percent) were either unlicensed or driving with an invalid license, and 20 percent had been drinking.

"In 1994, 22 percent of the young drivers who were killed in crashes were intoxicated."

Alcohol

NHTSA defines a fatal traffic crash as being alcohol-related if either a driver or a nonoccupant (e.g., pedestrian) had a blood alcohol concentration (BAC) of 0.01 grams per deciliter (g/dl) or greater in a police-reported traffic crash. Persons with a BAC of 0.10 g/dl or greater involved in fatal crashes are considered to be intoxicated. This is the legal limit of intoxication in most states.

In 1994, 22 percent of the young drivers 15 to 20 years old who were killed in crashes were intoxicated.

Table 3. Alcohol Involvement Among Drivers 15 to 20 Years Old Involved In Fatal Crashes, 1994

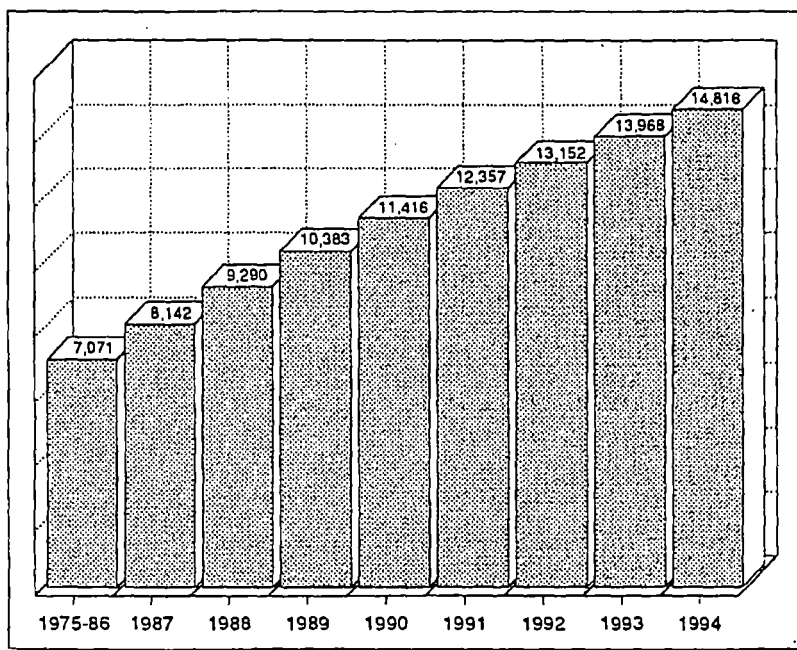
Driver Status	Number of Drivers	Percentage With BAC Levels		
		0.00 g/dl	0.01-0.09 g/dl	≥0.10 g/dl
Surviving	4,511	84.5	7.6	7.9
Fatally Injured	3,446	68.9	9.5	21.7
Total	7,957	77.7	8.4	13.9

The severity of a crash increases with alcohol involvement. In 1994, 2 percent of the 15- to 20-year-old drivers involved in property-damage-only crashes had been drinking, 4 percent of those involved in crashes resulting in injury had been drinking, and 22 percent of those involved in fatal crashes had been drinking.

The proportions of young drivers killed in motor vehicle crashes and of young drivers involved in fatal crashes who were *intoxicated* (with a BAC of 0.10 g/dl or greater) have decreased significantly since 1984. In both categories (drivers killed and drivers involved in fatal crashes), the number of drivers 15 to 20 years old who were intoxicated dropped by almost 60 percent between 1984 and 1994—the largest decline of any age group.

All states and the District of Columbia now have 21-year-old minimum drinking age laws. NHTSA estimates that these laws have reduced traffic fatalities involving drivers 18 to 20 years old by 13 percent and have saved an estimated 14,816 lives since 1975. Eleven states have set 0.08 g/dl as the legal intoxication limit, and 20 states plus the District of Columbia have zero tolerance laws for drivers under the age of 21 (that is, drivers under 21 with BAC levels above 0.02 g/dl are considered to be intoxicated).

Figure 2. Cumulative Estimated Number of Lives Saved by Minimum Drinking Age Laws, 1975-1994



“NHTSA estimates that minimum drinking age laws have saved 14,816 lives since 1975.”

For young drivers 15 to 20 years old, alcohol involvement is higher among males than among females. In 1994, 26 percent of the young male drivers involved in fatal crashes had been drinking at the time of the crash, compared with 12 percent of the young female drivers involved in fatal crashes.

Drivers are less likely to use restraints when they have been drinking. In 1994, 74 percent of the young drivers involved in fatal crashes who had been drinking were unrestrained. Of the young drivers who had been drinking and were killed in crashes, 80 percent were unrestrained.

For more information:

Information on young drivers is available from the National Center for Statistics and Analysis, NRD-31, 400 Seventh Street, S.W., Washington, D.C. 20590. Telephone inquiries should be addressed to Ms. Louann Hall at (202) 366-4198. FAX messages should be sent to (202) 366-7078. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

“Serving the Highway Safety Community by the Numbers”

Traffic Safety Facts 1994 — Young Drivers

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Table 4. Involvement of Drivers 15 to 20 Years Old in Traffic Fatalities, 1984 and 1994

	1984			1994			Percentage Change, 1984-1984		
	Total	Age 15-20	Percentage of Total	Total	Age 15-20	Percentage of Total	Number		Percentage Age 15-20
							Total	Age 15-20	
Licensed Drivers (thousands)									
Total	155,424	13,688	8.8	175,128	11,736	6.7	+13%	-14%	-24%
Male	80,977	7,321	9.0	89,000	6,161	6.9	+10%	-16%	-23%
Female	74,447	6,367	8.6	86,128	5,574	6.5	+16%	-12%	-24%
Drivers Involved in Fatal Crashes									
Total	57,512	10,046	17.5	54,513	7,957	14.6	-5%	-21%	-17%
Male	44,723	7,906	17.7	40,195	5,803	14.4	-10%	-27%	-19%
Female	11,907	2,139	18.0	13,550	2,152	15.9	+14%	-8%	-12%
Driver Fatalities									
Total	25,589	4,525	17.7	23,694	3,446	14.5	-7%	-24%	-18%
Male	20,088	3,615	18.0	17,551	2,556	14.6	-13%	-29%	-19%
Female	5,500	910	16.5	6,139	890	14.5	+12%	-2%	-12%

Sources: Licensed drivers—Federal Highway Administration.



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

DOT HS 808 289

May 1995

NHTSA Technical Report

Alcohol Involvement in Fatal Traffic Crashes 1993

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16. Abstract This report presents estimates of alcohol involvement in fatal traffic crashes that occurred during 1993. The data are abstracted from FARS and represent a combination of actual blood alcohol concentration (BAC) test results and estimated BAC distributions for those drivers and nonoccupants for whom no BAC test results are available. The estimates are made using a model developed by the National Highway Traffic Safety Administration. In 1993, 34.9% of all fatalities occurred in crashes with a driver or nonoccupant with BAC of 0.10 or greater (in this report a BAC of 0.10 or greater is synonymous with intoxication). This represents a 25% reduction compared to 1982, when 46.3% of all fatalities occurred in crashes involved an intoxicated active participant. Occupant fatalities resulting from crashes involving an intoxicated driver or nonoccupant totaled 11,431. Less than one-half (44.6%) of the occupant fatalities in single-vehicle crashes involved an intoxicated driver, compared with 24.5% of the occupant fatalities in multi-vehicle crashes. An estimated 39.1% of the fatalities in nonoccupant crashes involved an intoxicated driver or nonoccupant. More than two-thirds (67.4%) of the fatally injured drivers in single-vehicle fatal crashes on weekend nights were drunk. Overall, male drivers involved in fatal crashes were almost twice as likely as female drivers to be drunk (23.7% vs. 12.1%, respectively). Drivers of age 21-24 years exhibited the highest rates of intoxication (30.7%) followed by drivers of age 25-29 (28.9%). Drivers of age 16-20 years were intoxicated 16.2% of the time. Between 1982 and 1993, estimated reductions in the proportion of intoxicated drivers in fatal crashes are 32% for drivers of passenger cars, 26% for light trucks and vans, 22% for medium trucks, 68% for heavy trucks, and 19% for motorcycles. Drivers of motorcycles continue to exhibit a high rate of intoxication in fatal crashes, with 32.9% of involved drivers exhibiting a BAC of at least 0.10, compared to 24.9% for drivers of light trucks and vans, and 20.7% for drivers of passenger cars.			
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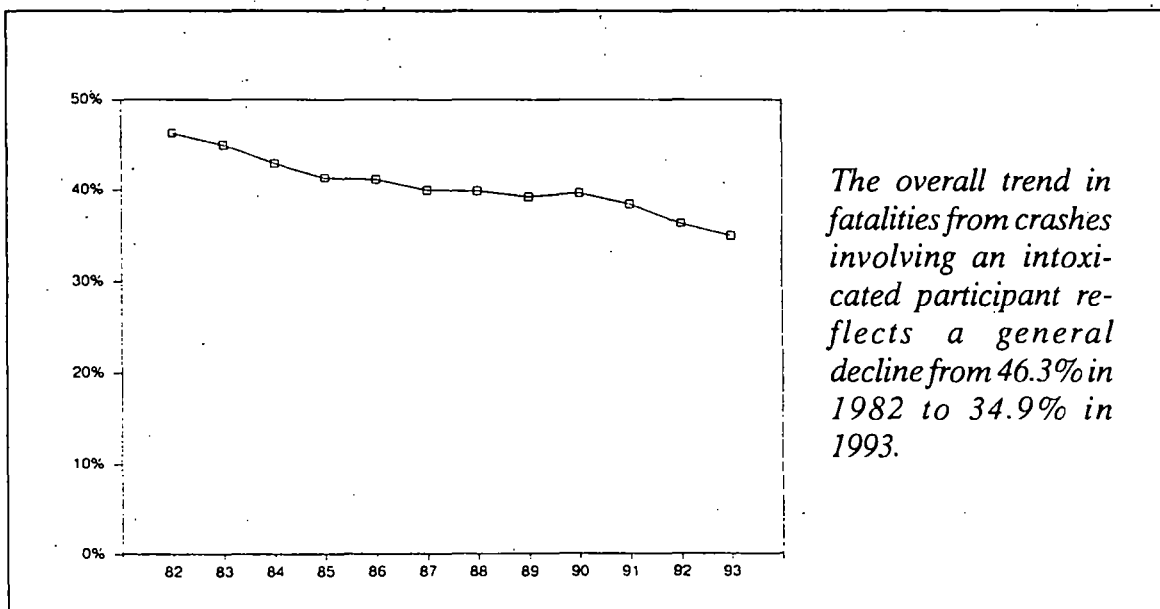
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EXECUTIVE SUMMARY

This report presents estimates of alcohol involvement in fatal traffic crashes that occurred during 1993. Several comparisons of alcohol involvement for the period 1982-1993 are presented to investigate changes and trends. The data are abstracted from the Fatal Accident Reporting System (FARS) and represent a combination of actual blood alcohol concentration (BAC) test results and estimated BAC distributions for those drivers and nonoccupants for whom no BAC test results are available. The estimates are made using a model developed by the National Highway Traffic Safety Administration.

In 1993, 34.9 percent of all fatalities involved at least one driver or nonoccupant with BAC of 0.10 or greater (in this report, a BAC of 0.10 or greater is synonymous with intoxication). This represents a 24.1 percent reduction compared to 1982, when 46.3 percent of all fatalities occurred in crashes that involved an intoxicated active participant. Occupant fatalities resulting from crashes involving an intoxicated driver or nonoccupant totalled 11,431. Less than one-half (44.6 percent) of the occupant fatalities in single-vehicle crashes involved an intoxicated driver, compared with 24.5 percent of the occupant fatalities in multi-vehicle crashes. An estimated 39.1 percent of the fatalities in nonoccupant crashes involved an intoxicated driver or nonoccupant.

More than two-thirds (67.4 percent) of the fatally injured drivers in single-vehicle fatal crashes on weekend nights were drunk. Overall, male drivers involved in fatal crashes were almost twice as likely as female drivers to be drunk (23.7 percent vs. 12.1 percent, respectively).



Drivers of age 21-24 years exhibited the highest rates of intoxication (30.7 percent) followed by drivers of age 25-29 (28.9 percent). Drivers of age 16-20 years were intoxicated 16.2 percent of the time.

Between 1982 and 1993, estimated reductions in the proportion of intoxicated drivers in fatal crashes are 32 percent for drivers of passenger cars, 26 percent for light trucks and vans, 22 percent for medium trucks, 68 percent for heavy trucks, and 19 percent for motorcycles.

Drivers of motorcycles continue to exhibit a high rate of intoxication in fatal crashes, with 32.9 percent of involved drivers exhibiting a BAC of at least 0.10, compared to 24.9 percent for drivers of light trucks and vans, and 20.7 percent for drivers of passenger cars.

The following comparisons are drawn between 1993 and 1992:

- In 1993, 35 percent of all fatal crashes involved a driver or nonoccupant with BAC of 0.10 or greater, a decrease from 36.1 percent in 1992.
- The decrease from 1992 was proportionally larger during the nighttime than during the day (6:00 am to 5:59 pm).
- The largest decreases in the rate of alcohol involvement from 1992 occurred in multi-vehicle crashes (daytime and nighttime), followed by declines in single-vehicle (daytime) and nonoccupant crashes (weekend nights).
- The decrease in alcohol involvement in single-vehicle crashes was more pronounced in urban areas, while alcohol involvement in multi-vehicle crashes decreased more in rural areas. The decrease in alcohol in nonoccupant crashes was essentially limited to rural areas.
- Alcohol involvement decreased faster among involved male drivers than among involved female drivers. However, female drivers continue to exhibit much lower rates of alcohol involvement in fatal crashes.
- Decreases in alcohol involvement were observed among fatal crash-involved drivers in younger driver age groups through 20 years old.

INTRODUCTION

It is a well-established fact that drunk driving plays a major role in fatal crashes. Research has demonstrated that alcohol in a driver's bloodstream greatly impairs one's ability to operate a vehicle safely.

This report presents data obtained from the Fatal Accident Reporting System (FARS) and analyzed using a procedure to estimate the BAC level for drivers and nonoccupants involved in fatal crashes. The report describes the magnitude of the drunk driving problem in the United States, highlights the circumstances under which fatal crashes are frequently associated with alcohol, and shows recent trends in alcohol involvement in fatal crashes.

1. Data

FARS contains data on all fatal traffic crashes from each of the states. The data include the results of chemical blood alcohol tests of drivers involved in fatal crashes when they are available. These blood-alcohol concentration (BAC) tests form the basis of the statistics reported here. However, no state reports a BAC value for every driver, for various technical, practical or economic reasons. The missing data rate ranges from a few percent in some states to nearly complete absence of testing in others. **Although the nationwide BAC reporting rate has risen from about 54% to 73% for fatally injured drivers and from 16% to 25% for surviving drivers during the past eleven years, there are still too many unknown BAC values to ignore.** Alcohol involve-

ment for drivers with unknown BAC values must be estimated before valid statistics on the role of alcohol in fatal crashes can be determined. The same is true for nonoccupants.

2. Estimation

Several methods have been used previously to estimate BAC values for drivers who had not been tested. Each method has substantial limitations. To overcome many of these limitations, and in particular to estimate BAC values for surviving drivers, the National Center for Statistics and Analysis has developed a method based on discriminant analysis to estimate BAC values for all drivers involved in fatal crashes. The method is documented completely in Reference 2. Briefly, the method estimates unknown BACs from the known BAC data of drivers with similar characteristics (such as sex, crash time, police alcohol indication, and vehicle type). This method was used to produce all statistics in this report.

3. Presentation

BAC test results range from 0.00 to more than 0.30. The numbers represent the amount of alcohol, by weight, per amount of blood, by volume. In practice, BAC test results measure the percentage of alcohol contained in the blood. For the purposes of this report, it is impractical to treat BAC as a continuous variable. Instead, BAC is classified into three groups which tell the story of drunk driv-

ing in a concise and directly accessible way:

- the 0.00 group of drivers (sober drivers) whose blood contains no alcohol;
- the 0.01-0.09 group of drivers, whose blood contains some alcohol, but less than 0.10 percent; and
- the 0.10+ group of drivers (intoxicated or drunk drivers) whose BAC is at or above the usual level of legal intoxication.

In the tables of this report, alcohol involvement is shown by listing either the percentages of drivers in each of the three groups, or the percentage of drivers in the high-BAC (0.10+) group only, together with the total number of crashes or drivers, as appropriate. Note that disaggregated tables may not sum to the aggregate total, due to missing data. For example, the total of day and night crashes is less than the total of all crashes since crash time is unknown for a few crashes.

4. Interpretation of Estimates

The procedure used throughout this report produces estimates, not exact counts. The possible error of these estimates is not known precisely. However, extensive validation tests suggest that the error of any one estimate is relatively small and, more importantly, does not appreciably affect comparisons such as those in the section on trends.

In addition, it is necessary to emphasize that none of the tabulations presented can be interpreted as implying a direct causal relationship between alcohol use

and any other attribute of fatal crashes. Inferences concerning causality can only be made on the basis of additional information that is independent of the FARS data.

5. Reporting Level

Alcohol involvement in motor vehicle crashes is customarily reported for crashes or for participants. For persons, the BAC status of each active participant (driver, pedestrian, or bicyclist) in the crash is reported individually.

For crashes, the entire crash is classified at the highest BAC level of any active participant. In crashes in which individual BACs are known, the crash is given a count of 1 at the appropriate BAC level. Thus, a 0.00 crash is one in which all drivers and nonoccupants are sober, a 0.01-0.09 crash has at least one driver or nonoccupant at this level, but none at higher BAC, and a 0.10+ crash has at least one driver or nonoccupant at the 0.10+ level.

For crashes in which not all individual BACs are known, the count of 1 is distributed among the three BAC levels according to the probability distributions for alcohol involvement of each active participant. In crashes with only one active participant, the crash level BAC distribution will be identical to that of the one participant. Where two or more persons are actively involved, joint probabilities are calculated from the individual BAC probability distributions to arrive at the crash level BAC distribution.

SECTION I - FATALITIES

As a result of traffic crashes, 40,115 persons were killed in 1993. Of these fatalities, 34.9 percent (13,982) occurred in crashes in which a driver or nonoccupant was drunk. An additional 8.7 percent (3,479) involved a driver or nonoccupant who had been drinking but whose BAC was below 0.10. Overall, 43.6 percent (17,461) of all traffic fatalities involved driver or nonoccupant alcohol at some level.

Tables 1 and 2 show age distributions for occupant (driver/passenger) and non-occupant fatalities, respectively.

The pattern of intoxicated occupant fatalities by age group (Table 1) is similar to that for nonoccupants (Table 2) with peak involvement occurring in the 30-34 year old age group for occupant fatalities

and the 25-29 year old age group for nonoccupant fatalities.

Overall, the proportion of nonoccupants who died in crashes (39.1 percent), involving at least one intoxicated participant, is about the same as for occupants (34.1 percent). However, in comparison to occupant fatalities, the proportion of nonoccupant fatalities where at least one driver or nonoccupant was intoxicated is higher for all age groups 16-20 and older.

Figures 1 and 2 show age distributions for the percentage of intoxicated drivers and intoxicated nonoccupants in these crashes. Similarly, the proportion of drunk nonoccupants exceeds that of drunk drivers for the same age groups; however, peak involvement for drivers

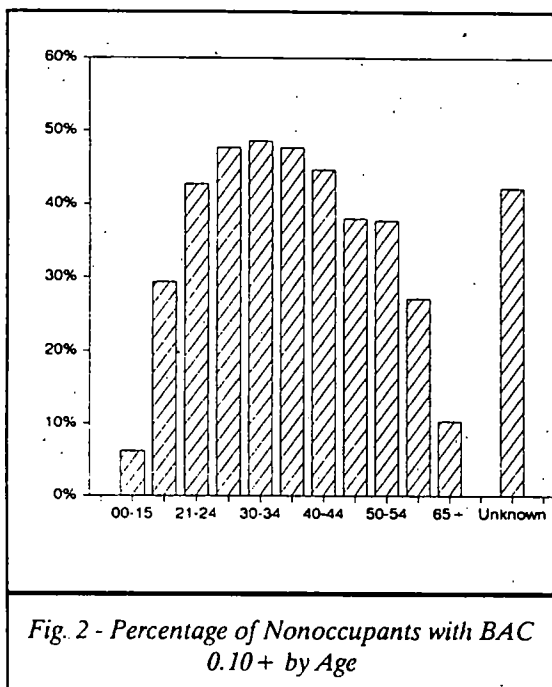
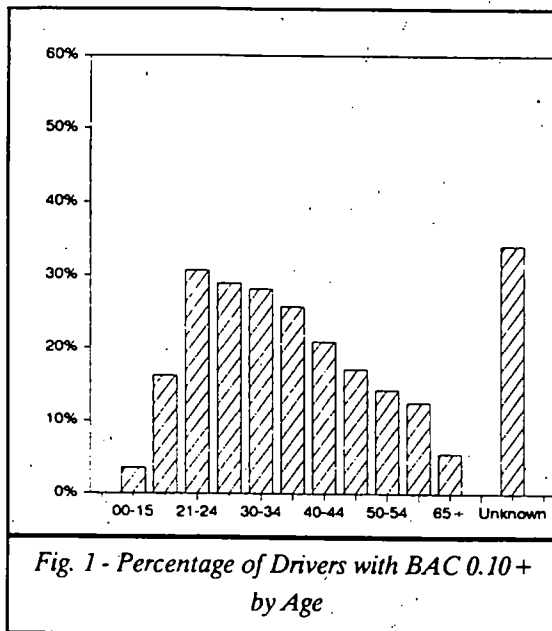
Table 1
Occupant Fatalities
By Person Age and Crash BAC
1993

Person Age	0.00	0.01-0.09	0.10 +	Total Fatalities
00-15	73.9%	9.2%	17.0%	2,071
16-20	59.9%	12.0%	28.1%	5,059
21-24	41.6%	10.6%	47.8%	4,051
25-29	39.5%	10.9%	49.6%	3,556
30-34	40.8%	9.1%	50.1%	3,323
35-39	42.9%	9.1%	48.0%	2,730
40-44	50.4%	8.9%	40.7%	2,106
45-49	57.1%	7.3%	35.6%	1,676
50-54	62.6%	6.6%	30.8%	1,342
55-64	67.6%	6.6%	25.7%	2,275
65 +	85.8%	4.6%	9.6%	5,306
Total	57.1%	8.8%	34.1%	33,553

Table 2
Nonoccupant Fatalities
By Person Age and Crash BAC
1993

Person Age	0.00	0.01-0.09	0.10 +	Total Fatalities
00-15	78.9%	6.8%	14.3%	1,149
16-20	46.2%	9.8%	44.0%	351
21-24	31.0%	8.5%	60.5%	333
25-29	31.3%	8.0%	60.7%	475
30-34	32.3%	7.9%	59.8%	610
35-39	32.4%	7.3%	60.3%	552
40-44	36.0%	8.5%	55.6%	460
45-49	40.9%	8.7%	50.4%	354
50-54	44.7%	8.1%	47.2%	281
55-64	55.7%	9.2%	35.1%	524
65 +	75.8%	6.9%	17.4%	1,311
Total	53.1%	7.8%	39.1%	6,501

occurs at an earlier age and drops more sharply than for nonoccupants.



There were almost as many fatalities in single-vehicle as multi-vehicle crashes. However, the frequency of alcohol oc-

currence in single-vehicle crashes is much higher, as shown in Table 3.

Table 3 Fatalities By Crash Type and Crash BAC 1993				
Crash Type	0.00	0.01-0.09	0.10 +	Total Fatalities
Single-Vehicle	46.4%	9.1%	44.6%	15,974
Multi-Vehicle	66.9%	8.6%	24.5%	17,609
Nonoccupant	53.1%	7.8%	39.1%	6,532

Table 4 presents the BAC distribution of male vs. female fatalities that occurred in 1993. Of the 27,293 male fatalities, 40.0 percent occurred in accidents in which a driver or nonoccupant had a BAC of 0.10 or greater, compared with 24.0 percent of the 12,803 female fatalities.

Table 4 Fatalities By Sex and Crash BAC 1993				
Sex	0.00	0.01-0.09	0.10 +	Total Fatalities
Male	50.9%	9.2%	40.0%	27,293
Female	68.4%	7.6%	24.0%	12,803
Total	56.5%	8.7%	34.9%	40,115

SECTION II - CRASHES

In 1993, 35,747 traffic crashes resulted in the death of one or more persons. In 35.0 percent of these crashes, at least one driver or nonoccupant (pedestrian or bicyclist) was at or above the level of intoxication (0.10) as shown in Table 5.

Table 5 Fatal Crash BAC Distribution 1993			
0.00	0.01-0.09	0.10 +	Total Crashes
56.5%	8.5%	35.0%	35,747

The development of effective countermeasures depends on the ability of safety experts and government agencies to understand the conditions under which drunk driving is particularly prevalent. To assist in this understanding, the summary data of Table 5 can be disaggregated to reveal relationships between alcohol and other fatal crash attributes. Note that the disaggregated data may not add up to the crash total of 35,747 due to unknown values for some variables.

1. Day and Time

Alcohol is more prevalent in fatal crashes at night than during the day, and on weekends compared to weekdays. The following tables summarize these BAC distributions.

Table 6 Fatal Crash BAC Distribution By Time of Day 1993				
Time	0.00	0.01-0.09	0.10 +	Total Crashes
Day *	80.8%	5.7%	13.5%	16,832
Night	34.9%	11.0%	54.1%	18,646

* Day is defined as 6:00 a.m. to 5:59 p.m.

Table 7 Fatal Crash BAC Distribution By Period of Week 1993				
Period	0.00	0.01-0.09	0.10 +	Total Crashes
Weekday*	66.5%	7.1%	26.3%	20,469
Weekend	43.1%	10.4%	46.5%	15,209

* Weekday is defined as Monday 6:00 a.m. to Friday 5:59 p.m.

Table 8 classifies fatal crashes by both variables simultaneously. During the day on weekdays, 11.2 percent of all fatal crashes involved at least one drunk driver or nonoccupant. On weekends during the day, this percentage almost doubled; on weekend nights, almost three-fifths of all fatal crashes involved one or more drunk drivers or nonoccupants.

Table 8
Fatal Crash BAC Distribution
By Time of Day and
Period of Week
1993

Period	0.00	0.01-0.09	0.10 +	Total Crashes
Daytime				
-Weekday	83.8%	4.9%	11.2%	12,205
-Weekend	72.8%	7.8%	19.4%	4,627
Nighttime				
-Weekday	41.1%	10.4%	48.5%	8,182
-Weekend	30.2%	11.5%	58.4%	10,464

It is apparent from these tables that drunk driving is much more prevalent during non-working hours than during the business day.

2. Crash Type

Fatal crashes may be classified into three broad types:

- Single-vehicle crashes, not involving a nonoccupant (pedestrian or bicyclist),
- Multi-vehicle crashes, involving two or more vehicles;
- Nonoccupant crashes, involving a vehicle and a nonoccupant (almost always a single vehicle and a single fatally injured nonoccupant).

Table 9 shows the BAC distributions for these crash types. (See Section 5 of the Introduction on page 2 for a discussion about how alcohol-related crashes are counted.)

Table 9
Fatal Crash BAC Distribution
By Crash Type
1993

Crash Type	0.00	0.01-0.09	0.10 +	Total Crashes
Single-Vehicle	46.3%	9.0%	44.7%	14,613
Multi-Vehicle	68.1%	8.4%	23.5%	14,677
Nonoccupant	53.3%	7.7%	39.0%	6,457

Here again, a breakdown by day and time is revealing, as shown by Tables 10 through 12.

Table 10
Fatal Crash BAC Distribution
By Time of Day and Period of Week
Single-Vehicle Crashes
1993

Period	0.00	0.01-0.09	0.10 +	Total Crashes
Daytime				
-Weekday	78.8%	4.3%	16.9%	3,539
-Weekend	65.3%	8.1%	26.5%	1,809
Nighttime				
-Weekday	34.5%	10.1%	55.4%	3,811
-Weekend	26.9%	11.6%	61.5%	5,227

Note from Table 10 that 62 percent (9,038/14,613) of the single-vehicle crashes occur between 6 p.m. and 5:59 a.m., when alcohol involvement is relatively high. In contrast, Table 11 indicates that only 39 percent (5,679/14,677) of the multi-vehicle fatal crashes occur during these hours. The majority of multi-vehicle crashes (61 percent) occur during the daytime when alcohol involvement is relatively low.

Table 11
Fatal Crash BAC Distribution
By Time of Day and Period of Week
Multi-Vehicle Crashes
1993

Period	0.00	0.01-0.09	0.10 +	Total Crashes
Daytime				
-Weekday	86.8%	5.1%	8.1%	6,710
-Weekend	77.8%	7.8%	14.4%	2,277
Nighttime				
-Weekday	50.2%	11.5%	38.3%	2,530
-Weekend	35.8%	13.1%	51.1%	3,149

The higher rate of alcohol involvement in nonoccupant crashes (Table 12) at all time periods compared to multi-vehicle crashes (Table 11), requires a closer look at both the driver and nonoccupant alcohol involvement.

Table 12
Fatal Crash BAC Distribution
By Time of Day and Period of Week
Nonoccupant Crashes
1993

Period	0.00	0.01-0.09	0.10 +	Total Crashes
Daytime				
-Weekday	82.6%	5.6%	11.8%	1,956
-Weekend	76.9%	6.3%	16.8%	541
Nighttime				
-Weekday	42.0%	9.5%	48.5%	1,841
-Weekend	29.8%	8.6%	61.6%	2,088

Table 13 shows the BAC distribution for drivers and nonoccupants (most of whom are pedestrians) in nonoccupant fatal crashes. Row and column totals in Table 13 show plainly that nonoccupants are legally intoxicated (30.7 percent) more frequently than are vehicle drivers (15.0 percent) in nonoccupant fatal crashes.

Table 13
BAC Distribution
For Drivers and Nonoccupants in
Nonoccupant Crashes
1993

Nonocc. BAC	0.00	Driver BAC 0.01-0.09	0.10 +	Total
0.00	53.3%	3.2%	7.1%	63.6%
0.01-0.09	4.2%	0.4%	1.1%	5.7%
0.10 +	21.1%	2.8%	6.8%	30.7%
Total	78.6%	6.4%	15.0%	100.0%

3. Crash Environment

Fatal crash BAC distributions for urban vs. rural crash location for each crash type are shown in Table 14.

For single-vehicle and multi-vehicle crashes, alcohol involvement was greater in urban than rural fatal crashes, while for nonoccupant fatal crashes, alcohol involvement was greater in rural fatal crashes.

Table 14
Fatal Crash BAC Distribution
By Crash Type and Land Use
1993

Crash Type/ Land Use	0.00	0.01-0.09	0.10 +	Total Crashes
Single-Vehicle				
-Urban	45.2%	9.5%	45.2%	4,510
-Rural	46.8%	8.7%	44.5%	9,784
Multi-Vehicle				
-Urban	65.0%	8.9%	26.2%	5,909
-Rural	70.0%	8.1%	21.9%	8,385
Nonoccupant				
-Urban	54.1%	7.9%	37.9%	4,355
-Rural	51.8%	7.5%	40.8%	1,941

Alcohol involvement in nonoccupant fatal crashes tends to increase as the crash roadway's speed limit increases, as shown in Table 15. Roads posted 65 mph appear to be an exception to this pattern, existing primarily in rural areas.

Table 15
Fatal Crash BAC Distribution
By Posted Speed Limit
Nonoccupant Crashes
1993

Speed Limit	0.00	0.01-0.09	0.10 +	Total Crashes
25 mph	67.9%	7.3%	24.8%	611
30	62.9%	7.9%	29.3%	1,033
35	55.1%	7.6%	37.3%	1,078
40	52.0%	7.9%	40.1%	610
45	46.2%	7.5%	46.3%	778
50	42.7%	8.6%	48.7%	277
55	46.3%	7.4%	46.3%	1,628
65	49.2%	9.5%	41.3%	186

There is no apparent relationship between alcohol involvement and speed limit for single- or multi-vehicle crashes (Table 16). Estimates for roads posted 60 mph are based on very small samples.

Table 16
Percentage of High-BAC (0.10 +)
Fatal Crashes
By Posted Speed Limit and
Crash Type
1993

Speed Limit	Single Vehicle	Multi-Vehicle
25 mph	40.6%	23.9%
30	45.4%	23.3%
35	50.2%	25.2%
40	48.9%	24.1%
45	48.9%	23.3%
50	47.3%	23.9%
55	46.4%	23.2%
60	25.0%	0.3%
65	24.3%	23.3%

Alcohol involvement in fatal crashes also varies as a function of roadway type. Table 17 gives crash counts and high-BAC (0.10 +) percentages for the principal roadway types.

Table 17
Percentage of High-BAC (0.10 +)
Fatal Crashes
By Crash Type and
Roadway Function Class
1993

Roadway Fct. Class	Single Vehicle		Multi-Vehicle		Non-Occupant	
	Count	Pct	Count	Pct	Count	Pct
Interstate	2,021	29.4%	1,322	26.7%	578	45.6%
Principal Arterial	2,471	45.0%	4,992	24.1%	2,238	42.1%
Minor Arterial	2,124	46.4%	3,302	22.2%	1,221	36.6%
Major Rural Collector	2,643	49.9%	2,009	24.2%	454	40.9%
Local Street/Road	3,458	46.3%	1,552	21.7%	1,325	33.9%

The percentage of crashes involving an intoxicated participant (BAC of 0.10 or more) varies both as a function of the type of crash and type of roadway. For example, the highest percentage of single-vehicle fatal crashes in which a participant was intoxicated was on major rural collectors and for multivehicle fatal crashes it was on the Interstate system. It is also interesting that the highest percentage for nonoccupant fatalities is also on the Interstate.

SECTION III - DRIVERS AND NONOCCUPANTS

1. Overview

In 1993, 53,343 drivers were involved in fatal crashes. Of these drivers, 72.7 percent were sober, 6.3 percent fell in the 0.01-0.09 group, and 21.0 percent were at or above a 0.10 BAC. Similarly, of the 7,082 fatally injured nonoccupants, 65.5 percent were sober, 5.6 percent fell in the 0.01-0.09 group, and 28.9 percent were at or above a 0.10 BAC.

Person Type	0.00	0.01-0.09	0.10 +	Total Persons
All Drivers	72.6%	6.3%	21.0%	53,343
Fat. Inj. Drivers	60.3%	6.9%	32.8%	23,132
Surv. Drivers	82.1%	5.8%	12.1%	30,211
Fat. Inj. Nonocc.	65.5%	5.6%	28.9%	7,082

Table 18 shows that, on the average, drivers surviving a fatal crash are much less frequently drunk than are fatally injured drivers. Some of the difference may be due to reporting. BAC levels are known more frequently for fatally injured drivers than for survivors. While the alcohol estimation methodology attempts to correct alcohol underreporting, some bias may still remain.

Fatally injured drivers show higher alcohol levels than surviving drivers in all

Table 19
BAC Distribution of Drivers and Nonoccupants By Fatal Crash Type 1993

Crash Type/ Person Type	0.00	0.01-0.09	0.10 +	Total Persons
Single-Vehicle Crashes				
All Drivers	46.3%	9.0%	44.7%	14,550
Fat. Inj. Drivers	43.5%	7.7%	48.8%	11,106
Surv. Drivers	55.4%	13.0%	31.5%	3,444
Multi-Vehicle Crashes				
All Drivers	83.2%	5.1%	11.7%	31,852
Fat. Inj. Drivers	75.9%	6.2%	17.9%	11,946
Surv. Drivers	87.5%	4.5%	8.0%	19,906
Non-Occupant Crashes				
Drivers	79.6%	6.1%	14.3%	6,941
Nonoccupants	65.5%	5.6%	28.9%	7,082

crash types and time periods (Tables 19 through 21).

In multi-vehicle fatal crashes (Table 20), fatally injured drivers are about twice as likely as surviving drivers to have a BAC of 0.10 +, in each day and time class. The absolute differences range from 4-5 percentage points (weekday and weekend daytime) to 18-19 percentage points (weekend and weekday nighttime).

In single-vehicle fatal crashes (Table 21), the proportion of fatally injured drivers with a BAC of 0.10 + exceeds the proportion for surviving drivers by 11-14 percentage points during the weekday and weekend daytime, and by 17-23 percent-

Table 20
BAC Distribution of Drivers
By Crash Outcome, Day and Time
Multi-Vehicle Fatal Crashes
1993

Crash Outcome	Day/Time	0.00	0.01-0.09	0.10 +	Total Drivers
Fatally Injured Drivers	Daytime				
	Wkday	90.5%	3.5%	5.9%	5,557
	Wkend	84.2%	5.5%	10.3%	1,721
	Nighttime				
Surviving Drivers	Wkday	61.8%	7.7%	30.4%	2,112
	Wkend	50.1%	11.3%	38.6%	2,542
	Daytime				
	Wkday	95.7%	1.9%	2.4%	9,223
Surviving Drivers	Wkend	91.7%	3.3%	5.0%	3,235
	Nighttime				
	Wkday	81.1%	6.8%	12.1%	3,276
	Wkend	71.3%	9.1%	19.5%	4,168

age points during the weekend and week-day nighttime periods.

2. Driver Sex

Table 22 shows that male drivers involved in fatal crashes are drunk considerably more frequently than are female drivers.

Table 22
BAC Distribution of Drivers
Involved in Fatal Crashes
By Driver Sex
1993

Driver Sex	0.00	0.01-0.09	0.10 +	Total Drivers
Male	69.5%	6.8%	23.7%	39,514
Female	83.3%	4.6%	12.1%	13,064

Table 23 shows that this conclusion holds for all day and time periods.

Alcohol involvement differences between male and female drivers show up

Table 21
BAC Distribution of Drivers
By Crash Outcome, Day and Time
Single-Vehicle Fatal Crashes
1993

Crash Outcome	Day/Time	0.00	0.01-0.09	0.10 +	Total Drivers
Fatally Injured Drivers	Daytime				
	Wkday	76.4%	4.2%	19.4%	2,718
	Wkend	61.7%	8.1%	30.2%	1,324
	Nighttime				
Surviving Drivers	Wkday	32.0%	8.9%	59.1%	2,994
	Wkend	23.5%	9.1%	67.4%	3,860
	Daytime				
	Wkday	86.8%	4.5%	8.8%	818
Surviving Drivers	Wkend	75.2%	8.4%	16.4%	476
	Nighttime				
	Wkday	43.6%	14.7%	41.7%	800
	Wkend	36.7%	18.8%	44.5%	1,347

Table 23
BAC Distribution of Drivers
Involved in Fatal Crashes
By Sex, and Crash Day and Time
1993

Driver Sex	Day/Time	0.00	0.01-0.09	0.10 +	Total Drivers
Male Drivers	Daytime				
	Wkday	90.0%	3.1%	6.9%	14,402
	Wkend	80.1%	5.8%	14.2%	5,310
	Nighttime				
Female Drivers	Wkday	57.9%	8.9%	33.2%	8,620
	Wkend	47.2%	10.6%	42.2%	10,975
	Daytime				
	Wkday	94.0%	2.1%	3.9%	5,917
Female Drivers	Wkend	91.5%	3.2%	5.3%	1,977
	Nighttime				
	Wkday	72.2%	5.9%	21.9%	2,298
	Wkend	64.5%	9.5%	26.0%	2,831

Table 24 BAC Distribution of Fatally Injured Drivers by Sex, and Crash Day and Time 1993					
Driver Sex	Day/ Time	0.00	0.01-0.09	0.10+	Total Drivers
Male Drivers	Daytime				
	Wkday	83.4%	4.3%	12.3%	5,606
	Wkend	69.5%	7.6%	23.0%	2,202
	Nighttime				
	Wkday	41.0%	9.2%	49.8%	4,092
Female Drivers	Wkend	30.5%	10.0%	59.6%	5,210
	Daytime				
	Wkday	91.2%	2.6%	6.1%	2,699
	Wkend	87.6%	4.1%	8.3%	850
	Nighttime				
	Wkday	57.8%	5.3%	36.9%	1,033
	Wkend	49.5%	10.0%	40.5%	1,213

even more markedly for fatally injured drivers, as shown in Table 24.

3. Driver Age

The overall distribution of alcohol involvement by driver age is shown in Table 25. The percentage of drunk drivers is highest at ages 21-24, and decreases steadily to about 5.5 percent for drivers 65 years or older.

The age-alcohol pattern shown here for all drivers in fatal crashes -- a rapid increase to a peak in the 21-24 age group, followed by a slower decrease -- remains unchanged when specific groups are considered, for example driver fatalities or drivers in single-vehicle crashes.

Table 25 Drivers in Fatal Crashes with BAC of 0.10 or Greater 1993			
Age Group	Total Drivers	BAC 0.10 + Count	Percent
00-15	380	13	3.5%
16-20	7,245	1,175	16.2%
21-24	6,395	1,966	30.7%
25-29	6,575	1,900	28.9%
30-34	6,454	1,812	28.1%
35-39	5,379	1,382	25.7%
40-44	4,342	908	20.9%
45-49	3,380	578	17.1%
50-54	2,584	369	14.3%
55-64	3,827	477	12.5%
65 +	5,833	322	5.5%
Unknown	949	324	34.1%

4. Driver Age Groups

To highlight the differences between ages, driver age has been classified into three groups: 15-20, 21-44, and 45 or older. Drivers of age 15-20 years can no longer legally purchase alcohol in any state. Table 26 gives the BAC distribution of all drivers for these groups.

Two observations from Table 26 merit special mention.

- The percentages of legally drunk drivers in the three age groups differ markedly from each other.

Table 26 Fatal Crash Driver BAC Distribution By Age Group 1993				
Driver Age	0.00	0.01-0.09	0.10	Total Drivers
15-20	75.8%	8.4%	15.9%	7,472
21-44	65.4%	7.2%	27.3%	29,145
45 +	85.3%	3.5%	11.2%	15,624

- The percentage of persons with BAC 0.01 - 0.09 decreases with increasing age.

Tables 27 and 28 disaggregate the fatal crash driver BAC distribution by crash type, day, and time. To simplify the presentation, only the percentage of fatally injured drivers in the high-BAC (0.10 +) group is given.

Table 27 Percentage of Fatally Injured Drivers with High BAC (0.10 +) in Single-Vehicle Crashes By Driver Age and Crash Day and Time 1993			
Period	Driver Age Groups		
	15-20	21-44	45 +
Daytime			
Weekday	7.6%	27.0%	15.7%
Weekend	15.4%	40.1%	23.8%
Nighttime			
Weekday	38.2%	67.1%	49.7%
Weekend	48.5%	74.5%	59.2%

Table 28 Proportion of Fatally Injured Drivers with High BAC (0.10 +) in Multi-Vehicle Crashes By Driver Age and Crash Day and Time 1993			
Period	Driver Age Groups		
	15-20	21-44	45 +
Daytime			
Weekday	2.8%	8.6%	4.6%
Weekend	6.1%	17.1%	5.1%
Nighttime			
Weekday	16.2%	38.7%	19.3%
Weekend	24.5%	48.1%	25.7%

For both single- and multi-vehicle fatal crashes, drivers of age 21-44 years have the highest alcohol involvement in each day and time period.

5. Vehicle Class

All but about 3 percent of the vehicles involved in fatal crashes fall into one of the following types:

- Motorcycles,
- Passenger cars,
- Light trucks and vans (including utility vehicles),
- Medium trucks, or
- Heavy trucks.

Table 29 shows the number of vehicles of each type involved in fatal crashes in 1993, together with the BAC distribution

Table 29 Fatal Crash Driver BAC Distribution By Vehicle Type 1993				
Vehicle Type	0.00	0.01-0.09	0.10 +	Total Vehicles
Motorcycles	55.9%	11.2%	32.9%	2,465
Pass. Cars	72.8%	6.5%	20.7%	29,941
Lt. Trks/Vans	68.8%	6.3%	24.9%	15,151
Med. Trucks	94.5%	1.6%	3.9%	555
Heavy Trucks	96.8%	1.9%	1.4%	3,708

of their drivers. The highest proportion of intoxicated drivers are motorcyclists, followed by drivers of light trucks and vans, and drivers of passenger cars.

6. Vehicle Age

Drivers of older vehicles are more likely to have been drinking when their fatal crash occurred than are drivers of newer vehicles.

Table 30 Fatal Crash Driver BAC Distribution By Vehicle Model Year 1993				
Model Year	0.00	0.01-0.09	0.10 +	Total Vehicles
Older than '79	63.3%	7.1%	29.6%	6,341
1979-1982	65.8%	7.2%	27.0%	7,080
1983-1986	73.3%	6.4%	20.2%	12,870
1987-1992	77.0%	5.8%	17.3%	25,595

The vehicle-age effect shown in Table 30 holds true for all driver age groups (Table 31).

Table 31 Percentage of High BAC (0.10 +) Drivers in Fatal Crashes By Vehicle Model Year and Driver Age 1993				
Driver Age	Model Year			
	Older than '79	1979-1982	1983-1986	1987-1992
15-19	15.0%	13.9%	11.7%	14.5%
20-24	34.5%	35.6%	28.7%	27.3%
25-29	38.4%	39.2%	29.8%	23.3%
30-44	37.7%	32.5%	25.5%	19.9%
45-59	26.5%	20.6%	14.5%	12.1%
60 +	9.5%	8.6%	7.5%	5.3%

7. Restraint Use

Sober drivers in fatal crashes are considerably more likely reported as having used their safety belts than are drunk drivers.

Table 32 presents the proportion of fatally injured and surviving drivers reported to have used belts for each BAC group. Note that sober drivers are belted almost 50 percent more often than are drivers in the 0.01-0.09 group; intoxi-

Table 32 Percentage of Safety Belt Use for Fatally Injured and Surviving Drivers By BAC Group 1993			
Crash Outcome	0.00	0.01-0.09	0.10 +
Fatally Injured Drivers	42.1%	27.2%	17.1%
Surviving Drivers	67.0%	43.9%	31.9%

cated drivers are restrained much less frequently than either group.

Likewise, Table 33 indicates that drivers who use their safety belts are much less likely to have been drinking than unrestrained drivers regardless of whether or not they were fatally injured.

Table 33 Fatal Crash Driver BAC Distribution By Crash Outcome and Safety Belt Use 1993					
Crash Outcome	Belt Use	0.00	0.01-0.09	0.10 +	Total Drivers
Fatally-Injured Drivers	Yes	79.6%	5.3%	15.0%	4,800
	No	55.6%	7.2%	37.2%	9,459
Surviving Drivers	Yes	88.8%	4.7%	6.5%	9,578
	No	68.8%	9.4%	21.8%	6,104

SECTION IV - ALCOHOL TRENDS, 1982-1993

Alcohol involvement in fatal crashes decreased between 1982 and 1993 (Table 34). The decrease was not uniform; alcohol involvement dropped more for some crash types than for others. This section presents some of the major changes.

Table 34 gives the year-to-year BAC distribution of alcohol involvement in fatal crashes, while Figure 3 shows the year-to-year BAC distribution for drivers in these crashes.

Table 34
Fatal Crash BAC Distribution
1982 - 1993

Year	0.00	0.01-0.09	0.10 +	Total Accidents
1982	43.3%	10.7%	46.1%	39,092
1983	45.0%	10.4%	44.7%	37,976
1984	46.7%	10.6%	42.7%	39,631
1985	48.5%	10.3%	41.2%	39,195
1986	48.3%	10.9%	40.8%	41,090
1987	49.3%	10.7%	40.0%	41,438
1988	50.1%	10.2%	39.7%	42,130
1989	51.1%	9.8%	39.1%	40,741
1990	50.6%	9.7%	39.7%	39,836
1991	52.1%	9.4%	38.5%	36,937
1992	54.5%	9.1%	36.4%	34,942
1993	56.5%	8.5%	35.0%	35,747

Tables 35-37 display several facts of special interest. The reduction in alcohol involvement is especially large for drivers under 21 years of age, and is seen in all time periods. For the 21-44 year age group the average reduction is much smaller, especially during nighttime driving, when alcohol involvement is notori-

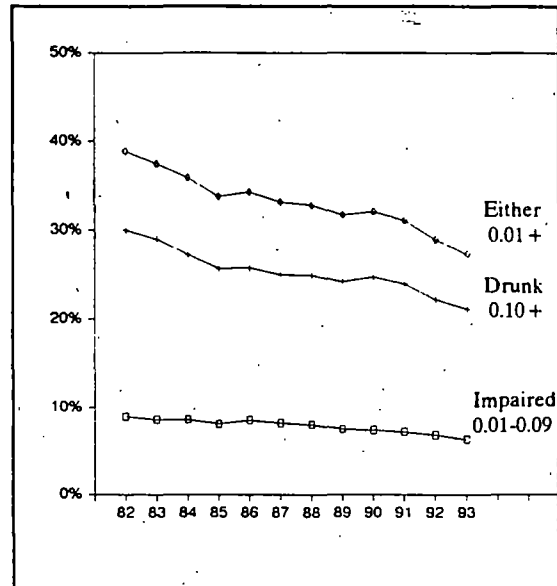


Fig. 3 - Estimated Proportion of Drivers
in Fatal Crashes Who Were Impaired or Drunk

Data for Figure 3

Year	Impaired 0.01-0.09	Drunk 0.10 +	Either 0.01 +
1982	8.9%	30.0%	38.9%
1983	8.6%	29.0%	37.5%
1984	8.6%	27.3%	36.0%
1985	8.1%	25.7%	33.8%
1986	8.5%	25.8%	34.3%
1987	8.2%	25.0%	33.2%
1988	8.0%	24.9%	32.8%
1989	7.5%	24.2%	31.7%
1990	7.4%	24.7%	32.1%
1991	7.2%	23.9%	31.1%
1992	6.8%	22.1%	28.9%
1993	6.3%	21.0%	27.3%

ously high. For drivers of age 45 years or older there is a large reduction in drunk

Table 35
Reduction in High-BAC (0.10 +) Drivers
By Fatal Crash Day and Time
for Age Group 16-20 Years Old
(Excluding Nonoccupant Crashes)
1982 vs.1993

Period	1982	1993	Reduction
Daytime			
Weekday	9.3%	3.2%	66%
Weekend	15.0%	7.5%	50%
Nighttime			
Weekday	40.0%	23.9%	40%
Weekend	46.6%	30.2%	35%

driving during the day as well as a smaller but substantial reduction at night.

Table 38 shows the reduction in drunk driving by vehicle type. Although alcohol involvement is generally low for drivers operating commercial vehicles (medium and heavy trucks), sizeable reductions

Table 36
Reduction in High-BAC (0.10 +) Drivers
By Fatal Crash Day and Time
for Age Group 21-44 Years Old
(Excluding Nonoccupant Crashes)
1982 vs.1993

Period	1982	1993	Reduction
Daytime			
Weekday	12.0%	8.0%	33%
Weekend	23.6%	16.4%	31%
Nighttime			
Weekday	47.6%	41.1%	14%
Weekend	53.0%	49.7%	6%

Table 37
Reduction in High-BAC (0.10 +) Drivers
By Fatal Crash Day and Time
for Age Group 45 Years and Older
(Excluding Nonoccupant Crashes)
1982 vs. 1993

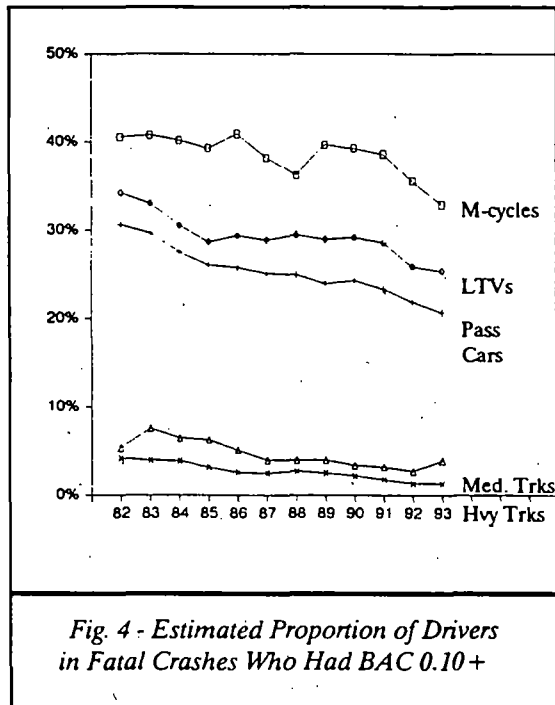
Period	1982	1993	Reduction
Daytime			
Weekday	8.8%	5.2%	41%
Weekend	13.7%	8.2%	40%
Nighttime			
Weekday	30.2%	22.5%	25%
Weekend	33.9%	28.3%	17%

occurred for drivers of these vehicle types between 1982-1993. Motorcycle drivers not only have the highest percent of alcohol involvement, but exhibit the smallest reduction in drunk driving between 1982 and 1993.

Table 38
Reduction in High-BAC (0.10 +) Drivers
in Fatal Crashes
By Vehicle Type
1982 vs. 1993

Vehicle Type	1982	1993	Reduction
Motorcycles			
	40.5%	32.9%	19%
Passenger Cars			
	30.6%	20.7%	32%
Light Trucks/Vans			
	34.7%	24.9%	28%
Medium Trucks			
	5.4%	3.9%	28%
Heavy Trucks			
	4.2%	1.4%	67%

Figure 4 shows that the involvement rate for motorcycle drivers remained fairly constant between 1982 and 1986, then dropped sharply in 1987 and 1988, and rose in 1989. In contrast, the involvement rate for passenger car drivers declined steadily during the same time frame. For



Data for Figure 4					
Year	M/C	Pass. Cars	LTV	Med. Trks.	Hvy. Trks.
1982	40.5%	30.6%	34.7%	5.4%	4.2%
1983	40.8%	29.7%	33.1%	7.6%	4.0%
1984	40.2%	27.6%	30.6%	6.5%	3.9%
1985	39.3%	26.1%	28.7%	6.3%	3.2%
1986	40.9%	25.8%	29.4%	5.1%	2.6%
1987	38.2%	25.1%	28.9%	4.0%	2.5%
1988	36.3%	25.0%	29.5%	4.0%	2.7%
1989	39.7%	24.0%	29.0%	4.0%	2.5%
1990	39.3%	24.3%	29.2%	3.4%	2.2%
1991	38.6%	23.4%	28.2%	3.3%	1.8%
1992	35.6%	21.9%	25.8%	2.9%	1.3%
1993	32.9%	20.7%	24.9%	3.9%	1.4%
Pct. Chg. '82-'93	-19%	-32%	-28%	-28%	-67%

light trucks and vans, the lowest involvement rate occurred in 1985, after which the rate increased, then leveled off before a sharp drop in 1993. Driver of medium and heavy trucks continue to exhibit low rates of alcohol involvement.

Female drivers are not only less frequently drunk than are males but also show a greater reduction in alcohol involvement from 1982-1993 (Table 39):

Table 39 Reduction in High-BAC (0.10 +) Drivers in Fatal Crashes By Driver Sex 1982 vs. 1993			
Driver Sex	1982	1993	Reduction
Male	32.4%	23.7%	27%
Female	18.9%	12.1%	36%
All Drivers	30.0%	21.0%	30%

A different aspect of alcohol trends is shown in Table 40, which presents the 1982-1993 reduction at the crash level.

Table 40 Reduction in High-BAC (0.10 +) Drivers By Fatal Crash Type and Land Use 1982 vs. 1993				
Land Use	Crash Type	1982	1993	Reduction
Urban	Single.	56.3%	45.2%	20%
	Multi.	38.5%	26.2%	32%
	Nonocc.	42.3%	37.9%	10%
Rural	Single.	55.2%	44.5%	19%
	Multi.	34.4%	21.9%	36%
	Nonocc.	51.0%	40.8%	20%

Overall, the proportion of high BAC fatal crashes dropped 21 percent in urban areas and 25 percent in rural areas.

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2. Klein, T. M., *A Method for Estimating Posterior BAC Distributions for Persons Involved in Fatal Accidents*, DOT HS 807 094, July 1986, NHTSA.

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YOUTH MOTOR VEHICLE FATALITIES

1982 - 1994

Preface

The figures and data contained in this report focus on impaired driving fatal crashes by young people, ages 15 through 20, from 1982 to 1992. The data selected to illustrate this problem fall into four categories:

- o Youth Fatalities -- Those who died in motor vehicle crashes (drivers, passengers, or non-occupant) who were 15 to 20 years old. An "alcohol-related" fatality occurs if any driver or non-occupant involved in the crash had been drinking (i.e., their BAC was greater than zero). The young person killed, therefore, may or may not have been drinking.
- o Young Drivers Involved in Fatal Crashes -- 15-to-20-year-old drivers involved in a crash that resulted in a fatality. These drivers may have been fatally injured in the crash or survived the crash and the fatality may have been a youth or an adult.
- o Young Drivers Killed -- 15-to-20-year-old drivers who were killed in a motor vehicle crash.
- o Youth Fatalities by Alcohol-Involvement of Young Drivers -- Youth who were killed in a motor vehicle accident in which a young person was driving. The fatality could have been the driver, a passenger, or a non-occupant 15 to 20 years old. The young driver (also aged 15 through 20) involved in the crash may or may not have been "at fault."

The data in these four categories are broken out by alcohol-related (A/R) involvement. If a fatality is alcohol-related, a driver or non-occupant had a measurable blood alcohol content (BAC). The alcohol involvement is further broken down to indicate if the BAC was between .01 and .09 percent (which is within the "legal limit" in most States) or if it was greater than or equal to .10 percent, which is over the legal limit in most States. (It should be noted that 30 States have set lower BAC limits for young drivers as of Sept.1, 1994.)

Some of the data are shown in figures to highlight interesting trends or problem areas.

Unless otherwise noted, the sources of all data contained in this report are from the Fatal Accident Reporting System, National Center For Statistics And Analysis, National Highway Traffic Safety Administration. Other data were derived from the current population surveys of the Bureau of the Census, driver licensing data from the Federal Highway Administration and alcohol consumption data from the National Institute on Drug Abuse.

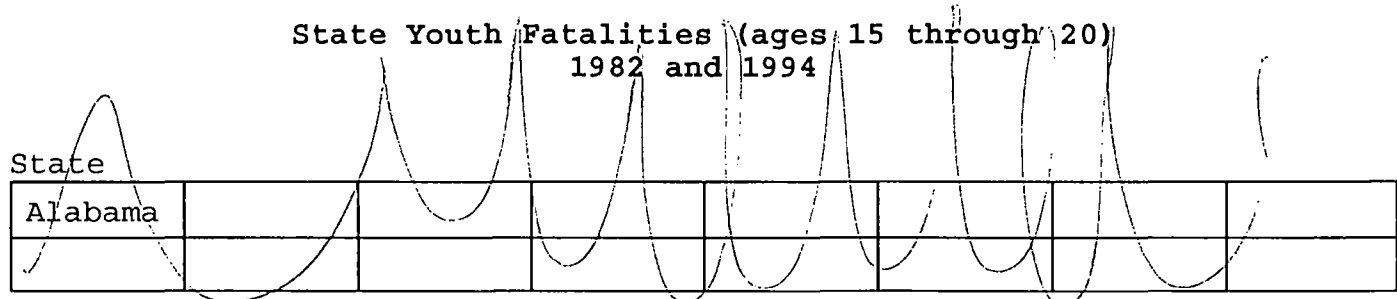
The national effort to reduce motor vehicle deaths and injuries of young people, ages 15 through 20, has been a success story. Although far too many youth still die tragically in these crashes, fatality reductions over the past decade, especially those that are alcohol-related, have been remarkable. Just eleven years ago 8,508 young Americans died in crashes. In 1993, that number has been reduced to 5,905, a reduction of 30 percent. For alcohol-related fatalities, over 3,000 fewer young people died in 1993 compared to 1982, a reduction of **over 56 percent**. Few social programs aimed at reducing mortality can measure success with the magnitude of these numbers.

What is causing these fatality reductions? There are numerous reasons, none of which can be proven to be the single cause. Age 21 drinking laws have been shown to have had a significant impact on fatalities. Twenty-six states and the District of Columbia have enacted "zero tolerance" laws, making it illegal for youth under the age of 21 to drive with any alcohol in their system. The emergence of a wide range of prevention programs directed at youth coupled with public awareness campaigns have coincided with the fatality reductions. Enforcement efforts have begun to prevent underage drinking and to target the likely places where youth drink and drive. Finally, youth themselves have taken action to make other youth aware of the dangers of drinking and impaired driving and not wearing seat belts and have taken positive steps to prevent their peers from engaging in dangerous behavior. A recent NHTSA evaluation has shown the positive effects of such programs.

Why should we continue to emphasize programs that target teenage motor vehicle fatalities? The reasons are many:

- o Youth are still overrepresented in motor vehicle crashes compared to adults.
- o A young fatality is particularly tragic considering the years of potential life lost or the years, and cost, of a debilitating injury.
- o Changing behavior early in the driving experience will impact the high risk years of the early 20s and beyond.
- o Efforts directed at younger ages clearly have a big payoff. Lives can be saved in significant numbers.

What follows is a series of charts, graphs and bulleted information which describes the fatality trends since 1982.



YOUTH POPULATION

The Bureau of the Census estimates that there were 21 million young people aged 15 through 20 in the United States during 1994. The number of licensed drivers in this age group was estimated at just under 12 million.

- o The youth population decreased by 13 percent since 1982.
- o The number of young licensed drivers decreased by 20 percent since 1982.
- o In 1994 the youth population increased for only the second time in the last 12 years. However, the youth population is expected to increase **every year** for the next 10 years.
- o The U.S. Census Bureau estimates that in the year 2000, the youth population will be 23.7 million, **an increase of 12 percent** from 1994.

YOUTH FATALITIES

6,226 young people died in motor vehicle crashes in 1994. An estimated 2,343 (37.6%) of these fatalities were alcohol-related.

- o **Youth fatalities increased** by over 5 percent from 1993 to 1994. Alcohol-related fatalities declined by 0.6 percent while non-alcohol-related fatalities increased by over 9 percent.
- o Since 1982, youth fatalities have declined by almost 27 percent compared to an adult decline of almost 2 percent. Alcohol-related fatalities **declined by 56 percent** for youth and 27 percent for adults. Non-alcohol-related fatalities **increased by 24 percent** for youth and increased 34 percent for adults.
- o In the last 2 years, non-alcohol-related fatalities increased by 15% for youth.
- o During the past 10 years, youth alcohol-related fatalities declined by 44 percent.
- o Young males continue to outnumber young females by a wide margin in fatalities. In 1994, 69 percent of the youth fatalities were males. However, female fatalities **increased by almost 10 percent** from 1993, male fatalities increased by just over 3 percent.
- o During 1994, a young person died in a traffic crash an average of **once an hour** during the weekend and once every two hours on weekdays.
- o About half of all youth weekend fatalities were alcohol-related compared to 29 percent for weekdays.
- o There were 1,214 fewer alcohol-related youth fatalities in 1994 than there were in 1990.
- o In 1994, 2,730 more unrestrained youth died in crashes than those that died wearing seat belts.

YOUTH CRASH FATALITY RATES

The youth population has declined since 1982, and a reduction in fatalities would be expected. The fatality rate (young people killed per 100,000 of the youth population), provides another perspective on trends that is not dependent on population size. Since 1982, the alcohol-related fatality rate has steadily declined. The non-alcohol-related rate increased until 1988 and then that rate also started to decline only to increase again in 1993. The non-alcohol-related rate is now back to what it was in 1988.

- o The motor vehicle fatality rate for youth increased for the first time since 1988.
- o The alcohol-related fatality rate for youth **has been cut in half** since 1982 -- from 22 to 11 deaths per 100,000 youth. The rate remained the same from 1993.
- o Compared to adults, youth are still overrepresented in both alcohol- and non-alcohol related fatality rates. Youth are overrepresented in non-alcohol-related crashes by a factor of **almost 2 to 1** (19 to 10). On the alcohol side the gap is narrower. There, the overrepresentation is 11 to 7. In 1982, youth were overrepresented in alcohol-related fatality rates by a factor of almost 2 to 1 (22 to 12).
- o The alcohol-related fatality rate for adults has also dropped since 1982, although not as precipitously as for youth. The alcohol-related rate has dropped from 12 to 7 deaths per 100,000.
- o Since the adult rate dropped by one point in 1994, and the youth rate remained the same, the gap in rates widened for the first time in a decade.
- o If young people died each year at the 1982 alcohol fatality rate (per 100,000 population), **over 13,800 additional youth** would have died in alcohol-related crashes during the last twelve years.
- o **In the year 2000**, with increased population estimates, **884 more young people will die** in motor vehicle crashes than in 1994, if the fatality rate remains constant. If the fatality rate reverts back to the 1982 level, **over 2,000 more young people will die** than in 1994.

ALCOHOL-RELATED PERCENTAGES

The percentage of youth fatalities that were alcohol-related in 1994 was 37.6. **This is the lowest percentage since accurate nationwide data first became available in 1982.** By comparison, the percentage of adult fatalities that were alcohol-related was 43.2.

- o The proportion of youth fatalities that were alcohol-related dropped by over 25 percentage points since 1982 (**63.3% to 37.6%**). This is a decline of over 40 percent in that proportion.
- o Since 1982, the proportion of adult fatalities that were alcohol-related dropped by over 15 percentage points (58.4% to 43.2%), a 26 percent reduction in that proportion.
- o 1993 was the first year the alcohol-related percentage of youth fatalities **fell below 40 percent.**

YOUTH FATALITIES BY SPECIFIC AGE

In 1994, more 19 year-olds died in traffic crashes than any other specific age. The next most fatal ages were 18, 20, 21 and 17, respectively. No other ages but these recorded over 1,100 fatalities.

- o Historically, 18 or 19 year-olds have recorded the most fatalities each year. However, in 1991 and 1992, the peak year was 21.
- o In 1994, the seven ages with the most fatalities -- 17, 18, 19, 20, 21, 22 and 23 -- represented only 10 percent of the total population. However, they accounted for 20 percent of the total fatalities.
- o In 1994, 21 year-olds recorded the most alcohol-related fatalities, though the number is down from 1992. 20 year-olds recorded the most speed-related fatalities and 19 year-olds the most fatalities where no seat belt was used.
- o Although very near the peak in fatalities, 18 year-olds made the most progress in fatality reduction among youth. In 1994, fatalities in all the specific ages from 15 through 20 increased except for 18 year-olds. In fact, if not for the decrease of 63 alcohol-related 18 year-old fatalities, overall teenage alcohol-related fatalities would have increased in 1994.

1994 GENERAL FACTS

Youth Fatalities Ages 15 Through 20

- o Over 40 percent of all deaths for people ages 15 to 20, result from motor vehicle crashes. Two out of five motor vehicle fatalities involve alcohol. Over 60 percent of these young people died without using a seat belt.
- o Since 1989, less than half of youth motor vehicle fatalities have been alcohol-related. **Drinking and driving is no longer the leading cause of death for teenagers.** However, motor vehicle crashes remain so.
- o 2,343 youth died in alcohol-related fatalities in 1994 - 37.6 percent of the total fatalities.
- o The alcohol-related fatality rate for youth **has been cut in half** since 1982 -- from 22 to 11 deaths per 100,000 youth.
- o Alcohol-related fatalities for youth **declined for the fourth straight year.** (In fact, alcohol-related fatalities increased only twice in the last twelve years.)
- o 1,875 fewer young people died in traffic crashes in 1994 than in 1984, a 23 percent reduction. **Alcohol-related fatalities dropped by 50 percent in the past decade.**
- o High BAC (blood alcohol content over 0.10%) crashes accounted for **all** of the decline in alcohol-related fatalities in 1994. Low BAC crashes (0.01% to 0.09%) **actually increased by over 8 percent.** Young drivers involved in fatal crashes and young drivers killed also increased at low BAC levels but declined at high BAC levels.
- o The most youth fatalities occur in July and August. The fewest occur in the winter months.
- o About twice as many young people die in weekend crashes, per day, as on weekdays.
- o Close to 60 percent of the people that died in crashes where a young driver was involved **were young people themselves.** 8,860 people of all ages died in these crashes. 3,365 people died in these crashes who **were not** between the ages of 15 and 21.
- o Over three-quarters of the people who died in crashes where a young driver was drinking **were young people themselves.**
- o 1,218 19 year-olds died in motor vehicle crashes in 1994 - **the most of any single age.** More 21 year-olds died in alcohol-related crashes than any other age.
- o The six years of age from 15 through 20 account for **almost one-**

fourth of all passanger fatalities.

- o The proportions of young fatally injured drivers and young drivers involved in fatal crashes who were intoxicated have decreased significantly since 1982. The reduction in the number of drivers who were intoxicated dropped by over 60 percent in both categories - the largest decline of any age group.
- o The number of young people who died in a crash where an intoxicated young driver was involved declined by **over 60%** since 1982, from 2,763 to 1,037.
- o Youth are still overrepresented in fatal crashes compared to the older population. The rate of involvement is greater for youth for both alcohol- and non-alcohol-related crashes based on the total population and on the licensed driver population.
- o There were 15 young drinking drivers involved in fatal crashes for every 100,000 young licensed drivers in 1993. This is **over twice the rate** for drivers aged 21 and older.
- o The population of the United States, ages 15 through 20, has decreased from 24.2 million in 1982 to 21 million in 1994 -- a decrease of **13 percent**. During this same time period, motor vehicle fatalities for this age group decreased by **27 percent**, while alcohol-related fatalities decreased by over **56 percent**.
- o NHTSA estimates that minimum drinking age laws have saved 14,816 lives since 1975. **In 1994 these laws saved 848 lives.** All states and the District of Columbia now have 21-year-old minimum drinking age laws. (Note: These are fatalities of all ages involving a 18 to 20 year-old driver.)
- o As of August, 1995 thirty-three states and the District of Columbia have set lower illegal blood alcohol levels for youth. Twenty-six states and D.C. have set .02 or lower for all under the age of 21.

YOUTH ALCOHOL CONSUMPTION

"Monitoring the Future," a yearly survey of approximately 17,000 high school seniors conducted by the University of Michigan and funded by the National Institute on Drug Abuse, has tracked alcohol and other drug use by seniors since 1975. Since 1982, all categories of alcohol use have declined according to the self-report of students. These categories include lifetime use, yearly use, monthly use and "binge drinking" (5 or more drinks in a row in the past two weeks). However, **self-reported use in all of these categories increased slightly in 1994** (the first increase in seven years).

- o Self-reported monthly alcohol use increased for high school seniors from 48.6% in 1993 to 50.1% in 1994. Binge drinking increased from 27.5% to 28.2%.
- o By comparison, the percentage of fatalities that were alcohol-related for 17 and 18 year-olds decreased from 37.9% in 1993 to 35.2% in 1994. In 1994, the number of alcohol-related fatalities for these ages decreased by 21.4 percent (from 841 to 823).

Other alarming trends reported by this survey include:

- o In 1994, 45.6 percent of high school seniors had used an illicit drug at least once in their lifetime. Past year use of an illicit drug by seniors increased from 31.0 percent in 1993 to 35.8 percent in 1994 after steadily declining from a peak of 54.2 percent in 1979.
- o The use of marijuana at all prevalence levels increased among 8th-, 10th-, and 12th-graders in 1994.
- o The use of cocaine increased among 8th- and 10th-graders between 1993 and 1994.

In 1994, 10.5 percent of seniors had used LSD at least once, and 6.9 percent had used in the past year, nearing the level of use during the peak years of the mid-1970s.

- o The erosion of antidrug attitudes observed in 1993 continues in 1994. Fewer students in all three grades said that smoking marijuana occasionally, or even regularly, is harmful to their health.

Youth Fatalities and A/R Fatalities 1982-1994
Ages 15 through 20

	1982	1993	1994	Percent Change	
				82-94	93-94
Youth (15-20) Fatalities					
Total Fatalities	8,508	5,911	6,226	-26.8	5.3
A/R Fatalities	5,380	2,356	2,343	-56.4	-0.6
% of Total	63.3	39.8	37.6	-40.6	-5.5
.01-.09 BAC	1,257	699	756	-39.9	8.2
% of Total	14.8	11.8	12.1	-18.2	2.5
.10+ BAC	4,123	1,657	1,587	-61.5	-4.2
% of Total	48.5	28.0	25.5	-47.4	-8.9
Young Drivers Involved in Fatal Accidents					
Total Drivers	10,080	7,484	7,957	-21.1	6.3
A/R Drivers	4,379	1,804	1,773	-59.5	-1.7
% of Total	43.5	24.2	22.3	-48.7	-7.9
.01-.09 BAC	1,287	625	667	-48.2	6.7
% of Total	12.8	8.4	8.4	-34.4	0.0
.10+ BAC	3,092	1,179	1,106	-64.2	-6.2
% of Total	30.7	15.8	13.9	-54.7	-12.0
Young Drivers Killed					
Total Drivers	4,526	3,228	3,446	-23.9	6.8
A/R Drivers	2,501	1,073	1,073	-57.1	0.0
% of Total	55.3	33.2	31.2	-43.6	-6.0
.01-.09 BAC	548	301	326	-40.5	8.3
% of Total	12.1	9.3	9.5	-21.5	2.2
.10+ BAC	1,953	772	747	-61.8	-3.2
% of Total	43.2	23.9	21.7	-49.8	-9.2
Youth Fatalities by Alcohol Involvement of Young Drivers					
Total Fatalities	6,723	4,873	5,225	-22.3	7.2
A/R Fatalities	3,753	1,604	1,597	-57.4	-0.4
% of Total	55.8	32.9	30.5	-45.3	-7.3
.01-.09 BAC	990	529	560	-43.4	5.9
% of Total	14.7	10.8	10.7	-27.2	-0.9
.10+ BAC	2,763	1,075	1,037	-62.5	-3.5
% of Total	41.1	22.1	19.8	-51.8	-10.4

Traffic Safety Facts 1994

U.S. Department of Transportation
National Highway Traffic
Safety Administration



Alcohol



The National Highway Traffic Safety Administration (NHTSA) defines a fatal traffic crash as being alcohol-related if either a driver or a nonoccupant (e.g., pedestrian) had a blood alcohol concentration (BAC) of 0.01 grams per deciliter (g/dl) or greater in a police-reported traffic crash. Persons with a BAC of 0.10 g/dl or greater involved in fatal crashes are considered to be intoxicated. This is the legal limit of intoxication in most states.

Traffic fatalities in alcohol-related crashes dropped by 5 percent from 1993 to 1994. The 16,589 alcohol-related fatalities in 1994 (40.8 percent of total traffic fatalities for the year) represent a 30 percent reduction from the 23,758 alcohol-related fatalities reported in 1984 (53.7 percent of the total).

NHTSA estimates that alcohol was involved in 40.9 percent of fatal crashes and in 6 percent of all crashes in 1994.

The 16,589 fatalities in alcohol-related crashes during 1994 represent an average of one alcohol-related fatality every 32 minutes.

About 297,000 persons were injured in crashes where police reported that alcohol was present—an average of one person injured approximately every 2 minutes.

More than 1.5 million drivers were arrested in 1993 for driving under the influence of alcohol or narcotics. This is an arrest rate of 1 for every 117 licensed drivers in the United States (1994 data not yet available).

About 2 in every 5 Americans will be involved in an alcohol-related crash at some time in their lives.

In 1994, 32 percent of all traffic fatalities occurred in crashes in which at least one driver or nonoccupant had a BAC of 0.10 g/dl or higher. More than two-thirds of the 13,094 people killed in such crashes were themselves intoxicated. The remaining one-third were passengers, nonintoxicated drivers, or nonintoxicated nonoccupants.

Table 1. Types of Fatalities in Fatal Crashes Involving at Least One Intoxicated Driver or Nonoccupant, 1994

Type of Fatality	Number	Percent of Total
Intoxicated Drivers	7,281	56
Nonintoxicated Drivers	865	7
Passengers	2,634	20
Intoxicated Nonoccupants (Pedestrians and Pedalcyclists)	1,758	13
Nonintoxicated Nonoccupants	556	4
Total Fatalities	13,094	100

"There were 16,589 alcohol-related fatalities in 1994—40.8 percent of the total traffic fatalities for the year."

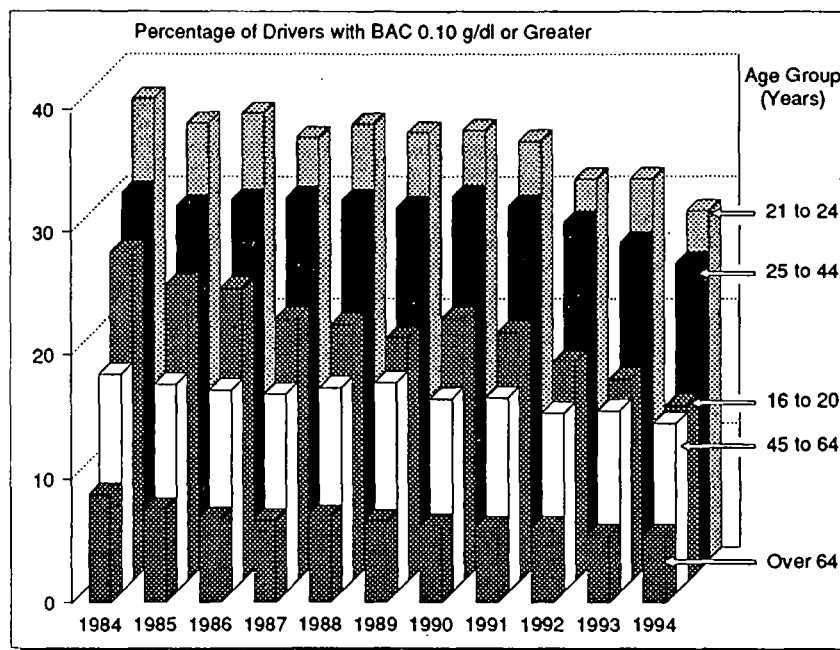
The rate of alcohol involvement in fatal crashes is three and one-half times as high at night as during the day (62.7 percent vs. 18.0 percent). For all crashes, the alcohol involvement rate is 6 times as high at night (14.5 percent vs. 2.4 percent).

In 1994, 30.7 percent of all fatal crashes during the week were alcohol-related, compared to 54.7 percent on weekends. For all crashes, the alcohol involvement rate was 4.1 percent during the week and 11.1 percent during the weekend.

From 1984 to 1994, intoxication rates decreased for drivers of all age groups involved in fatal crashes, with the youngest and oldest drivers experiencing the largest decreases. For drivers 65 and older, intoxication rates dropped from 8.8 percent in 1984 to 5.5 percent in 1994, a decline of 38 percent; for drivers 16 to 20 years of age, intoxication rates dropped by 47 percent, from 26.6 percent in 1984 to 14.1 percent in 1994.

“From 1984 to 1994, intoxication rates decreased for drivers of all age groups involved in fatal crashes.”

Figure 1. Intoxicated Drivers in Fatal Crashes by Age Group, 1984-1994



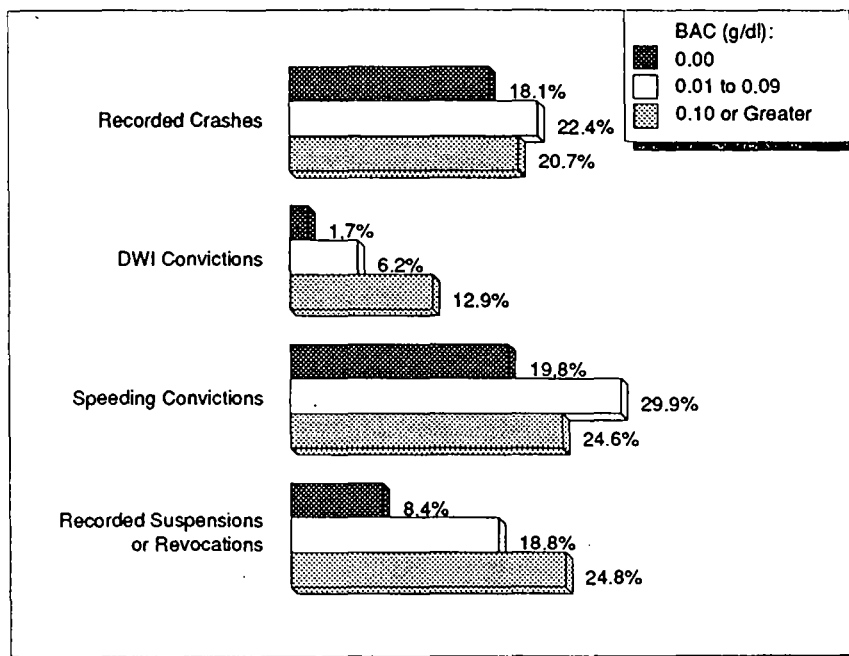
The highest intoxication rates in fatal crashes in 1994 were recorded for drivers 21 to 24 years old (28.1 percent), followed by ages 25 to 34 (26.8 percent) and 35 to 44 (22.3 percent). These three groups have also shown the smallest reductions since 1984 (24.7 percent, 18.8 percent, and 13.9 percent, respectively).

Intoxication rates for drivers in fatal crashes in 1994 were highest for motorcycle operators (28.9 percent) and lowest for drivers of large trucks (1.4 percent). The intoxication rate for drivers of light trucks was higher than that for passenger car drivers (22.9 percent and 19.4 percent, respectively).

Safety belts were used by only about 16.3 percent of the fatally injured *intoxicated* drivers (BAC of 0.10 g/dl or greater), compared to 27.3 percent of fatally injured *impaired* drivers (BAC between 0.01 g/dl and 0.09 g/dl) and 43.4 percent of fatally injured sober drivers.

Fatally injured drivers with BAC levels of 0.10 g/dl or greater were about 7 times as likely to have a prior conviction for driving while intoxicated compared to fatally injured sober drivers (12.9 percent and 1.7 percent, respectively).

Figure 2. Previous Driving Records of Drivers Killed in Traffic Crashes, by Blood Alcohol Concentration, 1994



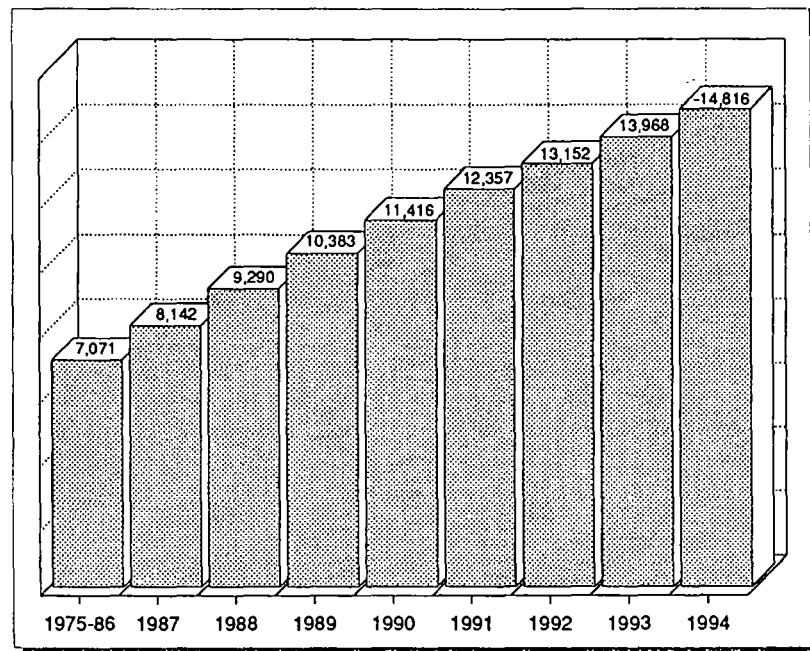
“More than one-third of all pedestrians 16 years of age or older killed in traffic crashes in 1994 were intoxicated.”

More than one-third of all pedestrians 16 years of age or older killed in traffic crashes in 1994 were intoxicated. By age group, the percentages ranged from a low of 9.6 for pedestrians 65 years and older to a high of 50.8 percent for those 25 to 34 years old.

The driver, pedestrian, or both were intoxicated in 37.4 percent of all fatal pedestrian crashes in 1994. In these crashes, the intoxication rate for pedestrians was more than twice the rate for drivers—30.1 percent and 12.9 percent, respectively. Both the pedestrian and the driver were intoxicated in 5.6 percent of the crashes that resulted in a pedestrian fatality.

All states and the District of Columbia now have 21-year-old minimum drinking age laws. NHTSA estimates that these laws have reduced traffic fatalities involving drivers 18 to 20 years old by 13 percent and have saved an estimated 14,816 lives since 1975.

Figure 3. Cumulative Estimated Number of Lives Saved by Minimum Drinking Age Laws, 1975-1994



“NHTSA estimates that minimum drinking age laws have saved 14,816 lives since 1975.”

On the following pages, Tables 2, 3, 4, and 5 present summary data on alcohol involvement in fatal crashes in 1994, compared with 1984 data.

For more information:

Information on alcohol involvement in traffic fatalities is available from the National Center for Statistics and Analysis, NRD-31, 400 Seventh Street, S.W., Washington, D.C. 20590. Telephone inquiries should be addressed to Ms. Louann Hall at (202) 366-4198. FAX messages should be sent to (202) 366-7078. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

“Serving the Highway Safety Community by the Numbers”

Table 2. Alcohol Involvement in Fatal Crashes, 1984 and 1994

	1984		1994		Change in Percentage, 1984-1994
	Number	Percentage with BAC 0.10 g/dl or Greater *	Number	Percentage with BAC 0.10 g/dl or Greater *	
Fatal Crashes	39,631	42.7	36,223	32.5	-24%
Total Fatalities	44,257	42.9	40,676	32.2	-25%

* For any person (occupant or nonoccupant) involved in the fatal crash.

Table 3. Alcohol Involvement for Drivers in Fatal Crashes, 1984 and 1994

Drivers Involved in Fatal Crashes	1984		1994		Change in Percentage, 1984-1994
	Number of Drivers	Percentage with BAC 0.10 g/dl or Greater	Number of Drivers	Percentage with BAC 0.10 g/dl or Greater	
Total Drivers					
Total *	57,512	27.3	54,514	19.3	-29%
Drivers by Age Group (Years)					
16-20	9,804	26.6	7,711	14.1	-47%
21-24	8,963	37.3	6,280	28.1	-25%
25-34	15,233	33.0	12,882	26.8	-19%
35-44	8,563	25.9	9,935	22.3	-14%
45-64	9,143	17.7	10,312	13.6	-23%
Over 64	4,316	8.8	6,055	5.5	-38%
Drivers by Sex					
Male	44,723	29.6	40,195	21.9	-26%
Female	11,907	17.1	13,550	11.1	-35%
Drivers by Vehicle Type					
Passenger Cars	34,395	27.6	29,977	19.4	-30%
Light Trucks	11,866	30.6	16,174	22.9	-25%
Large Trucks	5,056	4.3	4,563	1.4	-67%
Motorcycles	4,650	40.2	2,317	28.9	-28%

* Numbers shown for groups of drivers do not add to the total number of drivers due to unknown or other data not included.

Table 4. Alcohol Involvement for Drivers Killed In Fatal Crashes, 1984 and 1994

Driver Fatalities	1984		1994		Change in Percentage, 1984-1994
	Number of Driver Fatalities	Percentage with BAC 0.10 g/dl or Greater	Number of Driver Fatalities	Percentage with BAC 0.10 g/dl or Greater	
Total Driver Fatalities					
Total	25,589	40.2	23,695	30.7	-24%
Driver Fatalities by Crash Type and Time of Day					
Single-Vehicle	12,790	56.0	11,207	46.2	-17%
Daytime *	4,000	28.4	4,281	21.2	-25%
Nighttime **	8,533	68.8	6,695	61.9	-10%
Multiple-Vehicle	12,799	24.4	12,488	16.8	-31%
Daytime *	6,919	10.5	7,790	6.7	-36%
Nighttime **	5,876	40.7	4,689	33.6	-17%
Driver Fatalities by Day of Week					
Weekday ***	14,178	31.4	13,984	22.0	-30%
Weekend ****	11,405	51.1	9,711	43.4	-15%
Driver Fatalities by Time of Day					
Daytime *	10,919	17.0	12,071	11.9	-30%
Nighttime **	14,409	57.3	11,384	50.2	-12%
Driver Fatalities by Day of Week and Time of Day					
Weekday ***					
Daytime *	7,820	13.6	8,854	9.4	-31%
Nighttime **	6,247	53.0	5,027	43.5	-18%
Weekend ****					
Daytime *	3,099	25.6	3,217	18.6	-27%
Nighttime **	8,162	60.6	6,357	55.5	-8%

* 6:00 AM to 6:00 PM.

** 6:00 PM to 6:00 AM.

*** Monday 6:00 AM to Friday 6:00 PM.

**** Friday 6:00 PM to Monday 6:00 AM.

Table 5. Alcohol Involvement for Nonoccupants Killed In Fatal Crashes, 1984 and 1994

Nonoccupant Fatalities	1984		1994		Change in Percentage, 1984-1994
	Number of Nonoccupant Fatalities	Percentage with BAC 0.10 g/dl or Greater	Number of Nonoccupant Fatalities	Percentage with BAC 0.10 g/dl or Greater	
Pedestrian Fatalities by Age Group (Years)					
16-20	571	40.4	270	25.4	-37%
21-24	548	53.0	282	45.7	-14%
25-34	1,121	52.9	844	50.8	-4%
35-44	735	51.2	897	49.1	-4%
45-64	1,317	42.1	1,068	37.1	-12%
Over 64	1,463	11.8	1,249	9.6	-19%
Total *	7,025	32.8	5,472	29.6	-10%
Pedalcyclist Fatalities					
Total	849	12.6	802	16.1	28%

* Includes pedestrians under 16 years old and pedestrians of unknown age.

State Fatalities - Ages 15 Through 20

STATE	1982			1993			1994		
	Total	A-R	%A-R	Total	A-R	%A-R	Total	A-R	%A-R
Alabama	152	105	69.2	160	56	35.2	166	65	38.9
Alaska	22	14	64.1	13	2	16.3	14	10	72.3
Arizona	121	74	61.5	119	62	52.1	119	40	34.1
Arkansas	98	70	71	85	24	28.6	100	32	31.4
California	808	469	58	534	195	36.5	550	203	36.9
Colorado	118	87	73.8	85	31	36.7	97	37	38.2
Connecticut	125	97	77.4	52	15	28.2	44	19	44.6
Delaware	29	23	79.4	16	7	46.5	11	7	63.7
D.C.	1	1	99.9	5	4	72.1	11	5	43.1
Florida	407	222	54.5	295	121	41	350	142	40.5
Georgia	221	144	65.4	204	57	28.3	183	58	31.8
Hawaii	25	19	76	14	8	57.4	18	9	50.8
Idaho	67	29	43	41	12	29.9	40	16	39
Illinois	309	200	64.8	218	85	38.8	261	92	35.2
Indiana	192	111	57.7	149	51	34.3	169	44	26.3
Iowa	111	66	58.9	85	35	41.5	79	28	35.9
Kansas	86	47	54.6	66	27	41.7	93	34	36.4
Kentucky	180	106	58.4	154	49	32.1	124	41	33.3
Louisiana	213	130	61.4	150	75	49.8	131	75	57.2
Maine	37	20	51.9	43	14	33.6	35	9	26.2
Maryland	133	77	57.9	71	24	33.6	82	22	27.1
Massachusetts	168	116	68.6	66	27	41.2	66	30	45.2
Michigan	267	191	71.5	196	85	43.4	249	93	37.7
Minnesota	101	69	67.5	74	22	30.7	104	42	40.9
Mississippi	127	78	61.3	122	63	51.7	127	49	38.5
Missouri	199	101	51	173	82	47.5	229	107	46.5
Montana	64	46	72.4	42	24	57.4	36	19	52.3
Nebraska	48	33	68.9	41	25	60.2	63	27	43.4
Nevada	48	37	76.1	22	8	36.1	27	11	39.6
New Hampshire	42	30	72.1	17	5	28.8	19	7	39.3
New Jersey	216	144	66.9	100	34	34.5	90	32	35.1
New Mexico	103	70	69.7	65	43	66.5	62	36	57.3
New York	417	248	59.5	198	70	35.2	230	76	33
North Carolina	268	174	64.7	208	58	27.6	229	62	27.3
North Dakota	41	24	58.8	12	4	40.1	20	11	53.9
Ohio	351	223	63.4	280	93	33.3	209	53	25.2
Oklahoma	202	120	59.7	126	50	39.4	119	38	32.3
Oregon	96	61	63.5	77	22	29.6	68	19	27.2
Pennsylvania	342	212	62	167	70	42.1	175	65	37.2
Rhode Island	27	20	74.4	5	3	60.2	4	1	35.7
South Carolina	139	87	63	107	27	25.1	140	39	27.9
South Dakota	22	12	55	20	8	40	36	17	44.5
Tennessee	238	144	60.5	197	80	40.1	206	72	35.1
Texas	763	558	73.2	456	256	56.1	485	270	55.6
Utah	61	28	45.6	61	20	31.3	80	17	21.3
Vermont	33	22	67.6	18	6	34.8	16	8	46.6
Virginia	196	120	61.1	114	48	41.4	159	45	28.6
Washington	150	93	61.9	137	62	45.8	92	33	35.9
West Virginia	93	50	54.2	73	31	42.5	46	19	41.6
Wisconsin	193	134	69.7	156	66	42	126	41	32.3
Wyoming	38	24	64.5	22	9	39	37	16	41.6
TOTAL	6508	5380	63.3	5811	2356	39.8	6226	2343	37.6

Note: A-R = Alcohol-Related

Issues,
Problems,
Recommended Solutions

Enforcement of Underage Impaired-Driving Laws



U.S. Department of Transportation
**National Highway Traffic Safety
Administration**

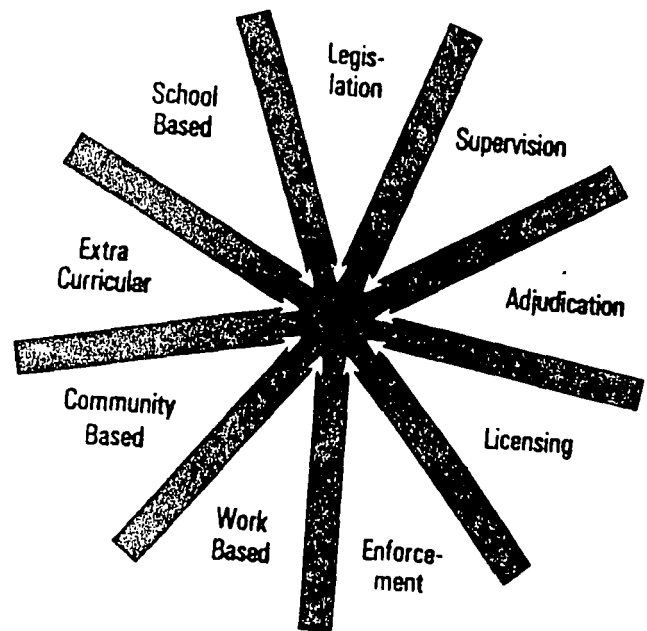
Thank You

Departments visited during this study

Arapahoe County Sheriff's Department, Colorado • Arvada Police Department, Colorado • Aspen Police Department, Colorado • Atlanta Police Department, Georgia • Aurora Police Department, Colorado • Boston Metropolitan Police Department, Massachusetts • Boulder County Sheriff's Department, Colorado • California Highway Patrol • California State University, Chico Police Department • Cedar Rapids Police Department, Iowa • Charles City Police Department, Iowa • Chico Police Department, California • Clackamas County Sheriff's Department, Oregon • Colorado Springs Police Department, Colorado • Columbia Police Department, Missouri • Columbia County Sheriff's Department, Oregon • Denver Police Department, Colorado • El Paso County Sheriff's Department, Colorado • Floyd County Sheriff's Department, Iowa • Georgia State Patrol • Iowa State Patrol • Kansas City Police Department, Missouri • Lafayette Police Department, Louisiana • Linn County Sheriff's Department, Iowa • Louisiana State Police • Macon Police Department, Georgia • Massachusetts State Police • Missouri State Highway Patrol • Multnomah County Sheriff's Department, Oregon • New Castle County Police Department, Delaware • New Orleans Police Department, Louisiana • Oregon Department of State Police • Phoenix Police Department, Arizona • Pitkin County Sheriff's Department, Colorado • Portland Police Department, Oregon • Pueblo Police Department, Colorado • Rock County Sheriff's Department, Wisconsin • Roseville Police Department, California • St. Helens Police Department, Oregon • Salem Police Department, Oregon • San Diego Police Department, California • Santa Ana Police Department, California • Spaulding County Sheriff's Department, Georgia • Springfield Police Department, Massachusetts • Tangipahoe Parish Sheriff's Department, Louisiana • Woodland Park Police Department, Colorado •

All fifty states and the District of Columbia have laws which establish "21" as the minimum legal drinking age. Nevertheless, young people continue to drink and drive and become involved in alcohol-related motor vehicle crashes.

No single segment of the community can solve this problem alone. Parents, schools, driver licensing, law enforcement, the judicial system, health professionals and others each have an important role.



The present report is concerned with enforcement of Driving While Intoxicated (DWI, also referred to as DUI) laws for "under 21" offenders.

The report covers:

Underage Drinking

DWI Enforcement

Obstacles to Youth DWI Enforcement

Effective Enforcement Strategies

Special Youth Enforcement Strategies

Assessment of Your DWI Enforcement

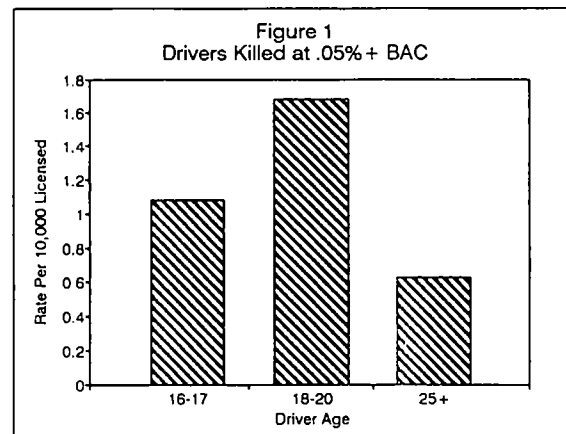
What Can be Done

Underage Drinking

Many states lowered their minimum legal drinking age to 18 during the 1970s. By the early 1980's, it was clear that lower drinking ages went hand-in-hand with more youth alcohol-related crashes¹ and states began to return to a minimum drinking age of 21.

The U.S. experienced a substantial decline in youth alcohol crashes² as the "21" drinking laws were being adopted. Most of this decline was seen from 1980 to 1985.

Recent data indicate that the problem, though less severe than in the early 1980s, has remained at high levels³. Among high school age drivers (16 to 17 years old) the alcohol fatality rate is nearly twice as high as for drivers 25 and older. The rate for 18-20 year-olds is nearly three times as high (average rates 1985-89, Figure 1).



This same crash rate pattern may be seen in every region of the country. That is, 18-20 year-olds have higher alcohol fatality rates than 16-17 year-olds and both groups have higher rates than drivers 25 and older (Figure 2).

One of the problems is that underage persons can readily purchase packaged beer, the beverage of choice for this age group. In a recent study, 19 and 20 year-olds bought beer on 97 of 100 purchase attempts in Washington, DC and 82 of 103 purchase attempts in Westchester County, NY⁴.

Nationally, nearly two out of three high school seniors report consuming alcohol within the past month and one in three report five or more drinks within the past two weeks⁵.

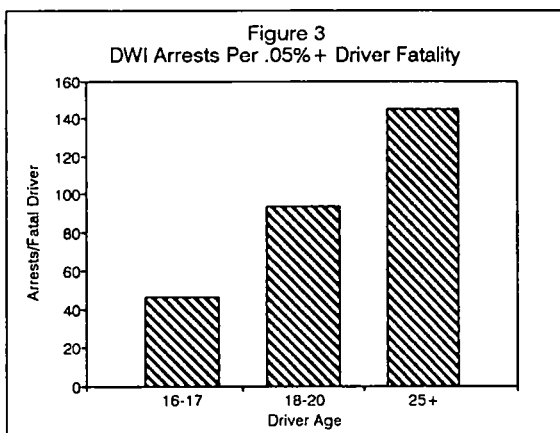
Figure 2
Drivers Killed at .05%+ BAC Per 10,000 Licensed

REGION		Driver Age		
		16-17	18-20	25+
I	New England	1.04	1.46	0.40
II	NJ and NY	0.69	0.93	0.31
III	Mid Atlantic	1.01	1.55	0.55
IV	Southeast	1.35	2.05	0.85
V	Upper Midwest	0.85	1.65	0.60
VI	Southwest	1.60	2.15	0.87
VII	Midwest	1.29	2.12	0.70
VIII	Mountain	0.85	1.51	0.66
IX	West	0.85	1.46	0.61
X	Northwest	0.94	1.76	0.61
	U.S.	1.08	1.68	0.63

contiguous states excluding DE, FL and MS

DWI Enforcement

Enforcement of the drinking and driving laws is accomplished by municipal, county and state police agencies. Collectively, these agencies provide approximately 1.7 million DWI arrests annually⁶.



Arguably, these DWI arrests should be distributed by driver age following approximately the same pattern in which the drinking driving problem occurs. That is: a high arrest rate for 18-20 year-olds; somewhat lower for 16-17 year-olds; substantially lower for drivers ages 25 and older.

Actual arrest rates by driver age show a very different pattern⁶. Nationally, young drivers are being arrested for DWI at rates which are far below their incidence in alcohol-related crashes (Figure 3).

Arrest rates are lowest for 16 and 17 year-olds followed by 18-20 year-olds in every region of the country (Figure 4).

Figure 4
DWI Arrests Per Drivers Killed at .05%+ BAC

REGION		Driver Age		
		16-17	18-20	25+
I	New England	48.8	90.2	175.6
II	NJ and NY	57.1	113.9	196.3
III	Mid Atlantic	33.6	76.5	127.0
IV	Southeast	30.0	61.8	95.5
V	Upper Midwest	49.4	77.8	116.1
VI	Southwest	30.7	69.9	96.3
VII	Midwest	39.5	76.6	115.7
VIII	Mountain	77.5	129.9	173.0
IX	West	86.6	180.9	246.6
X	Northwest	61.1	105.4	194.4
	U.S.	46.7	93.6	144.9

contiguous states excluding DE, FL and MS

Arrest rate trends are not encouraging. The number of youth DWI arrests in 1989 was 44% lower than in 1980; 18% lower than 1985. Yet, young people continue to drink and drive and become involved in alcohol-related crashes.

Clearly, there must be systematic reasons or "obstacles" that explain low youth DWI arrest rates which are continuing to decline. Moreover, any identified obstacles would have to be specific to youth. Budget cutbacks and the complexities of DWI processing should affect DWI enforcement for drivers of any age.

Obstacles to Youth DWI Enforcement

Young drivers are not being arrested for DWI at rates which are anywhere near their incidence in the alcohol crash population. Police, prosecutors and others identified some of the major reasons.

Place. Underage drinking is illegal. Thus, it is less likely to occur at bars, restaurants and other traditional drinking places. Rather, young drinking drivers are at the parks, beaches and in the neighborhoods. Parks, beaches and neighborhoods are not the primary patrol areas for "traffic, highway and/or DWI" officers. More often, such areas are covered by "regular" patrol officers who have traffic as only one part of their overall responsibility. Because there are many other demands for police services, they may be neither trained nor encouraged to conduct DWI enforcement.

"Youth do not follow the norm"

***"Youth drink at house parties
and have kegs at the beach"***

***"Drinking occurs at remote
locations, away from normal
enforcement"***

Time. Young drivers, even more than older drivers, do most of their drinking and driving on weekends. The peak time period is from about 10 pm to 1 or 2 am on Friday and Saturday. These Friday and Saturday night time periods also represent peak demand periods for other types of police services. Regular patrols in particular may have limited resources for DWI enforcement during these peak periods. Young impaired drivers can also congregate in large numbers at Friday and Saturday concerts, sporting events and keg parties. Such large concentrations can further overwhelm available resources.

***"Youth are not out there during
the week"***

***"Youth drinking and driving occurs
between 10 pm and 1 am on
weekends"***

***"Department gets very few DWI
arrests on football days"***

Place - Time - Cues - Low BAC

"Cues different for youth, more speed and hard weaves"

"Youth are much more aggressive, erratic and impulsive"

"Drunk or sober, youth drive differently"

Driving Cues. Officers are trained in the established or traditional DWI detection cues. These cues focus on psychomotor impairment seen as the inability to control the motion of the vehicle in the traffic lane. For youth, cognitive impairment may be the more operative concept. Alcohol or some other drug may cause them to lose good judgment and behave without regard to the inherent risks in speeding, hard weaves and erratic lane changes. Youth DWI cues are not as well understood as the traditional cues and this may effect youth DWI detection, imposition of implied consent statutes on youth and enforcement of the lower youth BAC laws which now exist in twelve states.

"Youth under .10 are sent home, we need to try drug tests"

"Young driver BACs from .08 to .12 kill people, not higher or lower"

"A lower BAC limit for youth would help"

Low BAC Prosecution. Young drivers have more crashes with less alcohol than older drivers. They can exhibit obvious signs of impairment at BAC levels below those where similar effects may be seen in "experienced" drinkers. DWI prosecutions for drivers with BACs at or below the legal limit are problematical. Some jurisdictions decline prosecution unless the BAC is above the "presumptive" limit (typically .10%). While drivers of any age may test at or below the limit, "low" BAC is a common characteristic for youth.

Effective Enforcement Strategies

Nationally, youth DWI arrest rates are low. Nevertheless, some agencies are achieving arrest rates well above the national average.

Colorado has the highest DWI arrest rate in the country for 16-17 year-olds; second highest for 18-20 year-olds. California has the highest arrest rate for 18-20 year-olds; second highest for 16-17 year-olds (FBI, 1989). Visits to law enforcement agencies in these two states suggest a group of essential characteristics associated with successful high youth DWI arrest rates.

- ☒ **Command emphasis for proactive traffic/DWI enforcement**
- ☒ **Officers are commended for a DWI arrest**
- ☒ **Arrests at and below the presumptive limit are made and prosecuted**
- ☒ **Regular patrols "handoff" suspects to DWI specialists (limiting the regular patrol processing burden)**
- ☒ **Police are involved in community alcohol/drug prevention**
- ☒ **Community provides positive support for DWI enforcement**
- ☒ **Training/training/training (DWI detection, Gaze Nystagmus, DWI processing)**

These characteristics describe Departments focused on DWI enforcement. They are not targeting youth, per se, but rather have taken a strong, proactive approach for all impaired drivers regardless of age.

Strong, proactive DWI enforcement will result in youth DWI arrests particularly when implemented at the local level with active involvement from the "regular" patrols and "precinct" officers. These officers are most likely to encounter a youthful impaired driver. They are also the officers most in need of backup from DWI specialists given the many other demands for police services. Backup is particularly important on Friday and Saturday nights when youthful impaired drivers are most likely and demands for other police services are highest.

Youth DWI enforcement begins with community support and a commitment from police command. This commitment is implemented through training and backup. Continual training to upgrade DWI enforcement skills conveys the message that DWI enforcement is both expected and encouraged. Backup from DWI specialists can allow regular officers to intervene in an impaired driving situation and, often, return to their patrol in thirty minutes or less.

Special Youth Strategies

DWI enforcement for youth begins with an effective enforcement strategy for impaired drivers of all ages. Next, there is a need for an effective strategy to deal with two important youth characteristics: underage drinkers tend to congregate in large numbers; underage drinking is illegal.

Often, a single patrol unit is sent to respond to a complaint of a loud party involving underage drinking. This single unit may not be sufficient to secure the location much less conduct active enforcement for all drug and alcohol violations. If the location is not secured, underage drinkers will scatter, often onto the highway. Young people have a strong desire to scatter since, for them, alcohol possession and/or consumption is illegal. Similarly, at concerts or sporting events attracting young people, the regular units may have barely enough resources for traffic control let alone active enforcement for drug and alcohol violations.

Several Departments have developed special strategies to deal with large numbers of impaired youth at one place at one time. Each of these special strategies provides the resources for both containment and active enforcement.

Teenage Alcohol Patrol (New Castle County, Delaware)	
Problem	A single police unit would respond to a complaint of a loud party. Underage drinkers would scatter onto the highway.
Strategy	Special 10 pm to 2 am patrols were assigned Tuesday through Thursday; double patrols were assigned Friday and Saturday. Regular officers would "hand off" complaints of loud parties to these special units. Regular and DWI officers would assist in area containment.
How To	Officers assigned to the special units need to be trained in the full range of law applicable to juveniles. Knowledge of non-alcohol violations can be extremely helpful in gaining entry and holding juveniles until parents can be notified. Positive ID needs to be established for each juvenile issued a summons and released to a parent or guardian (e.g., portable fingerprinting). It is important to work closely with prosecutors and juvenile authorities to streamline paperwork for "minor in possession" and related violations. Also, the adjudication system needs time to prepare for an increased caseload and increased demands for court ordered "alcohol assessment" and rehabilitation. Lastly, for this and similar programs, the community must "sign on" to underage drinking enforcement.

Special Youth Strategies

BRATT Patrol

(Clackamas County, Oregon)

Problem	Teenagers, including high school students, were being killed in alcohol-related crashes. The Sheriff's Department decided to "break the cycle of youthful offenders growing into adult offenders ... or traffic statistics."
Strategy	The Department established a "strict enforcement" policy with regard to underage drinking. Media and high school presentations were used to alert the community. A sergeant, two deputies plus reserves were assigned to the BRATT Patrol (Ban Reoccurring Alcohol Teenage Tragedies). The Patrol seeks out keg parties and other concentrations of underage drinkers. Parties are contained; drug and alcohol violations are strictly enforced.
How to	Strict enforcement must be associated with real and standardized consequences. This requires active coordination with the courts, prosecutor and juvenile authorities. In Clackamas, it also required establishing special programs to handle the 1,000% increase in convictions for minor in possession.

High School Graduation Program

(Phoenix, Arizona)

Problem	Alcohol education programs in the high schools had not eliminated underage drinking parties. Precinct officers, by themselves, did not have the resources to handle these parties during the high school graduation season.
Strategy	Traffic units decided to deal with underage drinkers before they left the graduation party rather than as highway statistics after the party. Special traffic squads, coordinated with the precincts, were assigned to work with the precinct officers as they responded to complaints of loud parties. The squads secured the roadways leading to and from the party location to ensure that no impaired drivers entered or left the location. Then, they worked with the precinct officers to enforce all alcohol and drug laws.
How to	Information about the program was distributed through the media plus MADD, SADD and the high schools. Parks officers, who enforce minor in consumption and related laws on a daily basis, briefed the traffic units. Arrest paperwork was streamlined with the help of the prosecutor's office.

Combined Special Enforcement (Cedar Rapids/Linn County/Iowa Patrol)

Problem	Rock concerts in Cedar Rapids were attracting large numbers of young persons from distances of 50 and 100 miles. Crashes involving impaired drivers were occurring both before and after the concerts. No single law enforcement agency had the resources to deal with the problem alone.
Strategy	The times, dates and expected audience for each concert were known. City, county and state police agencies each had some resources to devote to the problem. By combining and coordinating these resources they were able to conduct fully integrated, highly visible and highly publicized special enforcement operations such as saturation stakeout/patrols at interstate rest areas and sobriety checkpoints in the downtown area.
How to	Each operation is fully integrated from top to bottom. Two officers working as a team will likely be from different agencies and may be supervised by a sergeant from the third agency. These operations have fostered greater inter-agency cooperation in many other areas. Start simple, develop a detailed plan, critique each operation and provide immediate feedback to each participating officer as to what the combined team has accomplished. Don't "surprise" the court system with 50 or more new juvenile cases on Monday morning.

Each of these special strategies brings together the resources for active enforcement. They have also provided the opportunity for Departments to effectively utilize their reserve officers, under the direction of sworn personnel, for paperwork and logistics. Each has found that coordination with the adjudication system is both beneficial to enforcement and essential for achieving desirable case outcomes. And, obviously, each requires full command support.

Programs such as these are possible only when the community has "signed on" to enforcement of underage drinking laws. This sign on naturally follows highly publicized youth alcohol/drug driving tragedies. However, the better strategy is to develop community support for enforcement before the tragedy occurs.

There are also youth strategies which are better described as community/enforcement partnerships. The lead agency may be a high school (e.g., Charles City, Iowa), a university (e.g., California State at Chico) or a Police Department (e.g., Pitkin County Sheriff, Colorado). Enforcement can support partnership goals by providing meaningful deterrence and, through arrests, identify those young people most in need of partnership services.

Assessment of Your DWI Enforcement

Some Departments may want to examine their own DWI efforts. The following guidelines may be helpful. However, there are no hard and fast rules, no two Departments are the same and no two Departments have the same operating environment.

Stats About one percent of all licensed drivers are arrested for DWI each year (includes state, county and local Departments). Two percent is indicative of strong enforcement; substantially less than one percent indicates a problem.

Often, 20 percent or less of all DWI arrests come from crash situations. More than 20 percent indicates that the Department is "reactive" to DWI rather than "proactive."

Average BACs below .15% for all "pickup" arrests are indicative of strong enforcement. Average BACs above .18% indicate that enforcement efforts are dealing with only a segment of the impaired driving population.

About 14 percent of all fatally injured .10%+ BAC drivers are below the age of 21. Arguably, 14 percent of the arrest population should also be below the age of 21.

Operations Command emphasis for proactive DWI enforcement and officer commendation for DWI arrests both indicate strong enforcement.

Broad community support for alcohol enforcement and police involvement in alcohol/drug prevention are both common in strong enforcement Departments.

Continual training in DWI detection, field sobriety testing (including horizontal gaze nystagmus) and DWI processing is required for strong enforcement.

Also, there are two operating characteristics critical to strong youth enforcement:

- Active involvement of the "regular" or precinct patrols
- Arrests made and prosecuted at and below the presumptive limit

Youth Strategies Each agency should have an effective strategy for containing and providing active enforcement for large concentrations of youth at one place at one time.

This containment/enforcement strategy requires community support for strict enforcement of "zero tolerance" for youth drug/alcohol violations.

What Can Be Done

The **Stats** can provide an indication as to how your Department is doing relative to national averages. However, national averages may or may not be appropriate for your operating environment. Agencies patrolling the interstates will see a different mix of drivers than agencies patrolling city streets. Agencies with large university populations will get a different mix of drivers than agencies without a university.

Department **Operations** are more important than statistics when assessing your own DWI enforcement. Command emphasis and training backed by community support are critical to strong DWI enforcement. Strong overall enforcement is the basis for strong youth enforcement particularly when it includes the active involvement of the regular patrols as well as arrest and prosecution for drivers testing at and below the presumptive limit.

Agencies also need a **Youth Strategy** for dealing with large concentrations of underage drinkers at one place at one time. Dispatching one patrol unit to the site of a large keg party may do no more than scatter underage drinkers onto the highway.

You may decide to implement changes in DWI operations, training, procedures or policy. Operating changes can likely be accomplished inside your Department. Policy change will likely require the full support of the community including parents, schools, and the judicial system.

More information on this study is contained in

Preusser, D.F., Ulmer, R.G. and Preusser, C.W., *Obstacles to Enforcement of Youthful (Under 21) Impaired Driving*
Final Report to the National Highway Traffic Safety Administration under Contract DTNH22-91-C-05020

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