ALASKA LEGISLATURE COMMITTEE FILES 1983-1984

3010 SSA SB 61 (FILE 3) 8672

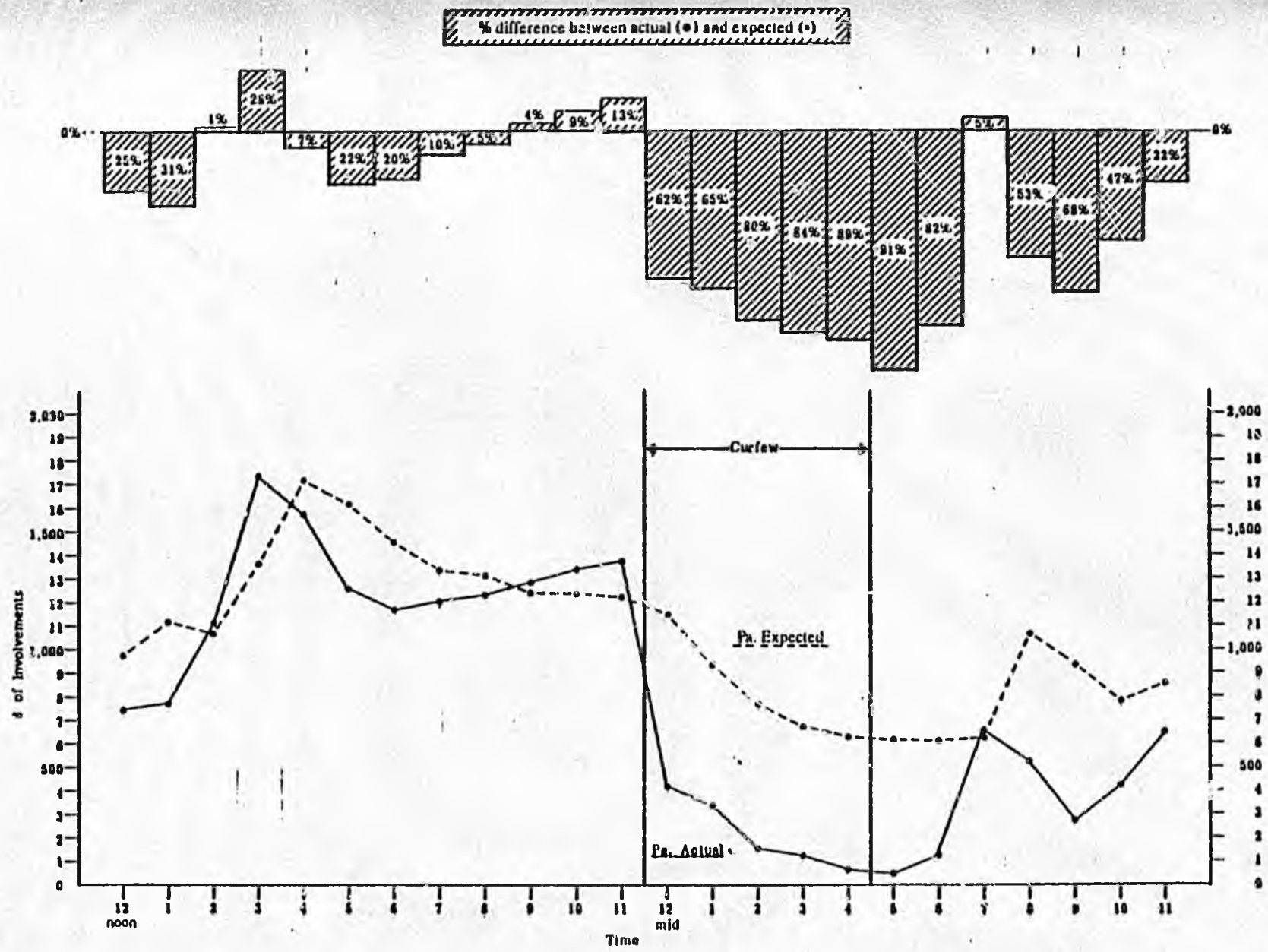

Figure 2. Actual numbers of crash involvements by hour of day for Pennsylvania 16 year old drivers, versus expected numbers based on relationship between Pennsylvania-Ohio 21-24 year olds and numbers of crash involved 16 year old Ohio drivers (1978-1980).

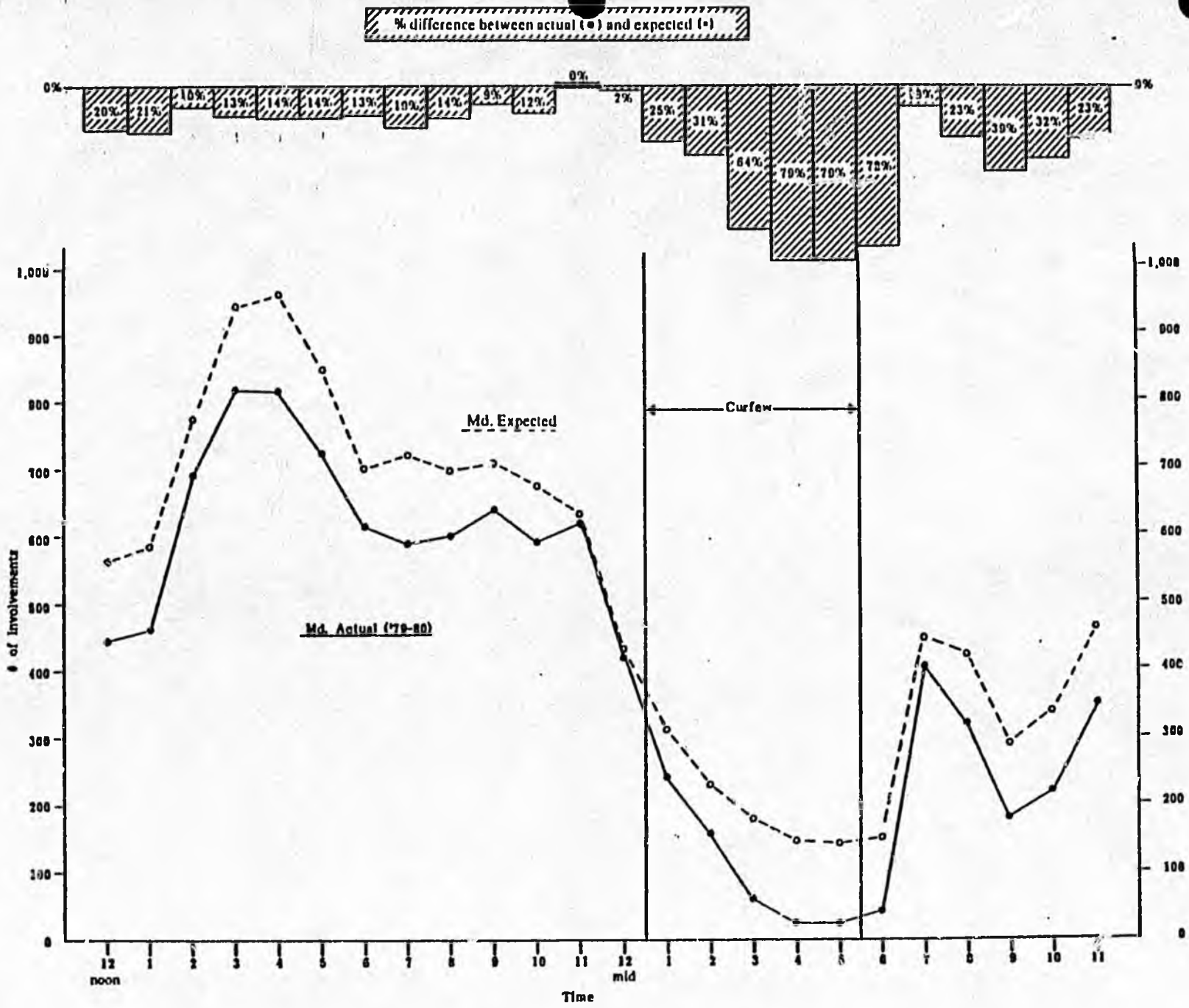

Figure 3. Actual numbers of crash involvements by hour of day for Maryland 16 year old drivers ('79-80) versus expected numbers based on relationship between Maryland ('79-80) - Maryland ('74-78) 21-24 year olds and numbers of crash involved 16 year old Maryland ('74-78) drivers.

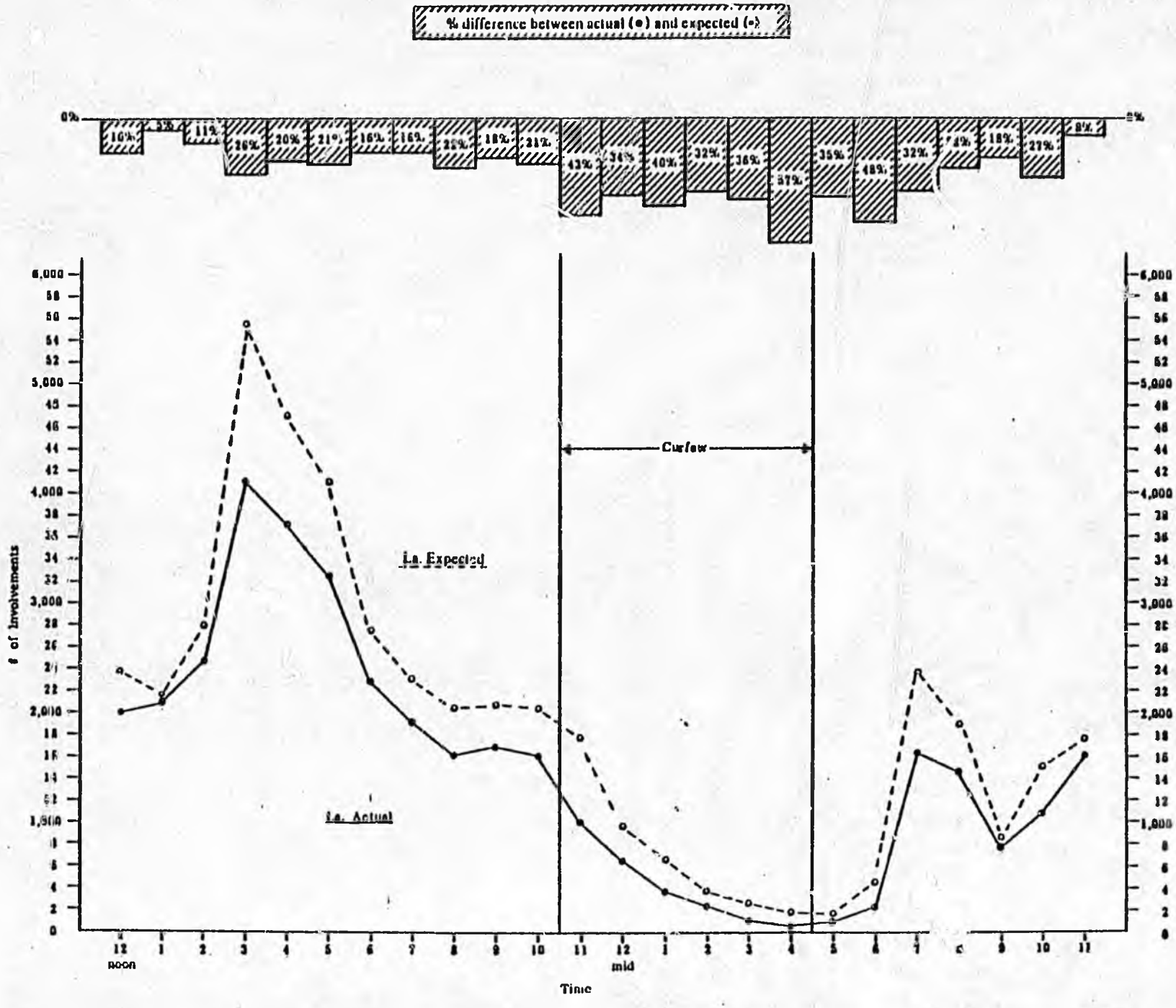

Figure 4. Actual numbers of crash involvements by hour of day for Louisiana 16 year old drivers, versus expected numbers based on relationship between Louisiana-Mississippi 21-24 year olds and numbers of crash involved 16 year old Mississippi drivers (1976-1980).

RAISING THE DRINKING AGE

April 7, 1983

This section contains:

1. a memo from the Arizona Legislative Council
2. a memo to Rep. Barnes on dispensing alcohol to minors
3. a fact sheet on the drinking age
4. an article titled, "Impact of Legislation Raising the Drinking Age..."
5. a number of newspaper articles on raising the drinking age

ARIZONA LEGISLATIVE COUNCIL

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MEMO

October 27, 1981

TO:

FROM: Richard R. Greenfield, Deputy Director

RE: Increasing the Drinking Age to 21; Con Arguments (R-35-120)

Pursuant to your request, the subject of increasing the drinking age to 21 was examined with a view toward developing the most appropriate con arguments.

Background. According to information received from the National Conference of State Legislatures (effective through September 1981), the statutory drinking age in the fifty United States and the District of Columbia is as follows:

MINIMUM DRINKING AGE* AND BEVERAGE

State	Effective Date	Beer: Not Over 3.2% Alcohol	Beer: Over 3.2% Alcohol	Wine: Table	Wine: Fortified (over 14%)	Distilled Spirits: All
Alabama	7/75	19	19	19	19	19
Alaska	9/70	19	19	19	19	19
Arizona	8/72	19	19	19	19	19
Arkansas	3/35	21	21	21	21	21
California	12/33	21	21	21	21	21
Colorado	4/45	18	21	21	21	21
Connecticut	10/72	18	18	18	18	18
Delaware	7/72	20	20	20	20	20
District of Columbia	2/34	18	18	18	21	21
Florida	7/73	18	18	18	18	18
Georgia	7/72	18	18	18	18	18
Hawaii	3/72.	18	18	18	18	18
Idaho	7/72	19	19	19	19	19
Illinois	10/73	19	19	19	19	19
(increased)	1/80	21	21	21	21	21
Indiana	1/34	21	21	21	21	21
Iowa	7/73	18	18	19**	19**	19**
Kansas	3/49	18	21	21	21	21
Kentucky	5/38	21	21	21	21	21
Louisiana	11/48	18	18	18	18	18
Maine	10/77	20	20	20	20	20
Maryland	7/74	18	18	18	21	21
Massachusetts	4/79	20	20	20	20	20
Michigan	12/78	21***	21***	21***	21***	21***

MINIMUM DRINKING AGE* AND BEVERAGE

State	Effective Date	Beer: Not Over 3.2% Alcohol	Beer: Over 3.2% Alcohol	Wine: Table	Wine: Fortified (over 14%)	Distilled Spirits: All
Minnesota	9/76	19	19	19	19	19
Mississippi	7/66	18	18+	18+	21	21
Missouri	5/45	21	21	21	21	21
Montana	7/73	19	19	19	19	19
Nebraska	7/72	19	19	19	19	19
Nevada	12/33	21	21	21	21	21
New Hampshire	5/79	20	20	20	20	20
New Jersey	1/73	18	18	18	18	18
New Mexico	12/34	21	21	21	21	21
New York	5/34	18	18	18	18	18
North Carolina	5/35	18	18	18	21	21
North Dakota	12/36	21	21	21++	21	21
Ohio	8/35	18	21	21	21	21
Oklahoma	12/76	18	21	21	21	21
Oregon	12/33	21	21	21	21	21
Pennsylvania	7/35	21	21	21	21	21
Rhode Island	3/72	18	18	18	18	18
South Carolina	5/35	18	18	18	18	21
South Dakota	7/72	18	21	21+++	21	21
Tennessee	6/79	19	19	19	19	19
Texas	8/73	18	18	18	18	18
Utah	3/35	21	21	21	21	21
Vermont	7/71	18	18	18	18	18
Virginia	7/74	18	18	21	21	21
Washington	1/34	21	21	21	21	21
West Virginia	6/72	18	--+++	18	18	18
Wisconsin	3/72	18++++	18++++	18	18	18
Wyoming	5/73	19	19	19	19	19

Notes:

*In general, minimum drinking age means the minimum age for which purchase of the relevant alcoholic beverage is legal.

**Does not apply to beer or to those persons born on or before 6/30/60.

***Effective 12/3/78, the minimum drinking age was raised from 18 to 19; effective 12/23/78, the legal age was raised again to 21.

+Age 18 applies in Mississippi for both beer having not over 4.0% alcohol and "light wine"; otherwise, age 21.

++Defined as wine under 3.2% by weight or 4% by volume.

+++Purchase of this beverage not legal.

++++No minimum age is given for persons accompanied by parent or guardian.

Thus, of the fifty states and the District of Columbia, a total of twenty-five states provide that persons must be at least 21 to consume distilled spirits; four states permit consumption of distilled spirits at age 20 or older; ten states permit the consumption of distilled spirits at age 19 or older; and the remaining twelve states permit the consumption of distilled spirits at age 18 or older. With respect to beer over 3.2 percent alcohol, a total of nineteen states have established age 21 as the minimum drinking age; a total of four states have established age 20 as the minimum drinking age; a total of nine states have established 19 as the minimum drinking age; and a total of eighteen states have established age 18 as the minimum drinking age. Purchase of beer over 3.2 percent alcohol is not legal in West Virginia. With respect to beer of 3.2 percent alcohol concentration or under, a total of five states (Colorado, Kentucky, Ohio, Oklahoma and South Dakota) which otherwise limit the consumption of beer over 3.2 percent alcohol to persons age 21 or older, permit the consumption of so-called "low-alcohol" beer by persons age 18 or older. Finally, with respect to fortified wines (generally defined as those wines above 14 percent alcohol by volume), a total of twenty-four states have established age 21 as the minimum drinking age, a total of four states have established age 20 as the minimum drinking age, a total of ten states have established age 19 as the minimum drinking age, and a total of thirteen states have established age 18 as the minimum drinking age. With respect to table wines (those table wines below 14 percent alcohol concentration), three states or jurisdictions (District of Columbia, Mississippi and North Carolina) which otherwise require persons to be age 21 to drink fortified wines, permit persons age 18 or over to drink table wines.

A total of twenty-seven states lowered the minimum age for the consumption of beverage alcohol after the passage of the 26th Amendment (which lowered the voting age) went into effect in 1972. Since 1976, a total of nine states have raised the drinking age.

Review of the Literature--Some Applicable Con Arguments. Most proposals to increase the drinking age back to 21 are justified on the basis of reducing the number of traffic accidents arising from alcohol abuse among teenagers. There have been relatively few studies which have specifically investigated the variety of drinking-related problems which could be connected with the reduction in the legal drinking age, such as crime rates, public drunkenness, school attendance, family functioning or employment.[1] Review of the literature indicates that while the weight of the evidence suggests otherwise, the traffic safety arguments are not necessarily always accurate.

For example, an Iowa report entitled "Statistical Analysis of the Effect of Law Lowering Legal Drinking Age from [illegible]3 Years on Fatal Accidents in Iowa" concluded that:

> Results of the analysis show that allowing Iowans aged 18 to 20 to consume alcoholic drinks legally, has not significantly increased their involvement as drinking drivers in fatal traffic accidents.[2]

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[1] See, for example, R. G. Smart and W. Schmidt, "Drinking and Problems from Drinking After a Reduction in the Minimum Drinking Age", 70 British Journal of Addiction 347 (1975). R. G. Smart and J. Finley, "Increases in Youthful Admissions to Alcoholism Treatment in Ontario", 1 Journal of Drug Alcohol Dependency 83 (1975). R. L. Hammand, "Legal Drinking at 18 or 21 - Does It Make Any Difference?", 3 Journal of Alcohol Drug Education 18 (1973).

[2] Quoted in B. Bishop, "Effects of Lowering the Drinking Age", Legislative Research, State Capitol, Salem, Oregon, 1979, Report 79:123, p. 2.

It is significant to note that the 1973-1974 fatalities for 18-20 year old drivers in Iowa during the first two years after the drinking age was lowered were lower than the previous three years.

A Minnesota study conducted by the state Department of Public Safety concluded:

> Allowing Minnesotans age 18 to 21 to consume beverage alcohol legally has not increased the involvement of youthful drinking drivers in fatal traffic crashes.[3]

The Minnesota study did find an increase in all fatal accidents involving drivers under 21 after the law took effect. However, there was a substantial decrease in fatalities where the driver was between 18 and 20 and was either intoxicated or had been drinking.

A March 1974 report issued by the National Highway Traffic Safety Administration (NHTSA) entitled "The Effect of Lower Legal Drinking Ages on Youth Crash Involvement" compared the experiences of Michigan, Vermont and Maine (three states where the drinking age had been lowered) to two sets of control states: (a) New York and Louisiana (where the drinking age had been 18 for several years); and (b) Pennsylvania and Texas (where the drinking age had remained at 21 for several years). The NHTSA report found an increase in alcohol-related traffic accidents among 18-20 year olds in Maine and Michigan after the minimum drinking age was lowered. However:

> No shift in magnitude was found for any crash frequency or rate in Vermont following the lower legal drinking age. No evidence was found in any control state that the 18 to 20 year old alcohol-related crash experience increased except in Pennsylvania where the older group experience increased as well. On the basis of these analyses we are confident that in Michigan and probably in Maine alcohol-related crashes increased beyond any normally expected level after the legal drinking ages were changed. We are confident that these changes were casually related to the legal change.[4]

The NHTSA study also noted that the relative effect of the lower legal drinking age was related to a number of characteristics in any specific jurisdiction. Among the factors which the NHTSA concluded should be considered are the density and relative size of the affected population, jurisdictional proximity of the population base to a long-term 18 year old drinking state, and the extent to which alcoholic beverage laws are enforced. Vermont, it should be remembered, borders on New York, a state which has, for a number of years, permitted 18 year olds to drink.

A 1973 report entitled "The Impact of Lowering the Age of Majority to 18" to the White House Conference on Youth had several findings which are worthy of note. The study noted that one of the major reasons for the overinvolvement of 18 to 20 year olds in drinking driving accidents is their sheer inexperience with both drinking and driving. Another finding was that while accidents involving 18-20 year old drinkers have increased by a substantial amount based on the experiences of Michigan, Vermont and Tennessee (three states in which the minimum drinking age had been recently lowered), 18-20 year olds do not account for many more of the accidents than their relative proportion of the driving population would lead one to expect.

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[3] Ibid, p. 3.

[4] Ibid, at pp. 4-5.

A publication of the National Institute on Alcohol Abuse and Alcoholism entitled "Alcohol Topics" Volume 1, Number 4 (1976), noted that the con arguments against raising the drinking age back to 21 included:

1. The fact that the 18 year old was already drinking and that the reduction in the drinking age merely legalized existing practices.

2. Statistical reports suggesting a significant increase in accidents following a reduction in the legal drinking age may be only reflecting changes in the record-keeping that have occurred as more media emphasis has been placed on the issue.

Mr. Richard Zylman of the Center of Alcohol Studies at Rutgers University has noted, for example,[5] that prior to the decrease in the minimum age, police collision reports recorded the presence of alcohol only in the most criminally negligent accidents, and rarely in deaths. According to the Zylman argument, pressure from safety officials, legislators and the news media has been so extensive that many police officers record any evidence of alcohol whether or not it has been a causal factor in the accident. Zylman also points out that analysis of a ten year period for fatal Michigan automobile accidents by 18 and 19 year old drivers shows that the rate of yearly increase during four of these years was equal to, or greater than, the increase following the reduction in the minimum drinking age.

According to Dr. Gerardo Gonzalez, Director of the University of Florida's Alcohol Abuse Prevention Program, raising the drinking age back to 21 will not get at the problems but may actually interfere with positive prevention programs. Gonzalez indicated that young people do not listen to "prohibitionist-style" remarks. Gonzales' research indicated that 95 percent of all teenagers had made the decision to drink by the time they were out of high school. About 16 percent started drinking in middle school (grades 7 through 9) and the remaining 34 percent started drinking in high school. The primary factor in the responsible use of alcohol by teenagers was effective parental involvement.[6]

Two British researchers, R. G. Smart and W. Schmidt,[7] reported the results of a survey of 220 vice principals conducted in the Toronto, Canada area seven months after the change in the law reducing the minimum drinking age. Eighty-six percent of this group replied. Slightly more vice principals were against the new law than were for it. Those who were against the reduction reported more drinking problems after the age was lowered. It was unclear, according to Smart and Schmidt, whether their unfavorable attitude to the law led to or followed their negative perceptions about the effects of the law.

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[5]R. Zylman, "Fatal Crashes Among Michigan Youth Following Reduction of Legal Drinking Age", Journal of Studies in Alcohol 36:171 (1975).

[6]DISCUS newsletter, June-July, 1979, Distilled Spirits Council of the United States, Washington, D.C.

[7]R. G. Smart and W. Schmidt, "Drinking and Problems From Drinking After a Reduction in the Minimum Drinking Age", British Journal of Addiction, 70:347-358 (1975).

Among the studies suggesting no dangerous [illegible]y impact from reducing the minimum age for drinking cited in a 1980 Connecti[illegible] of Legislative Research memo[8] was one from the State of Wisconsin. The Wis[illegible]epartment of Health and Social Services examined the alcohol involvement of 18 to [illegible] year olds killed in accidents before and after the lowering of Wisconsin's drinking age to 18 in 1972. The study was not based on police reports of apparent alcohol involvement in a crash because such reports are inherently subjective. Instead, the study was based on the blood alcohol testing which the state requires of all drivers killed in accidents. The Wisconsin study suggested no significant increase in alcohol-involved fatalities among youthful drivers during the period 1968-1973, a period which included two years of legal drinking at age 18 (1972-1973). The percentage of all tested driver fatalities aged 18 to 20 with appreciable blood alcohol concentrations (BAC) (appreciable was defined as 0.5% BAC or more) was higher prior to reducing the minimum age than after. In 1969, the average percentage of 18 to 20 year old drivers killed in automobile accidents with appreciable BAC levels was 64.2 percent; while in 1970, the BAC was 66.1 percent and in 1973, the BAC was 62.7 percent. The Wisconsin study was somewhat flawed by the fact that prior to 1972, 18 to 20 year olds could purchase beer where local governments in the state allowed it. The change in the minimum age simply made it legal for the age group to also buy wine and hard liquor.

A January 7, 1979 editorial in the Atlantic City Press provides several cogent arguments against raising the drinking age.[9] The editorial suggested that raising the drinking age while continuing to have a lower driving and voting age has significant effects on the societal concept of adulthood. According to the editorial writer, an increase in the drinking age would stand as testimony to the importance society places on alcohol consumption. An effect of these differing age levels is that one might say that the "right" to consume alcohol is considered by society to be more important than the right to vote or the right to drive. The editorial concluded by noting that increasing the drinking age back to 21 could lead the 18, 19 or 20 year old to conclude that "a bottle of beer means adulthood".

Conclusion. This office will undertake further research on this topic and provide a follow-up report shortly. The Distilled Spirits Council of the United States in Washington, D.C. has been contacted for research assistance. It must be noted, however, that the weight of the statistical evidence supports a conclusion that lowering the drinking age leads to at least a temporary increase in alcohol-related accidents. Whether the rate will moderate over time is presently unclear.

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[8] J. Kasprak, "Drinking Age - Arguments For and Against Raising The Age; Impact on Traffic Fatalities", Office of Legislative Research, Hartford, Connecticut, May 16, 1980.

[9] Ibid

ARIZONA LEGISLATIVE COUNCIL

MEMO

November 13, 1981

TO:

FROM: Richard R. Greenfield, Deputy Director

RE: Raising the Legal Drinking Age to 21; Con Arguments (Addendum to R-35-120)

As noted in my October 27, 1981 memo to you on this subject, this office contacted the Distilled Spirits Council of the United States (DISCUS, an industry trade group) for additional con arguments which might be useful for your purposes. This information has recently arrived. A copy is enclosed for your reference.

By way of a general summary, DISCUS provided copies of four articles:

1. Richard Zylman, "Drinking Practices Among Youth Are Changing Regardless of the Legal Drinking Age", Journal of Traffic Safety Education, October 1976, p.p. 31-37.

2. James F. Rooney and Sanford M. Schwartz, "The Effect of Minimum Drinking Age Laws Upon Adolescent Alcohol Use and Problems", 6 Contemporary Drug Problems, p.p. 569-582 (Winter 1977).

3. Selden D. Bacon et al., "Defining Adolescent Alcohol Use: Implications for a Definition of Adolescent Alcoholism", 37 Journal of Studies on Alcohol, p.p. 1014-1019 (1976).

4. Howard I. Blane and Linda E. Hewitt, "Alcohol and Youth: An Analysis of the Literature -- 1960-1975", National Institute on Alcohol Abuse and Alcoholism, March 1977.

The Zylman article examines the hypothesis that lowered drinking ages cause an increase in teenage drinking with all of the associated side effects. The converse of this hypothesis is that in the absence of any change in the law there would be no change in teenage drinking. He cites one New York study which suggests a significant increase in teenage drinking for the five years preceding 1974. This increase was reported notwithstanding the fact that New York has permitted 18 year olds to drink since 1934. A California study suggested a significant increase in high school students' drinking between 1968 and 1974. Yet California, according to most recent data reported by the National Conference of State Legislatures, has had the same 21 year old drinking limit since 1933. Finally, Zylman cites a 1973 study of teenagers for the National Commission on Marijuana and Drug Abuse which demonstrated a significant increase in the use of all drugs, including alcohol, since the late 1960's. Zylman concludes by tracing the increase in teenage drinking to societal factors. He states that:

> to withhold the right to drink legally at the age of 18, or worse, to rescind that right once it has been granted, runs the risk of criminalizing a normal activity among youth and thereby alienating all youth because of the few -- the few who will use and abuse alcohol with or without sanction of the law.

The Bacon article, which reported the results of a workshop on adolescent alcoholism, suggested that there is a need for more definitional clarity. Depending on one's value system or point of view, a problem drinker could be anyone who drinks. Additionally, numerous independent variables must be examined in any attempt to examine adolescent alcoholism. Only ten of these variables are: (1) quantity; (2) frequency; (3) weight of user; (4) duration of drinking episode; (5) experience of user; (6) situation of use; (7) psychological and physiological status of user; (8) definition of role of drinker by drinker and others; (9) definition of act of drinking by the drinker and others; and (10) patterns of use over time. Change any of these variables and one's definition of adolescent alcoholism changes substantially. Bacon concluded by noting the need for more definitional clarity in any study of what is admitted to be a problem.

The Rooney and Schwartz article indicated that there is considerable debate as to the actual effect of state minimum drinking age laws. Researchers have indicated three hypotheses regarding the impact of a lowered drinking age:

1. Forbidden Fruit Hypothesis. One researcher claims that higher legal age limits may encourage clandestine drinking by the young and reduce the likelihood of learning healthy attitudes toward alcohol. Another researcher has suggested that higher minimum age limits may actually encourage the use of alcohol as a means of symbolic aggression against social authority.

2. Restriction Hypothesis. This hypothesis implies that a higher drinking age may actually postpone alcohol use on the part of youth. Rooney and Schwartz note that support for this hypothesis has come from several researchers studying the effects of alcohol on traffic accidents among youth. Two Michigan researchers concluded that an increase in alcohol-related collisions had occurred in Michigan subsequent to lowering the drinking age. It was held that the increase could not be explained by a change in police reporting practices.

3. Null Hypothesis. This hypothesis suggests that a lower drinking age has had no substantive effect. One researcher examined fatal automobile crash data for Michigan for the two years following a decrease in the legal drinking age. It was concluded that the reported increased crash rates reflected a change in police reporting practices and not an actual change in the behavior patterns of 18 to 20 year olds.

Rooney and Schwartz then reported on the results of their study of over 4,000 high school seniors in five states which were evenly mixed between urban and rural environments. Findings included a conclusion that states with higher legal drinking ages clearly have proportionately more adolescents who consume alcohol and who consume greater quantities on a more frequent basis. The Rooney and Schwartz study also indicated that the incidence of alcohol-related problems is higher in states with a higher legal drinking age. In conclusion, Rooney and Schwartz come down in support of the "forbidden fruit" hypothesis as follows:

> It appears that the imposition of state drinking age laws for minors, while alcohol is readily available and frequently used by the remainder of society, places alcohol into what Durkheim has called the "sacred," and fosters a "forbidden fruit" syndrome.

Finally, the Blane-Hewitt survey of the literature suggested several findings worthy of note:

-- Teenagers generally start to drink between the ages of 13 and 14 years.

-- Approximately twenty percent of all teenagers get "high, tight or drunk" once a month or more often. This percentage does not appear to have changed substantially over the years in question.

-- Peer and parental influences are most important in establishing teenage drinking habits. Parental drinking status and adolescent drinking status frequently coincide.

-- Behavioral variables of church attendance, religious involvement and academic achievement are negatively related to adolescent alcohol abuse.

-- Recent reports of a severe increase in teenage alcohol abuse are complicated by confusion of the effects of intoxication with alcoholism, greater public awareness and acceptance of alcohol problems, increased police attention to drinking and driving, younger drinking age laws, clinical admission policies and methodological weaknesses. Some adolescents exhibit severe involvement with alcohol as one aspect of a socially disorganized, delinquent lifestyle that may represent a clinical entity separate from alcoholism.

-- Blane and Hewitt are generally critical of previous research concerning alcohol and youth finding that it has been typified by the failure to adopt a conceptual approach, to adhere to commonly accepted standards of research practice, to build on the work of others and by a methodological singularity.

Additional Research. This office will continue to keep an open file on this subject and will contact you when the receipt of additional information justifies preparation of an additional report.

Encls.

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

Room Y, State Capitol
Juneau, Alaska 99811
(907) 465-3991

April 2, 1982

MEMORANDUM

TO: Representative Ramona Barnes

FROM: Felicity Watt, Research Staff

RE: Dispensing Alcohol to Minors
Research Request No. 82-80

Dave Stancliff of your office recently asked us to survey other states' laws as they pertain to dispensing alcohol to minors. He noted that you are particularly interested in those states that have harsher penalties than Alaska's. To obtain information on this subject we contacted six national alcoholic beverage organizations, three university research groups, and five alcoholism and drug abuse agencies in Alaska and the Alcohol Beverage Control Board. Jody Buckley of the Distilled Spirits Council of the United States provided us with much of the information that specifically addresses this request. For your information, the attached appendix includes a list of the addresses and telephone numbers of the organizations we contacted.

Alaska Law

Furnishing alcohol to minors. The legal minimum drinking age in Alaska is 19. Furnishing alcohol to minors is addressed in AS 04.16.052 which states that licensees (bar or package store owners) are prohibited from allowing another person to sell, barter, or give an alcoholic beverage to a person under 19. Licensees are also prohibited on their licensed premises from allowing any person under 19 to enter and remain on the premises, or to consume an alcoholic beverage, or to sell or serve alcoholic beverages.

The offense of ordering an alcoholic beverage for the purpose of furnishing it to a minor is addressed in AS 04.16.060, which also prohibits a person from misrepresenting that another person is over 19 years of age for the purposes of obtaining entrance to a licensed premise, or to pretend to have obtained parental consent to escort a person under 19 years of age.

A person who furnishes an alcoholic beverage to a minor is considered guilty of the offense of contributing to the delinquency of that minor. AS 11.51.130, which addresses contributing to the delinquency of a minor who is under 18 years of age, includes a prohibition against aiding, inducing or encouraging a minor to violate a State law.

The penalties for dispensing alcohol to minors in these eight states are listed below.

CONNECTICUT (CT Law, Sec. 30-86 & 30-113)

fine of not more than $1,000 or imprisonment for not more than one year or both

MARYLAND (MD Law, Sec. 118 & 200)

fine of not more than $1,000 or imprisonment for not more than 2 years in the House of Correction, or jail, or both fine and imprisonment

MISSOURI (MO Law, Sec. 311.310 & 311.760)

fine of not less than $100, nor more than $1,000, or imprisonment in the county jail for not less than 30 days nor more than 1 year; or by both fine and imprisonment

MONTANA (Mo Code Annotated 16.06.305)

fine not to exceed $1,500 and imprisonment for up to one year

NORTH DAKOTA (ND Law, Title 5, Chap 5-01, Sec.5-01-09)

fine of up to $1,000 or imprisonment for not more than one year or both.

TEXAS (TX Law, Chap 106, Sec. 106.03)

fine of not less than $500 or confinement in jail for not more than one year, or both.

VERMONT (VT Law, Chap 21, Sec. 658)

fine of not more than $200 or imprisonment for not more than one year.

VIRGINIA (VA Law, Title 3.1, Chap 20, Sec. 4-62 & 4.92)

fine not exceeding $500 or confinement in jail not exceeding 12 months, or both in the discretion of the jury or trial justice or the court trying the case without a jury.

In our conversations with state legal counsel in both North Dakota and

debate, usually centering on the public health consequences of different minimum drinking ages. We spoke with Alexander Wagenaar of the Highway Safety Research Institute at the University of Michigan, who had compiled the most recent information we have found on the legal minimum drinking ages of the states. Table 1, showing each state's minimum legal drinking age, is attached in the appendix.

Thirty states, including Alaska, lowered their legal minimum drinking age as part of a nationwide trend in the 1970's to lower the age of majority. However, between 1976 and 1981, fifteen of those thirty states reversed their previous actions and raised their minimum drinking ages (although not necessarily to the same ages as before). These fifteen states are shown in Table 2 of the appendix.

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Mr. Garrity, of the legal division of the Montana Department of Revenue, suggested that we make a written request to his office for more information regarding his state's laws. We would be happy to make such a request of Montana and other states if you wish. If you have any questions or we can be of further assistance, please do not hesitate to contact us.

FW/bf
Attachments: Appendix A

TABLE 1

Current Drinking Ages in All States

STATE	Beer		Wine		Distilled Spirits
	3.2% or Less Alcohol	Over 3.2% Alcohol	Light	Fortified	
Alabama	19	19	19	19	19
Alaska	19	19	19	19	19
Arizona	19	19	19	19	19
Arkansas	21	21	21	21	21
California	21	21	21	21	21
Colorado	18	21	21	21	21
Connecticut	18	18	18	18	18
Delaware	20	20	20	20	20
District of Columbia	18	18	18	21	21
Florida	19	19	19	19	19
Georgia	19	19	19	19	19
Hawaii	18	18	18	18	18
Idaho	19	19	19	19	19
Illinois	21	21	21	21	21
Indiana	21	21	21	21	21
Iowa	19	19	19	19	19
Kansas	18	21	21	21	21
Kentucky	21	21	21	21	21
Louisiana	18	18	18	18	18
Maine	20	20	20	20	20
Maryland	18[e]	18	18	21	21
Massachusetts	20	20	20	20	20
Michigan	21	21		21	21
Minnesota	19	19	19	19	19
Mississippi	18[a]	21	18[a]	21	21
Missouri	21	21	21	21	21
Montana	19	19	19	19	19
Nebreaska	20	20	20	20	20
Nevada	21	21	21	21	21
New Hampshire	20	20	20	20	20
New Jersey	19	19	19	19	19
New Mexico	21	21	21	21	21
New York	18	18	18	18	18
North Carolina	18	18	18	21	21
North Dakota	21	21	21	21	21
Ohio	18	21	21	21	21
Oklahoma	18[b]	21	21	21	21
Oregon	21	21	21	21	21
Pennsylvania	21	21	21	21	21
Rhode Island	20	20	20	20	20
South Carolina	18	18	18	18	21
South Dakota	18	21	21	21	21
Tennessee	19	19	19	19	19
Texas	19	18	18	18	18
Utah	21	21	21	21	21
Vermont	18	18	18	18	18
Virginia	18[c]	18[c]	21	21	21
Washington	21	21	21	21	21
West Virginia	18	18[d]	18	18	18
Wisconsin	18	18	18	18	18
Wyoming	19	19	19	19	19

Source: Alexander Wanegaar, Highway Research Institute (April 1982).

Representative Barnes
April 2, 1982
Appendix A

TABLE 2
States That Have Raised Their Drinking Age
Since 1976

Florida	18 to 19 - all beverages	10/80
Georgia	18 to 19 - all beverages	9/80
Illinois	19 to 21 - beer and wine only	1/80
Iowa	18 to 19 - all beverages	7/78
Maine	18 to 20 - all beverages	10/77
Massachusetts	18 to 20 - all beverages	4/79
Michigan	18 to 21 - all beverages	12/78
Minnesota	18 to 19 - all beverages	9/76
Montana	18 to 19 - all beverages	1/79
Nebraska	19 to 20 - all beverages	5/80
New Hampshire	18 to 20 - all beverages	5/79
New Jersey	18 to 19 - all beverages	1/80
Rhode Island	18 to 19 - all beverages	7/80
Rhode Island	19 to 20 - all beverages	7/81
Tennessee	18 to 19 - all beverages	6/79
Texas	18 to 19 - all beverages	9/81
Virginia	18 to 19 - off-premises beer only	7/81

SHOULD THE DRINKING AGE BE RAISED IN FLORIDA?

THE FACTS IN A NUTSHELL

-- Presently 34 states and the District of Columbia permit consumption of alcoholic beverages in some form under age 21. Five are at age 18; fourteen (including Florida) are at 19; six are at 20; sixteen are at 21; and ten have a mixture between 18 and 21.

-- THE MOST RELIABLE HARD DATA ON ALCOHOL RELATED TRAFFIC FATALITIES INDICATES THAT 18, 19 AND 20 YEAR OLD DRIVERS ARE LESS BLAMEWORTHY THAN 21-44 YEAR OLD DRIVERS. (National Highway Traffic Safety Administration 5/82 Technical Report, at B(4)). For older drivers to condemn these young drivers is unjustified.

-- Florida has 771,000 adult citizens under 21. That is 15.8% of our registered voters. These young citizens do not deserve a law discriminating against them because of age.

-- Alcohol related accidents are primarily a male driving problem at every age. (87% of the drivers are men, according to one study.) THE YOUNG WOMEN OF FLORIDA DO NOT DESERVE TO HAVE THEIR RIGHTS RESTRICTED BECAUSE OF A DRIVING PROBLEM OVERWHELMINGLY CAUSED BY MEN.

-- Preliminary figures indicate Florida's new, tough DUI laws, applicable to all ages, are working.

-- The drinking age was raised to 19 in 1980. Fatalities of 18 year olds when 18 was legal (1980) - 20. Fatalities in 1981 (18 illegal) - 19. One less, not "hundreds" as proponents say. Does prohibition work? No! *

-- Estimates by proponents, even if accurate, project only a small safety effect which must be compared with other measures which would have a tremendous positive effect on traffic deaths and injuries, such as mandatory seat belts and automatic restraints.

-- Studies cited by proponents as supposed justification for a law discriminating by age, make no attempt to compare drivers under 21 with their older counterparts.

* Florida Division of Motor Vehicle statistics.

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Impact of Legislation Raising the Legal Drinking Age in Massachusetts from 18 to 20

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Abstract: On April 16, 1979, Massachusetts raised its legal drinking age from 18 to 20 years. Massachusetts was compared with New York State, exclusive of New York City and Nassau County. New York State retained an 18-year-old drinking age. Random telephone surveys with approximately 1,000 16–19 year olds in each state were undertaken prior to the law's enactment and twice at yearly intervals after the law to assess the law's impact on teenage drinking, driving after drinking, and non-fatal accident involvement. Fatal crash data reported to the US Department of Transportation by each state from April 16, 1976–April 15, 1981 were also analyzed. After the law, although the modes of procuring alcohol changed. No significant changes were observed in Massachusetts relative to New York in the proportion of surveyed teenagers who reported that they drank or in the volume of their consumption. The proportion of teenagers who drove after drinking heavily (six or more drinks at one time) did not decline in Massachusetts relative to New York. However, the frequency that teenagers reported driving after any drinking declined significantly in Massachusetts. Frequency of teenage driving after marijuana use and non-fatal teenage accidents declined at comparable rates in both states. The numbers of teenage nighttime single vehicle fatal accidents declined more in Massachusetts than New York, in the 18–19 year age group. Overall fatal accident trends among 16–19 year olds in the two states were similar. (*Am J Public Health* 1983; 73:163–170.)

Introduction

From 1970 to 1975 at least one-half of the states, including Massachusetts, passed laws which lowered their legal drinking age.[1] When Massachusetts also lowered its drinking age from 21 to 18 years of age in 1973, lively public debate arose about whether this change increased the likelihood of teenagers being involved in fatal accidents.

Studies in other states[2–9] lowering their drinking ages have suggested that reductions in the legal drinking age produced increases in the 18–20 year old fatal traffic accident rates. However, research results on the impact of lowering the drinking age in Massachusetts have been contradictory.[6–9] None of these studies compared Massachusetts with control states that did not lower their drinking ages.

Between 1976 and 1981, 16 states reversed the prior trend by raising their legal drinking ages. Massachusetts did so effective April 16, 1979.

An analysis comparing nine states which raised their legal drinking ages to states whose statutes were not changed has concluded that states which raise their drinking age can expect a 28 per cent reduction in nighttime fatal accidents among drivers targeted by such changes.[10] In Massachusetts state officials reported 39 per cent fewer teenage alcohol-related fatal accidents in 1980 compared to 1978.[11] However, no comparison was made to a state where the drinking age was not changed. Consequently, other factors which may be responsible for declines were not considered, e.g., reduced driving because of gasoline price increases and shortages, changes in the types of vehicles driven, or enforcement of other traffic safety laws.

This paper examines the impact of raising the drinking age in Massachusetts during the initial two years after enactment.

Methods and Materials

Data from Massachusetts are compared with those from New York State, exclusive of New York City and Nassau County. In New York State, the legal drinking age remained at 18. New York City and Nassau County were excluded

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10/20

TABLE 1—Response Rates in Random Digit Dialing Telephone Surveys of Teenagers in Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
	(1979)	(1980)	(1981)	(1979)	(1980)	(1981)
Completed Interviews (N)	1023	1006	976	984	1007	999
Response Rate (%)	80	87	84	83	82	85
Non-Interview						
Refusals (%)	9	6	7	3	3	3
Never Contacted Households (%)	8	5	3	11	12	9
Other Reasons (%)	3	2	6	3	3	3

NOTE: "Before" and "After" refer to Massachusetts raising its legal drinking age from 18 to 20 years

because of differences in urban density and age of driving licensure. At the time Massachusetts raised its legal drinking age from 18 to 20, the two states had similar laws regarding age of driving licensure and penalties for driving while intoxicated (see Appendix). Being contiguous, the two states also have roughly similar weather patterns.

An anonymous random digit dialing telephone survey of approximately 1,000 16–19 years olds was conducted in Massachusetts prior to enactment of the law on April 16, 1979. Teenagers were asked about their personal characteristics, drinking practices, procurement of alcohol, use of psychoactive drugs, driving after drinking, and non-fatal accident involvement. A similar survey was conducted in Upstate New York during April and May of 1979. Twice at yearly intervals following the law, these surveys were repeated in each state using the same sampling approach. Interviews were attempted with all eligible teenagers in each household contacted. Table 1 indicates response rates in the six surveys. The demographic characteristics and driving practices of respondents in each state were remarkably similar before and after passage of the law (Table 2).

The survey samples were large enough that there would be only a 1 in 100 chance of failing to detect a 10 per cent post law reduction in the numbers of Massachusetts teenagers who drove after drinking and only a 1 in 5 chance of failing to detect a statewide reduction of 4 non-fatal accidents per 100 drivers in Massachusetts relative to New York.

Log-linear analysis was used on the survey data to test

TABLE 2—Comparison of Respondents' Demographic Characteristics in Massachusetts and New York Surveys 1979–1981

	Massachusetts			New York		
	Before	After		Before	After	
Demographics	(1979) (N = 1023)	(1980) (N = 1006)	(1981) (N = 976)	(1979) (N = 984)	(1980) (N = 1007)	(1981) (N = 999)
	%	%	%	%	%	%
Age 16	25	27	28	31	32	30
17	30	29	31	29	26	26
18	23	25	22	23	22	23
19	21	19	19	17	20	21
Sex—Male	52	51	49	48	51	51
Student	81	79	82	81	78	83
Licensed	81	78	79	81	78	79
Married	3	3	1	2	2	2
Drove Last Year						
Car	87	85	86	87	84	85
Truck	19	23	20	30	30	30
Motorcycle	18	19	17	21	20	19
Miles Driven						
None	17	20	18	17	20	20
100	36	30	31	34	31	34
100–500	29	33	33	32	33	29
500+	19	17	14	17	16	16
Condition of Car						
Poor–Fair	18	20	18	19	19	19

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TABLE 3—Teenage Reported Drinking and Alcohol Procurement, Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
	(1979) (N = 1023)	(1980) (N = 1006)	(1981) (N = 976)	(1979) (N = 984)	(1980) (N = 1007)	(1981) (N = 999)
Average Drinks Daily	%	%	%	%	%	%
None	7	10	7	9	9	9
.01– .99	59	61	64	61	63	62
1–1.99	10	10	8	11	10	9
2–2.99	13	10	11	10	10	10
3–3.99	4	4	4	4	3	4
4–4.99	2	2	2	2	2	2
5+	5	4	5	4	4	4
Where Most Often Obtains Alcohol						
Liquor Store/Grocery*	44	31	27	31	29	30
Bars-Clubs-Restaurants*	19	7	6	23	22	22
Home‡	7	12	11	12	11	11
Others Buy*	21	39	43	19	23	20
Parties-Friends' Homes	9	10	12	15	15	16
Drank Last Month 5+ Times						
Parties‡	15	13	18	11	12	11
Car	18	17	16	14	16	14
Bar*	21	9	7	20	18	20
For those who drank in past year						
Bought liquor last month*	50	30	24	43	40	43
Has Fake ID	7	8	7	8	7	8
Never Asked Age at Liquor Store/Attempted to Purchase Liquor	27	35	35	33	32	28

*p < .01
‡p < .05
(Testing the hypothesis that reductions were greater in Massachusetts than New York after the law.)

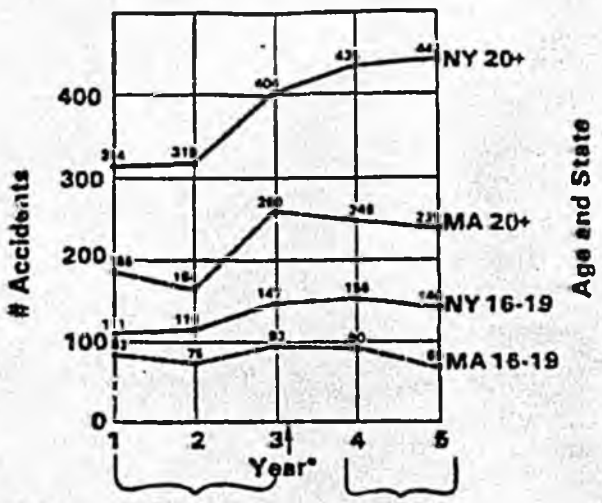
whether the law had any impact on the dependent variables in Tables 3, 4, and 5. The analysis compares Massachusetts to New York with respect to changes in the dependent variable, say driving after drinking, from the pre-law survey to the post-law surveys, adjusting for possible initial differences between the states on the dependent variable. Relations are cited as significant if $p < .05$.

In addition, data from the US Department of Transpor-

TABLE 4—Respondents Who Drive After Drinking or Drug Use in the Last Month, Legal Drinking Age Study

	Massachusetts			New York		
	Before	After		Before	After	
Drove After	(1979) (N = 843)	(1980) (N = 809)	(1981) (N = 795)	(1979) (N = 817)	(1980) (N = 799)	(1981) (N = 791)
	%	%	%	%	%	%
Any Drinking*	51	42	40	39	39	41
Drinking 6+ drinks at one time**	11	12	11	8	8	10
Smoking Marijuana	29	25	21	20	18	18
Drinking and Smoking Marijuana	18	15	12	13	11	10
Using Other Psychoactive Drugs	6	6	4	3	4	4
Drinking and Using Other Psychoactive Drugs	4	4	3	2	3	3

*p < .01
**refers to the most recent occasion teenagers drove after drinking.



Percent of all drivers in Single Vehicle Nighttime Fatal Accidents Age 16-19		Pre Law 1	2	3	Post Law 4	5
	NY	26	27	27	26	24
	MA	31	31	26	27	22

1 = Year law went into effect

* Year	1 April 1976 - April 15, 1977
2	1977 - 1978
3	1978 - 1979
4	1979 - 1980
5	1980 - 1981

FIGURE 1—Single Vehicle Nighttime Fatal Accidents According to Age of Driver, State, and Year

chusetts teenagers said someone had purchased liquor for them in the previous month; two-thirds of these purchasers were over age 20 (not shown in Table).

The average daily consumption of alcohol in the 16–19 year old age group during the two years after the law did not decline in Massachusetts compared to New York. Nor did teenagers report shifts to the use of other psychoactive drugs. Consistent with trends nationwide, both states experienced significant reductions in the use of marijuana (not shown in Table).

Table 4 indicates the proportion of respondents who drove after drinking, psychoactive drug use, or drinking and drug use in combination during the month preceding the interview. After the law, the proportion of teenagers who reported driving after drinking heavily (six or more drinks) did not decline in either state. However, the frequency that teenagers reported they drove after any drinking declined significantly more in Massachusetts. Both states experienced comparable declines in the percentages of teenagers who drove after marijuana use.

In both states, the incidence of non-fatal accidents reported by 16–19 year old drivers dropped after the law (Table 5).* The decrease was not significantly greater in Massachusetts compared to Upstate New York.

Prior to the enactment of the law, some legislators indicated doubts about whether the law would reduce drinking and accidents among 18 and 19 years olds who had previously been entitled to drink. However, they anticipated that 16 and 17 years olds would find alcohol even more difficult to obtain because they would become even further removed from the legal drinking age. Analyses of survey data on drinking, driving after drinking, and non-fatal accidents did not identify a significantly greater impact of the law on 16 and 17 year olds compared to 18 and 19 year olds. (Data available on request from the authors)

Fatal Accidents

Analyses which focused on teenage single vehicle nighttime fatal accidents (Figure 1) revealed a 5 per cent drop in such accidents in Massachusetts during the two years after the law compared to the preceding three years. In New York, such accidents rose 15 per cent after the law. It should be noted that single vehicle nighttime fatal accidents among drivers above age 20 also rose at a 7 per cent higher rate in New York than in Massachusetts after the law even though it is unlikely that non-teenage drivers in single vehicle accidents would be affected by the drinking age change.

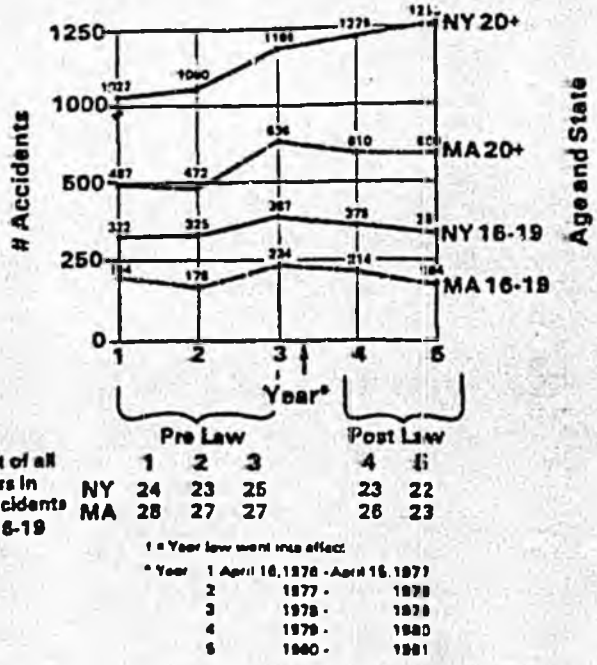
Three separate statistical procedures tested whether these teenage accident trends in Massachusetts were significantly different from the trends in New York. The accident totals for each age group and each year were fitted to a log-linear model using the methods of Bishop, Fienberg and Holland.[15] The data were also fitted to a regular analysis of variance model with log number of accidents as the dependent variable and age group, year, and state as factors. Finally, the data were fitted to an analysis of covariance model with log number of accidents in Massachusetts as the dependent variable and log number of accidents in New York as an independent variable. The teenage single vehicle nighttime fatal accident changes in Massachusetts relative to New York did not achieve statistical significance when tested using log linear analysis ($p > .1$) but were significant when tested by analysis of variance and covariance ($p < .05$).

Analyses were repeated separately for 18 to 19 year olds and for 16 to 17 year olds. Among 18 to 19 year olds in Massachusetts, single vehicle nighttime crashes dropped 15 per cent after the law, whereas in New York they rose 16 per cent ($p < .05$ based on analysis of variance and covariance). However, after the law such accidents among 16 to 17 year olds in both states actually rose by 20 per cent–30 per cent. (Data are available upon request from the authors.)

Figure 2 shows the total numbers of fatal accidents in Massachusetts and New York according to the age of the youngest driver. In both states, teenage accident totals were the highest during the last year before the law. When the average of teenage fatal accidents during the three years preceding the law was compared to the average of the two years following the law, Massachusetts dropped 1 per cent while New York rose 5 per cent. The three methods of statistical analysis indicated no significant difference between the two states in the overall teenage fatal accident trends. The results were the same when 16–17 year olds and 18–19 year olds were analyzed separately.

To control for possible confounding effects which might

*Rates of accidents reported by respondents who drove motor vehicles during the year preceding the surveys exceeded the rates calculated from Registry of Motor Vehicle data per licensed teenage driver in each state. Neither Massachusetts nor New York require all non-fatal accidents to be reported to the police or registry.



Percent of all drivers in Fatal Accidents Age 16-19		1	2	3	4	5
	NY	24	23	25	23	22
	MA	28	27	27	26	23

1 = Year law went into effect

* Year 1 April 16,1976 - April 15,1977
2 1977 - 1978
3 1978 - 1979
4 1979 - 1980
5 1980 - 1981

FIGURE 2—Fatal Accidents According to the Age of the Youngest Driver, State, and Year

be produced by Massachusetts teenagers crossing the border into New York in search of alcohol and then having accidents in New York, the analyses were repeated for 16–19 year olds excluding all New York and Massachusetts counties along their common border. Since less than 2 per cent teenage fatal accidents in those border counties involved drivers from the neighboring state, there was still no significant difference between overall teenage fatal accident trends in Massachusetts and New York.

Police and Enforcement of the Law

Arrest data and interviews with law enforcement officers in Massachusetts suggest possible explanations for these modest effects. Although most officers supported the new law, inspection of uniform crime reports (UCR) revealed that the frequency with which teenagers were arrested for driving under the influence did not significantly change in Massachusetts during the first year after the law compared to the previous two years. In New York, driving under the influence arrests for teenagers showed a steady increase over time throughout the study.

Predictably during the first year after the law when it became illegal for not just 16 and 17 year olds, but also 18 and 19 year olds to purchase alcohol in Massachusetts, arrests in that state among 16–19 year olds for all other alcohol-related offenses such as illegal purchase, possession, or public intoxication rose over 150 per cent. However, the intensity of enforcement varied widely from community to community. In 1980, the Massachusetts communities with over 100,000 inhabitants, recorded fewer than 10 arrests per every 1,000 teenage residents whereas more than 20 arrests per 1,000 teenagers were recorded in the rest of the state.

The police interviews revealed that in some jurisdictions the police actively patrolled areas near liquor outlets and arrested observed violators of the law. In many other communities, however, officers used the law primarily in response to neighborhood complaints about public drinking by teenagers. Charges were not uniformly levied against teenage offenders. Often the teenagers' alcohol was either confiscated by the police for later disposal or disposed of while the violators watched. Frequently, violators were sent or taken home by the police with a warning only, or brought to police stations to be met by parents but not arrested. Arrests were generally reserved for known repeat violators, those who engaged in other law violations while drinking, teenagers who were abusive or uncooperative, or persons the police wished to arrest on other charges but lacked sufficient evidence to arrest.

The reasons most often cited for the variability in enforcement of the law among communities across the state was the lack of personnel and competing priorities, particularly in some high crime inner-city jurisdictions. Moreover, many officers did not perceive teenage purchasing of alcohol or drinking per se as a sufficiently serious crime to stigmatize juveniles by putting an arrest on their records. Parenthetically, several officers said they had behaved the same way when they were teenagers.

Finally, there were sometimes political deterrents to uniform enforcement. In at least one community, systematic enforcement of the law was abandoned and a special enforcement group was dissolved in response to complaints from other police officers, and town officials, whose children were arrested.

Enforcement of the law focusing on the sellers was minimal and sporadic. The year the law went into effect, the ABCC had only 24 inspectors to patrol the more than 12,000 liquor outlets statewide. Only three inspectors operated at night. Random checks of liquor outlets at night were discontinued during 1979 and inspections were made only in response to complaints (usually filed by competing liquor outlets or neighbors). The frequency of license revocations by the state did not increase after the law. Licenses were suspended only after a pattern of violations had been identified. Even then, a standard ABCC compromise procedure enabled the violating liquor outlets to remain open if 15 per cent of their daily profits were paid to the state during what would have been the suspension period.

Discussion

Several features of our study should be considered in interpreting these results. First, the study examined the first two years following enactment of the law. During this time period, the 18 and 19 year old age groups who had previously been allowed to drink had that privilege revoked. One could hypothesize that the previous drinking habits of this group would be resistant to change. Data from subsequent years may indicate whether people who were never allowed to drink will be more strongly affected by the law as they enter into the 18–20 year old age groups.

6 0 20

Second, one must be cautious about reports of drinking and psychoactive substance use based on survey self-reports. However, consistencies between the survey data and the accident data favor the validity of the survey results. To illustrate, according to the surveys, both Massachusetts and New York teenagers drove less frequently after drinking and after marijuana use during the two years after compared to the year before the law. Predictably, both states experienced declines in teenage single vehicle nighttime fatal accidents and overall fatal accidents during that period. Also, when Massachusetts and New York were compared, both the survey data and the accident data identified greater declines in Massachusetts on only some of these outcomes.

Third, whenever the null hypothesis is confirmed the likelihood of a type II error must be considered. Power calculations indicate that there is only a 13 per cent chance of failing to identify a 15 per cent reduction in the likelihood of overall teenage fatal accidents in Massachusetts relative to New York using a .05 level test. These calculations are based on the availability of two complete years of post-law fatal teenage accident data. Moreover, our current survey samples are sufficiently large that we have even greater confidence that there was no reduction in overall teenage drinking and non-fatal accidents in Massachusetts compared to New York after the law.

The results suggest that raising the drinking age reduced single vehicle nighttime but not overall fatal accidents in Massachusetts relative to New York among 18 and 19 year olds. We did not detect an impact on 16 and 17 year olds.

The state's law provides a symbolic statement to teenagers that its citizens disapprove of their drinking, and fears the accidents they may cause when they drive after drinking. The study results prompt us to ask whether the law could have had a greater impact among all Massachusetts teenagers if enforcement efforts were more consistent in all communities and if greater attention were paid to preventing the common practices of non-teenagers purchasing alcohol for teenagers or liquor outlets not requiring age identification? Without sufficient resources and coordination of enforcement efforts, those police who actively strive to enforce the law in one community may find their efforts negated by minimal enforcement in the next. Under these circumstances, will 16–19 year olds be offered an opportunity at a young age to learn that at least some laws can be violated or circumvented with little risk of apprehension, conviction, or punishment?

It is ironic that comparably high rates of fatal accidents have been consistently reported among persons in their early twenties, a group whose drinking privileges were not revoked. Moreover, because 18 and 19 year olds are involved in only a small fraction of alcohol-related accidents, even if the change in the legal drinking age had a greater impact on this age group, the tragedy of automobile injuries and fatalities caused by adults as well as 16 and 17 year olds who drink and drive would remain substantially unaltered.

Lack of community resources and variable willingness to enforce laws focused on teenagers raise questions about whether alternative strategies such as increased enforcement of the drunk driving and traffic safety laws aimed at all drivers, or requirements for safer cars and improved road design would yield greater reductions in nonfatal and fatal accidents both among teenagers and non-teenagers.

The results of this study and others[10,17,18] suggest that raising the legal drinking age may hold some promise of accident reductions. However, the impact of those legal changes may be diluted without intensive, publicly supported, coordinated enforcement efforts in all communities.

REFERENCES

1. Smart R, Goodstadt M: Effects of reducing the legal alcohol purchasing age on drinking and drinking problems: a review of empirical studies. J. Stud Alcohol 1977; 38:1313–1323.
2. Whitehead P: Alcohol and Young Drivers: Impact and Implications of Lowering the Drinking Age. Monograph Series No. 1, 1977: Research Bureau Non-Medical Use of Drugs Directorate Health Protection Branch, Canadian Department of National Health and Welfare, p 12.
3. Whitehead P: Collision behavior of young drivers. J Stud Alcohol 1975; 36:1208–1222.
4. Douglass R, Freedman JA: Alcohol Related Casualties and Alcohol Beverage Market Response to Beverage Alcohol Availability Prices in Michigan. Ann Arbor: University of Michigan Highway Safety Institute, Final Report, August 1977.
5. Williams AF, Rich RF, Zador, PL, *et al:* The legal minimum drinking age and fatal motor vehicle crashes. J Leg Stud 1975, 4:219–239.
6. Cucchiaro S, Ferreira J, Sickerman A: The Effect of the 18 Year Old Drinking Age on Auto Accidents. Cambridge: Operations Research Center, Massachusetts Institute of Technology Working Paper, May 1974.
7. McFaddon M, Wechsler H: Minimum drinking age laws and teenage drinking. Psychiatr Opinion March 1979; 16:22–28.
8. Ferreira J, Sickerman A: The impact of Massachusetts reduced drinking age on auto accidents. Accidents Anal Prev 1976; 8:229–239.
9. Zylman R: When It Became Legal to Drink at 18 in Massachusetts and Maine: What Happened? (Unpublished manuscript.) New Brunswick: Rutgers University, Center for Alcohol Studies, August 1975.
10. Williams A, Zador P, Harris MS, *et al:* The Effect of Raising the Legal Drinking Age on Fatal Crash Involvement, Washington, DC: Insurance Institute for Highway Safety. The Highway Loss Reduction Status Report 1981; 10:1–5.
11. Fox W: A Rise in Drinking Age, A Drop in Fatal Crashes. Boston Globe, December 22, 1981, pp 21–22.
12. Waksberg J: Sampling methods for random digit dialing. J Stat Assoc 1978; 73:40–46.
13. Douglass R, Freedman J, Clark F: The Effect of Lower Drinking Ages on Youth Crash Involvement. Ann Arbor: The University of Michigan, Highway Safety Research Institute, 1974.
14. Johnston LD, Bachman J, O'Malley P: Highlights from Student Drug Use in America 1975–1980. National Institute on Drug Abuse, DHHS Pub. No. ADM (81-1066), 1980.
15. Bishop YMM, Fienberg SE, Holland PW: Discrete Multivariate Analysis. Cambridge: MIT Press, 1975.
16. Wagenaar AC: Effects of an increase in the legal minimum drinking age. Public Health Policy 1981; 2:206–224.
17. Klein T: The Effect of Raising the Minimum Legal Drinking Age on Traffic Accidents in the State of Maine. NHTSA Technical Report, December 1981.

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APPENDIX

Comparison of Relevant Statutory Provisions in Massachusetts and New York* as of April 16, 1979

	Massachusetts	New York
Legal Drinking Age	20	18
Legal Driving Age	16	16
Penalty-selling or giving alcohol to minors	$200 fine and/or 6 mos in prison	Up to $500 fine and/or 3 months in prison
Penalty-minor buying alcohol (includes fraudulent ID)	$300 fine	Mandatory probation no more than 1 year, fine up to $10
Blood alcohol content proving intoxication	.10	.10
Driving deemed consent to blood alcohol test	Yes	Yes
Refusal to consent to blood alcohol test	Loss of license for 90 days. Refusal not admissible in court proceedings	6 mos revocation; if under 21 revocation for 6 mos or until 21, whichever is longer. Evidence of refusal is admissible in court proceedings
Penalty-driving while intoxicated	Fine of $35–$100 and/or 2 wks–2 yrs in prison	Fine up to $500 and/or up to 1 year in prison
License revocation for driving while intoxicated	First offense—mandatory revocation at least 1 yr. Second offense—in 6 yrs, 5 yrs revocation. If a death results, at least 10 yrs revocation	First offense-mandatory revocation at least 6 mos, second offense or when personal injury results mandatory permanent revocation
Possibility of legally driving while in alcoholic rehabilitation	Yes, judge may continue case, dismiss charges after successful completion	May be given "conditional" license for limited purposes and time; may apply for a "restricted use" license if necessary for employment
Liquor dealer's license may be suspended or revoked for sale to minors	Yes	Yes

*Excluding Nassau County and New York City.

National Symposium on Genetic Disorders and Birth Defects

A National Symposium entitled "Genetic Disorders and Birth Defects in Families and Society: Toward Interdisciplinary Understanding" will be held April 25–26, 1983 at the Baltimore Hyatt-Regency. The symposium is sponsored by the Division of Medical Genetics and the Department of Social Work, Johns Hopkins Medical Institutions and supported by the March of Dimes Birth Defects Foundation, the Genetic Diseases Services Branch, Office of Maternal and Child Health, and the Mead-Johnson Company.

The purpose of this symposium is to heighten sensitivity to psychological and social implications of genetic disorders and birth defects as they affect individuals, families, and society.

For additional information, contact Program Coordinator, Office of Continuing Education, 720 Rutland Avenue, Turner 22, Baltimore, MD 21205. Telephone 301/955-6046.

Bill asks advisory vote on raising drinking age

The Associated Press

JUNEAU — Raising Alaska's legal drinking age to 21 could make the state's highways safer, the director of the Alaska Council on Prevention of Alcohol and Drug Abuse told a House panel Thursday.

Drivers from 18 to 20 years old are extraordinarily prone to automobile accidents and more apt to lose control when they drink, Barbara Hoffman told the House Judiciary Committee.

The committee is considering a bill calling for an advisory vote on the issue. Voters would express their opinions at the first general election after passage of the bill.

Consultants on alcoholism testified both for and against the legislation. An expert hired by the alcohol council said figures show social problems involving youths are declining in states where the drinking age has been raised. An expert hired by bar and restaurant owners said the figures are inconclusive.

Frank Lee, who last year supported the bill but this year testified in opposition to it for an Anchorage bar and restaurant association, said data can be interpreted in many ways.

Bar and restaurant owners don't think the proposed advisory ballot offers the right question, he said, suggesting the legislature consider a vote on raising the age of majority from 19 to 21.

The voting age and the age for other legal responsibilities should be tied to the drinking age, he said.

The bill before the Judiciary Committee restricts the change in the legal age to "the purpose of regulation of the sale, consumption, service, furnishing, barter, purchase, gift or delivery of intoxicated liquor."

Rep. Charles Anderson, R-Anchorage, said he is bothered by the idea of "legislating against" 19 to 21 year olds.

Committee Chairwoman Ramona Barnes, R-Anchorage, and Rep. Randy Phillips said they have been getting cards on the issue saying, "I'm 18. I vote."

Bill sponsor Rep. Terry Martin, R-Anchorage, said the bills has political ramifications that make some politicians nervous, but he argued polls show Alaskans strongly in favor of changing the drinking age.

Since the age was lowered, Martin said there has been a "tremendous increase in teenage traffic accidents.

"We're talking life and death," he said.

Hoffman said Alaska has a lot of problems with alcohol because of its climate, a young population and an general lust for adventure.

"It seems as though what we really have is a high-risk population," she said. "We place a very high value on high-risk" adventures.

She classified drinking in Alaska as "a willing risk for recreational behavior."

A spokesman for the state Department of Health and Social Services said the agency supports raising the drinking age to eliminate liquor's "pass down effect."

He said 19 year olds drink with 15 and 16 year olds, whereas 21 year olds associate with 22 and 23 year olds.

Sheffield backs age change

The Associated Press

FAIRBANKS — Democratic gubernatorial candidate Bill Sheffield told a group of high school students Thursday that Alaska should raise its legal drinking age from 19 to 21.

The Anchorage businessman said the change would be a first step toward reducing alcohol abuse in the state.

"Other states in the Lower 48 have been increasing the legal drinking age — and with impressive results," Sheffield said in remarks prepared for an American government class at Lathrop High School in Fairbanks. "The automobile accident rate has declined, thousands of lives have been saved and young people are leading more productive lives."

He said there were almost 2,900 fewer traffic fatalities in Michigan the first year after it raised its drinking age from 18 to 21.

To illustrate the severity of the problem in Alaska, Sheffield said alcohol was a factor in:

- 64 percent of the criminal homicides in 1980;
- 80 percent of the suicides;
- 70 percent of the traffic fatalities;
- 48 percent of the violent crimes (78 percent in rural areas).

Juveniles account for about 52 percent of the arrests of liquor law violators and 64 percent of the arrests for non-aggravated assaults, he said.

"Waiting two more years to have a drink won't kill anyone," Sheffield said. "Taking the drink might."

The Atlanta Journal AND CONSTITUTION SUNDAY, FEBRUARY 6, 1983

Is age a vital DUI factor?

By Pamela Fine
Staff Writer

Raising Georgia's legal drinking age is not likely, by itself, to cause a significant reduction in teenage driving fatalities or consumption of alcohol, according to conclusions reached in a new study by researchers at Boston University's Schools of Medicine and Public Health.

Writing in the February issue of the American Journal of Public Health, the nine researchers reported that teenage driving deaths have declined only slightly in Massachusetts since that state raised its legal drinking age from 18 to 20 in 1979.

"The law has not had as marked an impact as [illegible] it would have," one of the study's authors, [illegible]ngson, said last week.

[illegible] researchers said weak and inconsistent law [illegible]cement efforts in their state were partly to blame for the poor results.

Without vigorous efforts to apprehend, convict and punish drunk drivers and those who sell alcohol to or buy it for minors, raising the drinking age may be nothing more than a symbolic statement to teenagers that the community disapproves of their drinking, they said.

"Who can argue with that?" responded Sen. Paul Coverdell (R-Atlanta), who is the principal sponsor of proposed legislation that would raise Georgia's legal drinking age from 19 to 21.

He said his proposal was not created in a vacuum. The General Assembly is taking researchers' advice to heart by trying to stiffen DUI penalties and law enforcement efforts in addition to raising the legal drinking age, he said.

Coverdell added, however, that he differed with the researchers' conclusion that increasing the drinking age, by itself, would have only a symbolic effect.

He said his research shows that, "for whatever reason," raising the drinking age causes young drivers to be more cautious about drinking and driving.

"We cannot cure drinking, but the statistics I've [illegible] on states that raised their drinking age show [illegible]hat enough of the teenagers alter their behavior in some force to reduce deaths," the senator said.

In the Boston University study, automobile accident statistics from 1976 to 1981 for Massachusetts were compared to accident statistics from New York, which has kept its legal drinking age at 18.

In addition, the researchers analyzed the drinking and driving habits of about 1,000 teens, aged 16 to 19, over a three-year period. Their work included random telephone surveys of the teenagers before and after Massachusetts raised its legal drinking age.

Among their findings:

- The decline in fatal accidents for that age group was only 1 percent when statistics from three years before and two years after the new legal drinking age were compared.
- While single-vehicle nighttime crashes among those aged 18 and 19 dropped 15 percent after the law, such accidents among those aged 16 and 17 rose by more than 20 percent.
- Although about 10 percent of the teenagers reported that after the law changed, they drove less frequently after "any drinking," there was no change in the habits of the 11 percent who said they drove after drinking heavily (six or more drinks).
- Nearly 40 percent of the teenagers said they had attempted to purchase alcohol after the legal drinking age was raised.
- The proportion of teenagers who had someone else purchase alcohol for them or who most often obtained alcohol from their homes doubled from 21 to 43 percent after the law took effect.

"The average daily consumption of alcohol in the 16 to 19-year-old age group during the two years after the law was passed did not decline in Massachusetts compared to New York," the researchers wrote.

"The results suggest that raising the drinking age reduced single-vehicle nighttime accidents but not overall fatal accidents in Massachusetts relative to New York among 18- and 19-year-olds," they concluded.

The study also indicated that teenagers who have been legally allowed to drink but would have the privilege revoked if the legal drinking age is raised are likely to resist the change.

The authors say it may be wiser to crack down on drunk driving laws for all drivers rather than specifically target one group, whose lifestyle patterns may not change substantially under a higher legal drinking age.

"Let's not forget that teenagers still constitute only a small fraction, one fifth or less, of fatalities in accidents," said Hingson, an associate professor of socio-medical sciences.

While Hingson said Georgia's proposal holds some promise of accident reductions, he noted that research indicates it may not be the lifesaver its supporters contend.

Coverdell and other proponents of the higher drinking age, however, point to research by the Washington-based Insurance Institute for Highway Safety that, they said, suggests otherwise.

The safety institute compared accident statistics from nine states that raised their legal drinking age to those from states where statutes were not changed. The study concluded that states with higher legal drinking ages can expect a 28 percent reduction in nighttime teenage fatal accidents.

But the Massachusetts researchers say that while the institute research itself is not necessarily wrong, other states considering drinking-age proposals cannot automatically assume the 28 percent reduction.

They said the driving laws in the nine states that were studied may be more stringent and law enforcement efforts more vigorous than in states considering the change.

The Massachusetts study, they said, analyzed actual drinking habits of teenagers in addition to accident statistics, something the highway safety institute did not do.

"If the (Georgia) law is to have any impact at all," Hingson said, "you must have coordinated law enforce

Tom Teepen

The drinking-age controversy

Maybe it is my knee-jerk-liberal's indoctrination in the premise that there are no simple answers to complex problems, but whatever the source, I am skeptical of the move in the General Assembly to bump Georgia's legal drinking age up from 19 to 21.

The goal is to cut drunken-driving injuries and deaths, and there can be no arguing with success. States that have made this move have seen striking reductions in DUI fatalities.

I wonder, however, whether drunken driving should serve as the be-all of such a social decision. Even if it should, this may not be the best way to go about the problem.

In relation to the miles they drive, drivers 18 through 20 are involved in DUI fatalities 2.6 times more often than the population overall. But drivers 21 through 24 are just about as bad. They are involved in 2.1 times more DUI deaths than the overall average.

Whatever lives are saved by raising the drinking age to 21, more than double that number could be saved by going on and raising it to 25. The statistical case for that is every bit as strong as for coming down on 18-to-21-year-olds. The main difference is that the latter proposition would be politically riskier.

Indeed, if statistics are to set policy, then females should be allowed to drink at 18, and males of all ages should be refused legal booze after dark — if they are not accompanied by a woman: That's the biggest DUI offender category — but just try to sell that one in the legislature.

A provocative study of legal drinking ages was conducted a few years ago by Dr. James F. Rooney, an associate professor of sociology at Penn State. With funding from the Boys Town Center for the Study of Youth Development, Rooney surveyed 5,000 persons in five states.

Two states had legal drinking at 20 and 21; three at 18. To his own surprise, Rooney found just the opposite of what you'd expect. Young people drank more, drank more often, drank in larger numbers and had more drinking problems in the higher-age states.

Rooney suspects the "forbidden fruit" syndrome.

Then, too, as with any law, there is the issue of enforceability. Our current 19-year-old line pretty well fits the distinction young people make themselves — that great social continental divide: High school and post-high school. The legal drinking age of 19 is reinforced by the customs of the people who are its subjects — always a good omen for enforcement.

Time was when 21 was a similar line. Many of the privileges, if they are that, of adulthood were reserved for then — voting, property ownership, etc. But the once-magic age of 21 has become meaningless. A 21-year drinking limit will rake against the grain, striking many in that age group as arbitrary and even abusive. The inevitable resulting enforcement problems will weigh against whatever gains are made in reducing accidents.

Frankly, I'm put off by an unmistakable undercurrent that runs through this debate. Listen closely, and you can't miss the keenness of some to punish young people some way, somehow, for being young — and especially for having a youth which many older folks see as enjoying freedoms that they missed out on.

It is certainly true that 18-to-21-year-olds are at the same time new drivers and new drinkers, an inherently volatile mix of inexperience.

I wonder, however, if we could address the resulting problems both more fairly and more effectively by what would amount to a provisional licenses in both fields, allowing beer at 18 or 19 but holding off harder stuff until 21 — and making driving far more clearly a privilege for the first three years, with licenses that could be revoked for reckless operation of any sort.

Just a thought.

The Orlando Sentinel
MARCH 19, 1983

Gordon says drinking age should be 18

By Robert A. Liff

SENTINEL MIAMI BUREAU

MIAMI BEACH — State Sen. Jack Gordon, looking with amused cynicism at proposals to raise the drinking age to 21, says he might suggest an amendment if it ever reaches the floor of the Senate.

Gordon, a Miami Beach Democrat, says the drinking age should be lowered from 19 to 18.

And drinking should be banned between the ages of 35 and 45.

"That age group has the highest percentage of drunk driving traffic fatalities," Gordon said.

State Rep. Fran Carlton, D-Orlando, has proposed raising the drinking age in Florida from 19 to 21. She cites statistics that show a high percentage of drunken driving traffic fatalities involve drivers in that age group.

But Gordon, who is a health food addict and rarely drinks, thinks Carlton and other supporters, including Senate President Curtis Peterson, are "essentially prohibitionists."

Peterson and Carlton, neither of whom could be reached for comment Friday, are teetotalers who do not share Gordon's views.

"A lot of people see young people as a group they can attack with relative impunity," Gordon said.

"And young people haven't made significant use of the ballot."

Gordon, who admits his proposal is tongue-in-cheek, says raising the drinking age will violate the Florida Constitution.

"The Constitution says every natural person has a right to be free from governmental interference in his private life," Gordon said.

He invited a court challenge to the raised drinking age, if it passes, on those grounds.

Gordon, 60, cheerfully admits that his strong civil-libertarian instincts make him a minority in Florida's upper legislative house.

*** The Orlando Sentinel

This is the man who, during legislative debate on his proposal to legalize personal use of marijuana, claimed that because only fertilized female plants were ripped out of the ground by drug agents, the issue was one of civil rights.

Gordon didn't win the marijuana fight.

But in the grand Florida legislative tradition of "politics makes strange bedfellows," Gordon's cosponsor on the marijuana bill was Senate Dean Dempsey Barron, a Democrat from Panama City.

Gordon has managed to get into, and stay in, the Senate leadership despite his liberal views. He was former chairman of the powerful Senate Appropriations Committee and now serves as Senate president pro tempore and chairman of the Education Committee.

The Orlando Sentinel

The Orlando Sentinel, Wednesday, March 2, 1983 A-11

Attack drunken driving, but don't pick on youth

My word / Victor Hastings

SPECIAL TO THE SENTINEL

Those who want to raise Florida's drinking age unfailingly couch their arguments in such emotional terms as "saving young lives" and "keeping our highways safe." It is our legislators' sacred duty, they proclaim, to raise the legal limit to 21, thereby ensuring domestic tranquility, promoting the general welfare, with liberty and justice for all, and so on.

It would be all too easy for our legislators to attempt to remedy the drunken-driving problem by raising the drinking age from 19 to 21. Young adults are a politically insignificant group, and they make an ideal scapegoat for the drunken-driving problem.

Of course raising the drinking age to 21 would "save young lives," but why stop there? Why don't we save thousands of adult lives by raising the legal limit to 40? Why don't we just re-enact the 18th Amendment and be done with it altogether?

It is an all-too-American habit to treat a problem by attacking its symptoms. Raising the drinking age is an absurd "solution" to a serious problem, because it presupposes that young adults are somehow more to blame for drunken-driving deaths. Such is simply not the case.

No, a solution to the problem goes much deeper than the relatively insignificant question of "when shall we allow people to begin drinking?" First, we must admit that all drivers, not just young ones, are dangerous when drunk; in other words, we must create substantially tougher penalties for drunken driving. Consider Sweden, where the presence of stringent laws against drunken driving has been enormously successful.

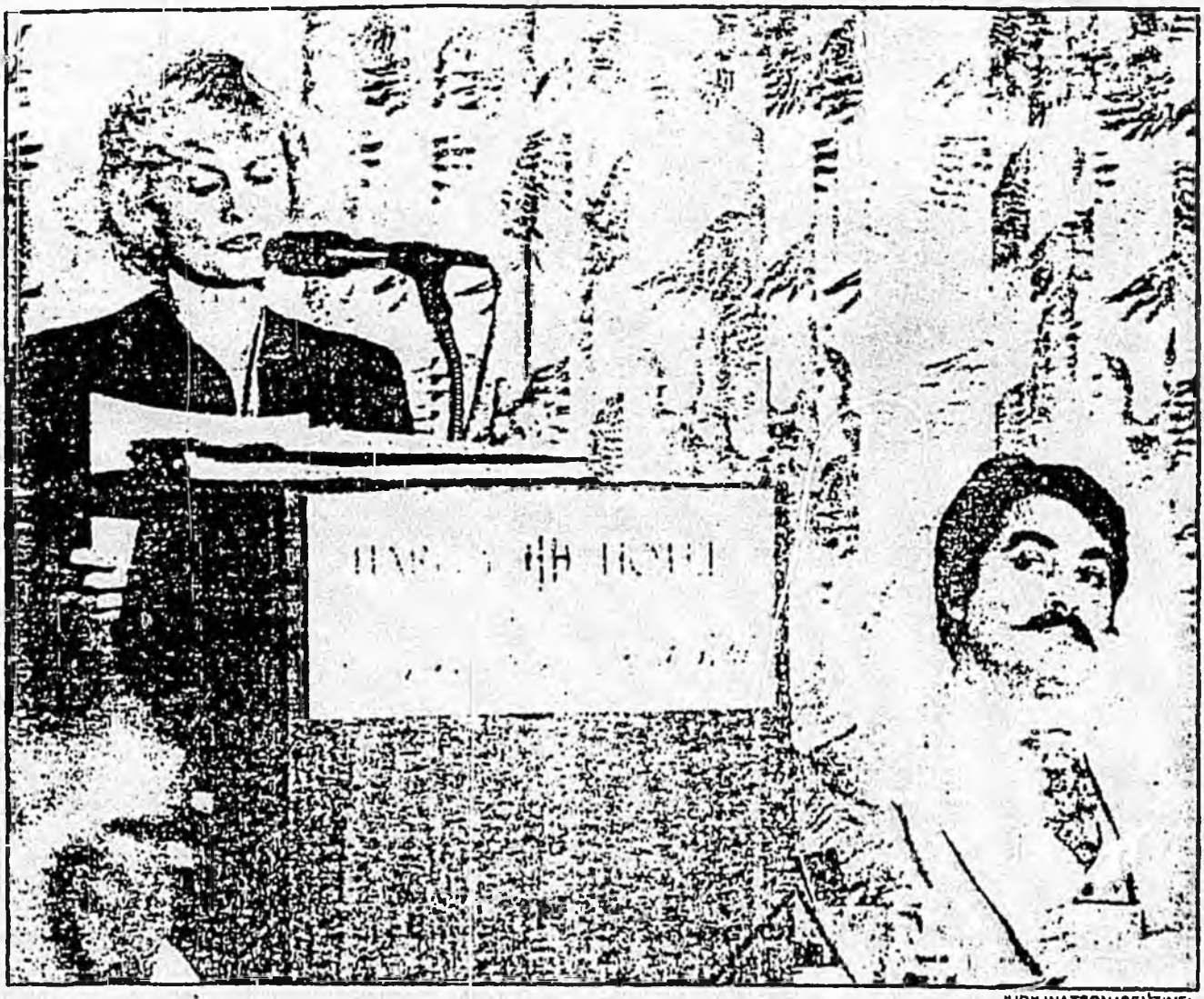
However, it is one thing to enact more severe penalties; it is entirely another to enforce them. Our courts are just now beginning to realize that death at the hands of a drunken driver differs little from death at the hands of a gun-wielding attacker. The greatest benefit of groups like Mothers Against Drunk Driving is that they produce a change in thinking; at long last, Americans are beginning to consider the implications of driving while impaired.

As part of the "change in thinking," I would advocate the discontinuance of Breathalyzer tests in drunken-driving cases. Just as polygraphs and traffic radar have been demonstrated to be inaccurate under field conditions, so also can Breathalyzer data be misleading. A blood-alcohol level of 0.10 percent (the definition of "drunkenness," according to Florida statutes) is enough to induce alcoholic stupor in some persons; others can register 0.10 and never feel it. In any case, "trial by machine" smacks of Orwell.

The use of videotape cameras during drunken-driving arrests would, I feel, allow juries to decide for themselves whether a defendant was intoxicated. Videotapes could be introduced as evidence without any of the constitutional hassles that have rendered Breathalyzer evidence virtually — and, I might add, justifiably — useless in courts of law.

Another solution we must consider, although I have little belief that it would ever be passed, is to raise the driving age to 18, with a restricted permit at 16. Most European countries do not issue driver licenses to minors. After all, driving is inherently more dangerous than drinking; it is the combination that is deadly.

Victor Hastings, 22, former editor of the Wake Forest University student newspaper, is now a graduate student at the University of Central Florida.



JUDY WATSON/SENTINEL

Snow casts skeptical glance as Carlton cites figures backing higher drinking age.

Sparks fly at drinking age debate

Tourist association members argue after Snow, Carlton square off

By Sandra Mathers

OF THE SENTINEL STAFF

Orlando restaurateur Bob Snow and state Rep. Fran Carlton squared off Friday in their first face-to-face debate on what's sure to be one of the most controversial issues before the Florida Legislature: raising the state's legal drinking age from 19 to 21.

Their opposing positions, presented at an Orlando Area Tourist Trade Association luncheon in the Harley Hotel, were predictable. What wasn't as predictable was the debate among OATTA members that followed.

Carlton, an Orlando Democrat, is primary sponsor of House Bill 24, which would raise the state's legal drinking age to 21. She cited a stream of statistics to support her contention that there were more alcohol-related traffic deaths in Florida in 1981 in the 19- and 20-year-old age group than any other.

"In 1981, 25,000 nationwide died in alcohol-related highway accidents and 4,484 of them were 16 to 24 years old," she said. "The youthful death toll is a national scandal."

Snow, founder and president of the Florida Entertainment and Dining Association, a lobby group fighting the bill, argued that raising the drinking age is discriminatory, unwarranted and unenforceable.

"We're looking at a problem of drunken driving, not of age," he said. "Across the board, those under 21 are not more blameworthy than other age groups; they're getting a bum rap."

Snow cited national statistics showing that the alcohol-related accident rate for 18- to 20-year-olds

Please see DEBATE, C-6

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DEBATE

From C-1

was less than 48 percent, compared with a rate of 50.5 percent for 22- to 24-year-olds.

Immediately after Carlton and Snow concluded their polite, but intense, presentations, Cathy Kern, OATTA president, called for a straw vote among members on the issue.

But the show of hands indicating overwhelming support for leaving the minimum drinking age at 19 sparked a hot exchange between Gene Hassett, OATTA's founder and operations director of Yogi Bear Campgrounds, and Mark Kirkham, president of the Winter Park Restaurant Association.

"We're organized to support only issues that affect tourism and I say (this issue) does not," Hassett said. "We're voting on a moral issue here and OATTA wasn't formed to take moral stands."

OATTA, he said, was formed seven years ago to promote tourist-related businesses ranging from airlines to dairies.

"We aren't just an organization of hotels and motels," he said.

Kirkham, who is not an OATTA member, countered that a new Florida State University study shows that $25 million in tax revenues and $1 billion in liquor sales would be lost if the drinking age were raised.

"This is money in your pockets," Kirkham said. "We've already wiped out freshmen when we raised the age to 19 and now the sophomores, juniors and seniors will go.

"Florida is a spring break state and our students will go elsewhere."

Hassett shot back, "You're saying we'll lose revenues, but when the age went from 18 to 19 (liquor) consumption increased by 6 percent, not decreased."

Florida raised the legal drinking age from 18 to 19 in 1980.

Kerns said both the straw vote and members' concerns will be presented to the OATTA board of directors' meeting next week.

But Hassett said he will "do everything in my power" to persuade the board to remain neutral on the issue.

"OATTA shouldn't be pulled into this issue. Not even the liquor lobby is taking a stand on the drinking age, because sales won't be lost; only the point of sale will change," he said.

Hassett was referring to an entertainment industry belief that raising the drinking age will drive underage drinkers out of restaurants and bars and into package stores to purchase liquor.

Two hours before the Carlton-Snow debate, Mothers Against Drunk Driving staged a press conference at the Harley with Rep. Richard Crotty, a Republican from Orlando, and Rep. Art Grindle, a Republican from Altamonte Springs, to announce their support of four drunken driving bills.

In addition to Carlton's bill to raise the legal drinking age, the group is backing House bills 51, 37 and 127.

Bill 51 would prohibit anyone from drinking alcohol either while operating or riding in a motor vehicle. Bill 37 calls for a seven-day mandatory imprisonment for convicted drunken drivers who refuse to participate in required public service or community work projects.

Bill 127 would increase the period of license suspension from three to six months for those who refuse to take a breath, urine or blood test.

158 20

Should Florida's drinking age be 21?

YES

By Fran Carlton

SPECIAL TO THE SENTINEL

Richard was 20 years old. On Nov. 3, 1981, at 11:20 p.m., he was killed on Palmer Avenue in Winter Park in the automobile that he was driving at a high speed after he consumed two pitchers of beer.

It was a needless, useless death.

Nineteen- and 20-year-old drivers killed more people in alcohol-related highway accidents in Florida than drivers in any other age groups in 1981, according to the National Transportation Safety Board.

In Florida in 1981, 170 people died in alcohol-related highway accidents in which the driver was under 21. That figure comprises 25.5 percent of all alcohol-related highway deaths.

This is a gross overrepresentation since drivers under 21 make up only about 10 percent of all licensed drivers and drive only about 9 percent of the vehicle miles driven in Florida.

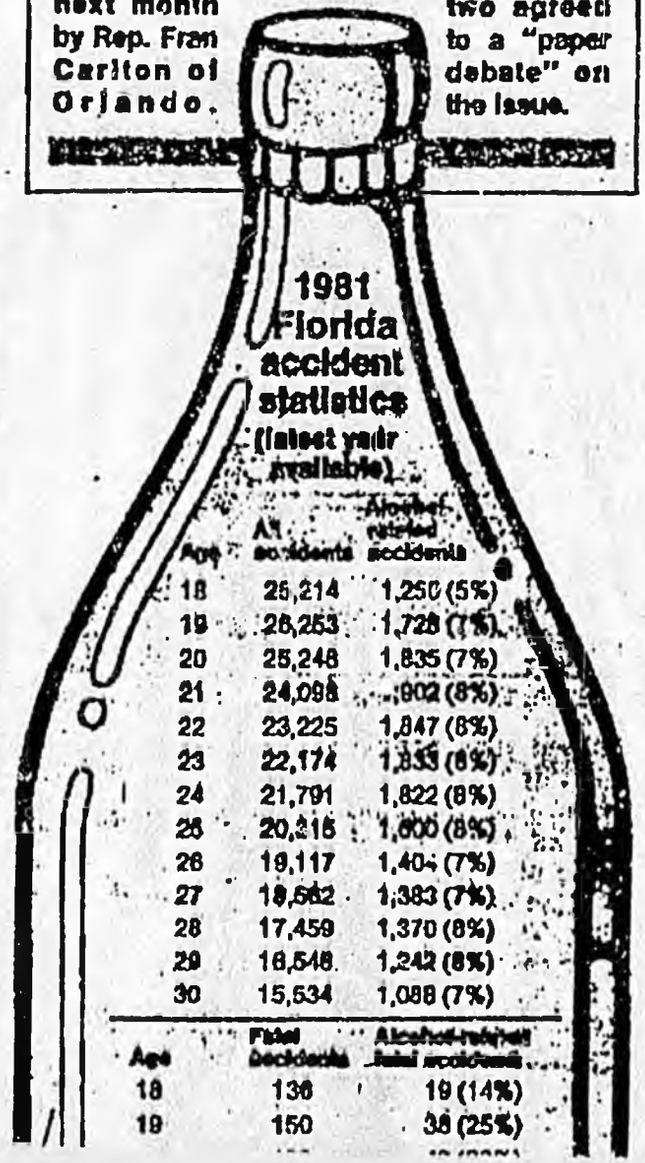
As a result of the highway carnage wrought by young drivers under the influence of alcohol, the National Transportation Safety Board is urging that the legal minimum age for drinking and purchasing alcohol be raised to 21 nationwide. This plea is being supported by a large majority of the public and by local, state and national organizations.

The movement to lower the legal drinking age began in 1970 when ratification of the 26th Amendment gave 18-year-olds the right to vote in federal elections. The states responded by changing their majority laws. Along with the right to vote, making wills, signing contracts and getting married, the legal drinking age became an issue before state legislatures.

By mid-1973, 24 states had reduced the legal alcohol-consumption age to 18, 19 or 20. Florida [illegible] drinking age to 18 in 1973.

A debate on the issue

A bill to raise Florida's drinking age from 19 to 21 will be introduced into the Legislature next month by Rep. Fran Carlton of Orlando. Bob Snow, owner of Orlando's Church Street Station, will lead the fight against the bill. The two agreed to a "paper debate" on the issue.



1981 Florida accident statistics (latest year available)

Age	All accidents	Alcohol-related accidents
18	25,214	1,250 (5%)
19	26,253	1,728 (7%)
20	25,248	1,835 (7%)
21	24,098	1,802 (8%)
22	23,225	1,847 (8%)
23	22,174	1,833 (8%)
24	21,791	1,822 (8%)
25	20,315	1,600 (8%)
26	19,117	1,404 (7%)
27	18,562	1,383 (7%)
28	17,459	1,370 (8%)
29	16,548	1,242 (8%)
30	15,534	1,088 (7%)

Age	Fatal accidents	Alcohol-related fatal accidents
18	136	19 (14%)
19	150	38 (25%)

ages," the commission said, noting that there is a direct correlation between the minimum drinking age and alcohol-related crashes among the age groups affected.

An Associated Press article carried in the *The Orlando Sentinel* last September quoted Dr. Morris Chafetz, president of the Health Education Foundation in Washington, from a speech where he said, "For the past 75 years, there has been a remarkable increase in the life expectancy of people in this country with one notable exception. Between the ages of 16 and 24, the life expectancy has dropped to what it was 20 years ago. Of deaths in that age group, 75 percent are due to car accidents attributed to excessive use of alcohol or drugs."

And according to a January 1983 Gallup Poll, a large majority of Americans, including young people, would vote in favor of raising the drinking age to 21 if given the chance in a referendum. Nationwide, 77 percent favored, and only 20 percent opposed the idea. Among 18-, 19- and 20-year-olds, the poll found 58 percent in favor of raising the drinking age to 21, with 38 percent opposed. High school students were even more in favor of a 21-year-old drinking age, with 80 percent for and only 17 percent against.

The opponents of raising the age to 21 are leading people to believe that should HB24 pass, those persons under 21 years of age could no longer work in places that serve alcoholic beverages. This is untrue. The Florida statute specifically states that anyone 18 years of age or older can work in such an establishment. The legislation would not change that in any way. If young people lose their jobs it will be because their employers choose to fire them.

The opponents also raise the question that if you are going to raise the age, why 21? Why not 24, or 35, or even 40? There is precedent for 21. Currently, 16 states have set 21 as the legal age for the purchase of all alcoholic beverages.

The Hotel Employees and Restaurant Employees

of alcohol-related school problems put an end to the campaign to lower the drinking age. No state has lowered the legal age since 1973.

To the contrary, a reverse trend to raise the drinking age is occuring throughout the nation.

Lowering the drinking age from 21 to 18 was a faulty decision from the beginning. Disturbing statistics make it increasingly apparent that Florida, along with many other states, participated in an experiment that failed.

A study by the National Highway Traffic Safety Administration shows that in eight states (Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Hampshire and Tennessee), raising the legal drinking age produced an average annual reduction of 28 percent in nighttime fatal accidents involving 18 to 21-year-old drivers.

The National Transportation Safety Board, in urging restoration of the legal drinking age to 21, said, "Available data shows a direct correlation between minimum drinking age and alcohol-related accidents in the 18- to 21-year-old drivers.

"In 1981, 25,000 persons died in alcohol-related highway accidents. Of these, 8,484, or about 25 percent, were between the ages of 16 and 24."

"This death toll of young Americans is grossly disproportionate and can be accurately termed a national scandal. Raising the drinking age to 21 nationwide could help save these young lives," says Jim Burnett, chairman of the National Transportation Safety Board.

In a "Report to the Nation by the Presidential Commission on Drunk Driving," the commission urged states to raise the age.

"States should immediately adopt 21 years as the minimum legal drinking age for all alcoholic bever-

21	152	41 (25%)
22	174	38 (22%)
23	140	31 (22%)
24	138	35 (25%)
25	132	25 (19%)
26	157	28 (18%)
27	133	33 (25%)
28	118	21 (18%)
29	128	31 (24%)
30	80	15 (17%)

Source: Florida Department of Highway Safety and Motor Vehicles.

MIKE WRIGHT/SENTINEL

...international have joined the presidential commission, Secretary of Defense Caspar Weinberger, the Florida PTA and a long list of state and national organizations and government officials in support of raising the legal drinking age to 21.

A group made up of bar and restaurant owners recently organized to oppose raising the legal age to purchase alcohol in Florida. They are very vocal in their opposition. According to James Fell, author of a 1982 report by the National Highway Traffic Safety Administration, his statistics have been misused by this organization to infer results that were not intended. The reason for their opposition appears to be very self-serving. *The Fort Lauderdale News* in a recent editorial expressed it this way: "Members of the group sell booze and they are fearful they will lose some business if a bill to raise the drinking age passes."

It is unfortunate that these individuals and organizations would put their own financial gain above saving the lives of young people.

The evidence is overwhelming: Raising the age to 21 in Florida will save hundreds of lives.

Legal drinking ages in the U.S.

Drinking at age 18:

Hawaii, Louisiana, Vermont, West Virginia, Wisconsin.

Drinking at age 19

Alabama, Alaska, Arizona, Connecticut, Florida, Georgia, Idaho, Iowa, Minnesota, Montana, New York, Tennessee, Texas, Wyoming.

Drinking at age 20:

Delaware, Maine, Massachusetts, Nebraska, New Hampshire, Rhode Island.

Age 21 for hard liquor, 18 or 19 for beer & wine:

Colorado, Kansas, Mississippi, North Carolina, Ohio, Oklahoma, South Carolina, South Dakota, Virginia and the District of Columbia.

Drinking at age 21

Arkansas, California, Illinois, Indiana, Kentucky, Maryland, Michigan, Missouri, Nevada, New Jersey, New Mexico, North Dakota, Oregon, Pennsylvania, Utah, Washington.

Rep. Fran Carlton of Orlando is prime sponsor of House Bill 24 (HB24), which calls for Florida's drinking age to be raised from 19 to 21. She wrote this article for The Orlando Sentinel.

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NO

From G-1

19- and 20-year-old drivers compared with older citizens, or the law cannot be justified.

Young drivers have been made the scapegoats of this legislation. I think it's a bum rap and that the facts bear me out. In reviewing the studies cited on this subject, I have found that alcohol abuse on the highways is a very serious problem that deserves our attention, but it cannot be blamed on any one age group.

As a matter of fact, there are reliable statistics indicating that 18-, 19- and 20-year-old drivers are slightly less blameworthy in alcohol-related traffic fatalities than older citizens, aged 21 through 44. I refer to data compiled by the National Highway Traffic Safety Administration and published in its technical report of May 1982.

This study covers the 15 states NHTSA selects as having the best and most reliable reporting procedures for comparison by age. They represent a fair cross-section of states in terms of drinking ages — six are at 21 and six are at 18.

Rep. Carlton says that of all deaths in the 16-to-24 age group, "75 percent are due to automobile accidents attributed to excessive use of alcohol or drugs."

This claim has been printed all over Florida, along with Mrs. Carlton's characterization that the figure is "shocking." I believe that it is not only shocking, but inaccurate. The best data shows that the alcohol involvement in automobile fatalities in those age groups goes from 36.6 percent for ages 16 and 17 to 50.4 percent for the worst of all age groups, 22 through 24, so obviously, 75 percent is a substantial overstatement.

Another widely circulated statement by Rep. Carlton is that "... hundreds of lives have been saved

Other studies, such as the one done by the commissioner of probation in Massachusetts in 1979, show an increase of 26 percent in the number of teen-age DWIs *after* the drinking age was increased. The reasons given: "Teen-agers are probably not obeying the new law, and the inability to legally drink in a bar or tavern may induce some teen-agers to do more drinking in cars." This study suggests that such a law merely changes the point of sale from a restaurant or similarly controlled situation to the package and convenience stores where someone's older friend buys a six-pack to be consumed, many times behind the wheel, of the very car we are trying to keep off our roads.

I would like to appeal to the common sense of the readers. Do you think the passage of this law will stop 19- and 20-year-olds, who are adults for all other purposes, from drinking?

Alcohol consumption figures from states that have raised the drinking age have not gone down, they have gone up. Even consumption in Florida went up 6.4 percent, per capita, after the drinking age was raised to 19. Illegal package sales go up, drinking and driving probably goes up with it, and the result: a cruel hoax perpetuated on our young citizens by well-meaning crusaders under the banner of "Saving Just One Life."

If we are serious about saving lives, we could save not just one life but 25,000, by government estimates, if we enacted a law as England just did making the use of seat belts mandatory.

If raising the drinking age in fact has *not* proven effective, what then is the cost to the state of Florida of this discriminatory legislation?

I have seen preliminary figures showing a tax loss to the state of Florida of $10 million to $24 million per year. Thirty-four states in our country now allow drinking under the age of 21. All of our surrounding states (Alabama, Georgia, Mississippi and Louisiana) allow 18- and 19-year-olds to drink. They have beautiful beaches and

B-3-18

hood should be raised to 21; rather, it seeks to restrict one right while otherwise leaving those citizens as adults. I think it is unsound, unconstitutional and hypocritical. For example, I don't see how a man can be mature enough at 19 to own and operate a restaurant, but not be permitted to take a drink from it until he is 21.

The law is clearly discriminatory by age. Thus it is incumbent on those pushing it to show factually the clear and present need for this discrimination. There has got to be something markedly worse about the driving performance of

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Bob Snow, owner of the Church Street Station complex in Orlando and Seville Quarter in Pensacola, is president of the Florida Entertainment and Dining Association, which represents more than 100 establishments and 40,000 employees. He wrote this article for The Orlando Sentinel.

Please see NO, G-5

Another widely circulated statement by Rep. Carlton is that "... hundreds of lives have been saved since enactment of the higher drinking age in Florida." She was referring to Florida's raising the age from 18 to 19, effective October 1980.

In 1980, the year before the drinking age was raised to 19, the number of 18-year-olds killed in traffic accidents in Florida was 20, according to the Florida Department of Highway Safety and Motor Vehicles. The year following, 1981, there were 19 fatalities in the 18-year-old category — one less. The proponents of raising the drinking age say that there was a "5 percent decrease in fatalities." While this may be technically correct (5 percent of 20 is 1), it is nowhere near "hundreds," and I believe this is typical of exaggerated claims made to persuade the public to accept this discriminating law.

Proponents also point to a one-year study in Michigan for support. This study brought forth this comment by the actual author of the Michigan study, Alexander Wagenaar, who said in the *Michigan Transportation Research Institute Review*, July-Oct. 1982: "Even in Michigan, a relatively populous state, no significant effect of the raised drinking age was discernible from an analysis limited to fatal crashes."

Dr. Wagenaar, whom proponents praise for his "empirical data" to support raising the drinking age, went on to say that he suggests a differentiated drinking-age policy, gradually allowing young persons to use alcohol as they approach age 21.

"For example, young persons might be allowed to consume alcohol in their own homes at any age. Consumption in a restaurant under parental supervision might be allowed for young persons over the age of, say, 16. Drinking under adult supervision might be allowed at age 18, with adults providing alcohol to minors held liable for alcohol-related problems that might result." Contrary to what proponents might say, Dr. Wagenaar is not recommending raising the drinking age to 21.

ana) allow 18- and 19-year-olds to d[illegible]. They have beautiful beaches and aggressive tourism programs.

We all know stories about the weekend exodus of young partygoers driving across state lines with lower drinking ages and the tragic results of some of them trying to drive home.

The loss of jobs in Florida in the tourism industry will be staggering; estimated at upward of 20,000. Many more jobs will be lost in the college restaurants and pubs whose owners tell me that this law will bankrupt them. Students working their way through college as a waiter, waitress or bartender will be a thing of the p[illegible]. Enforcing a non-drinking law among underage employees is impossible in a responsible, well-run establishment.

The problem here concerns drunken driving, not age. The solution is with strict DWI laws such as Florida already has in place. There was a 23 percent reduction in traffic fatalities of all ages in the six months following enactment of these new laws last July. Let's give them a chance to work. Let's use the example of the state of Georgia, which just recently derailed an attempt to raise the drinking age, but added an alcohol-awareness program to its existing driver's education program. The Florida Restaurant and Dining Association believes laws of this type are sound and supports them.

Our association is promoting a Designated Driver program (DD), as in Europe, where one of the party refrains from drinking, to ensure a safe drive home. We feel that educational programs such as this, combined with stricter enforcement of existing laws, would have a real effect on curbing the tragic results of drunken driving.

Alcohol abuse is a serious problem, and there needs to be social as well as some legal changes to attack it. Our association recognizes that and supports well-conceived efforts. However, we oppose a law that unjustly discriminates by age, that will have little safety effect, and will turn many young citizens into lawbreakers.

The Orlando Sentinel

C. DAVID BURGIN, Editor

STEPHEN R. VAUGHN, Executive Editor

. . . and get on with seat belts

Treating drunken drivers as criminals is overdue, but there's one other lifesaver that the country has not faced up to. It is the seat belt. Those bothersome things would have saved more than 16,000 of last year's dead. Instead, the victims slammed into steering wheels and windshields and onto pavements.

Car wrecks produce more new quadriplegics and paraplegics than all other causes together. Two-thirds of the severely injured could have walked away from a crash with minor or no injuries if they had worn a seat belt. Yet only about 11 percent of U.S. drivers wear them.

This reckless driving is a national catastrophe. In cold cash, it cost the country roughly $39 billion in 1980. That includes medical bills and lost work, which we all pay for in higher prices, higher taxes and higher insurance premiums. It's clear that government, business and individuals must do more.

One priority is to equip cars with passive restraints — seat belts that protect passengers automatically. Washington and Detroit have ducked their duty on this, though they figure an automatic system would cost customers less than $100 extra.

The federal government had ruled that all new cars must have passive restraints, starting with large models in the fall of 1981. The Reagan administration put off that deadline for two years before repealing the whole rule. Last year, a federal appeals court decided unanimously that repeal was illegal. Rather than go ahead with this overdue lifesaving rule, federal deregulators are appealing to the Supreme Court in an EPA-style fling.

These restraint systems are needed, but they aren't enough. It's already too late to require them in this fall's models, and the impact of any phase-in schedule will be dulled by today's slower trade-in rate for cars. Better efforts are needed to get people to use seat belts now.

Standbys like public service ads to buckle up don't seem to have had much effect. Part of the problem may be the milquetoast quality of many such appeals. By comparison, the Virginia Department of Transportation Safety has given every state high school an outstanding film about people crippled in car accidents.

The National Highway Traffic Safety Administration is pushing businesses and government agencies to begin carrot-and-stick policies to change people's behavior. At that agency, for example, employees who sign pledges to wear seat belts are eligible for prize drawings. By comparison, Florida is coasting. For example, Florida Highway Patrol troopers are required to wear seat belts, but that policy should apply to all state workers on official business.

Florida did the right thing by joining more than 20 other states that require car restraints for children. Now, with D.C. and Motown idling, our bureaucracy and businesses need to shift into leadership on seat belts. They should prod Floridians to treat themselves as well as they must now treat their kids.

20-A

Focus on drunks, not age . . .

Raising the drinking age in Florida from 19 to 21 no doubt would reduce the number of alcohol-related deaths on Florida highways. No one will argue with that. But to aim only at young drunken drivers is shortsighted and unfair. Florida needs to focus on the whole problem — drunken drivers of all ages. That could save even more lives.

Orlando's Democratic Rep. Fran Carlton is leading the campaign to raise Florida's drinking age. She cites a pile of statistics showing that in every state that raised its drinking age, there has been a decline in the number of young adults killed in alcohol-related accidents.

It would be easy to jump on Mrs. Carlton's bandwagon. To oppose her is to risk seeming insensitive to the slaughter on our highways. But the issue is how to get all drunks off Florida highways, not just the young ones.

According to figures compiled by the National Highway Traffic Safety Administration, the 22-24 age group is the most likely to be involved in an alcohol-related fatal accident. The drivers in slightly more than half — 50.4 percent — of the fatal accidents in this age group had been drinking. The figures for younger drivers are almost as bad: 47.5 percent among 19-year-olds; 47.2 percent for 20-year-olds; and 49.6 percent for 21-year-olds.

Florida's own accident records show much the same thing. In 1981, the number of alcohol-related accidents was virtually the same for 19- and 20-year-olds as for those aged 21 through 24.

If statistics are to be the basis for raising the drinking age, it should be set at 25, not 21. Of course, Florida's drinking age is not about to be raised to 25.

In a compromise three years ago, Florida raised the drinking age from 18 to 19 rather than go all the way to 21. The argument then was that 19 would help get alcohol out of our high schools and, thus, help keep it out of the hands of younger teen-agers. The 21-year-old proposal is less persuasive. Already there is talk of a compromise this year that would provide for sales of beer and maybe wine to the under-21 group, but not hard liquor. But there are better alternatives that would help reduce the number of traffic deaths in every age category.

Rep. Marilyn Evans-Jones of Melbourne wants a state law banning open containers of alcoholic beverages in all motor vehicles. And State Rep. Art Grindle of Altamonte Springs wants an automatic six-month loss of driving privileges for anyone refusing to take a breath test that measures the amount of alcohol in the blood. Now the penalty is only 90 days, and even a drunk usually can figure out that is better not to take the test than increase the risk of a drunken-driving conviction.

Those are two solid proposals. Yet even they will be only as good as the enforcement effort that supports them. There should be so much enforcement that the word gets out that you will be caught and punished for drunken driving.

Florida should leave the drinking age alone but make stringent enforcement a fact of life for all drunken drivers, not just the young ones. That is the best way to reduce the number of alcohol-related deaths on Florida roads.

FINAL REPORT

THE EFFECTS OF LOWERING THE LEGAL DRINKING AGE IN VIRGINIA

by

Cheryl Lynn
Research Scientist

Prepared by the Virginia Highway and Transportation Research Council Under the Sponsorship of the Department of Transportation Safety

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ABSTRACT

On July 1, 1974, an amendment went into effect which lowered Virginia's legal drinking age for beer to 18 years; the minimum drinking age for wine and hard liquor was kept at 21. This move to extend adult drinking privileges to persons of military age had already been made in one form or another in about 30 other states. The most common practice among these states was to allow the purchase of all alcoholic beverages at one particular age. Virginia is the only state which discriminates between beer and wine/hard liquor in its treatment of minimum ages. While it is recognized that the possible effects of lowering the legal drinking age may be far reaching, the sole purpose of the research reported here was to examine the effect of reducing the legal drinking age on the highway safety environment in Virginia. This was accomplished through a review of the literature and an examination of Virginia crash data. It was found that lowering the legal drinking age resulted in increased alcohol-related accidents for young persons, and it was concluded that a more protective stand should be taken toward persons 18 to 20 years old with regard to the legal drinking age in Virginia.

SUMMARY OF FINDINGS AND CONCLUSIONS

It has been previously determined that young persons have traditionally had the worst driving record of all age groups, and that drinking even small amounts of alcohol drastically increases their probability of being involved in a motor vehicle accident. (This is not the case among older drivers, who must drink considerably more alcohol to increase their chances of accident involvement as much.) Considering that young persons are also more likely to combine alcohol with psychoactive drugs such as marijuana than are older drivers, it can be safely said that substance abuse while driving was a potentially serious problem for young persons even before the legal drinking age was lowered.

The actual effects of lowering the drinking age were then examined. First, it was found that the purchase and consumption of alcohol beverages increased for newly enfranchised persons 18 to 20 years old. This was especially true of draught beer consumed in restaurants and taverns, which indicated that the young persons would be more likely to drive after drinking than if they were consuming the beverages at home. Increases in consumption of alcohol were also noted among persons as young as 13, probably because their older schoolmates were legally purchasing the beverages for them.

The ultimate impact of the new drinking age law on highway safety must be measured in terms of accidents. Significant increases in alcohol-related accident experiences associated with the change in the drinking age have been noted, not only for persons 18 to 20 years old but also for persons 16 to 17 years old. These increases have not been noted for non-alcohol-related accidents nor for accidents involving older, and thereby unaffected, drivers. Also, increases have not been noted in states that did not change their drinking age laws. An analysis of Virginia crash data yielded similar results; there were significant increases in alcohol-related crashes for persons 16 to 19 years old subsequent to the lowering of the legal drinking age. No significant increases were noted for non-alcohol-related teenage crashes. At the same time, both alcohol-related and non-alcohol-related crashes significantly decreased for older drivers, probably as a result of the 1974 energy crisis.

It can be concluded from the examination of both the available literature and Virginia accident statistics that lowering the legal drinking age has had an adverse effect upon the accident experience of young persons. From a purely safety standpoint, then, a more protective public policy toward 18 to 20 year olds should be adopted.

RECOMMENDATIONS

It is recommended that the Department of Transportation Safety actively support legislation to raise the legal drinking age which includes the following provisions.

1. That the legal drinking age be raised incrementally for the next three years, so that the drinking age for beer would become 19 years in 1981, 20 years in 1982, and 21 years in 1983. In this way, no group would be disenfranchised, i.e., be permitted to purchase and consume beer during one year and not permitted to do so the next, and the most beneficial step of returning the legal drinking age to 21 years would be assured without requiring subsequent legislative action.

2. That an evaluation of the effects of raising the legal drinking age be required to determine whether this change in age improves the highway safety environment for young persons 18 to 20 in Virginia.

Alternately, should these provisions not be incorporated into proposed legislation, it is recommended that the Department support legislation raising the legal drinking age to 19, and then seek additional legislation in subsequent General Assembly sessions to raise the legal drinking age to 21 years.

FINAL REPORT

THE EFFECTS OF LOWERING THE LEGAL DRINKING AGE IN VIRGINIA

by

Cheryl Lynn
Research Scientist

BACKGROUND

On April 7, 1974, the Virginia General Assembly passed a law lowering the legal drinking age in the state. This legislation, which allowed persons 18 years and older to legally buy beer, went into effect July 1, 1974. Such an action came as the result of a nationwide trend to extend adult privileges such as voting to persons between the ages of 18 and 21. Prior to 1970, only New York and Louisiana had drinking ages lower than 21. Between 1970 and 1973, half of the states amended their drinking laws to allow younger persons to buy and consume various types of alcoholic beverages. While several states have since raised their drinking ages, reversals have still been relatively rare. As noted in Table 1, at this writing 13 states allow the purchase of all alcoholic beverages at 18 years, 9 states allow this privilege at 19 years, 4 allow it at 20 years, and 21 allow it at 21 years. Four states differentiate between types of alcoholic beverages in setting drinking ages. Maryland, North Carolina, and South Carolina allow persons 18 years old to drink both beer and wine, while drinking hard liquor is reserved until 21. Virginia is the only state to allow beer drinking at 18 but to require a person to be 21 before being allowed to drink both wine and hard liquor.

The trend toward lowering legal drinking ages was probably an indirect result of the participation of then minors in the Viet Nam conflict in that it was felt that persons who were old enough to serve in the armed forces were old enough to drink. This same trend was responsible for the enfranchisement of 18 year olds as part of recognizing their already adult role in military action overseas. In that this trend reflects both that persons at 18 are capable of responsibleness in drinking, which may not be the case, and increased availability of alcohol to the young driver, it can theoretically be expected to produce changes in various types of alcohol-related behaviors within this group.(1,2,3,4)

TABLE 1

CURRENT MINIMUM DRINKING AGES

State	Beer	Wine	Liquor	3.2 Beer
Alabama	19	19	19	-
Alaska	19	19	19	-
Arizona	19	19	19	-
Arkansas	21	21	21	-
California	21	21	21	-
Colorado	21	21	21	-
Connecticut	18	18	18	18
Delaware	20	20	20	-
D. C.	18	18	18	-
Florida [1]	18	18	81	-
Georgia [2]	19 (18, 7/1/81)	19 (18, 7/1/81)	19 (18, 7/1/18)	-
Hawaii	18	18	18	-
Idaho	19	19	19	-
Illinois [3]	21	21	21	-
Indiana	21	21	21	-
Iowa	18	18	18	-
Kansas	21	21	21	-
Kentucky	21	21	21	-
Louisiana	18	18	18	-
Maine	20	20	20	-
Maryland	18	18	21	-
Massachusetts [4]	20	20	20	-
Michigan [5]	21	21	21	-
Minnesota	18	18	18	-
Mississippi	21	21	21	-
Missouri	21	21	21	-
Montana	19	19	19	-
Nebraska	19	19	19	-
Nevada	21	21	21	-
New Hampshire [6]	20	20	20	-
New Jersey	21	21	21	-
New Mexico	21	21	21	-
New York	18	18	18	-
North Carolina	18	18	21	-
North Dakota	21	21	21	-
Ohio	21	21	21	18
Oklahoma	21	21	21	-
Oregon	21	21	21	-
Pennsylvania	21	21	21	-
Rhode Island	18	18	18	-
South Carolina	18	18	21	-
South Dakota	21	21	21	18
Tennessee	19	19	19	-
Texas	18	18	18	-
Utah	21	21	21	-
Vermont	18	18	18	-
Washington	21	21	21	-
West Virginia	18	18	18	-
Wisconsin	18	18	18	-
Wyoming	19	19	19	-
Virginia	18	21	21	-

1 Lowered from 21 in 1978.
2 Lowered to 19 as of 9/1/80; will be lowered to 18 on 7/1/81.
3 Raised to 21 from 19 on January 1, 1980.
4 Raised to 20 from 18 in 1979.
5 Raised to 21 from 18 in 1978.
6 Raised to 20 from 18 in 1979.

PURPOSE AND SCOPE

It is clear that there is more potential for change as a result of changing the drinking age than just in the area of highway safety; other aspects of the behavior of young persons could be affected, such as educational and school-related activities, parental and peer relations, vocational interests, and sexual or criminal activities, all of which should be examined to determine the impact of lowering the drinking age. It is the sole purpose of this report, however, to discuss only the highway safety implications of this change in drinking laws both in Virginia and in other states. This will be done through a review of the literature concerning drinking among young persons and through an analysis of crash data for Virginia teenagers.

RESULTS

Literature Review

Based upon this analysis, a number of issues relating to the impact of lowering the drinking age were addressed, including (1) the susceptibility of young persons to the effects of alcohol and drug usage, (2) the impact of lowering the legal drinking age on the purchase and consumption of alcoholic beverages, (3) the effect of lowering the drinking age on accidents among persons 18 to 20 years old as well as its impact on persons 16 to 17, and (4) changes in the highway safety environment in Virginia concurrent with lowering the legal drinking age for beer to 18 years.

In previous studies it has been well documented that persons aged 16 to 20 years are more susceptible to having traffic accidents than are persons in any other age group.[5] Indeed, they tended to have the worst driving records of all age groups even before alcohol was made more readily available to them. Persons 18 and 19 years old traditionally incur the most traffic violations and have the highest accident rates. At one time it was believed that this abnormally high accident rate resulted from a lack of driving experience. However, this peak in accidents at 18 or 19 occurred not only among new drivers but also among those who had begun driving at 15 or 16, and who thus had several years' experience.[6,7] This would indicate that there is something associated with being 18 or 19 that is also associated with or causes an increase in accidents. It has been hypothesized that these extremely high accident rates may result from stress caused by significant life changes and pressure to make and be responsible for various types of decisions, such as high school graduation, concern over vocational choices, pressure to be accepted at a good college, entry into the

working world, concern over personal problems, possible marital choices, sexual anxiety, and concern over military service.(8) In any case, the increased susceptibility to stress and distraction at this age also makes this group a possible target for alcohol problems, especially when the choice of whether or not to drink is added to their other decisions.(5) For all these reasons, young persons would be expected to have an unusually high rate of involvement in alcohol-related traffic crashes.

This high rate of involvement in drinking and driving crashes has been clearly demonstrated through rigorous study. Alcohol-impaired drivers at 18 or 19 are about twenty times more likely to die in a motor vehicle crash than the average non-impaired driver, and about twice as likely to die in a crash as the impaired adult driver.(6) Even more serious is the fact that young people having had only one or two drinks (and thus not considered to be impaired) are still significantly more likely to have accidents. Low concentrations of alcohol in the blood are significantly associated with crash involvement for young people, but not for older drivers.(9) Two explanations for this are hypothesized: some researchers attribute this sensitivity to a lack of experience in coping with the effects of alcohol, while others feel that young persons may simply be more sensitive to the toxic effects of alcohol.(10,11) In any case, it appears to take less alcohol to significantly increase the probability of accident involvement for young drivers than for older ones.(5)

Compounding this problem is the marked preference toward drug usage among young persons. It has been shown that combining psychoactive drugs with alcohol always results in impairment and that the effects can often be additive or synergistic.(12) Young drivers mix psychoactive drugs and alcohol more often than do their older counterparts, and this leads them into increased impaired driving and drug related collisions.(3,14,15,16) In one study of college age students (18-20), over half had used marijuana, and of these, 60% had combined alcohol and marijuana at least occasionally. About 39% combined the two half of the time and 14% used alcohol and marijuana together at least once a week. Of the impaired driving done by these students, 25% was done under the influence of both alcohol and marijuana.(17) Since these figures are now several years old and since they represent self-reported admissions of illegal behavior, it is likely that they underestimate the marijuana/alcohol problem. Additionally, there is little information concerning the actual use of alcohol and other psychoactive drugs such as amphetamines, barbiturates, and cocaine that may have become more available in the last few years.

From the preceding discussion, it is clear that the problem of impaired driving by young persons was already an increasingly serious one even when the purchase of any type of alcoholic beverage was illegal until age 21. Increasing the availability of alcohol for teenagers can accelerate the rising trends in drinking and driving, if it results in increased consumption of alcoholic beverages. In areas where drinking ages have been lowered, commensurate increases in alcohol purchases have been noted,[17,18] often bringing consumption by young people to the same level as that of the adult population.[19] While off-premise sales have increased somewhat, on-premise purchases by young persons in restaurants and taverns have been most affected.[20,21] This increase is most marked with regard to the purchase of draught beer.[21] These increases in beer purchases are especially significant in that (1) beer is the most popular alcoholic beverage among persons 18-20, accounting for 70% of all alcohol consumed by this group; (2) beer drinking plays "a large role in youthful crash fatalities";[22] and (3) all of the currently amended drinking laws, including Virginia's, have made it legal to drink beer at a lowered age.

Increases in the consumption of alcoholic beverages, however, are not limited to 18 to 20 year olds. There have also been dramatic increases in consumption by persons as young as 13 found in a study of students in the 7th, 9th, 11th, and 13th grades. In another study, increases in alcohol consumption concurrent with changing drinking laws were found to be greater for persons 16 to 17 years old than for persons 18 to 20 years old.[18] This effect is commonly referred to as "spillover", and it applies not only to the consumption of alcohol but also to increased involvement in motor vehicle accidents for 16 to 17 year olds. The spillover in drinking is thought to be caused by newly enfranchised 18 year olds, usually high school seniors, purchasing alcoholic beverages for their younger cohorts, or by underage individuals passing for 18, when previously it would have been impossible for them to pass for 21. In any case, it must be recognized that the potential impact of reduced drinking ages is not limited to those who are permitted to drink but also to this much younger group.

The ultimate measure of the highway safety impact of changing the legal drinking age on driving is accident involvement, particularly alcohol-related accident involvement of young persons. There have been significant increases for both the 18-to-20-year old group and the 16-to-17-year-old group.[23] Many of the earliest studies of this phenomenon were conducted in Michigan, where the legal drinking age was lowered to 18 in 1972. Subsequent to this change, blood-alcohol concentrations (the standard measure of alcohol in the bloodstream) increased significantly among teenage drivers as measured in

random roadside surveys.[4] Concurrent with this increase in youthful drinking and driving, alcohol-related crashes among persons 18 to 20 rose 119%, while for older drivers they rose only 14%.[4] Also, young drivers experienced an 88% increase in alcohol-related fatal crashes compared to an 8% to 9% increase for older drivers.[24] Later studies in Michigan noted that significant increases in alcohol-related crash involvement were found for 17 year olds. It also was noted that increases in alcohol-related crash rates for 18 to 20 year olds were more pronounced than the increase normally experienced by 21 year olds when they were allowed alcohol and the effects did not wear off as they had with persons who were 21.[25,26] From these data, it would appear that drinking and driving behavior among persons 18 to 20 approximates and sometimes surpasses that for older drivers, and does not decline over time.[1] Similar findings have been noted in other states, such as Illinois,[27] Wisconsin,[28] and Massachusetts, where vehicle "operation after drinking" fatalities increased 75% after passage of the drinking age amendment and where this legislative change accounted for 5 additional fatalities per month for 18-to-20-year-old drivers.[14,29]* Only one study found less significant increases in crash rates after enfranchisement. In an area where the drinking privileges for young persons were extended from only beer to all alcoholic beverages, alcohol-related fatalities increased in proportion to all crash experiences for persons 18 to 20, while no increases were found for older drivers.[31] It was hypothesized that this effect was subtle because the major impact of lowering the drinking age had already been experienced.

Increases in crash rates for young persons attributable to changes in the legal drinking age have also been noted in other countries, in particular in Ontario, Canada,[23,32] where there was as much as a fourfold increase in the alcohol-related crash involvement of 18 year olds after the enactment of legislation.[13] These results are presented in Table 2. The largest increases in alcohol-related crashes occurred for persons 18 and 19 years old, followed by those for persons who were 16 or 17. No such dramatic increase was noted for the control group, which was made up of 24 year olds. There appeared to be considerable "spillover" of the effect of reducing the drinking age from persons 18 to 20 to those who were younger. Fatal crashes increased significantly for persons 16 to 17, and arrests for driving under the influence increased more for persons under 18 years than for persons 18 to 20. Finally, it was

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*It is interesting to note that in 1978 the Michigan legislature raised the legal drinking age to 21 years, based in part on studies confirming the effect on teenage drinking, driving, and collision involvement. Political attacks have thus far failed to result in a re-lowering of the Michigan drinking age.[30]

TABLE 2

PERCENTAGE INCREASES IN CRASH INVOLVEMENT AFTER REDUCING THE LEGAL DRINKING AGE — ONTARIO, CANADA

	Age Groups				
	16-17	18	19	20	24
Increase in Alcohol Crash Involvement	304	469	445	187	54
Increase in Proportion of Alcohol-Related Crashes		172			20

Source: Reference 1.

noted that this trend involving underage drinking tends to become more severe for the first several years after passage of legislation as the effects "filter down" to this younger age group.(1)

These studies indicate that lowering the legal drinking age has resulted in serious accident problems for young persons. However, it has been argued that these deleterious effects are actually a manifestation of some previously existing trend or are caused by some aspect of the highway safety environment other than the lowered drinking age. This question has been extensively studied by comparing crash trends in states where drinking ages were reduced to trends for similar states where they were not. Theoretically, since these states are more or less equivalent in aspects other than drinking age, any differences in crash rates and trends could be attributable to the lowered drinking age. Several studies have documented such differences. Douglass et al., in a number of studies of various aspects of the drinking age problem, found consistent increases in alcohol-related crash involvement for newly legalized 18 to 20 year olds in states where drinking laws were changed, but not for older drivers and not for young drivers in states where the drinking ages were not changed.(21,33,34,35,36) (The only exception to this in the Douglass studies was the state of Vermont, where no significant increase in crashes was noted. It was speculated that since Vermont was a border state to three states that previously had lowered their legal drinking ages, including New York, where drinking had always been legal at 18, it experienced a change in drinking habits prior to the time its drinking age law was amended.(33)) Through interpolation, Douglass projected that the changes in drinking age

were responsible for 4,600 more crashes and 89 more fatal crashes resulting in one or more deaths between 1972 and 1975.(21) In Illinois, where the drinking age was lowered to 19, persons 19 to 20 years old were involved in 62% more crashes than persons in states where drinking ages had not been reduced. Researchers hypothesized that the change in the drinking law contributed to an increase of 41 alcohol-related crashes and 44 fatalities in 1975.(27) Williams discovered similar trends in Ontario, Wisconsin, and Michigan in comparing their crash rates to those for states where drinking ages remained unchanged.(28) Also, Williams noted that crash rates increased for 15 to 17 year olds in reduced-drinking-age states but not in others, again confirming the existence and validity of the spillover effect.

A number of conclusions can be drawn from these studies. First, they have demonstrated that reducing the minimum legal drinking age has had an adverse effect on the crash involvement and accident-related death rate for young persons through increased consumption of alcohol (primarily beer) and increases in the incidence of drinking and driving. Second, this adverse effect on crash involvement extends to children as young as 15 years old, while the increased consumption of alcohol extends to children as young as 13. Third, through application of these study findings to Virginia, it would be expected that increases in both alcohol consumption and crash involvement would have occurred in Virginia as a result of lowering the legal drinking age for beer to 18.

Analysis of Virginia Data

To test the above stated hypothesis, Virginia crash data for the period from 1969 to 1979 were examined. These data were derived from the Virginia State Police crash tape and were broken down by whether the crash was alcohol-related and by the age of the driver. With regard to age, the classifications used were not ideal; age groups were (1) less than 16 years, (2) 16 to 19 years, and (3) 25 years and older (the 20-to-24-year-old group was omitted because it contained persons 21 and older who were able to drink both before and after the age change). While this age breakdown allowed for the discrimination between young, newly enfranchised drivers and older drivers, it did not allow the discrimination of persons 18 and over who could purchase beer and those who were underage (16 to 17). Thus, it was not possible to detect any spillover effects from lowering the drinking age on this age group. It should also be recognized that since the 16-to-19-year-old age group contained both persons who could legally drink and those who could not, the effect of changing the drinking age was underestimated in the analysis.

For each group, a time series analysis was conducted. Historical trends were generated based upon crash data from 1969 to 1973. This pre-reduced drinking age trend was then projected into the period following the change in the drinking age to provide some idea of what crash patterns would have existed had no change been made. Significant differences between the projection of historical trends from 1974 through 1979 and the actual crash patterns for that period could be a result of lowering the drinking age. It would also be expected, if the reduced drinking age had had an effect on traffic safety, that alcohol-related accidents for teenagers would be found to have increased more than expected while non-alcohol-related ones would not.

As seen in Table 3, these hypotheses were borne out. Beginning in 1974, at which time drinking beer at 18 was legal for half the year, the numbers of alcohol-related crashes increased significantly more than would have been expected based on previous trends. (These increases in crashes for teenagers are especially serious in light of the fact that alcohol-related crashes for their adult counterparts actually decreased significantly during this period.) Rather than tapering off, these increases in alcohol-related crashes continued through 1979. The percentage of teenage crashes that were alcohol-related also increased more dramatically than would have been expected had the drinking age not been reduced, as did the percentage of all accidents and all alcohol accidents incurred by this group. All of this information indicates that something which happened in 1974 significantly and consistently caused teenagers to experience increased accident involvement.

A similar analysis was conducted for persons 15 years and under. As seen in Table 4, only two significant increases were noted. The percentage of all crashes involving persons less than 16 years old was significantly higher than expected in 1975, the first full year of the reduced drinking age, as was the percentage of crashes for this age group that were alcohol-related. Although these findings are suggestive, it must be concluded that for the period studied there was no consistent or significant effect of reducing the drinking age on drivers under 16.

Similar crash statistics for persons 25 years and older appear in Table 5. In 1974 and 1975, the numbers of both alcohol-related and non-alcohol-related crashes decreased significantly compared to pre-1974 trends. This most likely occurred due to the energy crisis. It is interesting to note that while the energy crisis reduced the numbers of crashes among older drivers, it did not prevent the dramatic increase in alcohol-related crashes among teenagers. It is also possible that had there been no energy crisis in 1974-1974, the increases in teenage alcohol-related crashes might have been much greater. By 1978, the decreasing trends in the numbers of adult crashes had reversed themselves, and there were more alcohol and

non-alcohol-related crashes than would have been expected had there been no energy crisis. The percentage of all adult crashes that were alcohol-related increased slightly but significantly in 1974 and 1975, indicating that the energy crisis reduced non-alcohol-related crashes more than alcohol-related ones. Why these drinking and driving crashes proved so resistant to the beneficial effect of the energy crisis is unknown.

Comparisons of adult and teenage accident statistics with relation to the change in the legal drinking age are quite revealing. The absolute numbers of alcohol-related accidents for both groups appear in Figure 1. Clearly, adult drivers had more drinking and driving crashes; however, whereas the number of adult alcohol-related accidents decreased about the time the drinking age was lowered, the number of such crashes involving young persons began increasing at a faster rate. With regard to the percentage of all crashes for each age group that were alcohol-related, Figure 2 shows that while a smaller percentage of accidents involving young persons were alcohol-related before the change in the drinking age, youths experienced a higher percentage of alcohol-related crashes than did adults after the change. Young persons continue to have a higher percentage of alcohol-related crashes than do their older counterparts.

TABLE 3

CRASH STATISTICS FOR PERSONS 16 TO 20 YEARS OLD
1969-1979 (EXCLUDING 1977)

Year	No. Alcohol-Related Crashes	No. Non-Alcohol-Related Crashes	% Crashes Which Are Alcohol-Related	% of All Alcohol-Related Crashes	% of All Crashes
1969	1,935	16,492	8.51	10.88	0.693
1970	1,406	17,226	7.55	10.09	0.607
1971	1,614	20,145	7.43	11.14	0.659
1972	1,732	23,228	6.94	11.39	0.652
1973	1,904	24,335	7.26	12.53	0.711
1974	2,603*	22,757	10.27*	16.43*	1.061*
1975	2,970*	20,094	10.36*	18.80*	1.376*
1976	3,508*	30,350	—	18.25*	1.543*
1977	—	—	10,51*	—	—
1978	4,122*	35,715	12.10*	18.04*	1.775*
1979	4,310*	31,307		14.43*	1.979*

*Significantly higher than expected given previous trends, $p < .05$

TABLE 4

CRASH STATISTICS FOR PERSONS UNDER 16 — 1969-1979
(EXCLUDING 1977)

Year	No. Alcohol-Related Crashes	No. Non-Alcohol-Related Crashes	% Crashes Which Are Alcohol-Related	% of All Alcohol-Related Crashes	% of All Crashes
1969	18	339	5.04	0.128	0.8
1970	13	284	4.38	0.093	0.6
1971	20	348	5.43	0.138	0.8
1972	37	552	6.28	0.243	1.4
1973	26	397	6.15	0.171	1.0
1974	46	656	6.55	0.290	1.9
1975	63	572	9.92*	0.399	2.9*
1976	50	490	9.26	0.260	2.2
1977	—	—	—	—	—
1978	52	769	6.33	0.319	2.6
1979	57	734	7.21	0.396	2.2

*Significantly higher than expected based on previous trends, $p < .05$.

TABLE 5

CRASH STATISTICS FOR PERSONS 25 YEARS AND OLDER
1969-1979 (EXCLUDING 1977)

Year	No. Alcohol-Related Crashes	No. Non-Alcohol-Related Crashes	% Crashes Which Are Alcohol-Related	% of All Alcohol-Related Crashes	% of All Crashes
1969	8,964	66,005	11.96	65.54	4.045
1970	9,103	69,879	11.53	65.34	3.929
1971	9,344	75,725	10.98	65.49	3.816
1972	9,890	82,149	10.74	65.07	3.721
1973	9,781	82,254	10.63	64.36	3.657
1974	9,739*	73,908*	11.64**	61.47*	3.971
1975	8,990*	63,016*	12.48**	56.91*	4.164
1976	10,980	100,816	9.82	57.11	4.829
1977	—	—	—	—	—
1978	12,792**	121,418**	9.53	56.36	5.508
1979	12,971**	113,368**	10.27**	55.01	5.956

*Significantly lower than expected based on previous trends, $p < .05$.

**Significantly higher than expected based on previous trends, $p < .05$.

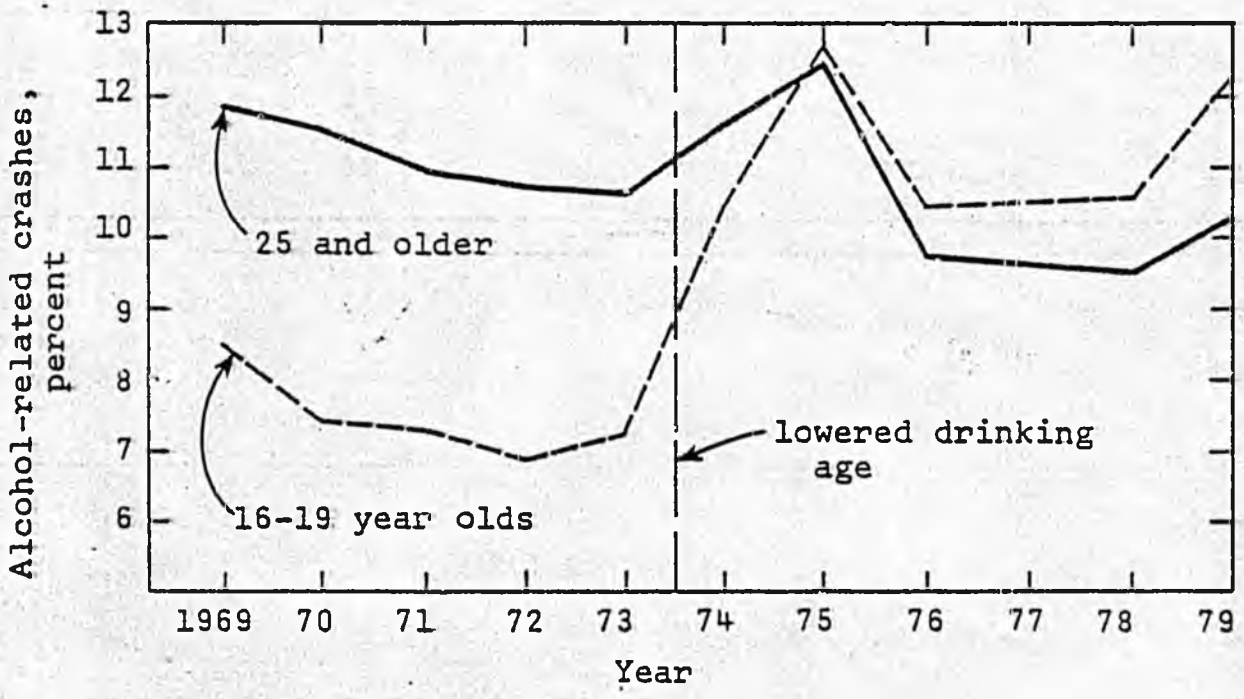

Figure 1. Percentage of alcohol-related crashes over time for young and older drivers.

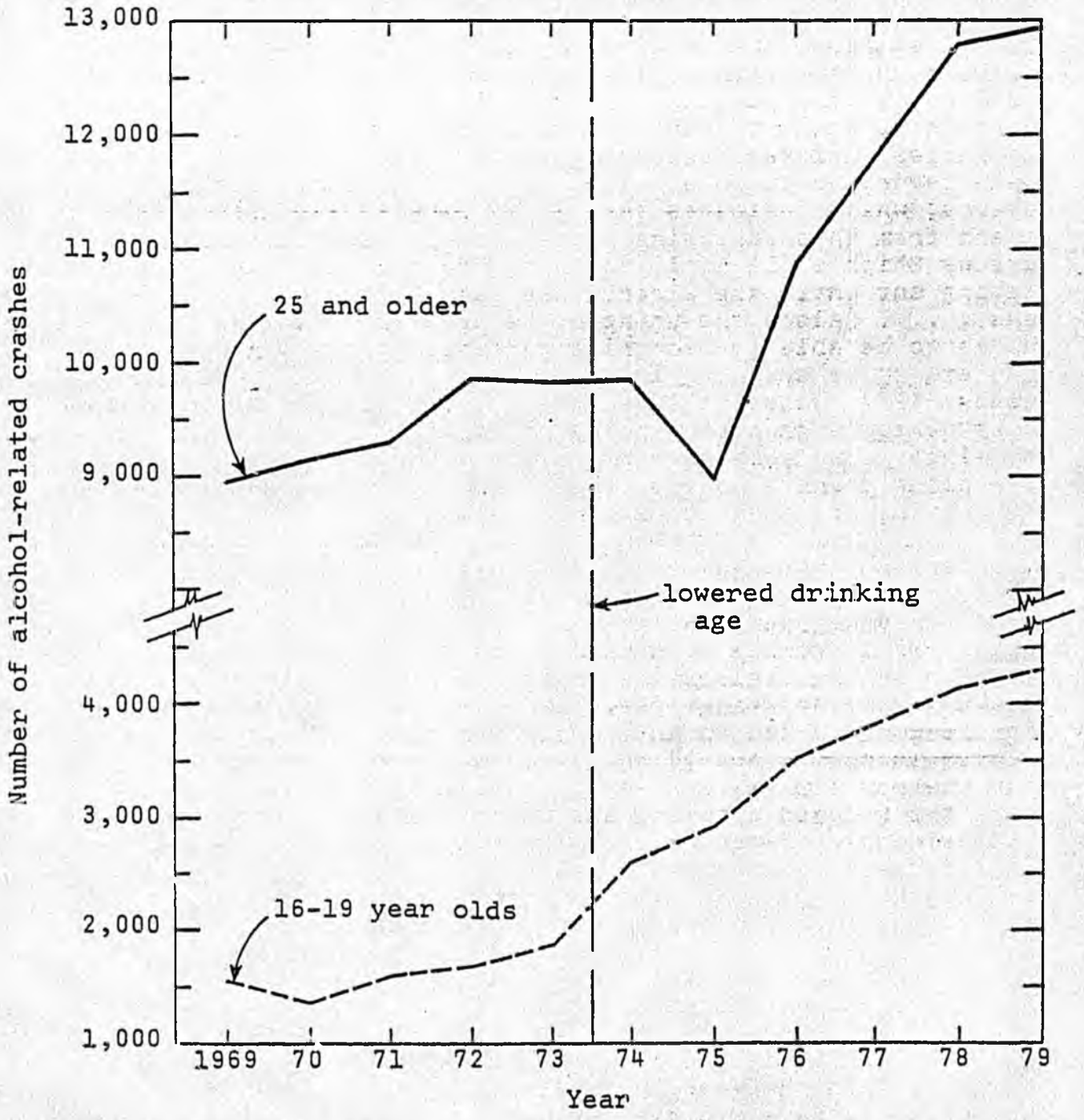

Figure 2. Numbers of alcohol-related crashes over time for youthful and older drivers.

FINDINGS AND CONCLUSIONS

In summary, the adverse impact on driving of reducing the drinking age has been well documented in both the United States and Canada. The consumption of alcohol, particularly the consumption of draught beer, has risen significantly among the newly enfrancised drinkers and among their younger cohorts. Further, these beverages are most often being consumed at restaurants and taverns, which indicates that young persons are most likely driving to and from these drinking spots. These young drivers, because of curfews which still apply to them, "do not have the advantage of staying out until the alcohol has been eliminated from their systems . . .. [Also] the younger the drinker, the less likely he or she is to be able to recognize personal limits, and the more likely they are to be drinking in situations where peer pressure leads to excess."(37) Since it takes very little alcohol to increase a young person's chance of being killed in a motor vehicle accident, and since young persons tend to mix psychoactive drugs and alcohol more often than do adults, these increases in alcohol consumption and driving are indicators of a serious problem.

Serious increases in alcohol-related motor vehicle accident involvement as well as increases in teenage fatalities have been noted for young persons in states where drinking ages have been reduced. No increases have been noted for older drivers, who are unaffected by the legislative change, nor in states that have not lowered their drinking ages. In Virginia alone, the reduced drinking age contributed to an increase of over 600 alcohol-related crashes among drivers 16 to 19 years old during the first six months that the new legislation was in effect, and during the next two years the reduced drinking age contributed to an increase of about 2,900 alcohol-related crashes for this group. It is not known how many of these crashes were fatal, but it can be safely said that each crash resulted in some sort of emotional or financial hardship to the teenagers involved or to their parents.

It is clear from this analysis that from the safety standpoint alone, a more protective stand toward 18 to 20 year olds, and their underage cohorts, should be taken. The most protective stance, of course, would be to raise the legal drinking age to 21 as soon as possible; this, however, would involve disenfranchising young persons who currently have the right to purchase beer in the Commonwealth, and may be politically infeasible.

In a discussion of the social implications of youthful drinking, Whitehead et al. address the overall problem with several interesting legislative suggestions, including the lowering of the presumptive limit to a blood-alcohol concentration of 0.04% for youthful drivers

in light of the low tolerance levels of young people and the increasing use of marijuana with alcohol. With specific reference to the change in the legal drinking age, it has been suggested that the most acceptable solution is to

> raise the drinking age in areas where it has already been lowered and to retain the current legal age in areas where it remains unchanged. Raising it to age 19 for the time being would be less disruptive and perhaps more effective than reverting to age 21 immediately. This approach would virtually eliminate legal drinking among secondary school students and hence the effect of their drinking behavior on their underage schoolmates. Further increases, if desired, could be staged in single-year increments to make the change more palatable to members of the target group. Both fairness and the appearance of fairness would be enhanced.(5)

What is to be expected from such a change in the legal drinking age? Intuitively, it would be expected that raising the legal drinking age in yearly increments would result in stepwise decreases in alcohol-related accidents. In Michigan, which raised its legal drinking age first to 19 and then to 21 in 1978, significant improvements in the crash experiences of young persons were noted after the drinking ages were raised.(38) However, raising the legal drinking age cannot be expected to solve all the alcohol-related safety problems of this age group. Many factors that affect drinking behavior have changed during the six years since the drinking age was lowered, as is evidenced by the increase in alcohol-related accidents for adults in 1978 and 1979. While it has been shown that lowering the legal drinking age in 1974 was responsible for increases in the youth crash problem at that time, changes in the economy, which may be correlated with the drinking behavior of adults; changes in the pressures on young persons; and changes in drug use patterns are only three of many factors that have since compounded this problem. Additionally, it may be impossible to reverse the poor drinking habits learned through early access to alcohol which exist among adults who are enfranchised at 18, since crash rates for these persons tend to increase at 18 and to stay at those higher levels. In any case, it is expected that raising the legal drinking age will result in a dramatic reduction in the involvement of young persons in alcohol-related crashes, but it is not expected that the rates of involvement will return to pre-1974 levels for persons 18 to 20.

RECOMMENDATIONS

Based upon this analysis, it is recommended that the Department of Transportation Safety support legislation to raise the legal drinking age in Virginia. Still in question, however, is what particular type of legislation is preferred. House Bills Nos. 188 and 133 (see Appendix), which were introduced during the last session of the General Assembly and were carried over for consideration this session, would raise the legal drinking age to 19, and 21, respectively. While these bills are more than adequate from a legal standpoint, both have drawbacks. While immediately raising the legal drinking age to 21 represents the ultimate safety goal with regard to this problem and would do the most to protect young persons, it would involve disenfranchising a large number of young voters. However, raising the legal drinking age to 19 this year would still require legislative action in subsequent General Assembly sessions to bring it up to 21 years. In addition, neither bill stipulates that the effect of raising the legal drinking age be evaluated, an important step in justifying this action. Ideally, the Department of Transportation Safety should most strongly support the amendment of proposed legislation to include the following provisions:

1. That the legal drinking age be raised incrementally in July of each of the next three years, so that the drinking age would become 19 years in 1981, 20 years in 1982, and 21 years in 1983. In this way, no group would be disenfranchised and the ultimate goal of returning the legal drinking age to 21 would be assured.

2. That an evaluation of the effects of raising the legal drinking age be required to ensure that this move accomplishes the purpose of improving the highway safety environment for young persons.

If at all possible, this type of legislation should be most actively pursued. However, should these suggestions not be incorporated into current legislation, it is recommended that the Department support legislation raising the legal drinking age to 19 years in 1981, and then encourage additional legislative action in subsequent General Assembly sessions to raise the legal drinking age to 21 years.

REFERENCES

1. Whitehead, P. C., "Alcohol and Young Drivers: Impact and Implications of Lowering the Drinking Age," Monograph Series Number 1, Research Bureau, Department of Health and Welfare, London, Ontario, Canada (November 1977).

2. Popham, R. E., Schmidt, W., and deLint, J., "The Effects of Legal Restraint in Drinking," (In Kissin and Begleiter, The Biology of Alcoholism, vol. 4, New York, 1976).

3. Blacker, E., "Sociocultural Factors in Alcoholism," International Psychiatry Clinic, vol. 3, no. 2 (Summer 1966).

4. Hammond, R. L., "Legal Drinking at 18 or 21 — Does It Make Any Difference?", Journal of Alcohol and Drug Education, vol. 18, no. 3 (Spring 1973).

5. Whitehead, P. C., and Terrence, R. G., "Alcohol Accident Involvement," Journal of Safety Research, vol. 8, no. 2 (June 1976).

6. Warren, R. A., "Total Risk Impairment Factors," Traffic Injury Research Foundation of Canada, Ottawa (1976).

7. Pelz, D. C., and Schuman, S. H., "Are Young Drivers Really More Dangerous After Controlling for Exposure and Experience?", Journal of Safety Research, vol. 3, no. 2 (June 1971).

8. "Drinking, Hostility and Alienation in Driving of Young Men," National Institute of Alcoholism and Alcohol Abuse, Washington, D. C., (June 1973).

9. Zylman, R., "Age is More Important Than Alcohol in the Collision-Involvement of Young and Old Drivers," Journal of Traffic Safety Education, vol. 20 (1972).

10. Leroy, D., "Young People and Alcohol, The 'Youth' Factors in Road Accidents," Journal of Alcoholism, vol. 9 (1974)

11. Zylman, R., "Drinking and Driving After It's Legal to Drink at 18: Is the Problem Real?", Journal of Alcohol and Drug Education, vol. 20 (1974).

12. Forney, R. B., "The Combined Effects of Ethanol and Other Drugs," Highway Safety Research Institute, University of Michigan, Ann Arbor (1967).

13. Whitehead, P. C., Craig, J., Langford, N., MacArthur, C., Stanton, B., and Terrence, R. G., "The Impact of the Change in the Drinking Age on Collision Behavior of Young Drivers," Journal of Studies on Alcohol, vol. 36 (1975).

14. Cucchiaro, S., Ferreira, J., and Sicherman, A., "The Effect of the 18-Year Old Drinking Age on Auto Accidents," Massachusetts Institute of Technology, Operations Research Center and Laboratory of Architecture and Planning (1974).

15. Smart, R. G., "Marijuana and Driving Risk Among College Students," Journal of Safety Research, vol. 6, no. 4 (December 1974).

16. Smart, R. G., Feiger, D., Smith, D., and White, J., "Trends in Drug Use Among Metropolitan Toronto High School Students," Addiction Research Foundation, Toronto, Canada (1975).

17. Waller, J. A., Lamborn, K. R., and Stefferhagen, R. A., Marijuana and Driving Among Teenagers: I. Use of Marijuana and Other Drugs," University of Vermont, Burlington (1973).

18. Wolfe, A. C., and Chapman, M. M., "An Analysis of Drinking and Driving Survey Data," HIT Lab Reports, vol. 4, no. 4 (December 1973).

19. Smart, R. G., and Finley, J., "Changes in Drinking Age and Per Capita Beer Consumption in 19 Canadian Provinces," Addiction Research Foundation, Substudy 641, Toronto (1974).

20. Smart, R. G., and Schmidt, W., "Drinking and Problems From Drinking After a Reduction in the Minimum Drinking Age," British Journal of Addiction, vol. 70 (1975).

21. Douglass, R. L., and Freedman, J. A., "Alcohol Related Casualties and Alcohol Beverage Market Response to Alcohol Beverage Availability Policies in Michigan," Highway Safety Research Institute, Ann Arbor (August 1977).

22. Perrine, M. W., Waller, J. A., and Harris, L. S., "Alcohol and Highway Safety: Behavioral and Medical Aspects," NHTSA Technical Report, DOT-HS-800-599, Washington (1971).

23. Schmidt, W., and Kornaczewski, A., "The Effect of Lowering the Legal Drinking Age in Ontario on Alcohol-Related Motor Vehicle Accidents," Proceedings, 6th International Conference on Alcohol, Drugs, and Traffic Safety, Toronto, Canada (September 1974).

24. "MICAP RECAP", Report Number 35, Michigan Council on Alcohol Problems, Lansing (August 1973).

25. Filkins, L. D., Flora, J. D., and Compton, C. P., "Michigan's Eighteen-Year Old Legal Drinking Age, Its Impact on Young Crash Involvement," Michigan Department of State Police, Office of Highway Safety Planning (February 1977).

26. Flora, J. D., Filkins, L. D., and Compton, C. P., "Alcohol Involvement in Michigan Fatal Accidents: 1968-1976," UM-HSRI-78-16, Highway Safety Research Institute, Ann Arbor, Michigan (March 1978).

27. Mills, M. H., "Assessment of the Effect on Traffic Safety of Lowering the Legal Drinking Age in Illinois," Department of Transportation, Division of Traffic Safety (November 1977).

28. Williams, F. F., Rich, R. F., Zador, P. L., and Robertson, L. S., "The Legal Minimum Drinking Age and Fatal Motor Vehicle Crashes," The Journal of Legal Studies, vol. 4, no. 1 (January 1975).

29. Ferreira, J., and Sicherman, A., "The Impact of Massachusetts' Reduced Drinking Age on Auto Accidents," Accident Analysis and Prevention, vol. 8, no. 4 (December 1976).

30. Highway and Vehicle Safety Report, vol. 7, no. 4 (November 11, 1980).

31. Naor, E. M., and Nashold, R. D., "Teenage Driver-Fatalities Following Reduction in the Legal Drinking Age," Journal of Safety Research, vol. 7, no. 2 (June 1975).

32. Whitehead, P. C., Craig, J., Langford, N., MacArthur, C., Stanton, B., and Terrence, R. G., "Change in the Legal Drinking Age: Impact on Young Drivers," Journal of Studies on Alcohol, vol. 36 (September 1975).

33. Douglass, R. L., and Filkins, L. D., "The Effect of Lower Legal Drinking Ages on Youth Crash Involvement," National Highway Traffic Safety Administration, Washington (March 1974).

34. Douglass, R. L., "The Consequences of Lower Legal Drinking Ages on Alcohol-Related Crash Involvement of Young People," Journal of Traffic Safety Education (January 1977).

35. _____, "Results of a Legal Impact Study: The Lower Legal Drinking Age and Youth Crash Involvement," HIT Lab Reports, vol. 5, no. 2 (October 1974).

36. Douglass, R. L., Filkins, L. D., and Flora, J. D., "Design Issues of a Legal Impact Study: The Lower Legal Drinking Age and Youth Crash Involvement," HIT Lab Reports, vol. 4, no. 10 (June 1974).

37. Lazar, J. C., and Lazar, J., "Youthful Drunk Drivers: A Mushrooming Crisis," Proceedings, American Association of Automotive Medicine (November 1976).

APPENDIX

HOUSE BILLS NO. 188 AND 133

EDUCATIONAL PROGRAMS

April 5, 1983

This section contains:

1. a report titled, "Is High School Education Necessary..."
2. a report titled, "We Have The Answer to Your Curriculum Needs."
3. a response to the question concerning the effects of High School driver's education.
4. a newspaper article on the effects of driver's education
5. conclusions concerning Driver's education from Connecticut DMV.

these older facilities. Not a week goes by but there are new victims of the unforgiving road.

The two bus disasters in Texas and New Mexico, caused by narrow dilapidated bridges could be repeated in almost any community in the country. These dangerous facilities must be put into condition to handle today's traffic demands.

The car too plays an important role in the total traffic safety picture. If your youngster is planning to take the family car out for an evening, you should work up a check list, just like an airplane pilot, to make sure it is in top condition. Pay particular attention to the tread depth and tire pressure; clean the road film from the headlights; replace worn windshield wiper blades; check for fan belt slippage. Sure it takes time, but isn't your youngsters' safety worth it?

You are failing your responsibility as parents if you don't give more personal attention to your youngsters' driving skills, the vehicles they drive, and the roads they will travel. Not only are you failing your responsibility, you are courting disaster and heartbreak. △

(UNDERLINES ADDED FOR EMPHASIS.)

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by your local Automobile Club

AMERICAN AUTOMOBILE ASSOCIATION
8111 Gatehouse Road
Falls Church, Virginia 22042

IS HIGH SCHOOL DRIVER EDUCATION NECESSARY, OR IS "PASSING A ROAD TEST" ENOUGH?

"Why driver education? Do we need it? Should it be taught in schools? Does it really work? Do the teachers do more than merely ride around in cars all day?"

Parents, administrators, students and community leaders are asking these and other probing questions in a mood of accountability and dollars and cents effectiveness. Many of these same people are wondering—could commercial driving instructors adequately train students? Should driver ed be dropped to keep school taxes down?

Driver education *does* work, primarily because the responsible, qualified school professionals who teach it demand much more of their students than the ability to "pass a road test." These dedicated teachers recognize their student's urgent "need" to get a license, and harness that interest to achieve a learning experience unique in the high school setting. Students acquire not only knowledge of rules of the road and basic driving skills, but learn also to survive in modern traffic through the use of sophisticated perceptual and decision-making methods, emergency driving techniques, and a heightened awareness of their own limitations, as well as those of other highway users.

High school driver education goes well beyond the simplistic "pass the road test" approach used in other courses. Far from being a frill, it is *the single most important course a high school student can take*, and the one most immediately useful.

The following reprinted article, written by *Highway User* Regional Editor John T. Newman, is a moving statement advocating intensified driver education courses, and increased parental involvement in those courses. We hope you'll not only agree, but do something about it.

Sample Computations Showing Rates for Male and Female Drivers age 16, 17, and 18; Principal or Occasional Operators; With and Without Driver Training, (Applicable for Industrial Indemny Company, Kemper and Great American Insurance Companies. Nationwide Insurance Company, State Farm and Insurance Company or North America give a 10% discount for driver education for high school students.

A1 - Underage Female
Principal or Occasional
Without Driver Training

Age	16 - 17	(1.75)
Bodily Injury	25/50	147
Property Damage	10	154
Uninsured Motorist		11
		301
Age 18		(1.60)
BI	25/50	134
PD	10	141
UM		11
		286

B1 - Underage Male
Occasional Operator
Without Driver Training

Age	16 - 17	(2.70)
BI	25/50	227
PD	10	238
UM		11
		476
Age 18		(2.50)
BI	25/50	210
PD	10	220
UM		11
		441

C1 - Underage Male
Principal Operator
Without Driver Training

Age	16 - 17	(3.50)
BI	25/50	294
PD	10	308
UM		11
		613
Age 18		(3.30)
BI	25/50	277
PD	10	290
UM		11
		578

A2 - With Driver Training

Age	16 - 17	(1.60)
BI	25/50	134
PD	10	141
UM		11
		286
Age 18		(1.50)
BI	25/50	126
PD	10	132
UM		11
		269

B2 - With Driver Training

Age	16 - 17	(2.25)
BI	25/50	189
PD	10	198
UM		11
		398
Age 18		(2.10)
BI	25/50	176
PD	10	185
UM		11
		372

C2 - Principal Operator With
Driver Training

Age	16 -17	(3.10)
BI	25/50	260
PD	10	273
UM		11
		544
Age 18		(2.90)
BI	25/50	244
PD	10	255
UM		11
		510

Alaska State Auto Club

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February 25, 1981

Mr. Ronald W. Kosh
Director, Field Operations
AMERICAN AUTOMOBILE ASSOCIATION
8111 Gatehouse Road
Falls Church, Virginia 22047 Re: Driver Education

Dear Mr. Kosh,

Thank you for your recent letter. I will now ask a favor of you.

We have attempted to convince the Anchorage school administration they should provide behind the wheel driver education in our city. So far, we have failed. We work with Mr. Tom Bibeau, Safety Office for the District. Tom sent us the enclosed this past week. He and the District Planning and Development Division have picked-up on this old Yale University research.

Do your driver education people have some answers to refute those conclusions?

Maybe we should prove shop courses are dangerous by citing the number of young people who are injured by table saws, etc.

If you would kindly refer this to your driver education people, we will be most grateful for anything they might provide.

Cordially,

Robert M. Scott

cc: Ray Coxe
Vern Smith
Dave Anderson
Jay M. Smith

P.S. For your driver education people: We have Highway Users 'Driver Education Support Handbook'; ADTSEA publications and have ordered the AAA books from Rand-McNally. Enclosed is notice of HUFA campaign at Alaska State level to promote statewide funding for driver education. At present, Anchorage is the only major community in Alaska not providing behind the wheel training. And, we probably need it the most.

Added cc: Bill Cushman

Ten Frequently Asked Questions About High School Driver Education

By Gerald Bastarachue,
Highway Users Federation

*Editor's Note: This article was released by the Highway Users' Federation in the spring of 1979 when Driver's Education was under severe attack nationwide.

About four million American teenagers will reach driver licensing age this year, and most will begin to experience the pleasures and responsibilities of driving a car. If a teenager is going to drive, concerned parents begin asking questions about what sort of preparation their children ought to get.

The Highway Users Federation, with the help of the American Driver and Traffic Safety Education Association, has supplied answers to the following frequently asked questions about driver education.

1. **Is driver education taught in every high school?**

No. But it is taught in about 17,000 high schools around the country, four out of every five.

2. **Is high school the best place to teach young drivers?**

They can pay for private lessons offered by commercial d r i v i n g schools, or, for better or worse, be taught by parents or friends. But in most cases, modern, well-equipped high schools offer the best combination of competent staff, administrative capacity, materials and facilities for quality courses. The public agrees. A recent survey found that three of four people think that high school is the best place to teach young people how to drive safely.

3. **Couldn't I teach my children to drive as well as a professional instructor could?**

Sure, if you are well-schooled in how to teach beginning drivers safe and fuel-efficient driving techniques, traffic laws, signs, signals and markings, motorists responsibilities, vehicle handling characteristics, vehicle maintenance, hazard perception and decision-making skills, and are willing to put in the necessary time and effort. Remember, learning how to drive safely involves more than mastering the mechanics of operating a car. You may also have a bad driving habit or two that your child could pick up.

4. **How much does high school drivers education cost the public?**

An average of $90 per student, which covers instructors' salaries, textbooks, films, cars, and other teaching equipment.

5. **Where do they get the cars?**

The majority are provided by local new car dealers at little or no cost to schools, students or taxpayers. During the 1977-78 school year, out of 44,780 motor vehicles used in high school drivers education, more than 37,000 were dealer-loaned.

6. **Couldn't we save a lot of gasoline by abolishing these courses, or at least the practice d r i v i n g involved?**

On the contrary, abolishing driver education would actually INCREASE

Continued on page 9

FUEL MANAGEMENT INSIGHTS
Taken from Driver Education Newsletter - Chicago Public Schools

Like all programs, the Chicago Public Schools are very conscious of the amount of fuel consumption for Driver Education. Below are some figures which indicate the progress being made. A similar study for your local program might be revealing. (The Editors are interested in compiling the results, so if you have data, please send it to us.)

Chicago Public High School Driver Education Fuel Management Statistics

Two consecutive months:	May 1979	June 1979
Total miles driven	61,114 miles	91,772 miles
Total gallons used	5,963 gallons	7,913 gallons
Average miles per gallon	10.2 mpg	11.5 mpg

Average cost per gallon trend ..... 7.1c increase from May through June

Same month, different years:	June 1978	June 1979
Total miles driven	116,969 miles	91,772 miles
Total gallons used	13,796 gallons	7,913 gallons
Average miles per gallon	8.5 mpg	11.5 mpg

Average cost per gallon trend ..... 17.9c higher this June than in 1978

Two consecutive years:	1977-78	1978-79	Difference
Total miles driven	1,096,863 mi.	952,973 mi.	-143,890 mi.
Total gallons used	129,089 gals.	99,029 gals.	-30,060 gals.
Average miles per gallon	8.4 mpg	9.6 mpg	+1.2 mpg.

Average cost per gallon trend ..... 7.9c increase over last year

GAS WATCHER'S MATCHING QUIZ [Chicago Driver Education]
Write the letters of the CASUAL FACTORS before the appropriate EFFECT.
(Answers at bottom of page)

Causal Factor	EFFECT
a. Increased emphasis in fuel management techniques	.....1. Decrease in the number of gallons used.
b. Increased emphasis in fuel efficient driving performance	.....2. Increase in the average number of miles per gal.
c. Increase in simulation mode	.....3. Decrease in the number of miles driven.
d. Reduction in range mode	.....4. Increase in the average cost per gallon.
e. Increase in traffic mode	
f. Declining enrollment	
g. Winter of '79	
h. Decrease in available number of driver education vehicles	
i. Domestic fuel production	
j. OPEC	
k. Iran	

Answers to Gas Watcher's Matching Quiz:
(1) a, b, c, f, g, h; (2) a, b, d, e; (3) c, f, g, h; (4) i, j, k.

TEN FREQUENTLY ASKED QUESTIONS ABOUT HIGH SCHOOL DRIVER EDUCATION

Continued from page 8

our use of gasoline. Fuel-saving techniques which last a lifetime are taught in driver education. One study found that if ALL drivers practiced the fuel-saving measures taught in high school driver education, the country could achieve a ten percent reduction in gasoline use. Moreover, a parent teaching a youngster how to drive in the family car uses more gasoline than the instructor in the driver education car. All the high school driver education classes in the country consume less than two-hundredths of one percent of all highway fuel used in the country, a very small investment for saving lives AND fuel.

7. Doesn't high school driver education encourage youngsters who might not otherwise drive to get a car?

No more than teaching home-economics encourages house-buying. Driver education is a "survival" course. Eight out of ten American adults are licensed drivers, and the percentage is growing. Most young people want to drive, and many NEED to for occupational or other reasons. Driver education teaches them how to do properly what they are likely to do anyway.

8. Does high school driver education pay off?

The evidence says yes. Youths who have completed driver education courses are cited for fewer moving violations and are involved in fewer accidents than those without instruction. That's why many insurance companies offer reduced premiums to driver education graduates. In many states, 16 or 17 year-olds cannot get a regular driver's license unless they complete a driver education course.

9. How are those classes organized?

In most schools, classes begin in the tenth grade. They are a combination of classroom and laboratory instruction. In the classroom, textbooks and other materials are used to supplement lectures, study, and discussions as with any academic subject. The laboratory part is "practice driving," in which the student gains actual driving experi-

Continued on page 10

TEN FREQUENTLY ASKED QUESTIONS ABOUT HIGH SCHOOL DRIVER EDUCATION

Continued from page 9

ence under the guidance of the instructor. Some schools also use driving simulators in the classroom for additional "life-like" experience.

10. How can I help my teenager become a better driver?

Insist on a quality driver education course taught by qualified instructors using up-to-date materials and equipment. You can set a good example, particularly in driving courtesy and attitude. And, you can supplement your child's practice driving by allowing him or her to gain experience under your guidance in night driving, or under various weather and traffic conditions which might not be possible in the school's program.

For further information on high school driver education, and what you can do to help, write the Highway Users Federation, 1776 Massachusetts Ave., NW, Washington, D. C. 20036, for the free booklet, "Who Needs Driver Education?" The Federation is a national, nonprofit organization promoting traffic safety and highway transportation efficiency.

Executive Committee Summer Meeting Highlights

—The IHSCDEA will work in cooperation with the IOE to co-sponsor the activities for the Illinois Youth - Traffic Safety Conference for the 1979-80 year. Ed O'Farrell was appointed to represent the IHSC DEA to work with Jim Churchill of IOE.

—The 1980 Annual Spring Conference will be held April 23-25, 1980 at the Peoria Hilton in Peoria. The management will set aside 50 rooms for Wednesday (4/25) and another 100 for Thursday (4/24). New parking facilities will be available across the street.

—All new legislation related to Driver Education appeared to have been defeated. An exception is a motorcycle law allowing 16 year olds to operate any size motorcycle is still in the legislation process.

—The IHCSDEA has been a member of the Illinois Conference of Women Leaders for Traffic Safety.

Are School Childre Really Safe?

By Jane E. Berthold

Jane E. Berthold is a graduate student at Illinois State University in the Traffic Safety Department. She previously taught three years in the Springfield School district.

A terrible menace prowls streets and by-ways, taking the li of thousands of children each ye This menace will continue to threa the well-being of our children if we not band together and take action prevent its growth.

I'm not speaking of crime, ev though this is a major concern to m of us. I am referring to the threat injury and death brought about lack of traffic safety awareness a responsibility. Absence of the skills and attitudes can result in u necessary risk-taking and accide involvement. Our children a falling prey to situations that fright mame, and kill them. Many of the accidents occur because children la the skills, education, and experien that could help them avoid dangers.

Safety experts state that traf accidents are the leading cause death among children three throu fourteen. This tragic fact often overlooked unconciously. Too ma people, adults as well as childre think of a traffic crash as somethi that happens to someone else. Ho ever, the sad fact is that no one immune to traffic accidents. Furth the risk posed by these accident greatest for those children who ma little knowledge of traffic to help decision-making.

If safety records of children are improve, traffic safety education mu begin with the very young an

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American
Driver and Traffic Safety
Education Association
1201 Sixteenth Street, N.W. • Washington, D.C. 20036
202/833-4140

June 26, 1981

The following statement was forwarded to ADTSEA today (at our request) by the Public Affairs Office of NHTSA. Officials at the Office inform us that the statement has been released (verbally) to the Associated Press and to United Press International.

RESPONSE TO INQUIRIES ON DRIVER EDUCATION STORY

1. The reporter draws conclusions that our data do not support. Contrary to the reporter's conclusion that the study "indicates that drivers' education does not prevent or reduce the incidence of traffic accidents at all," the NHTSA project director Mr. Hall told him specifically that the "data available so far are very tentative and may change, and that therefore no conclusion should be drawn at this time as to program effectiveness or noneffectiveness."

2. As a matter of fact, Mr. Hall told the reporter that although the figures are statistically insignificant, if anything there has been a modest trend in favor of driver education.

3. Mr. Hall did not say that he expects "the preliminary numbers to be born (sic) out in the rest of the study..." He has no basis on which to make any judgment as to what the data may show at the end of three more years.

The response relates to the story "Driver Training Found Not to Cut Auto Accidents" written by Phillip J. Hilts and appearing in the June 25 edition (page one) of the WASHINGTON POST.

The story, under various headlines appeared in other newspapers across the country on June 25, among them the KANSAS CITY STAR, the SAN JOSE MERCURY NEWS, and the ATLANTA JOURNAL. In some cases it was lightly edited but in all that have come to our attention to date, it was attributed to the WASHINGTON POST.

Today, July 26, the story was carried on page one of the WALL STREET JOURNAL.

Also today, the WASHINGTON POST printed the following correction on page two:

> In yesterday's edition, a traffic safety specialist with the National Safety Council, Ray Burneson, was quoted as being critical of a study on driver's education made by the National Highway Traffic Safety Administration; his critical remarks were directed at a study made by Leon Robertson of Yale University.

Driver Training Found Not to Cut Auto Accidents

By Philip J. Hilts
Washington Post Staff Writer

For years the auto insurance industry has given large insurance discounts for children who take drivers' education courses, because statistics show that they have fewer accidents.

The preliminary results of a new major study, however, indicate that drivers' education does not prevent or reduce the incidence of traffic accidents at all.

Many researchers conclude that drivers' education students have lower accident rates not because of their training but because the sort of children who volunteer for it have different social backgrounds and upbringing from those who don't. One study, for example, shows that students who get high grades have fewer accidents than those who don't.

In a study of about 17,500 children in DeKalb County (Atlanta), Ga., the National Highway Traffic Safety Administration finds no difference in the number of accidents and traffic violations between children who take the standard high school drivers' education course, or its equivalent, and

See DRIVERS, A11, Col. 1

Driver Education Found Not to Curb Traffic Accidents

DRIVERS, From A1

those who have no drivers' education at all.

These results back controversial studies that show drivers' education not only does not decrease accidents among 16 to 18 year olds, but actually may cause thousands of additional traffic deaths every year, according to Leon Robertson, a Yale University researcher.

He did a study of 10 Connecticut towns that eliminated drivers' education from their schools which showed that "about 75 percent of the 16-17 year olds who could be expected to have been licensed if they had taken high school driver education waited until they were 18 or older to be licensed when high school training was no longer available."

The result of having fewer licensed children on the road, according to Robertson, was a large decrease in the number of serious accidents in those Connecticut towns.

The Robertson study has begun to have some effect on drivers' education around the country, and at least one community — Farmington, Conn. —has eliminated the course largely on the basis of Robertson's work, according to Farmington school superintendent William Strolch.

"We were encouraging [teen-agers] to drive by offering the course in high schools. By not offering it, we may discourage it and postpone licensure," Strolch said.

In the $4.2 million NHTSA study, students who volunteered for drivers' education were divided into three groups: those who would get no formal drivers' education, those who would get the common course and those who would get a special, intensive 72-unit course including training on a special driving track.

The director of the NHTSA study, Clay Hall, said it showed "no statistically significant difference" in accident figures among all the groups after three years of the study's six-year run. He said he expected the preliminary numbers to be born out in the rest of the study, but that the interim report would draw no final conclusions.

Robertson's study has been attacked by a number of groups, including the professional association of drivers' education teachers, as unsound statistically.

Ray Burneson, traffic safety specialist with the National Safety Council, criticized the study, saying that it was a product of a group (NHTSA) that was run by people who believe "that you can't do anything to train drivers. You can only improve medical facilities and build stronger cars for when the accidents happen .... This knocks the whole philosophy of education."

Hall said the study would note the "favorable trend" that children in the special course are getting 16 percent fewer traffic tickets than those who haven't taken a drivers' education course. He said this shows that drivers' education can have a positive effect, one that may in later life even have a positive effect on accident rates.

The training part of the program is now finished and the period in which the records of the children are followed in regular highway driving has begun. The interim report is due out next week and the final report is planned for 1983.

CONNECTICUT STATE DEPARTMENT OF MOTOR VEHICLES

Wethersfield, Connecticut

This study, which covers the period from June, 1962, through to October 1, 1963, a total of 15 months, pertains to the motor vehicle violation involvement of 48,628 provisional license holders who participated in one of the three driver training programs permitted under Connecticut Statutes; i.e., parent training, commercial school training and secondary school training, which training is a prerequisite for obtaining a Connecticut operator's license for applicants between 16 and 18 years of age.

The purpose of conducting this study was to determine whether or not the involvement of the youngters differed depending upon the type of training received.

I. SECONDARY SCHOOL TRAINED

Male operators	6,892	Violators - male	558	8 %
Female operators	6,942	Violators - female	107	1.5%
	13,834		665	4.8%

II. PARENT TRAINED

Male operators	13,158	Violators - male	1,517	11.5%
Female operators	7,985	Violators - female	154	1.9%
	21,143		1,671	7.9%

III. COMMERCIAL SCHOOL TRAINED

Male operators	8,566	Violators - male	1,111	12.9%
Female operators	5,085	Violators - female	97	1.9%
	13,651		1,208	8.8%

Also, approximately nine per cent of these 48,628 operators were involved in accidents during the first nine months of 1963; and it is to be noted that youngsters who participated in the training in the secondary schools were involved in less of the so-called "serious type violations" than those youngsters participating in the other two phases of driver training, as the following tabulation indicates:

Secondary school	1.1%
Parent training	2.1%
Commercial school	2.1%

To broaden this study, the records of all provisional licenses were checked to determine their involvement during this same period; i.e., June, 1962, through to October 1, 1963, and it was determined that of the sum total of 187,408 provisional licensees, approximately 10.6 per cent were involved in some type of motor vehicle violation in this period.

It is to be noted that provisional licensees represent approximately 11 per cent of the driving population in Connecticut; and further that of these 187,408 provisional license holders, in the vicinity of 130,000 obtained their licenses since 1958 and, thus, participated in one of the three phases of training.

January, 1964

Illinois Study Shows Value of Driver Education

Illinois teenagers who have studied driver education are involved in only half as many accidents and convicted of only one-third as many violations as those who have not taken the course, according to a recent study made by Charles F. Carpentier, Illinois Secretary of State.

Using an electronic data processing system, Carpentier screened the records of 516,776 of the state's licensed drivers, aged 16-20. Data on traffic violations included convictions for moving offenses only, which state courts are required to report to the Secretary. Accident data was obtained from the state's Division of Highways, which receives reports of all accidents involving death, personal injury or property damage of more than $100.

Of the half-million licensed minors surveyed, 176,832 had studied driver education. This group showed a rate of 171 convictions per 1,000 drivers as compared with a rate of 493 convictions for the non-driver-educated group. Driver-educated youngsters were involved in accidents at a rate of 56 per 1,000, while non-driver-educated youngsters had an accident rate of 111 per 1,000.

The records of drivers in the 21-26 age group were also run through the electronic brains. It was found that the traffic offense conviction rate for non-driver-educated motorists increased more sharply with age than it did for those who had the course.

New York Study Shows Value of Driver Education

New York State youngsters who have passed full high school driver education courses have fewer accidents and traffic violations than untrained young drivers. This is the finding of the Department of Motor Vehicles in a survey of the accident and violation records of 1,920 high school graduates of 1959 and 1960. Half of them had taken driver training courses while in school. Their records for the 18-month period between January, 1961, and June, 1962, were checked by the Department's Division of Research.

The DMV said the study showed untrained drivers had 22 per cent more accidents and 50 per cent more driving violations than those who had taken driver education. It turned out that academic standing played a significant role in traffic safety; those in the upper half of their classes, both trained and untrained, had fewer violations than did those in the lower half. Strikingly, women without training in the upper half of their class were less prone to violations than any group of men - with or without training. The statistics indicate that men are involved in from three to five times as many accidents as women. "It is reasonably assumed that exposure to accidents is greater with the men," the DMV said. "It is probable that they drive more miles under more severe weather conditions and hence suffer from greater fatigue."

Students from 20 secondary schools throughout the state were checked. Twelve of the schools are located in urban areas and the other eight in rural areas. Each of the main groups involved included 495 young women and 465 young men.

National Safety Council, March, 1964

THE DRIVER EDUCATION EVALUATION PROGRAM (DEEP) STUDY

A REPORT TO THE CONGRESS

July 1975

U.S. Department of Transportation

National Highway Traffic Safety Administration

DEPARTMENT OF TRANSPORTATION · UNITED STATES OF AMERICA

THE DRIVER EUDCATION EVALUATION PROGRAM (DEEP) STUDY

Report to the Congress. July, 1975

U.S. Department of Transportation

National Highway Traffic Safety Administration

p. 85:

The NHTSA has taken the position that an HSDE program that is 10-15 percent effective in reducing the crash involvement probability of persons exposed to it is feasible and represents a resonable expectation.

NHTSA believes that HSDE offers as much behavior modification and crash reduction potential as any other form of short-term intervention. . .It probably offers more potential than most programs becuase it intervenes earlier and involves more time than most other approaches.

February, 1981/ADTSEA

LICENSE PROVISIONS

April 5, 1983

This section contains:

1. an article on license suspensions and revocations
2. a pamphlet on Administrative license revocation

more information on license provisions is available through Sen. Fischer's office

EFFECTIVENESS OF LICENSE SUSPENSION OR REVOCATION FOR DRIVERS CONVICTED OF MULTIPLE DRIVING UNDER THE INFLUENCE OFFENSES—AN OVERVIEW OF THREE STUDIES

Roger E. Hagen, Rickey L. Williams, and Edward J. McConnell
State of California Department of Motor Vehicles

Note

This paper is a condensation of a paper presented by the authors at the Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects, May 19-21, 1981. The unabridged version is published in the Symposium Proceedings available from the National Highway Traffic Safety Administration.

Abstract

Three studies of the effects of licensing action on multiple DUI offenders are reported. The first two assessed the impact of license suspension or revocation compared to no licensing action or participation in an alcohol abuse treatment program. The third study dealt with the effects of licensing action on the DUI offender. The results showed that licensing action for multiple DUI offenders had a more positive traffic safety effect than either no licensing action or treatment programs. Both the magnitude and the duration of this effect are documented.

Introduction

In California, new legislation has made it possible for drivers convicted of multiple driving under the influence (DUI) offenses to receive treatment as an alternative to license suspension or revocation. Previously, the laws of the State required a 12-month license suspension for a driver's second DUI conviction in 5 years and a 3-year license revocation for a third DUI conviction in 7 years. The new alternative offers drivers the opportunity to participate in a 12-month State-approved alcohol abuse treatment program. Drivers convicted of DUI while participating in the program may be dismissed from treatment and subjected to the licensing action (suspension or revocation) for which the treatment was an alternative.

Three studies of the effects of licensing action on multiple DUI offenders are reported here. The first two assessed the traffic safety impact of license suspension or revocation compared to no licensing action or participation in a 12-month treatment program. The third study addressed the effects of license suspension or revocation on the DUI offender.

Method

The following sections describe the methodologies used in the three studies.

1. Suspension/revocation vs. no licensing action.

In the first study, all drivers convicted of second or subsequent DUI offenses during the first 6 months of 1970 were identified. Of these, approximately 10,000 drivers had their licenses suspended or revoked, while another 1650 had similar convictions but received no licensing action (1) because their previous convictions were declared unconstitutional. A subject-for-subject matching procedure (Epperson, Harano, and Peck, 1975) was used to pair drivers from the suspended/revoked group with drivers in the second group. A total of 1501 matched pairs of drivers was included in the analysis.

Driver record data for these subjects were secured from the California Department of Motor Vehicles. Each driver's history was collected for 5 years prior to the 1970 project entry date and 6 years subsequent to it.

Analysis of covariance was used to control for potential between-group differences not accounted for in the matching process. Covariates included age, residence change,

[1] Both groups of drivers received standard fines and/or jail sentences.

and the prior 5-year driving history variables of (1) accidents, (2) had been drinking accidents, (3) DUI convictions, and (4) implied consent actions. A separate analysis was conducted for each subsequent driving history variable. No analysis was conducted if the data did not meet the basic analysis of covariance assumption of equality of slopes.

Survival curve analyses were used to assess the duration of license suspension/revocation treatment effect on subsequent accidents and DUI violations. Statistical tests of the survival curve data were conducted annually during the 6-year follow-up period.

2. Suspension/revocation vs. alcohol treatment.

In this study, four alcohol abuse treatment program demonstration counties were selected through a competitive bid process. A comparison county for each demonstration county was selected using a structured three-phase approach (McDonald and McIntire, 1977). Counties with active alcohol treatment programs were not selected as comparison counties, even if they matched well in other characteristics. The demonstration counties and their respective comparison counties were: Kern/San Joaquin, Santa Clara/San Bernardino, Ventura/Monterey, and Yuba/Nevada.

The sample comprised drivers in eight counties who had a second or subsequent DUI conviction between January 1, 1976, and February 28, 1977. As a result of this conviction, 2874 drivers in the comparison counties and 2442 drivers in the demonstration counties had their licenses suspended or revoked. Another 2571 drivers in the demonstration counties participated in alcohol treatment programs in lieu of licensing action.

Each driver's records were obtained from the California Department of Motor Vehicles for 3 years prior to the above DUI conviction and for 12 months subsequent to it. Analysis of covariance was used to analyze the subsequent driving record data. Covariates were age at conviction and the prior 3-year driving history variables of (1) accidents, (2) nighttime (2100-0300) accidents, (3) drunk driving convictions, (4) reckless driving convictions, (5) "one-count" convictions (speeding, illegal turn, etc.), and (6) implied consent actions. A separate analysis was conducted for each variable during the 12-month follow-up period. No analysis was conducted if the data did not meet the basic analysis of covariance assumption of equality of slopes.

Three sequences of covariance analyses were conducted. The first assessed the impact of the alcohol treatment program vs. suspension/revocation and compared the following three driver groups: (1) demonstration county treatment program participants, (2) demonstration county suspended/revoked drivers, and (3) comparison county suspended/revoked drivers. This analysis also assessed the impact of including or excluding 388 drivers who dropped out of the treatment program for various reasons and then had their licenses suspended or revoked.

The second series of analyses compared the overall DUI program in the demonstration counties with that in the comparison counties. This sequence involved two driver groups: (1) all demonstration county multiple DUI drivers (treatment program, suspended/revoked, and program dropouts) and (2) comparison county suspended/revoked drivers.

The third series of analyses was conducted because one pair of counties (Santa Clara/San Bernardino) constituted over 50% of the sample. In order to (1) assure that any effects were not solely attributable to differences between these two counties and (2) obtain results that could be more readily generalized to the urban areas in the State, the analyses described above were repeated using only the Santa Clara/San Bernardino data. Because sample sizes in the three remaining pairs of counties were too small for individual analysis, they were analyzed similarly as a group.

Survival curve analyses were used to assess the duration of effect of the treatment program compared to suspension/revocation. Proportional tests were conducted quarterly during the 12-month follow-up period to insure that any differences were not due to chance variation.

3. Effects of suspension/revocation.

The third study analyzed the effects of suspension/revocation and the incidence of driving while under licensing action using (1) survival rates for accidents and DUI convictions and (2) drivers' self-reports.

For the survival rate analysis, a 10% random sample (N=4488) was selected from among all drivers having a first, second, or third-plus DUI conviction in 1974. A third offender was one whose 1974 offense was the third or more in the 7 years prior to and including 1974; a second offender was one whose 1974 offense was the second in 5 years; and a first offender was one who had no DUI convictions during the 5- or 7-year periods.

To be included in the analysis, a third offender had to have received a 36-month license revocation, a second offender a 12-month suspension, and a first offender no licensing action.

The following data were obtained for each sample driver for the 4-year period subsequent to the 1974 conviction: (1) number of days until next DUI conviction, (2) number of days until next reported accident, and (3) number of days until next driver record update (accident, conviction, FTA, or FTP).

To assess further the incidence of driving while under licensing action, a survey was conducted of 2500 drivers whose licenses were being reinstated after suspension or revocation for multiple DUI offenses. These drivers were selected in January through March of 1980 and were not the same drivers used in the survival rate analyses.

Two waves of questionnaires were sent 10 days apart with both the initial and follow-up waves going to all 2500 drivers. Each wave contained two questionnaires--one to be completed by drivers who admitted driving under license suspension/revocation, the other by drivers who denied doing so. Response anonymity was guaranteed.

Respondents who completed both questionnaires were eliminated from the analysis. If it could be determined that a driver had responded to both waves, the wave 2 questionnaire of that driver was eliminated.

Questionnaires were color-coded to distinguish suspended drivers from revoked drivers and drivers with record updates (see above) during their suspension/revocation period from those with no updates. This permitted an assessment of the incidence of driving while suspended/revoked on the basis of self-reports and driver records, as well as a comparison of the two approaches.

Results and Discussion

1. Suspension/revocation vs. no licensing action.

Analysis of covariance was used to assess the traffic safety impact of licensing action versus no licensing action on the post-conviction driving record of the drivers in Study 1. Nine driving history variables for the 6 years following project entry conviction were analyzed: (1) DUI convictions, (2) reckless driving convictions, (3) one-count convictions, (4) two-count convictions, (5) total countable convictions, (6) accidents, (7) had-been-drinking accidents, (8) injury and fatal accidents, and (9) single-vehicle accidents.

Drivers whose licenses were suspended or revoked had significantly ($p < .01$) fewer subsequent reckless driving convictions, one-count convictions, total countable convictions, accidents, and personal injury and fatal accidents than did drivers not subjected to licensing action. Further, the reported frequencies of convictions or accidents for the no-licensing-action group were a minimum of 30% greater than for the suspended/revoked group.

It is apparent from these results that the imposition of licensing controls reduces the driving exposure of drivers convicted of multiple DUI offenses and is thus justified as a traffic safety countermeasure. The duration of this effect is addressed in the following survival curve analysis.

Figure 1 shows the survival curves of the suspended/revoked drivers and the no-licensing-action drivers for the 6 years following project entry. As can be seen, drivers whose licenses were suspended or revoked had fewer subsequent DUI convictions than did drivers not receiving licensing action. Statistical analysis showed the differences in annual survival rates to be significant for each of the 6 follow-up years. In addition, inspection of the survival curves suggests that the treatment effect existed until 42 months (14 quarters) after project entry. At this point, the two curves become parallel, indicating that the impact of license suspension/revocation has ended.

Similar survival curves were plotted for accident involvement with similar significant differences in annual survival rates.