

Log H-336

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: July 22, 1982

Forwarded to: States of: Alabama, Alaska, Arizona, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Iowa, Kansas, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, Wyoming and the District of Columbia

SAFETY RECOMMENDATION(S)  
H-82-18

About 2:18 a.m. e.s.t on March 14, 1982, at a railroad/highway grade crossing on Herricks Road in Nassau County, New York, a southbound van, occupied by 10 teenagers, was driven around a lowered automatic gate with flashing lights onto the main line tracks of the Long Island Railroad and into the path of an oncoming train. Nine of the 10 occupants were killed and one passenger was critically injured. The blood alcohol level of the 19-year-old male owner and apparent driver of the van was .09 percent by weight. New York law determines that a blood alcohol level of .06 to .09 is evidence that the driver's ability is impaired. A level of .10 is considered to be "intoxicated." The minimum legal purchase age for all alcoholic beverages in the State of New York at the time of the accident was 18 years.

In the past 3 years, the National Transportation Safety Board has investigated three other major accidents (see table 1) involving young drivers in the 18- to 21-year-old age group where alcohol was a factor in the accident. In these four accidents, there were 30 fatalities and 15 injuries.

In July 1971, the 26th Amendment to the U.S. Constitution became effective extending the right to vote in Federal elections to citizens between 18 and 21 years of age. Between 1970 and 1973 the 50 States also extended the right to vote in State elections to this age group, and 24 States reduced their minimum legal drinking age for all alcoholic beverages as part of the trend to reduce the age of majority. <sup>1/</sup> Eighteen of the 24 States lowered the legal drinking age to 18, and 6 States lowered it to 19. Eleven other States lowered the legal drinking age for wine and beer only to either 18 or 19.

<sup>1/</sup> States that reduced their legal drinking ages for all alcoholic beverages between 1970 and 1973 were: Alaska, Arizona, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Iowa, Maine, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, Rhode Island, Tennessee, Texas, Vermont, West Virginia, Wisconsin, and Wyoming.

TABLE 1--RECENT MAJOR HIGHWAY ACCIDENTS  
 INVESTIGATED BY SAFETY BOARD  
 INVOLVING 18-TO 21-YEAR-OLD DRIVERS

<u>Location</u>	<u>NTSB Report No.</u>	<u>Date of accident</u>	<u>BAL of driver</u>	<u>Persons killed</u>	<u>Time of accident</u>	<u>Driver's Age</u>	<u>Minimum legal drinking age in the State at the time of the accident</u>
Crofton, Maryland	HAR-79-6	04-23-79	0.135 (estimated)	10	9:15 p.m.	18	21 other * 18 (Beer & Wine)
New York, New York	HAR-79-8	06-08-79	0.12	4	11:05 p.m.	20	18
Perry, Oklahoma	HAR-80-4	02-23-80	0.21	7	12:45 a.m.	20	21 other **18 (3.2% beer)
Nassau County, New York	---	03-14-82	0.09	9	2:18 a.m.	19	18

\* Changed to 21 for all alcoholic beverages May 3, 1982.

\*\*Blood alcohol level resulted from the ingestion of 3.2% beer.

Studies 2/ began to show that the lowered drinking age resulted in increased alcohol-related traffic accidents among the 18- to 21-year-old population, an age already overrepresented in accident statistics. As a result, at least 14 States have raised their minimum legal drinking age since 1976. 3/ (See table 2.) Currently, several other States have legislation pending to raise the legal minimum drinking age.

There have been numerous studies in States that have raised their minimum legal drinking age, showing a significant decrease in alcohol-involved accidents among drivers in the affected age group. For example, Michigan lowered its drinking age to 18 in January 1972 and raised it back to 21 in December 1978. A study that analyzed a random sample of 20 percent of all reported accidents in Michigan from January 1972 to December 1979 concluded:

Controlling for trends, seasonally, and other patterns in the frequency of police-reported "had been drinking" (HBD) crash involvement among 18-20 year old drivers, an [annual] reduction of 31 percent occurred in the first 12 months after the drinking age was raised from 18 to 21 in December of 1978.

To control for potential unreliability in police-reported alcohol-involvement, a "three factor surrogate" 4/ measure of alcohol-related crash involvement is also used. Analyses of late-night, single-vehicle crashes with a male driver, of which a majority have been consistently identified as involving a drinking driver, reveal a statistically significant reduction of 18 percent among drivers aged 18-20 after the higher legal drinking age was implemented." 5/

In another study, made after Illinois raised its minimum legal drinking age in January 1980 from age 19 to 21 years, data for single-vehicle, nighttime, male driver involvements occurring between 8 p.m. and 3 a.m. were used as a surrogate for alcohol-involved accidents. 6/ This study comparing 1980 to 1979 accident data, concluded that raising the legal drinking age law was effective in reducing the single-vehicle, nighttime, male driver involvement for drivers aged 19 and 20. For 1980, the percentage of reduction attributable to the law change was 8.8 percent.

The Michigan and Illinois studies looked at all accidents--fatal, injury, and property damage. Another study, 7/ using data from the Fatal Accident Records System (FARS) of

2/ Douglass, R. L., Filkins, L.D., Clark, F.A. "The Effect of Lower Legal Drinking Ages on Youth Crash Involvement," prepared for National Highway Traffic Safety Administration by Highway Safety Research Institute, June 1974.

3/ States that raised their legal drinking ages after 1976 include: Connecticut, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New York, New Jersey, and Tennessee.

4/ Surrogate measures for alcohol involvement are typically used since blood alcohol level reporting for driver accident involvement is often incomplete.

5/ Wagenaar, Alexander Clarence, The Minimum Legal Drinking Age: A Times-Series Impact Evaluation, Dissertation, University of Michigan, 1980, p. 148.

6/ "Impact Analysis of the Raised Legal Drinking Age in Illinois" Delmas Maxwell, National Highway Traffic Safety Administration, December 1981.

7/ Williams, Allan F., et al., Insurance Institute for Highway Safety, "The Effect of Raising the Legal Minimum Drinking Age in Fatal Crash Involvement," Journal of Legal Studies, September 1981.

TABLE 2. MINIMUM LEGAL DRINKING/PURCHASE AGES AND DATE OF LAST LEGISLATIVE CHANGE FOR THE FIFTY STATES AND THE DISTRICT OF COLUMBIA

	18	19	20	21	18/21
Hawaii (1972)					
Louisiana (1948)					
Vermont (1971)					
West Virginia (1980)					
Wisconsin (1972)					
Alabama (1970)			Delaware (1972)	Arkansas (1925)	* Colorado (1945)
Alaska (1979)		Maine (1977)	Maine (1977)	California (1933)	** District of Columbia (1934)
Arizona (1972)		Massachusetts (1979)	Massachusetts (1979)	Illinois (1980)	* Kansas (1949)
Connecticut (1982)		Nebraska (1980)	Nebraska (1980)	Indiana (1934)	** Mississippi (1966)
Florida (1980)		New Hampshire (1979)	New Hampshire (1979)	Kentucky (1938)	** North Carolina (1935)
Georgia (1980)		Rhode Island (1981)	Rhode Island (1981)	Maryland (1982)	* Ohio (1935)
Idaho (1972)				Michigan (1978)	* Oklahoma (1976)
Iowa (1978)				Missouri (1945)	** South Carolina (1935)
Minnesota (1976)				Nevada (1933)	* South Dakota (1972)
Montana (1979)				New Mexico (1934)	****Virginia (1981)
New Jersey (1980)				North Dakota (1936)	
New York (1982)				Oregon (1933)	
Tennessee (1979)				Pennsylvania (1935)	
Texas (1981)				Utah (1935)	
Wyoming (1973)				Washington (1934)	

\* - 18 (3.2% Beer), 21 (Over 3.2% Beer, Wine & Distilled Spirits)  
 \*\* - 18 (Beer & Table Wine), 21 (Fortified Wine & Distilled Spirits)  
 \*\*\* - 18 (Beer & Wine), 21 (Distilled Spirits)  
 \*\*\*\* - 18 (On Premises Sale of Beer), 19 (Off Premises Sale of Beer)  
 21 (Wine & Distilled Spirits)

the National Highway Traffic Safety Administration looked at nine States which raised their legal minimum age. 8/ Eight of the nine States experienced a reduction in nighttime fatal crash involvement among drivers in the affected age group; the average annual reduction was 28 percent.

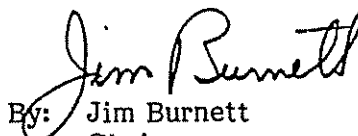
New York State has recently raised the legal purchase age of alcohol from 18 to 19. In New York State during 1979, 26 percent of crash-involved drinking drivers were under 21 years old. This is a rate of 45.1 alcohol-related crash involvements per every 10,000 licensed drivers in the 16- to 20-year-old age group. This rate was 4.2 times higher than the rate of 10.8 per 10,000 licensed drivers 21 years and older. 9/ In the 10 New York counties that are contiguous to Pennsylvania (where the legal drinking age is 21) 10 percent of the alcohol-related accidents involving an 18- to 20-year-old driver involved a driver who was licensed in Pennsylvania. 10/

Based on the experiences of the States that have raised their minimum legal drinking or purchasing age, the Safety Board concludes that alcohol-related accidents in the 18- to 21-year-old age group can be reduced by raising the minimum legal drinking age. Available data show a direct correlation between minimum drinking age and alcohol-related accidents in the 18- to 21-year-old age group. Studies in Illinois and Michigan, two populous States, demonstrate that dramatic reductions in alcohol-related accidents in this age group can be achieved by raising the minimum drinking age to 21.

Therefore, the National Transportation Safety Board recommends that the States of Alabama, Alaska, Arizona, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Iowa, Kansas, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming, and the District of Columbia:

Raise the minimum legal age for drinking or purchasing all alcoholic beverages to 21 years of age. (Class II, Priority Action) (H-82-18)

BURNETT, Chairman, GOLDMAN, Vice Chairman, McADAMS and BURSLEY, Members, concurred in this recommendation.

  
By: Jim Burnett  
Chairman

8/ The States were: Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, and Tennessee.

9/ Lillis, R., et al., "Targeting Alcohol Safety Prevention Programs through Analysis of Crash Casualty Data," paper presented at the National Council on Alcoholism forum, New Orleans, Louisiana, April 15, 1981.

10/ Lillis, R., Williams, T., and Williford W., "Reported Alcohol Crashes Involving 18-21 Year Old Pennsylvania Drivers in Ten New York Border Counties," New York State Division of Alcoholism and Alcohol Abuse, Bureau of Alcohol and Highway Safety (Research Report Series Number 10), 1981.