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UPDATE

THE EFFECTS OF RAISING AND LOWERING THE
MINIMUM LEGAL DRINKING AGE IN VIRGINIA

March 1984

by

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(The opinions, findings, and conclusions expressed in this
report are those of the author and not necessarily those of
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SUMMARY

This report updates previous ones on the impact of raising and lowering the legal drinking age. Crash data from Virginia indicate the following:

- o The percentage of all crashes that are alcohol-related have increased significantly since 1974 for persons under 16, 16 to 19 years, and 20 to 24 years. Such increases were not noted for adults. In 1982, when the legal age for purchasing beer for off-premises consumption was raised to 19, percentages of alcohol-related crashes for the affected age groups dropped.
- o From 1974 to 1982, numbers of alcohol-related crashes were higher than expected, based on previous trends, for persons under 16, 16 to 19 years and 20 to 24 years. Numbers of non-alcohol-related crashes and alcohol-related crashes for adults were not higher than expected. These trends for young persons were tentatively reversed in 1982.

It was concluded that Virginia should take a more protective stance towards its 16 to 20 year olds and increase the minimum legal drinking age to 21 years.

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UPDATE

THE EFFECTS OF RAISING AND LOWERING THE MINIMUM LEGAL DRINKING AGE IN VIRGINIA March 1984

This report updates those entitled, "The Impact of Lowering the Legal Drinking Age in Virginia" and "The Effects of Raising and Lowering the Legal Minimum Drinking Age - January 1983." It gives the current legal drinking ages in the various states, describes several studies on the impact of raising the legal drinking age, and reexamines the most current Virginia vehicle accident data for young persons.

RECENT EXPERIENCES IN OTHER STATES

The most current information concerning the legal drinking ages among the states appears in Table 1. By the end of 1983, most of the states that had lowered drinking ages had reconsidered and raised them but not necessarily back to the original levels. Currently, in only a few states it is legal for persons 18 years of age or under to drink alcohol. In Virginia, the age at which beer can be purchased in stores for off-premises consumption was raised to 19 in 1981, the legal limit for purchasing beer for on-premise consumption in restaurants and taverns was raised from 18 to 19 in 1983, and the limit for purchasing wine or liquor remains at 21 years.

In the last few years, several studies on raising the legal drinking age have been conducted. The Insurance Institute for Highway Safety compared nighttime fatal vehicle crashes for states that had raised their drinking age with those for states that had not. It was found that, on the average, a state that raises the drinking age can expect a 28% decrease in these fatal crashes among young persons. In the states with raised drinking ages, it was estimated that 380 fewer young drivers were involved in nighttime fatal crashes each year as a result of the change. It was also estimated that 730 fewer young drivers would be involved if the other states would raise their legal drinking age to 21. (1)

In Maine, where the age limit was raised from 18 to 20 years, nighttime accidents were reduced 18.6% for 18-year-old male drivers and 13.9% for 19-year-old males. (2) In a similar study in Illinois, where the drinking age was raised from 19 to 21, nighttime single vehicle crashes were reduced 10.0% for 19 year olds and 7.4% for 20 year olds. (3) Finally, in Michigan, where the age limit was raised from 18 to 21, total alcohol-related crashes decreased 31.0% for the affected group compared to what would have been expected had the age not been raised. (4)

Table 1

Minimum Legal Drinking/Purchase Ages and Date of Last Legislative Change
for the Fifty States and the District of Columbia

<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>18/21</u>
Hawaii (1972)	Alabama (1970)	Connecticut (1983)	Alaska (1983)	Colorado (1945)a
Louisiana (1948)	Arizona (1972)	Maine (1977)	Arkansas (1925)	District of Columbia (1941)b
Vermont (1971)	Florida (1980)	Massachusetts (1979)	California (1933)	Kansas (1949)a
	Georgia (1980)	Nebraska (1980)	Delaware (1983)	Mississippi (1966)b
	Idaho (1972)	New Hampshire (1979)	Illinois (1980)	North Carolina (1935)b
	Iowa (1978)	Rhode Island (1981)	Indiana (1934)	Ohio (1935)c
	Minnesota (1976)		Kentucky (1938)	South Carolina (1935)d
	Montana (1979)		Maryland (1982)	South Dakota (1972)a
	New York (1982)		Michigan (1978)	Virginia (1983)c
	Tennessee (1979)		Missouri (1945)	West Virginia (1983)e
	Texas (1981)		Nevada (1933)	
	Wisconsin (1983)		New Jersey (1982)	
	Wyoming (1973)		New Mexico (1934)	
			North Dakota (1936)	
			Oklahoma (1983)	
			Oregon (1933)	
			Pennsylvania (1935)	
			Utah (1935)	
			Washington (1934)	

a - 18 (3.2% Beer), 21 (Over 3.2% Beer, Wine & Distilled Spirits)

b - 18 (Beer & Table Wine), 21 (Fortified Wine & Distilled Spirits)

c - 19 (Beer), 21 (Wine & Distilled Spirits)

d - 18 (Beer & Wine), 21 (Distilled Spirits)

e - 19 (Residents: Beer, Wine & Distilled Spirits), 21 (nonresidents: Beer, Wine & Distilled Spirits)

CURRENT VIRGINIA CRASH EXPERIENCE

In the initial report in this series Virginia accident data through 1979 were analyzed. Here, the data tables from that report are updated through 1982. All data used in this document are included in Appendices A, B, and C so the reader can study and use them as convenient. All the analyses are based upon these tables.

It can be noted from Tables A-1 through A-4 that for persons 16 to 19 years old and for persons 20 to 24 years old, the numbers of alcohol related crashes following the lowering of the legal drinking age were significantly higher than expected, while no such increase was noted for non-alcohol related crashes over the same time period; in fact, the number of non-alcohol related crashes were lower than expected. Alcohol related crashes for adults 25 and over who were not affected by the age change remained at expected levels. To determine if these increases and decreases could be part of historical trends, two sets of projections were run. First, crash trends for the period prior to lowering the drinking age for beer to 18 (1969-1973) were projected into the period in which the legal age remained at 18 (1975-1981). Second, the historical trends for the period during which the minimum age was 18 were projected into 1982, the first full year in which the age for off-premise sales of beer was 19. These projections appear in Appendix B. For persons 16 to 19, accidents increased while the drinking age was 18 more than would have been expected given previous trends. Additionally, in contrast to previous trends, accidents decreased in 1982 under the partially raised drinking age. No such contradictory changes were noted for adults.

Another indicator of alcohol involvement in crashes is the percentage of accidents in which persons were drinking. Between 1974 and 1981, the percentage of alcohol related crashes increased significantly for young persons (see Figure 1). However, after the legal age for the purchase of beer for off-premise consumption was raised to 19 in 1981, this percentage decreased significantly for young persons.

From this figure, the following can be deduced:

- o For adults, the percentage of crashes that were alcohol related was going down before the age change and continued to go down afterwards, until 1982, when the percentage actually increased.
- o The percentage of alcohol related crashes for persons under 16 years old was going up before the change and continued to go up afterwards, only faster. However, after 1981, when theoretically beer-to-go was no longer available from high school friends, the percentage of alcohol related accidents decreased markedly.

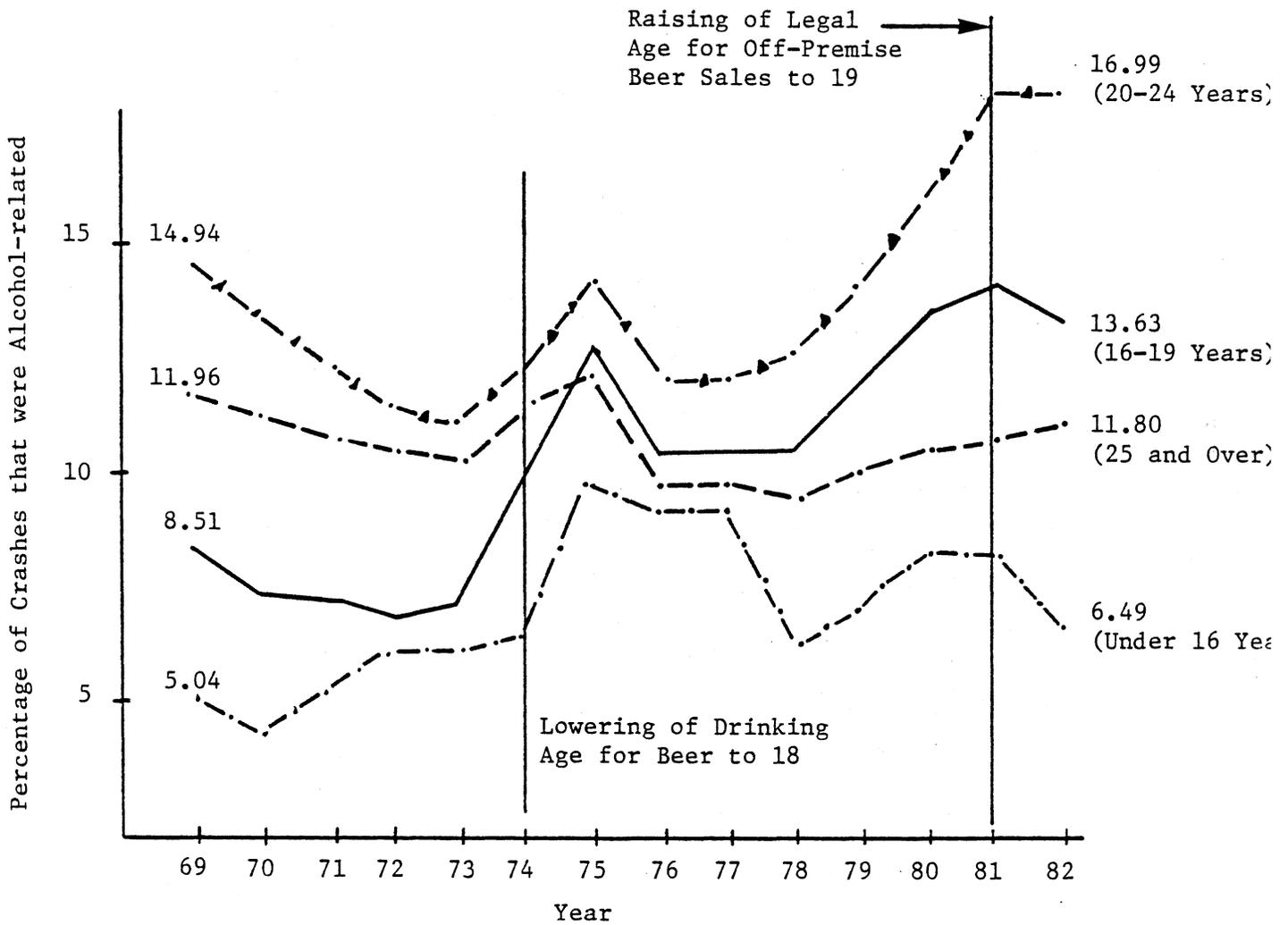


Figure 1. Percentage of crashes that involved alcohol, by age.

- o For persons 16 to 19 years old, the percentage of alcohol related crashes was going down before the change, but began to increase rapidly afterwards. Only after 1981 did this percentage begin to decrease again.
- o For persons 20 to 24 years old, who were only partially affected by the age change, the percentage of alcohol related crashes was going down before the age change. Afterwards, it began to go up, but not as fast as the percentage for persons 16 to 19 years old. There was no change in 1982, presumably because the legal action taken did not directly affect this age group.

Thus, the lowering of the drinking age had its greatest effect on persons under 16 and 16 to 19, in that many more of their crashes involved alcohol. It had a lesser effect on 20 to 24 year olds and no effect on adults 25 and older. The increase in the drinking age had its major positive effects on the involved age groups - persons under 16 years and those 16 to 19 years.

The ultimate measure of the impact of lowering the legal drinking age is how much the number of alcohol related accidents increased or decreased after the change. Figure 2 shows the percentage increase in alcohol related crashes (compared to the pre-age-change average) from 1975 to 1982. While crashes for adults 25 and over increased only slightly, alcohol related crashes involving drivers in the affected age groups increased dramatically until 1982. Such accidents increased 79% among persons 20 to 24 years old, among whom only 20 year olds were affected by the lowering of the age limit. A more pronounced increase of 188% was noted for 16 to 19 year olds, all of whom were affected. Finally, a whopping 574% increase was noted for drivers under 16. (This increase is artificially large, however, since very few accidents occurred within this group prior to 1974). In 1982, the numbers of alcohol related accidents for persons under 16 and for those between 16 and 19 decreased dramatically, while accident statistics for persons 20 to 24 and for those 25 and over were largely unchanged.

Figure 3 compares the percentage increase in alcohol related accidents with the same figures for non-alcohol related crashes for each age group. If increases and decreases in accidents are due to the changes in the drinking age, then only alcohol related accidents for persons under 21 should change. This, in fact, was the case. For persons 16 to 19 years old, alcohol related crashes increased until 1982, while non-alcohol related crashes decreased. In 1982, alcohol related crashes decreased at a rapid rate, while non-alcohol related crashes decreased only slightly. Similar trends were noted to a lesser extent among persons 20 to 24 years old. There were essentially no differences between alcohol related and non-alcohol related crash patterns for adults over 25; neither increased or decreased very much

after the change in the drinking age. Finally, for drivers under 16, alcohol related crashes increased dramatically (574%) from 1975-1981. However, non-alcohol related crashes also increased dramatically over this time period (342%), which indicates that something other than lowering the legal drinking age also had a deleterious effect on crashes for this very young age group and that the increased availability of alcohol only exacerbated the situation. Thus, it is expected that reductions noted in alcohol related crashes for this age group in 1982 would be accompanied by smaller reductions in non-alcohol related crashes, as was the case.

Finally, it was recognized that the numbers of accidents for an age group can be drastically affected by the number of licensed drivers of that age who are thus "eligible" to be in an accident. To determine if numbers of licensed drivers affected increases and decreases in alcohol related accidents, the accident rate per licensed driver was calculated for each age group for each year (see Appendix C). The percentage increase in alcohol related accidents was then calculated for 16 to 19 year olds, 20 to 24 year olds, and persons 25 and over. These statistics appear in Figure 4. The alcohol related accident rate per licensed driver for 16 to 19 year olds increased significantly until 1982, when the percentage difference dropped from 128% to 92%. The rate for persons 20 to 24 rose slightly over time, but did not drop in 1982. The rate for other adults, however, remained steady until 1981 and then dropped from 4% to -18% in 1982. This would indicate that some factor has positively influenced alcohol related accident rates for both adults over 24 and 16 to 19 year olds, but that rates for young persons had increased about three times faster than that for adults prior to 1982 and had decreased more rapidly in 1982.

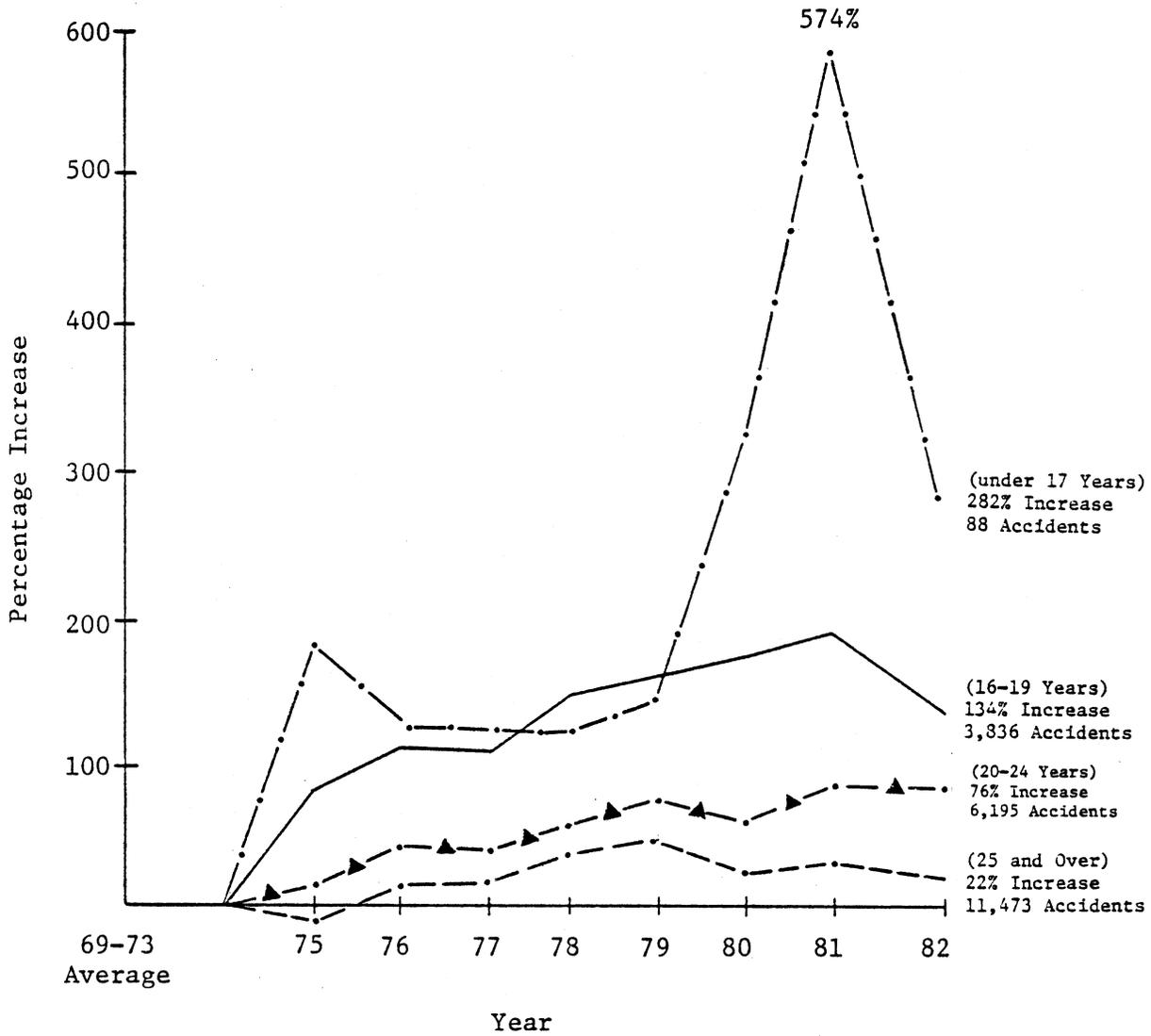


Figure 2. Percentage increase in alcohol-related accidents by age group.

Averages

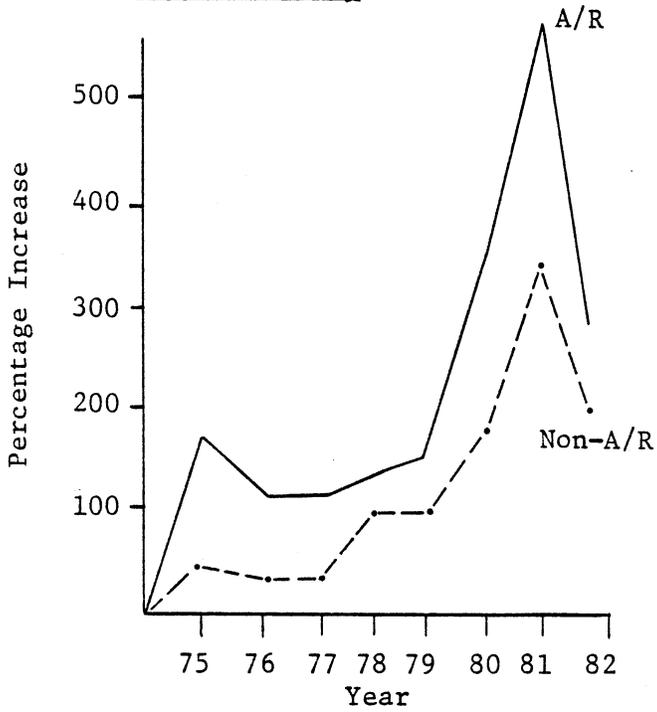
Under 16	23
16-19	1,638
20-24	3,507
25 and Over	9,416

Source: Department of State Police Computer Crash Tape

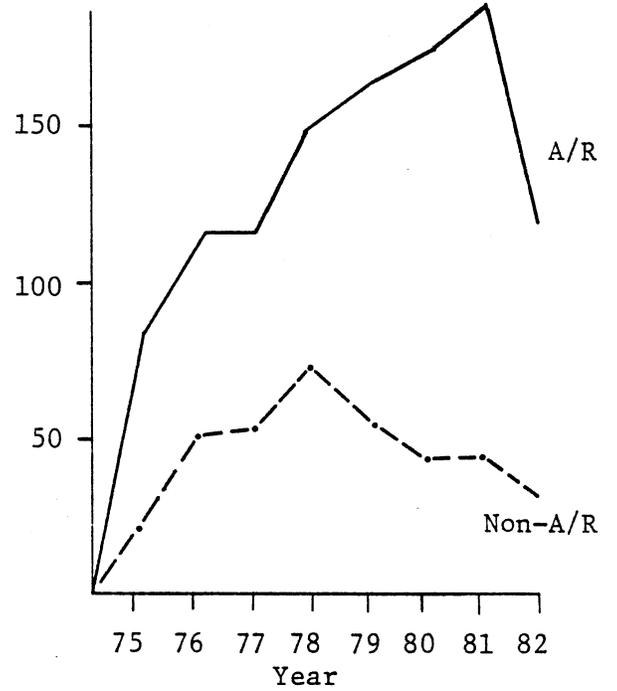
Method: Percent increase or decrease was computed as

$$\% \text{ Increase} = \frac{\text{Current number of accidents} - \text{69 to 73 Average}}{\text{69 to 73 Average}}$$

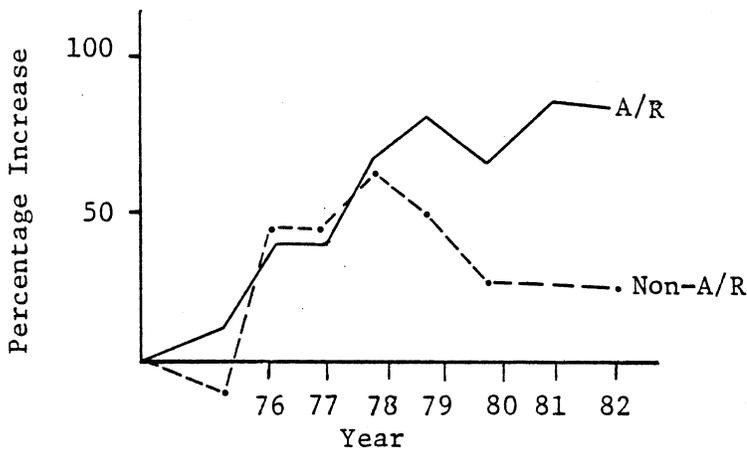
Under 16 Years



16 to 19 Years



20 to 24 Years



25 and Over

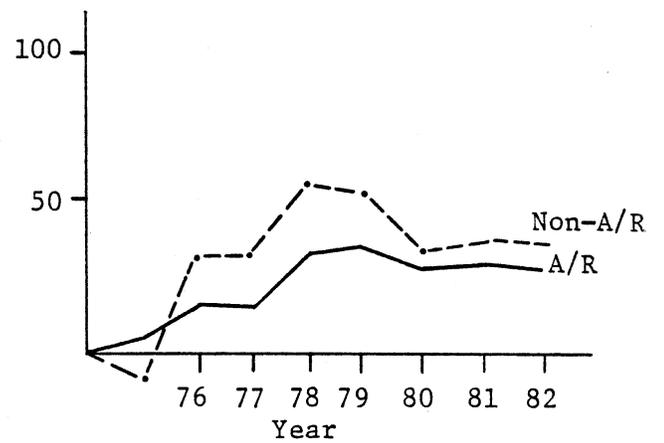


Figure 3. Percentage increase of alcohol-related and non-alcohol-related crashes by age.

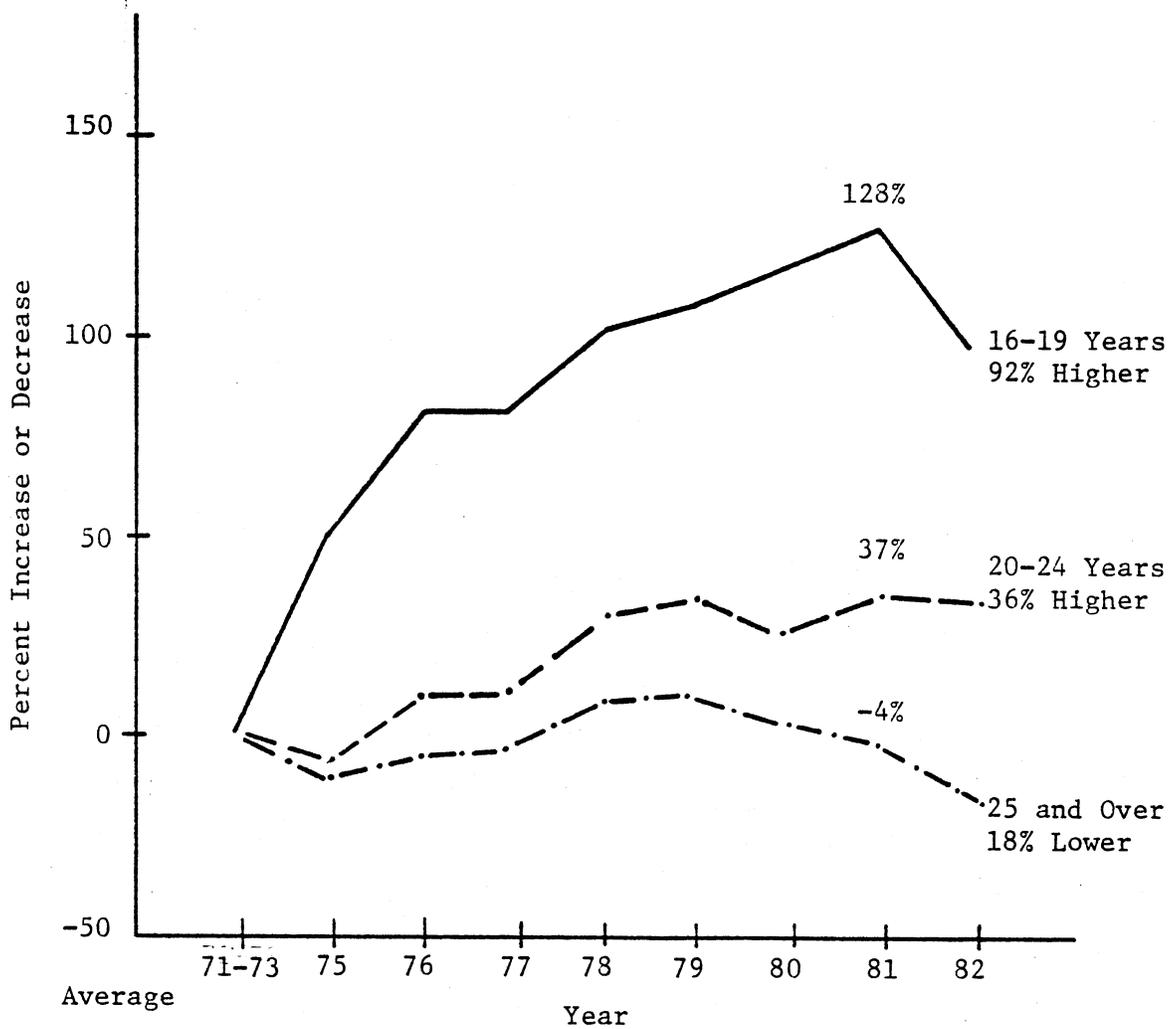


Figure 4. Percent increase or decrease in alcohol-related accidents after change in the drinking age.

Averages

16-19	0.73
20-24	0.88
25 and Older	0.47

Source: Accident Data — Department of State Police
Licensing Data — Division of Motor Vehicles

Method: For this analysis, accident rate is calculated as

$$\text{Accident rate} = \frac{\text{Number of Accidents}}{\text{Number of Licensed Drivers}}$$

CONCLUSIONS

The analyses performed in this update support the conclusions presented in the initial report. Lowering the legal drinking age has resulted in increasingly serious accident problems for persons 20 years old and younger. It would tentatively appear that raising the drinking age for off-premise beer sales in 1981 significantly reduced the accident problem for persons 19 and under in 1982. It is recommended that Virginia continue to pursue changes in legislation which would increase the minimum legal drinking age to 21.

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APPENDIX A

ALCOHOL-RELATED ACCIDENT DATA BY AGE
1969-1981

TABLE A-1

CRASH STATISTICS FOR PERSONS 16 TO 19 YEARS OLD
1969-1981 (EXCLUDING 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes	
1969	1,535	16,492	8.51	10.88	
1970	1,406	17,226	7.55	10.09	
1971	1,614	20,145	7.43	11.14	
1972	1,732	23,228	6.94	11.39	
1973	1,904	24,335	7.26	12.53	Drinking Age for Beer Lowered to 18
1974	2,603*	22,757**	10.26*	16.43*	
1975	2,970*	20,094**	12.88*	18.80*	
1976	3,508*	30,350	10.36*	18.25*	
1977	3,815	33,032	-	-	
1978	4,122*	35,715	10.35*	18.04*	
1979	4,310*	31,307**	12.10*	14.43	
1980	4,529	28,472**	13.72*	20.07*	Drinking Age For Off- Premise Beer Sales Raised to 19
1981	4,724*	28,362**	14.28*	20.01*	
1982	3,836	24,297	13.63	17.76	

*Significantly higher than expected given previous trends

**Significantly lower than expected

TABLE A-2

CRASH STATISTICS FOR PERSONS UNDER 16
1969-1981 (Excluding 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes	
1969	18	339	5.04	0.128	
1970	13	284	4.38	0.093	
1971	20	348	5.43	0.138	
1972	37	552	6.28	0.243	
1973	26	397	6.15	0.171	
<hr/>					
1974	46	656	6.55	0.290	
<hr/>					
1975	63	572	9.92*	0.399	
1976	50	490	9.26	0.260	
1977	51	629	-	-	
1978	52	769	6.33	0.319	
1979	57	734	7.21	0.396	
1980	99	1,044	8.66	0.439	
<hr/>					
1981	155*	1,720*	8.27	0.657	Drinking Age For Beer Lowered to 18
<hr/>					
1982	88	1,125	6.48	0.408	Drinking Age For Off-Premise Sales Raised to 19

*Significantly higher than expected given previous trends

**Significantly lower than expected

TABLE A-3

CRASH STATISTICS FOR PERSONS 20 TO 24 YEARS OLD
1969-1981 (EXCLUDING 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes	
1969	3,591	20,453	14.97	25.45	
1970	3,409	21,818	13.51	24.47	
1971	3,511	24,739	12.43	24.23	
1972	3,540	27,435	11.43	23.29	
1973	3,486	27,654	11.19	22.94	Drinking Age For Beer Lowered to 18
1974	3,456	23,933**	12.62*	21.81	
1975	3,773*	22,559**	14.33*	23.89*	
1976	4,687*	33,577	12.25*	24.38*	
1977	5,284	36,918	-	-	
1978	5,881*	40,259	12.75*	25.74*	
1979	6,238*	36,628	14.55*	26.46*	
1980	5,764*	30,791**	15.77*	25.55*	Drinking Age For Off- Premise Beer Sales Raised to 19
1981	6,292*	30,511**	17.10*	26.66*	
1982	6,195	30,263	16.99	28.69	

*Significantly higher than expected given previous trends

**Significantly lower

TABLE A-4

CRASH STATISTICS FOR PERSONS 25 YEARS AND OLDER
1969-1981 (EXCLUDING 1977)

Year	No. A-R Crashes	No. N-A-R Crashes	Percentage of Crashes That Were A-R	Percentage of All A-R Crashes	
1969	8,964	66,005	11.96	65.54	
1970	9,103	69,879	11.53	65.34	
1971	9,344	75,725	10.98	65.49	
1972	9,890	82,149	10.74	65.07	
1973	9,781	82,254	10.63	64.36	
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1974	8,739	73,908*	11.54*	61.47*	Drinking Age For Beer Lowered to 18
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1975	8,990**	63,016**	12.48*	56.91*	
1976	10,980	100,816	9.82	57.11**	
1977	11,886	11,117	-	-	
1978	12,792*	121,418*	9.53	56.36**	
1979	12,971*	113,368	10.27*	55.01**	
1980	12,160	100,751**	10.77*	53.94**	Drinking Age For Off-Premise Beer Sales Raised to 19
<hr/>					
1981	12,433	103,349**	10.74*	52.67	
<hr/>					
1982	11,473	102,533	11.18	53.13	

*Significantly higher than expected given previous trends

**Significantly lower

APPENDIX B
CRASH PROJECTIONS

TABLE B-1

CRASH PROJECTIONS -- 16 TO 19 YEAR OLDS

(1) Projecting Pre-Age-Change Trends (1969-1973) Into The Post-Age-Change Period (1975-1981)

Year	Alcohol-Related Crashes	Non-Alcohol- Related Crashes	
1969	1,535	16,492	
1970	1,406	17,226	
1971	1,614	20,145	
1972	1,732	23,228	
1973	1,904	24,335	
<hr/>			
1974	2,603	22,757	Drinking Age For Beer Lowered to 18 (July 1974)

Year	Projection	Actual	Projection	Actual
1975	2,064	2,970	28,960	20,094
1976	2,170	3,508	31,129	30,350
1977	2,277	-	33,298	-
1978	2,383	4,122	35,467	35,715
1979	2,489	4,310	37,636	31,307
1980	2,596	4,529	39,804	28,472
<hr/>				
1981	2,702	4,724	41,973	28,362

(2) Projecting Lowered-Drinking-Age Trends (1975-1980) Into The Raised-Drinking-Age Period (1982)

Year	Alcohol-Related Crashes	Non-Alcohol- Related Crashes	
1975	2,970	28,960	
1976	3,508	31,129	
1977	-	-	
1978	4,122	35,715	
1979	4,310	31,307	
1980	4,529	28,472	
<hr/>			
1981	4,724	28,362	Drinking Age For Beer Sold Off-Premises Raised to 19 (July 1981)

Year	Projection	Actual	Projection	Actual
1982	5,226	3,836*	No Documented Pattern	24,297

*Significantly lower than projection

TABLE B-2

CRASH PROJECTIONS -- PERSONS UNDER 16

(1) Projecting Pre-Age-Change Trends (1969-1973) Into The Post-Age-Change Period (1975-1981)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol-Related Crashes</u>	
1969	18	339	
1970	13	284	
1971	20	348	
1972	37	552	
1973	26	397	
1974	46	656	Drinking Age For Beer Lowered to 18 (July 1974)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1975	39	63	538	572
1976	43	50	576	490
1977	47	-	614	-
1978	57	52	653	769
1979	55	57	691	734
1980	59	99	729	1,044
1981	63	155	768	1,720

(2) Projecting Lowered-Drinking-Age Trends (1975-1980) Into the Raised-Drinking Age Period (1982)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol-Related Crashes</u>	
1975	63	572	
1976	50	490	
1977	-	-	
1978	52	769	
1979	57	734	
1980	99	1,044	
1981	155	1,720	Drinking Age For Off-Premise Beer Sales Raised to 19 (July 1981)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1982	87	88	1,121	1,125

TABLE B-3

CRASH PROJECTIONS -- 20 TO 24 YEAR OLDS

(1) Projecting Pre-Age-Change Trends (1969-1973) Into The Post-Age-Change Period (1975-1981)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol- Related Crashes</u>	
1969	3,591	20,453	
1970	3,409	21,818	
1971	3,511	24,739	
1972	3,540	27,739	
1973	3,486	27,654	
1974	3,456		Drinking Age For Beer Lowered to 18 (July 1974)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1975	3,476	3,773	32,427	22,559
1976	3,468	4,687	34,429	33,557
1977	3,460	-	36,431	-
1978	3,452	5,881	38,433	40,259
1979	3,444	6,238	40,435	36,628
1980	3,436	5,764	42,437	30,791
1981	3,428	6,292	44,439	30,511

(2) Projecting Lowered-Drinking-Age Trends (1975-1980) Into The Raised-Drinking-Age Period (1982)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol- Related Crashes</u>	
1975	3,773	22,559	
1976	4,687	33,557	
1977	-	-	
1978	5,881	40,259	
1979	6,238	36,259	
1980	5,774	30,791	
1981	6,292	30,511	Drinking Age For Off-Premise Beer Raised to 19 (July 1981)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1982	7,226	6,195	No Documented Pattern	30,263

TABLE B-4

CRASH PROJECTIONS -- PERSONS 25 YEARS AND OLDER

(1) Projecting Pre-Age-Change Trends (1969-1973) Into The Post-Age-Change Period (1975-1981)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol-Related Crashes</u>	
1969	8,964	66,005	
1970	9,103	69,879	
1971	9,344	75,725	
1972	9,890	82,149	
1973	9,781	82,254	
1974	9,739	73,908	Drinking Age For Beer Lowered to 18 (July 1974)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1975	10,385	8,990	93,110	63,016
1976	10,627	10,980	97,586	100,816
1977	10,869	-	102,063	-
1978	11,111	12,792	106,540	121,418
1979	11,353	12,791	111,017	113,368
1980	11,595	12,169	115,494	100,751
1981	11,837	12,433	119,970	103,349

(2) Projecting Lowered-Drinking-Age Trends (1975-1980) Into The Raised-Drinking-Age Period (1982)

<u>Year</u>	<u>Alcohol-Related Crashes</u>	<u>Non-Alcohol-Related Crashes</u>	
1975	8,990	63,016	
1976	10,980	100,816	
1977	-	-	
1978	12,792	121,418	
1979	12,971	113,368	
1980	12,169	100,751	
1981	12,433		Drinking Age For Off-Premise Beer Sales Raised To 19 (July 1981)

<u>Year</u>	<u>Projection</u>	<u>Actual</u>	<u>Projection</u>	<u>Actual</u>
1982	14,559	11,483*	132,172	102,533

*Significantly lower than expected

Table C-1 (Continued)

<u>Year</u>	<u>25 And Over Total</u>	<u>Total Drivers In Virginia</u>
1971	1,956,020	2,545,656
1972	2,035,608	2,670,493
1973	2,253,761	2,954,154
1974	2,236,091	3,066,935
1975	2,288,432	3,039,739
1976	2,453,307	3,213,352
1977	2,202,772	3,104,448
1978	2,529,187	3,319,538
1979	2,522,296	3,319,538
1980	2,614,176	3,430,909
1981	2,776,516	3,582,596
1982	3,008,648	3,803,023

Source: Virginia Division of Motor Vehicles,
Driver Services

APPENDIX C

LICENSED DRIVERS AND ACCIDENT RATES BY AGE

TABLE C-1

LICENSED DRIVERS BY AGE
1971-1982

<u>Year</u>	<u>Age</u>				<u>16-19 Total</u>
	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	
1971	31,765	54,134	65,226	68,286	219,411
1972	35,259	58,126	72,087	76,634	242,107
1973	36,368	62,164	75,283	84,395	258,228
1974	38,520	63,625	79,115	86,117	267,377
1975	40,146	64,477	80,049	88,800	273,472
1976	40,854	66,549	81,022	90,595	279,020
1977	42,735	67,416	83,063	91,155	284,369
1978	41,810	68,831	83,806	93,102	287,549
1979	41,354	68,002	84,462	93,386	187,204
1980	41,293	67,853	83,673	94,116	286,935
1981	38,697	67,008	83,126	93,324	282,155
1982	36,792	61,042	81,858	92,249	271,941

<u>Year</u>	<u>Age</u>				<u>20-24 Total</u>
	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	
1971	69,175	68,760	72,166	76,355	370,225
1972	77,689	77,199	76,631	79,625	392,778
1973	86,347	88,222	88,986	87,718	442,165
1974	91,626	91,767	94,605	93,371	463,467
1975	95,541	94,708	95,904	96,069	477,855
1976	92,604	93,862	98,736	97,441	481,025
1977	98,922	101,644	103,295	107,383	517,307
1978	94,917	99,178	102,544	103,378	502,802
1979	95,870	99,181	104,422	107,427	510,038
1980	95,919	101,360	104,913	110,034	519,798
1981	96,919	101,248	105,837	110,188	523,925
1982	95,931	101,515	105,894	110,185	522,294

TABLE C-2

ACCIDENT RATES FOR VARIOUS AGE GROUPS

Year	<u>16 to 19</u>		<u>20 to 24</u>	
	<u>Alcohol-Related</u>	<u>Non-Alcohol-Related</u>	<u>Alcohol-Related</u>	<u>Non-Alcohol-Related</u>
1971	0.74	9.18	0.95	6.68
1972	0.72	9.59	0.90	6.98
1973	0.74	9.42	0.79	6.25
1974	0.97	8.51	0.75	5.16
1975	1.09	7.35	0.79	4.72
1976	1.26	10.88	0.97	6.98
1977	-	-	-	-
1978	1.43	12.42	1.17	8.01
1979	1.50	10.90	1.22	7.18
1980	1.58	9.92	1.11	5.92
1981	1.67	10.05	1.20	5.82
1982	1.41	8.93	1.19	5.79

Source -- Accident Data -- Virginia Department of State Police
 Licensing Data -- Division of Motor Vehicles

Method -- For 16 to 19 year olds and 20 to 24 year olds,
 accident rate is defined as:

$$\text{Accident Rate} = \frac{\text{Number of Accidents}}{\text{Number of Licensed Drivers}} \times 100$$

The rate is multiplied by 100 simply to provide a number which is more easily understood.

Table C-2 (Continued)

25 And Over

<u>Year</u>	<u>Alcohol-Related</u>	<u>Non-Alcohol-Related</u>
1971	0.48	3.87
1972	0.49	4.04
1973	0.43	3.65
1974	0.44	3.31
1975	0.39	2.75
1976	0.45	4.11
1977	-	-
1978	0.51	4.80
1979	0.51	4.49
1980	0.47	3.85
1981	0.45	3.72
1982	0.38	3.41