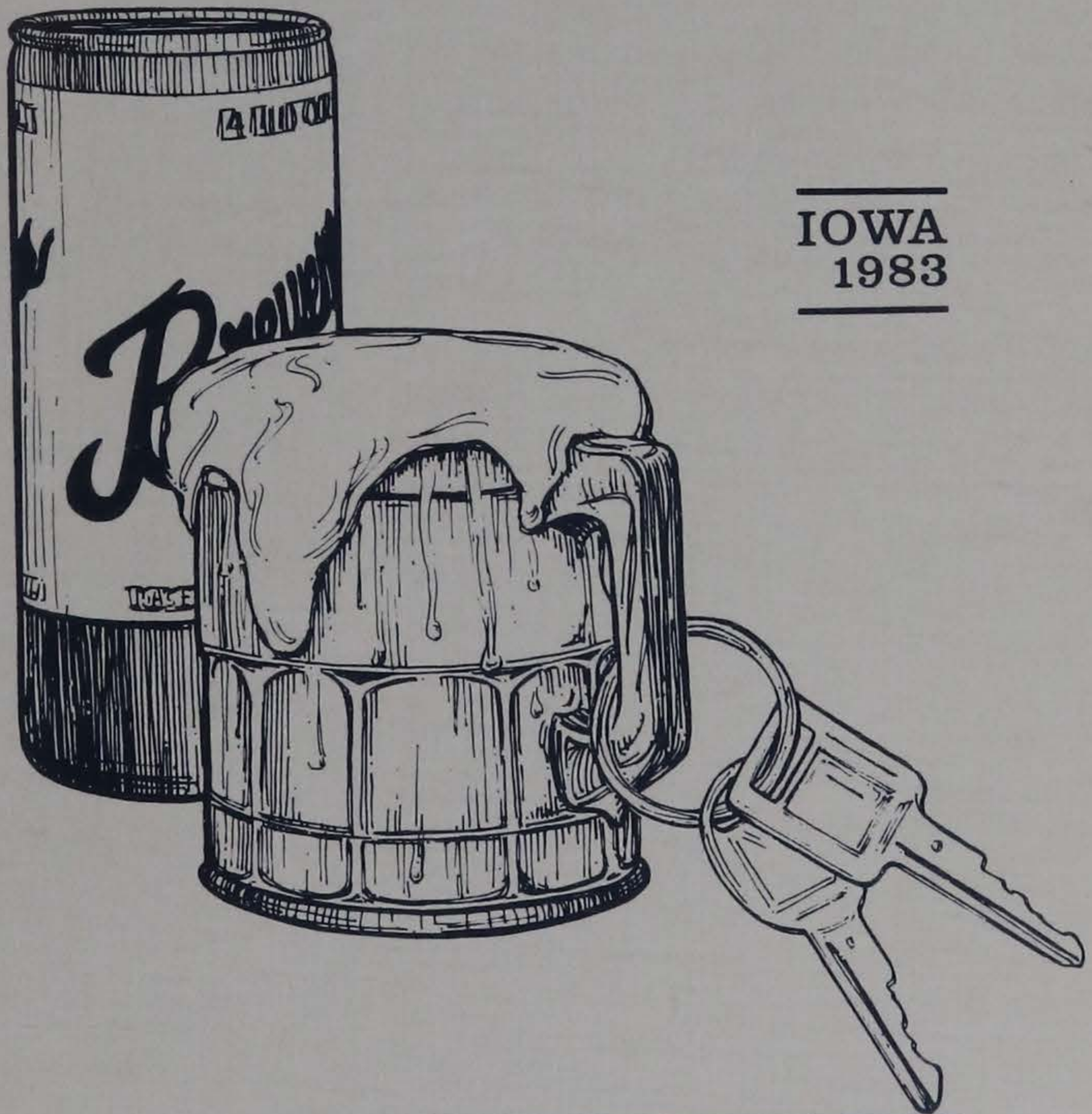


OCT 17 1985

HE
5614.3
.J8
I57b
1983

ALCOHOL-RELATED FATAL CRASH STUDY



IOWA
1983

A DEADLY COMBINATION

ALCOHOL-RELATED FATAL CRASH STUDY
IOWA, 1983

State of Iowa
Governor's Highway Safety Office
523 East 12th Street
Des Moines, Iowa 50319

Edward J. Stanek II, Ph.D.
Governor's Representative for Highway Safety

Sven L. Sterner
Director
Governor's Highway Safety Office

Joyce L. Emery, Ph.D.
Program Evaluator

Lela M. Clark
Statistical Assistant

The Governor's Highway Safety Office offers this publication to present factual information on highway traffic crashes. The primary purpose of this report is to enable highway safety planners to analyze and identify problem areas.

For a copy of this publication, please phone 515/281-3907.



TABLE OF CONTENTS

Page

Prepared by the Governor's Highway Safety Office, in cooperation with the U.S. Department of Transportation, National Highway Traffic Safety Administration, and Federal Highway Administration.

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration or the Federal Highway Administration.

1. Fatalities	1
2. Drinking Pedestrians	1
3. Fatal Crashes Involving Drinking Drivers by Type of Crash	2
4. Number of Drinking Drivers Arrested by County of Location	3
5. Number of Drinking Drivers Arrested by BAC Level	4
6. Drinking Drivers Involved in Fatal Crashes by Age	7
7. Drinking Drivers Involved in Fatal Crashes by Age and by Day of the Week	8
8. Drinking Drivers Involved in Fatal Crashes by Age and Time of Day	9
9. Relationship Between the Age of Drinking Drivers and the Mean Blood Alcohol Concentration in Fatal Crashes	10
10. Alcohol-Related Fatal Crashes and Fatalities by Month	11
11. Violations Committed by Drinking Drivers Involved in Fatal Crashes	12
12. Alcohol-Related Fatal Crashes by Location	12
13. Alcohol-Related Fatal Crashes by County	13
14. Position of Fatalities by Age and Sex	17
15. Position of Injured Persons by Age and Sex	18
16. Legal History with Drinking Drivers Involved in Fatal Crashes by Age	19

TABLE OF CONTENTS

	Page
SUMMARY	1-2
ALCOHOL-RELATED FATAL CRASH STUDY	
1. Objectives	3
2. Sources of Data	3
3. Number of Alcohol-Related Fatal Crashes and Fatalities	3
4. Drinking Pedestrians	4
5. Fatal Crashes Involving Drinking Drivers by Type of Crash	5
6. Number of Drinking Drivers Tested by Degree of Impairment	6
7. Number of Drinking Drivers Tested by BAC Level	6
8. Drinking Drivers Involved in Fatal Crashes by Age	7
9. Drinking Drivers Involved in Fatal Crashes by Age and by Day of the Week	8
10. Drinking Drivers Involved in Fatal Crashes by Age and Time of Day	9
11. Relationship Between the Age of Drinking Drivers and the Mean Blood Alcohol Concentration in Fatal Crashes	10
12. Alcohol-Related Fatal Crashes and Fatalities by Month	11
13. Violations Committed by Drinking Drivers Involved in Fatal Crashes	12
14. Alcohol-Related Fatal Crashes by Location	13
15. Alcohol-Related Fatal Crashes by County	13
16. Position of Fatalities by Age and Sex	17
17. Position of Injured Persons by Age and Sex	18
18. Legal History with Drinking Drivers Involved in Fatal Crashes by Age	19

TABLES

		Page
ALCOHOL-RELATED FATAL CRASH STUDY		
Table 1	Distribution of Alcohol-Related Fatal Crashes by Degree of Drinking	3
Table 2	Alcohol-Related Fatalities	4
Table 3	Alcohol-Related Fatal Crashes by Type of Crash	5
Table 4	Number and Percentage of Drinking Drivers/ Pedestrians with Alcohol Test Results	6
Table 5	Drinking Drivers/Pedestrians by BAC Level	6
Table 6	Drinking Drivers and All Drivers Involved in Fatal Motor Vehicle Crashes by Age Group	7
Table 7	Drinking Drivers Involved in Fatal Crashes by Age and by Day of Week	8
Table 8	Drinking Drivers Involved in Fatal Crashes by Age and Time of Day	9
Table 9	Age of Drinking Drivers and Average BAC	10
Table 10	Alcohol-Related Fatal Crashes, Fatalities, and Drinking Drivers By Month	11
Table 11	Violations Committed by Drinking Drivers	12
Table 12	Fatal Crashes by Road Class	13
Table 13	Counties Recording Fatal Alcohol Involvement Above the State Average	14
Table 14	Alcohol-Related Fatal Accidents and Fatalities by County	15-18
Table 15	Fatalities in Alcohol-Related Crashes - By Age, Sex and Position, 1983	17
Table 16	Injured Persons in Alcohol-Related Fatal Crashes - by Age, Sex and Position, 1983	18
Table 17	Legal History Iowa, 1970 - 1984	19

SUMMARY FOR 1983

1. Out of a total of 434 fatal traffic crashes in 1983, 202 were alcohol-related. These crashes claimed 247 lives or 48.4 percent of the total traffic fatalities. Data also showed that 78.1 percent of the fatalities occurred in the alcohol-related vehicle with 53.8 percent being the known driver of that vehicle. Of the passengers killed in the alcohol-related vehicle, 70.4 percent were riding in the outside position in the front seat of that vehicle.
2. In 1983, 215 persons were injured as a result of alcohol-related fatal crashes. There were 147 injured persons (or 68.3 percent of the total injuries) riding in the vehicles that were operated by drinking drivers. Fifty-eight alcohol consuming drivers were included in the 147 injuries. Of the passengers injured in the alcohol-related vehicles, 59.1 percent were riding in the front seat and 46.6 percent of these were on the outside position of the front seat.
3. Eleven pedestrians were killed as a result of alcohol involvement. Three crashes involved drinking pedestrians only, two crashes involved drinking drivers and killing three drinking pedestrians and five pedestrians were killed by drinking drivers. Four pedestrians had BAC reports ranging from .110 to .274. Two were males and two were females with ages from 19 years to 37 years of age.
4. In 1983, 60.9 percent of the alcohol-related fatal crashes were single motor vehicle crashes. The average BAC level of drivers involved in single crashes (.156) was higher than the average of drivers involved in multiple crashes (.132).
5. Of the 217 drinking drivers/pedestrians, 200 or 92.2 percent had blood alcohol tests. The average BAC of the 196 drivers tested was .146 and 146 or (74.5 percent) of the drivers tested had a BAC of .100 percent or more. Data also showed that about 50.5 percent of the drivers had a BAC of 0.150 or more. The average BAC of the four drinking pedestrians tested was 166.5.
6. Approximately 50.7 percent or 107 drinking drivers involved in fatal traffic crashes were 24 years of age or younger. This shows a slight decrease from 1982 when the percentage of drivers 24 years of age and younger was 53.3 percent.
7. An analysis of drinking drivers involved in fatal crashes showed that more crashes occurred during the early morning hours (12:00 Midnight - 2:59 A.M.). However, eighty percent of all the alcohol-related crashes occurred between the hours of 6:00 P.M. and 6:00 A.M.
8. The result of the analysis indicated that both the younger and older drivers were involved in considerably more fatal crashes during the weekends starting with Friday.

9. The study of 1983 alcohol-related fatal crashes revealed that drivers 19 years of age and under and also those 65 years of age and over had lower levels of alcohol in their blood than the other age groups of drivers. This fact has been consistent in our continuing study especially the 19 years of age and under.
10. The month of July ranked highest in the proportion of alcohol-related fatal crashes in 1983.
11. Driving left of center and speeding accounted for 60.9 percent of the violations in multiple vehicle alcohol-related fatal crashes. Approximately 84.2 percent of the violations in single vehicle crashes were speeding and failure to have control of the vehicle.
12. In 1983, 48 counties exceeded the state average of 46.5 percent alcohol-related fatal crashes as shown in Table 13. These counties accounted for 73.3 percent of the total alcohol-related fatal crashes in the state. Twenty-seven counties reported no alcohol-related fatal crashes in 1983.
13. About 44.0 percent of the alcohol-related crashes occurred on U.S./State highways, 37.6 percent on the county roads, and 12.4 percent on city streets. Only 5.9 percent occurred on the interstates, including the on and off ramps.
14. The year of 1983 showed an increase in the proportion of alcohol-related fatal crashes and fatalities.
15. Table 19 shows the Legal History with drinking drivers involved in fatal crashes starting with 1970.

ALCOHOL-RELATED FATAL CRASH STUDY: IOWA, 1983

1. Objectives

This report is a continuing yearly study of alcohol-related fatal traffic crashes in the State of Iowa.

The primary objective is to ascertain and evaluate the number and proportion of statewide alcohol-related fatal crashes. The secondary objectives are to present information on the characteristics of alcohol-related fatal crashes as well as to examine the extent of drinking pedestrian involvement.

In this study, the types of roads where alcohol-related crashes occurred and those counties where the involvement was higher were identified to aid with planning effective countermeasure programs.

2. Sources Of Data

Data were collected from reports furnished by the Department of Public Safety and by the Department of Transportation. A fatal crash was alcohol-related if the investigating officer reported that the driver or the pedestrian had been drinking. The degree of drinking was classified under the categories referred to in Table 1 and was possibly verified by a blood test. A blood test greater than .000 percent alcohol resulted in the "drinking" classification.

3. Number Of Alcohol-Related Fatal Crashes And Fatalities: Iowa, 1983

In 1983, 202 or 46.5 percent of the 434 fatal traffic crashes in the state were alcohol-related. These alcohol-related crashes claimed 247 lives and represented 48.4 percent of the total killed on Iowa's roads. Table 1 shows the number of drinking crashes according to the degree of drinking.

TABLE 1 DISTRIBUTION OF ALCOHOL-RELATED FATAL CRASHES BY DEGREE OF DRINKING: IOWA, 1983						
Degree of Drinking	Fatal Crashes			Fatalities		
	#	% of Subtotal	% of Grand Total	#	% of Subtotal	% of Grand Total
BAC \geq .100 and/or "Ability Impaired"	151	74.8	34.8	182	73.7	35.7
BAC $<$.100 and/or "Ability Not Impaired"	48	23.8	11.0	62	25.1	12.1
Pedestrian (only) Drinking	3	1.5	0.7	3	1.2	0.6
Subtotal	202	100.0 ^{1/}	46.5	247	100.0	48.4
Total Not Drinking or Unknown	232	-----	53.5	263	-----	51.6
Grand Total	434	-----	100.0	510	-----	100.0

^{1/} Percentages do not always total 100.0 due to rounding.

4. Drinking Pedestrians: Iowa, 1983

Eleven pedestrians were fatally injured as a result of alcohol involvement. They comprised 30.6 percent of the total pedestrians (36) killed in 1983. Six of these fatalities were drinking pedestrians: three crashes in which the pedestrian alone was drinking, and two in which the pedestrian and the driver were both drinking and resulted in the death of three pedestrians. Five persons were killed where the driver alone was drinking. Table 2 shows the fatalities due to alcohol consumption. Of the six drinking pedestrians, four had BAC reports ranging from .110 to .272. Two were male and two were female.

TABLE 2 ALCOHOL-RELATED FATALITIES: IOWA, 1983			
Fatality Group	Category	#	%
Pedestrian Fatalities	Related to Drinking Pedestrians (only)	3	1.5
	Related to Drinking Drivers and Drinking Pedestrians	3	1.5
	Related to Drinking Drivers (only)	5	2.5
Driver & Passenger Fatalities	Related to Drinking Drivers	191	94.5
Total Alcohol-Related Fatalities		202	100.0

5. Fatal Crashes Involving Drinking Drivers By Type Of Crash: Iowa, 1983

The number of alcohol-related fatal crashes by type of crash or number of vehicles involved is shown in Table 3. This table illustrates that 60.9 percent of the alcohol-related fatal crashes involved single vehicles. This table also shows an average BAC of .156 percent for those operators. The average BAC level in single vehicle accidents was higher than the level of drivers in multiple vehicle crashes.

Type of Crash	Fatal Crashes					Fatalities		
	Number of Crashes	% of Grand Total	% of Subtotal	Number of Drivers With BAC	Mean BAC	Number of Fatalities	% of Grand Total	% of Subtotal
SINGLE MOTOR VEHICLE	123	60.9	100.0 ^{1/}	112	.156	141	57.1	100.0
Overturned	36	17.8	29.3	35	.156	41	16.6	29.1
Collided with Fixed Object	71	35.1	57.7	67	.152	80	32.4	56.7
Collided with Drinking Pedestrian	5	2.5	4.1	1 ^{2/}	.229	6	2.4	4.3
Collided with Non-Drinking Pedestrian	5	2.5	4.1	5	.155	5	2.0	3.5
Collided with Bicyclist	-	-	-	-	-	-	-	-
Others	6	3.0	4.9	4	.195	9	3.6	6.4
SUBTOTAL MULTIPLE MOTOR VEHICLE	79	39.1	100.0	84	.132	106	42.9	100.0
Collided with Motor Vehicle in Traffic	76	37.6	96.2	81	.133	100	40.5	94.3
Train	3	1.5	3.8	3	.110	6	2.4	5.7
Grand Total SINGLE AND MULTIPLE	202	100.0	-	196 ^{3/}	.146	247	100.0	-

^{1/} Percentages do not always total 100.0 due to rounding.
^{2/} Two drivers drinking and only one had a BAC test.
^{3/} Does not include any BAC tests belonging to drinking pedestrians.

6. Number Of Drinking Drivers Tested By Degree Of Impairment: Iowa, 1983

In 1983, there were 211 drinking drivers and six drinking pedestrians. Of these, blood alcohol test results were reported for 196 drivers and four pedestrians. Of the "ability impaired" category (totaling 155), 150 or 96.8 percent had known BACs. Of the "ability not impaired" category, 50 or 80.6 percent had test results reported. Table 4 shows the proportion of drinking drivers/pedestrians with alcohol test results.

Drinking Drivers and Pedestrians	TOTAL		BAC \geq .100 and/or "Ability Impaired"		BAC $<$.100 and/or "Ability Not Impaired"	
	#	%	#	%	#	%
BAC Reported	200	92.2	150	96.8	50	80.6
BAC Unknown	17	7.8	5	3.2	12	19.4
Total	217 ¹	100.0	155	100.0	62	100.0

¹ This includes six drinking pedestrians, four impaired with BAC's, and two not impaired without BAC's.

7. Number Of Drinking Drivers Tested By BAC Level: Iowa, 1983

Table 5 shows the frequency of drinking drivers/pedestrians by BAC level. Of the 200 tested, 150 had a BAC of .100 percent or more. A BAC of .100 and above is presumptive evidence of operating a motor vehicle while under the influence (OMVUI) in the State of Iowa. Data also showed that 101 or 50.5 percent had a BAC of .150 or more. The average BAC of the 196 drinking drivers was .144 and the average BAC of the 4 drinking pedestrians was 166.5.

BAC Level	Number of Drinking Drivers/Pedestrians	Percent of Drinking Drivers/ Pedestrians in Each BAC Level
Below .050	22	11.0
.050-.099	28	14.0
.100-.149	49 (inc. 2 peds.)	24.5
.150-.199	57 (inc. 1 ped.)	28.5
.200-.249	32	16.0
.250-.299	12 (inc. 1 ped.)	6.0
.300-.349	-	-
.350-.399	-	-
.400+	-	-
Total	200 ¹	100.0

¹ Includes four drinking pedestrians.

8. Drinking Drivers Involved In Fatal Crashes By Age: Iowa, 1983

The age distribution of drinking drivers involved in fatal crashes in 1983 was studied to determine the role of age in alcohol-related fatal crashes. Of the total number of drinking drivers as shown in Table 6, 107 or over 50.0 percent were 24 years of age or younger. This proportion exceeds the already large proportion of young drivers involved in fatal crashes which is 36.1 percent. When compared with the proportion of young drivers with a valid drivers license (21.0 percent) the aforementioned age group is even more over-represented.

TABLE 6
DRINKING DRIVERS AND ALL DRIVERS INVOLVED IN
FATAL MOTOR VEHICLE CRASHES BY AGE GROUP:
IOWA, 1983

Age	Drinking Drivers		All Drivers		Number of Licensed Drivers	
	#	%	#	%	#	%
16 & Below	5	2.4	26	3.9	50,036	2.6
17	8	3.8	24	3.6	37,957	1.9
18	18	8.5	30	4.5	40,715	2.1
19	23	10.9	42	6.3	44,304	2.3
20	12	5.7	28	4.2	46,266	2.4
21-24	41	19.4	91	13.6	192,251	9.9
25-34	66	31.3	163	24.4	448,902	23.0
35-44	10	4.7	67	10.0	322,566	16.5
45-54	9	4.3	58	8.7	247,989	12.7
55-64	9	4.3	52	7.8	245,892	12.6
65 & Up	7	3.3	71	10.6	274,006	14.0
Driver Unknown	3	1.4	15	2.2	-	-
Total	211	100.0	667	100.0 ^{1/}	1,950,884	100.0

^{1/} Percentages do not always total 100.0 percent due to rounding.

NOTE: This table does not include the six drinking pedestrians. We had ten alcohol-related pedestrian crashes killing eleven pedestrians:

- 3 - pedestrians only, drinking
- 2 - drivers and pedestrians both drinking
- 5 - driver only, drinking

9. Drinking Drivers Involved In Crashes By Age And By Day Of The Week: Iowa, 1983

Table 7 compares the days of the week when drinking drivers were involved in fatal crashes. This information shows that both younger and older drinking drivers were involved in considerably more fatal crashes during the weekends.

TABLE 7
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND BY DAY OF WEEK:
IOWA, 1983

Days of The Week	Total		Under 16		16 Years		17 Years		18 Years		19 Years		20 Years		21-24 Years		25-34 Years		34-44 Years		45-64 Years & Over		Driver Unknown	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Monday	10	04.7	-	-	1	20.0	-	-	2	11.1	1	4.3	-	-	2	4.9	2	3.0	1	10.0	1	4.0	-	-
Tuesday	17	08.1	-	-	-	-	2	25.0	2	11.1	2	8.7	-	-	2	4.9	6	9.1	-	-	3	12.0	-	-
Wednesday	26	12.3	-	-	-	-	-	-	1	5.6	4	17.4	2	16.7	5	12.2	8	12.1	3	30.0	3	12.0	-	-
Thursday	16	07.6	-	-	-	-	1	12.5	-	-	1	4.3	2	16.7	3	7.3	4	6.1	1	10.0	4	16.0	-	-
Friday	37	17.5	-	-	1	20.0	-	-	3	16.7	2	8.7	1	8.3	9	22.0	15	22.7	2	20.0	3	12.0	1	33.3
Saturday	55	26.1	-	-	3	60.0	2	25.0	7	38.9	9	39.1	1	8.3	9	22.0	15	22.7	2	20.0	6	24.0	1	33.3
Sunday	50	23.7	-	-	-	-	3	37.5	3	16.7	4	17.4	6	50.0	11	26.8	16	24.2	1	10.0	5	20.0	1	33.3
TOTAL	211	100.0	-	-	5	100.0	8	100.0	18	100.0 ¹⁾	23	100.0 ¹⁾	12	100.0	41	100.0 ¹⁾	66	100.0 ¹⁾	10	100.0	25	100.0	3	100.0 ¹⁾

¹⁾ Percentages do not always add up to 100.0 due to rounding.

10. Drinking Drivers Involved In Fatal Crashes By Age And Time Of Day: Iowa, 1983

Table 8 shows the distribution of drinking drivers by time of day and by age groups. The drivers ages of 18 and 19 years were involved in the most fatal alcohol-related crashes and the highest percentage of these occurred during the hours of darkness. Eighty percent of all the alcohol-related crashes occurred between the hours of 6:00 P.M. and 6:00 A.M.

TABLE 8
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND TIME OF DAY:
IOWA, 1983

Time	Total		Under 16		16 Years		17 Years		18 Years		19 Years		20 Years		21-24 Years		25-34 Years		34-44 Years		45-64 Years & Older		Driver Unknown	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
6:00- 8:59 P.M.	29	13.7	-	-	-	-	1	12.5	-	-	-	-	-	-	3	7.3	11	16.7	6	60.0	8	32.0	-	-
9:00-11:59 P.M.	52	24.6	-	-	1	20.0	5	62.5	8	44.4	3	13.0	-	-	10	24.4	18	27.3	1	10.0	5	20.0	1	33.3
12:00- 2:59 A.M.	71	33.6	-	-	2	40.0	2	25.0	5	27.8	13	56.5	10	83.3	15	36.6	20	30.3	2	20.0	2	8.0	-	-
3:00- 5:59 A.M.	17	8.1	-	-	-	-	-	-	3	16.7	1	4.3	2	16.7	3	7.3	6	9.1	-	-	1	4.0	1	33.3
6:00- 8:59 A.M.	1	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.5	-	-	-	-	-	-
9:00-11:59 A.M.	7	3.3	-	-	1	20.0	-	-	-	-	1	4.3	-	-	2	4.9	2	3.0	-	-	1	4.0	-	-
12:00- 2:59 P.M.	7	3.3	-	-	1	20.0	-	-	-	-	-	-	-	-	3	7.3	-	-	-	-	3	12.0	-	-
3:00- 5:59 P.M.	21	10.0	-	-	-	-	-	-	2	11.1	4	17.4	-	-	4	9.8	6	9.1	1	10.0	4	16.0	-	-
Time Unknown	6	2.8	-	-	-	-	-	-	-	-	1	4.3	-	-	1	2.4	2	3.0	-	-	1	4.0	1	33.3
TOTAL	211	100.0 ^{1/}	-	-	5	100.0	8	100.0	18	100.0	23	100.0 ^{1/}	12	100.0	41	100.0	66	100.0	10	100.0	25	100.0	3	100.0 ^{1/}

^{1/} Percentages do not always add up to 100.0 due to rounding.

11. Relationship Between The Age Of Drinking Drivers And The Mean Blood Alcohol Concentration In Fatal Crashes: Iowa, 1983

The number of drivers and the mean blood alcohol concentration were tabulated according to age groups in Table 9.

It is interesting to note that drinking drivers who were 19 years of age or younger and the drivers 65 years and up had lower BACs than the drivers in the other age groups.

Age	Number	Average BAC
19 and younger	49	.124
20	11	.186
21-24	40	.154
25-34	63	.154
35-44	10	.136
45-54	9	.157
55-64	7	.146
65 and up	7	.115
Unknown	-	-
All Ages	196	.146

12. Alcohol-Related Fatal Crashes And Fatalities By Month: Iowa, 1983

The variation by month of the year in 1983 is shown in Table 10. The month of July ranked highest in the number of alcohol-related fatal crashes and fatalities.

TABLE 10
NUMBER AND PERCENTAGE OF ALCOHOL-RELATED FATAL CRASHES,
FATALITIES, AND DRINKING DRIVERS BY MONTH;
IOWA, 1983

Month	Fatal Crashes				Fatalities		
	Drinking Drivers/ Pedestrians	All Fatal Crashes	Alcohol Related Crashes	% Alcohol Related Crashes	All Fatalities	Alcohol Related Fatalities	% Alcohol Related Fatalities
January	17/0	30	17	56.7	42	27	64.3
February	11/0	25	11	44.0	32	14	43.8
March	14/0	28	14	50.0	32	16	50.0
April	9/1	23	9	39.1	30	15	50.0
May	23/0	40	19	47.5	46	23	50.0
June	19/1	40	17	42.5	46	20	43.5
July	33/2	57	34	59.6	68	39	57.4
August	26/0	50	24	48.0	55	27	49.1
September	13/0	38	13	34.2	44	17	38.6
October	22/2	47	21	44.7	53	23	43.4
November	7/0	22	7	31.8	23	7	30.4
December	17/0	34	16	47.1	39	19	48.7
Total	211/6	434	202	46.5	510	247	48.4

13. Violations Committed By Drinking Drivers Involved In Fatal Crashes:
Iowa, 1983

Violations frequently committed by drinking drivers were investigated and ranked by type of crash, as indicated in Table 11.

Driving left of center and speeding accounted for 60.9 percent of the violations in multiple vehicle fatal crashes.

Drinking drivers who were speeding and failed to have control caused 84.2 percent of the violations in single vehicle fatal crashes.

TABLE 11
VIOLATIONS COMMITTED BY DRINKING DRIVERS:
IOWA, 1983

Violations	Multiple Vehicle		Single Vehicle	
	#	%	#	%
Drove Left of Center	41	44.6	-	-
Speeding	15	16.3	38	28.6
Failure to Have Control	4	4.3	74	55.6
Failure to Yield	5	5.4	-	-
Ran Stop Sign	12	13.0	1	0.8
Ran Traffic Signal	2	2.2	-	-
Ran Railroad Signal	-	-	3	2.3
Reckless Driving	2	2.2	5	3.8
Wrong Way on a One Way Street	1	1.1	-	-
Improper Passing	5	5.4	-	-
Improper Turn	-	-	-	-
Pedestrian Violation	-	3.3	7	5.3
Violation By Other Driver	3	-	-	-
Violations By Other Drinking Driver	1	1.1	-	-
Other	-	-	4	3.0
Unknown	1	1.1	1	0.8
Total	92 ^{1/}	100.0	133 ^{1/}	100.0 ^{2/}

^{1/} Adds up to more than the total number of crashes as some drivers committed more than one violation.

^{2/} Percentages do not total 100.0 due to rounding.

14. Alcohol-Related Fatal Crashes By Location: Iowa, 1983

An analysis showed that 74.3 percent of the crashes occurred in the rural areas while only 25.7 percent occurred in the urban areas.

The types of roadway were also investigated, the results of which are shown in the following table:

ROAD CLASS	MONTH												TOTAL	
	J	F	M	A	M	J	J	A	S	O	N	D	#	%
Interstate	2	1	1	2	-	-	3	-	-	1	1	1	12	5.9
Primary	8	7	4	4	12	5	17	3	9	6	3	11	89	44.0
County	7	3	7	3	5	8	11	15	3	9	2	3	76	37.6
City Streets	-	-	2	-	2	4	3	6	1	5	1	1	25	12.4
Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	17	11	14	9	19	17	34	24	13	21	7	16	202	100.0

The preceding table shows that 44.0 percent of the alcohol-related fatal crashes occurred on U.S./State highways, 37.6 percent on county roads and 12.4 percent on city streets. Only 5.9 percent occurred on interstates, but this was an increase over our 1982 report.

15. Alcohol-Related Fatal Crashes By County: Iowa, 1983

The following 27 counties had no reported alcohol-related fatal crashes in 1982, according to State accident files.

Adams	Chickasaw	Henry	Monona	Union
Bremer	Davis	Ida	Montgomery	Van Buren
Butler	Decatur	Iowa	O'Brien	Winnebago
Calhoun	Dickinson	Jones	Pocahontas	
Cedar	Floyd	Kossuth	Poweshiek	
Cherokee	Franklin	Lyon	Sac	

In 1983, 48 counties exceeded the state average of 46.5 percent alcohol-related fatal crashes as shown in Table 13. These counties accounted for 73.8 percent of the total alcohol-related fatal crashes in the state. The average proportion of alcohol-related fatal crashes in these counties was 63.4 percent.

Counties with their corresponding number and percentage of alcohol-related fatal crashes are shown for the year 1983.

TABLE 13
COUNTIES RECORDING FATAL ALCOHOL INVOLVEMENT ABOVE THE STATE
AVERAGE OF 46.5 PERCENT:
IOWA, 1983

County	Total Crashes	Alcohol-Related Crashes	Percent
Adair	1	1	100.0
Appanoose	1	1	100.0
Audubon	2	2	100.0
Benton	9	5	55.6
Black Hawk	15	8	53.3
Boone	3	2	66.7
Buchanan	2	1	50.0
Buena Vista	4	2	50.0
Carroll	4	3	75.0
Cass	2	2	100.0
Clarke	1	1	100.0
Clay	2	2	100.0
Dallas	5	3	60.0
Delaware	1	1	100.0
Dubuque	13	8	61.5
Emmet	2	1	50.0
Fayette	4	2	50.0
Fremont	2	1	50.0
Grundy	2	1	50.0
Guthrie	1	1	100.0
Hardin	2	1	50.0
Howard	1	1	100.0
Humboldt	3	2	66.7
Jefferson	3	2	66.7
Johnson	9	5	55.6
Lee	10	5	50.0
Linn	10	7	70.0
Louisa	2	2	100.0
Madison	3	2	66.7
Marion	3	2	66.7
Monroe	3	2	66.7
Muscatine	8	5	62.5
Page	1	1	100.0
Palo Alto	1	1	100.0
Polk	32	17	53.1
Pottawattamie	19	13	68.4
Ringgold	2	1	50.0
Shelby	5	3	60.0
Sioux	3	3	100.0
Tama	4	2	50.0
Taylor	1	1	100.0
Wapello	2	1	50.0
Washington	4	3	75.0
Wayne	2	2	100.0
Winneshiek	7	4	57.1
Woodbury	13	8	61.5
Worth	2	1	50.0
Wright	4	3	75.0
Total	235	148	63.0

TABLE 14
ALCOHOL-RELATED FATAL CRASHES AND FATALITIES BY COUNTY:
IOWA, 1983

County	Fatal Accidents			Fatalities		
	Total	Alcohol-Related	% Alcohol-Related	Total	Alcohol-Related	% Alcohol-Related
	1983	1983	1983	1983	1983	1983
Adair	1	1	100.0	1	1	100.0
Adams	1	-	-	1	-	-
Allamakee	8	3	37.5	8	3	37.5
Appanoose	1	1	100.0	1	1	100.0
Audubon	2	2	100.0	2	2	100.0
Benton	9	5	55.6	12	6	50.0
Black Hawk	15	8	53.3	17	8	47.1
Boone	3	2	66.7	4	3	75.0
Bremer	4	-	-	4	-	-
Buchanan	2	1	50.0	2	1	50.0
Buena Vista	4	2	50.0	4	2	50.0
Butler	2	-	-	2	-	-
Calhoun	-	-	-	-	-	-
Carroll	4	3	75.0	4	3	75.0
Cass	2	2	100.0	2	2	100.0
Cedar	1	-	-	1	-	-
Cerro Gordo	8	3	37.5	8	3	37.5
Cherokee	2	-	-	2	-	-
Chickasaw	-	-	-	-	-	-
Clarke	1	1	100.0	1	1	100.0
Clay	2	2	100.0	2	2	100.0
Clayton	3	1	33.3	3	1	33.3
Clinton	9	4	44.4	11	6	54.5
Crawford	3	1	33.3	3	1	33.3
Dallas	5	3	60.0	6	4	66.7
Davis	2	-	-	2	-	-
Decatur	1	-	-	1	-	-
Delaware	1	1	100.0	2	2	100.0
Des Moines	4	1	25.0	4	1	25.0
Dickinson	1	-	-	1	-	-
Dubuque	13	8	61.5	15	10	66.7
Emmet	2	1	50.0	2	1	50.0
Fayette	4	2	50.0	7	3	42.9
Floyd	3	-	-	3	-	-
Franklin	3	-	-	4	-	-
Fremont	2	1	50.0	2	1	50.0
Greene	3	1	33.3	4	1	25.0
Grundy	2	1	50.0	2	1	50.0
Guthrie	1	1	100.0	1	1	100.0
Hamilton	6	1	16.7	6	1	16.7
Hancock	6	1	16.7	8	2	25.0
Hardin	2	1	50.0	2	1	50.0
Harrison	8	3	37.5	10	4	40.0
Henry	3	-	-	3	-	-
Howard	1	1	100.0	1	1	100.0
Humboldt	3	2	66.7	3	2	66.7
Ida	1	-	-	1	-	-
Iowa	-	-	-	-	-	-
Jackson	5	2	40.0	8	4	50.0
Jasper	10	2	20.0	10	2	20.0
Jefferson	3	2	66.7	4	3	75.0

Table 14
Continued

County	Fatal Accidents			Fatalities		
	Total	Alcohol-Related	% Alcohol-Related	Total	Alcohol-Related	% Alcohol-Related
	1983	1983	1983	1983	1983	1983
Johnson	9	5	55.6	11	5	45.5
Jones	5	-	-	8	-	-
Keokuk	5	2	40.0	10	4	40.0
Kossuth	1	-	-	1	-	-
Lee	10	5	50.0	13	7	53.8
Linn	10	7	70.0	13	9	69.2
Louisa	2	2	100.0	2	2	100.0
Lucas	5	1	20.0	5	1	20.0
Lyon	1	-	-	1	-	-
Madison	3	2	66.7	3	2	66.7
Mahaska	5	2	40.0	6	2	33.3
Marion	3	2	66.7	3	2	66.7
Marshall	7	3	42.9	10	3	30.0
Mills	3	1	33.3	3	1	33.3
Mitchell	3	1	33.3	3	1	33.3
Monona	1	-	1	-	-	-
Monroe	3	2	66.7	6	5	83.3
Montgomery	1	-	-	1	-	-
Muscatine	8	5	62.5	10	7	70.0
O'Brien	1	-	-	1	-	-
Osceola	4	1	25.0	4	1	25.0
Page	1	1	100.0	1	1	100.0
Palo Alto	1	1	100.0	1	1	100.0
Plymouth	6	2	33.3	6	2	33.3
Pocahontas	2	-	-	3	-	-
Polk	32	17	53.1	35	20	57.1
Pottawattamie	19	13	68.4	23	17	73.9
Poweshiek	1	-	-	1	-	-
Ringgold	2	1	50.0	6	5	83.3
Sac	1	-	-	1	-	-
Scott	24	10	41.7	28	12	42.9
Shelby	5	3	60.0	5	3	60.0
Sioux	3	3	100.0	3	3	100.0
Story	5	2	40.0	5	2	40.0
Tama	4	2	50.0	5	3	60.0
Taylor	1	1	100.0	1	1	100.0
Union	-	-	-	-	-	-
Van Buren	1	-	-	1	-	-
Wapello	2	1	50.0	2	1	50.0
Warren	11	4	36.4	12	4	33.3
Washington	4	3	75.0	5	4	80.0
Wayne	2	2	100.0	2	2	100.0
Webster	7	2	28.6	9	2	22.2
Winnebago	2	-	-	2	-	-
Winneshiek	7	4	57.1	8	5	62.5
Woodbury	13	8	61.5	15	10	66.7
Worth	2	1	50.0	2	1	50.0
Wright	4	3	75.0	6	5	83.3
TOTAL	434	202	46.5	510	247	48.4

16. Position of Fatalities by Age and Sex: Iowa, 1983.

Fatalities in alcohol-related crashes for 1983 were investigated and listed under the categories of alcohol-related vehicle occupants and non-alcohol-related vehicle occupants. It is interesting to note that 78.1 percent of the fatalities occurred in the alcohol-related vehicle with 53.8 percent of these fatalities being the known driver of that vehicle.

Of the passengers killed in alcohol-related crashes in the alcohol-related vehicle, 70.4 percent were riding in the outside position of the front seat of the vehicle.

Of the passengers killed in alcohol-related crashes but in the other vehicle, 68.0 percent were riding in the outside position of the front seat of that vehicle.

TABLE 15
FATALITIES IN ALCOHOL-RELATED CRASHES - BY AGE, SEX AND POSITION
IOWA, 1983

Position	10 Years and Under		11-15 Years		16 Years		17 Years		18 Years		19 Years		20 Years		21 Years		22-24 Years		25-34 Years		35-44 Years		45-54 Years		55-64 Years		65-74 Years		75 Years and Up		Age Unknown		Total		Grand Total	Percentage of all Alcohol-Related Fatalities	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F			
Occupants of Alcohol-Related Vehicles	Drivers	-	-	-	-	3	1	2	-	8	2	11	2	7	-	6	-	23	1	40	4	7	-	6	1	3	-	3	1	2	-	-	-	121	12	133	53.8
	Passengers	1	-	1	2	1	1	2	2	2	2	5	2	4	1	2	3	6	3	4	3	-	-	1	2	1	1	-	1	-	-	-	1	30	24	54	21.9
	Unknown	-	-	1	-	-	-	1	-	-	-	-	-	-	1	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	5	1	6	2.4	
	Total	1	-	2	2	4	2	5	2	10	4	16	4	11	2	9	3	29	4	46	7	7	-	7	3	4	1	3	2	2	-	-	1	156	37	193	78.1
Occupants of Other Vehicles	Drivers	-	-	2	1	-	-	-	-	-	-	1	1	1	-	-	-	-	3	-	3	1	1	-	1	-	1	1	1	-	-	-	14	4	18	7.3	
	Passengers	-	2	1	3	1	-	-	-	-	-	1	-	-	-	-	-	1	1	2	5	1	1	1	1	-	2	-	1	-	-	-	7	18	25	10.1	
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	2	3	4	1	-	-	-	-	-	1	2	1	-	-	-	1	1	5	5	4	2	2	1	1	2	1	2	1	-	-	1	21	22	43	17.4
Pedestrians	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3	-	2	1	1	1	-	-	-	-	-	-	-	-	-	9	2	11	4.5		
Bicyclists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Grand Total	1	2	5	6	5	2	5	2	10	4	20	6	12	2	9	3	33	5	53	13	12	3	9	4	5	3	4	4	3	-	-	2	186	61	247	100.0	

17. Position of Injured Persons by Age and Sex: Iowa, 1983.

The alcohol-related fatal crashes of 1983 not only took 247 lives but also caused 215 additional persons to be injured. Data showed that 68.3 percent of these injured persons were riding in vehicles operated by drinking drivers. The remaining injured persons were occupants of other vehicles or pedestrians. Of all those who were vehicle occupants, 48.4 percent were riding in the front seat.

Out of the 202 separate alcohol-related fatal crashes in 1983, 98 or 48.5 percent included injured persons as well as fatalities.

TABLE 16
INJURED PERSONS IN ALCOHOL-RELATED FATAL CRASHES - BY AGE, SEX AND POSITION
IOWA, 1983

Position	10 Years and Under		11-15 Years		16 Years		17 Years		18 Years		19 Years		20 Years		21 Years		22-24 Years		25-34 Years		35-44 Years		45-54 Years		55-64 Years		65-74 Years		75 Years and Up		Age Unknown		Total	Grand Total	Percentage of all Alcohol-Related Fatalities
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F			
	M		F		M		F		M		F		M		F		M		F		M		F		M		F		M		F				
Occupants of Alcohol-Related Vehicles	Drivers	-	-	-	-	-	-	4	-	3	-	6	2	5	-	4	-	7	-	15	1	2	-	3	-	5	-	1	-	-	-	55	3	58	26.9
	Passengers	3	3	5	4	4	2	3	3	4	3	9	5	8	-	2	1	9	2	8	5	1	1	2	-	1	-	-	-	59	29	88	40.9		
	Position Unknown	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	0.4		
	Total	3	3	6	4	4	2	7	3	7	3	15	7	13	-	6	1	16	2	23	6	3	1	5	-	6	-	1	-	115	32	147	68.3		
Occupants of Other Vehicles	Drivers	-	-	1	-	1	1	1	-	-	-	2	1	-	-	-	-	3	-	6	2	3	1	3	-	1	1	1	-	1	-	23	6	29	13.4
	Passengers	2	5	2	1	-	2	1	1	1	-	1	-	-	1	-	-	2	1	5	4	3	2	3	-	-	-	-	-	20	18	38	17.6		
	Position Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	2	5	3	1	1	3	2	1	1	-	3	1	1	-	1	-	5	1	11	6	6	3	6	-	1	1	1	-	43	24	67	31.1		
Pedestrians	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	0.4			
Bicyclists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Grand Total	5	8	9	5	5	5	9	4	9	3	18	8	13	1	6	1	21	3	34	12	9	4	11	-	7	1	2	-	1	-	159	56	215	100.0 ¹	

^{1/} Percentages do not total 100.0 due to rounding.

18. Legal History with Drinking Drivers Involved in Fatal Crashes by Age:
Iowa, 1970-1984

TABLE 19 LEGAL HISTORY: IOWA, 1970-1984									
Year	Age							Grand Total	% of Fatal Crashes That Are Alcohol-Related
	16 & Below	17	18	19	20	Total Under 21	21 and Up		
1970	3	3	11	12	15	44	180	224	29.6
1971	-	4	8	10	8	30	208	238	34.3
1972	3	8	8	18	16	53	164	217	29.1
Legal drinking age lowered from 21 to 19 years, July 1, 1972									
1973	1	6	15	19	12	53	182	235	31.8
Legal drinking age lowered from 19 to 18 years, July 1, 1973									
1974	5	7	4	15	13	44	153	197	32.0
1975	7	14	16	20	15	72	167	239	38.2
1976	7	7	21	22	20	77	179	256	36.5
1977	7	5	23	16	13	64	166	230	39.4
Four Year Average 74-77	6.5	8.3	16	18.3	15.3	64.3	166.3	230.5	
1978	8	5	26	14	12	63	147	210	35.9
Legal drinking age raised from 18 to 19 years, July 1, 1978									
1979	15	11	18	19	18	81	179	260	42.0
1980	8	9	13	11	28	69	160	229	40.3
1981	4	9	20	17	19	69	172	241	44.6
Three Year Average 79-81	9	9.7	17	15.7	21.7	73	170.3	243.3	
1982	6	15	7	14	10	52	113	165	37.6
OWI law with administrative revocation, July 1, 1982									
1983	5	8	18	23	12	66	145	211	46.5
OWI law revised and tougher penalties for administrative revocation applied, July 1, 1984									

Barcode Inside