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ALCOHOL-RELATED FATAL CRASH STUDY

IOWA - 1984



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ALCOHOL-RELATED FATAL CRASH STUDY
IOWA, 1984

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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.

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SUMMARY FOR 1984

1. Out of a total of 376 fatal traffic crashes in 1984, 176 were alcohol-related. These crashes claimed 201 lives or 47.9 percent of the total traffic fatalities. Drinking drivers comprised 61.7 percent of the 201 fatalities, and they and their passengers accounted for 81.6 percent of the alcohol-related traffic death toll. Of the 37 passengers killed in the alcohol-related vehicle, 21 or 56.8 percent were riding in the front seat of that vehicle.
2. The alcohol-related fatal crashes also caused injuries among the survivors. In 1984, 160 persons were injured in alcohol-related fatal crashes. There were 114 injured persons (or 71.3 percent of the total injuries in fatal crashes) riding in the vehicles that were operated by drinking drivers. Forty-two drinking drivers were included in the 114 injuries. Of all those who were vehicle passengers, including the occupants of the alcohol-related vehicle and the non-alcohol-related vehicle, 53.4 percent were riding in the front seat.
3. Fourteen pedestrian deaths were alcohol-related. Ten of these fatalities were drinking pedestrians: In five cases the pedestrian alone was drinking, in two cases the pedestrian and the driver both were drinking, and in three cases the drinking pedestrian was killed by a hit and run driver. Of the ten drinking pedestrians, nine had BAC reports ranging from .020 to .250 percent and averaging 0.151. The ages ranged from 18 to 60 years and three of the drinking pedestrians were female. The remaining four pedestrians were not drinking when killed by a drinking driver.
4. Fatal traffic crashes and fatalities have decreased by about 50 percent since 1970. However, the alcohol-related percentage of fatal motor vehicle crashes and fatalities has increased about 18 percent.
5. In 1984, 63.1 percent of the alcohol-related fatal crashes were single motor vehicle crashes. The average BAC level of drivers involved in single crashes (.174) was higher than the average of drivers involved in multiple crashes (.132).
6. There were 187 drinking drivers/pedestrians, 177 of whom had blood alcohol tests. Of the 168 drinking drivers, 73.2 percent tested at or above .100, and 56.5 percent tested at or above .150. The average BAC of the 168 drivers was .159, while the average BAC of the nine drinking pedestrians was .151.
7. Approximately 46.7 percent or 84 drinking drivers involved in fatal traffic crashes were 24 years of age or younger. This shows a decrease from 1983 when the percentage of drivers 24 years of age and younger was 50.7 percent. However, drivers 19 years of age had the highest percentage of drinking drivers in fatal crashes of any single age.

8. An analysis of drinking drivers showed that drivers aged 19 and 20 were involved in the highest percentage of alcohol-related crashes, most of them during the early morning hours (12:00 Midnight - 2:59 A.M.). For all age groups, however, 82.8 percent of the drinking drivers were involved in crashes between the hours of 6:00 P.M. and 6:00 A.M.
9. Both the younger and older drivers were involved in considerably more fatal crashes during the weekends than on weekdays.
10. The study of 1984 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 for those 19 years of age and under.
11. The months of September and October ranked highest in the number and proportion of alcohol-related fatal crashes in 1984.
12. Driving left of center and speeding accounted for 58.1 percent of the violations in multiple vehicle fatal crashes. In single vehicle crashes, eighty percent of the violations were either speeding or failure to have control of the vehicle.
13. An analysis of drinking drivers involved in fatal and injury motor vehicle traffic crashes over a period of three years showed that drivers 19 years of age had the highest percentage of crashes. The 19 year old drinking drivers were also more involved in the property damage crashes and all traffic crashes than any other single age group.
14. In 1984, 46 counties exceeded the state average of 46.8 percent alcohol-related fatal crashes as shown in Table 17. These counties accounted for 69.9 percent of the total alcohol-related fatal crashes in the state. The average proportion of alcohol-related fatal crashes in these counties was 65.4 percent. Twenty-seven counties reported no alcohol-related fatal crashes in 1984.
15. A study of alcohol-related motor vehicle traffic fatalities on major holidays over a period of three years shows that Christmas and Thanksgiving have the least fatalities.
16. Alcohol-related fatal crashes are distributed on the road system as follows: 44.9 percent of the alcohol-related fatal crashes occurred on U.S./State highways, 36.9 percent on county roads and 10.8 percent on city streets. Only 7.3 percent occurred on interstates, but this is an increase from our 1983 report.
17. The year of 1984 showed a slight decrease in the proportion of alcohol-related fatalities.
18. Table 21 shows legislative changes pertinent to drinking drivers involved in fatal crashes starting with 1970.
19. Table 22 shows the drunk driving arrests in Iowa from 1974 through 1984.

ALCOHOL-RELATED FATAL CRASH STUDY: IOWA, 1984

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, 1984

In 1984, 176 or 46.8 percent of the 376 fatal traffic crashes in the state were alcohol-related. These alcohol-related crashes claimed 201 lives and represented 47.9 percent of the total killed on Iowa's roads. Table 1 shows the number of drinking crashes according to the degree of drinking.

Degree of Drinking	Fatal Crashes			Fatalities		
	#	% of Subtotal	% of Grand Total	#	% of Subtotal	% of Grand Total
BAC \geq .100 and/or "Ability Impaired"	126	71.6	33.5	147	73.1	35.0
BAC $<$.100 and/or "Ability Not Impaired"	40	22.7	10.6	44	21.9	10.5
Pedestrian Drinking	10	5.7	2.7	10	5.0	2.4
Subtotal	176	100.0	46.8	201	100.0	47.9
Total Not Drinking or Unknown	200	-----	53.2	219	-----	52.1
Grand Total	376	-----	100.0	420	-----	100.0

4. Drinking Pedestrians: Iowa, 1984

In 1984, fourteen pedestrians were fatally injured as a result of alcohol involvement. This comprised 34.2 percent of the total pedestrians (41) killed in 1984. Ten of these fatalities were drinking pedestrians: five crashes in which the pedestrian alone was drinking, three in which the pedestrian was drinking and the driver's condition was unknown because they were hit and run accidents, and two in which the driver and pedestrian were both drinking. Four persons were killed in crashes where the driver alone was drinking. Table 2 shows the fatalities due to alcohol consumption. Of the ten drinking pedestrians, nine had BAC reports ranging from .020 to .250 percent and averaging 0.151. The ages of the drinking pedestrians ranged from 18 to 60 years of age with 80.0 percent of the drinking pedestrians 23 years of age and under. Three of the drinking pedestrians were female.

TABLE 2
ALCOHOL-RELATED PEDESTRIAN FATALITIES:
IOWA, 1984

Fatality Group	Category	#	%
Pedestrian Fatalities	Related to Drinking Pedestrians (only)	5	2.5
	Related to Drinking Drivers and Drinking Pedestrians	2	1.0
	Related to Drinking Pedestrians and Hit and Run Drivers	3	1.5
	Related to Driving Drivers (only)	4	2.0
Other Fatalities	Related to Drinking Drivers	187	93.0
Total Alcohol-Related Fatalities		201	100.0

5. Alcohol-Related Fatal Traffic Crashes and Fatalities: Iowa, 1970-1984

This table shows that the number of motor vehicle fatal crashes and fatalities has decreased by about 50.0 percent since 1970. However, the alcohol-related percentage of fatal crashes and fatalities has increased by about 18.0 percent.

TABLE 3
ALCOHOL-RELATED FATAL TRAFFIC CRASHES AND FATALITIES:
IOWA, 1970-1984

Year	Fatal Crashes			Fatalities		
	Alcohol-Related	Total	% Alcohol-Related	Alcohol-Related	Total	% Alcohol-Related
1970	222	751	29.6	270	912	29.6
1971	233	680	34.3	293	828	35.4
1972	210	721	29.1	252	874	28.8
1973	217	682	31.8	263	813	32.3
1974	187	583	32.0	227	685	33.1
1975	221	578	38.2	256	674	38.0
1976	242	663	36.5	293	785	37.7
1977	221	561	39.4	263	640	41.1
1978	202	563	35.9	236	650	36.3
1979	238	566	42.0	285	655	43.5
1980	218	541	40.3	251	626	40.1
1981	236	529	44.6	276	612	45.1
1982	162	431	37.6	188	480	39.2
1983	202	434	46.5	247	510	48.4
1984	176	376	46.8	201	420	47.9

6. Fatal Crashes Involving Drinking Drivers By Type Of Crash: Iowa, 1984

The number of alcohol-related fatal crashes by type of crash or number of vehicles involved is shown in Table 4. This table illustrates that 63.1 percent of the alcohol-related fatal crashes involved single vehicles. This table also shows an average BAC of .174 percent for those operators. The average BAC level in single vehicle accidents was higher than the level of drivers in multiple vehicle crashes.

TABLE 4
ALCOHOL-RELATED FATAL CRASHES BY TYPE OF CRASH:
IOWA, 1984

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	111	63.1	100.0	95	.174	113	56.2	100.0
Overturned	12	6.8	10.8	12	.185	12	6.0	10.6
Collided with Fixed Object	78	44.3	70.3	71	.182	80	39.8	70.8
Collided with Drinking Pedestrian	10	5.7	9.0	1 ^{1/}	.223	10	5.0	8.9
Collided with Non-Drinking Pedestrian	4	2.3	3.6	4	.196	4	2.0	3.5
Collided with Bicyclist	2	1.1	1.8	2	.209	2	1.0	1.8
Others	5	2.8	4.5	5	.123	5	2.5	4.4
SUBTOTAL MULTIPLE MOTOR VEHICLE	65	36.9	100.0	73	.132	88	43.8	100.0
Collided with Motor Vehicle in Traffic	63	35.8	96.9	71	.132	85	42.3	96.6
Train	2	1.1	3.1	2	.136	3	1.5	3.4
Grand Total SINGLE AND MULTIPLE	176	100.0	-	168 ^{2/}	.159	201	100.0	-

^{1/} Two drinking drivers but only one had a BAC test.

^{2/} Does not include any BAC test belonging to a drinking pedestrian.

7. Number Of Drinking Drivers Tested By Degree Of Impairment: Iowa, 1984

In 1984, there were 177 drinking drivers and ten drinking pedestrians. Of these, blood alcohol test results were reported for 168 drivers and nine pedestrians. Of the "ability impaired" category (totaling 134), 129 or 96.3 percent had known BACs. Of the "ability not impaired" category, 48 or 90.6 percent had test results reported. Table 5 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	177	94.7	129	96.3	48	90.6
BAC Unknown	10	5.3	5	3.7	5	9.4
Total	187 ^{1/}	100.0	134	100.0	53	100.0

^{1/} This includes ten drinking pedestrians, seven impaired (six of these with BAC), and three, not impaired, with BAC's.

8. Number Of Drinking Drivers Tested By BAC Level: Iowa, 1984

Table 6 shows the frequency of drinking drivers/pedestrians by BAC level. Of the 177 tested, 129 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 100 or 56.5 percent had a BAC of .150 or more. The average BAC of the 168 drinking drivers was .159 and the average BAC of the nine drinking pedestrians was .151.

BAC Level	Number of Drinking Drivers/Pedestrians	Percent of Drinking Drivers/ Pedestrians in Each BAC Level
Below .050	18 (Inc. 1 ped.)	10.2
.050-.099	30 (Inc. 2 peds.)	16.9
.100-.149	29 (Inc. 1 ped.)	16.4
.150-.199	42 (Inc. 1 ped.)	23.7
.200-.249	35 (Inc. 3 peds.)	19.8
.250-.299	17 (Inc. 1 ped.)	9.6
.300-.349	6	3.4
.350-.399	-	-
.400+	-	-
Total	177 ^{1/}	100.0

^{1/} Includes nine drinking pedestrians.

9. Drinking Drivers Involved In Fatal Crashes By Age: Iowa, 1984

The age distribution of drinking drivers involved in fatal crashes in 1984 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, 46.7 percent were 24 years of age or younger. This is a decrease from 1983 when the percentage of drinking drivers 24 years or younger was 50.7 percent. This proportion exceeds the already large proportion of young drivers involved in fatal crashes which is 36.6 percent. When compared with the proportion of young drivers with a valid drivers license (20.2 percent) the aforementioned age group is even more over-represented. Drivers 19 years of age had the highest percentage of drinking drivers of any one age.

TABLE 7
DRINKING DRIVERS AND ALL DRIVERS INVOLVED IN
FATAL MOTOR VEHICLE CRASHES BY AGE GROUP:
IOWA, 1984

Age	Drinking Drivers		All Drivers		Number of Licensed Drivers	
	#	%	#	%	#	%
16 & Below	5	2.8	29	5.1	49,302	2.5
17	4	2.2	16	2.8	36,907	1.9
18	7	3.9	24	4.3	38,468	2.0
19	18	10.0	32	5.7	40,527	2.1
20	11	6.1	23	4.1	44,110	2.3
21-24	39	21.7	83	14.7	184,256	9.5
25-34	53	29.4	131	23.2	450,182	23.1
35-44	22	12.2	68	12.0	333,125	17.1
45-54	9	5.0	54	9.6	247,393	12.7
55-64	4	2.2	48	8.5	246,204	12.6
65 & Up	5	2.8	49	8.7	279,585	14.3
Driver Unknown	3	1.7	8	1.4	-	-
Total	180	100.0	565	100.0 ^{1/}	1,950,059	100.0 ^{1/}

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

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

- 5 - pedestrians only, drinking
- 2 - drivers and pedestrians both drinking
- 3 - pedestrians drinking with hit and run drivers
- 4 - driver only, drinking

10. Drinking Drivers Involved In Crashes By Age And By Day Of The Week: Iowa, 1984

Table 8 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 8
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND BY DAY OF WEEK:
IOWA, 1984

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	9	05.0	-	-	-	-	-	-	1	14.3	-	-	-	-	1	2.6	4	7.6	1	4.6	2	11.1	-	-
Tuesday	14	07.8	-	-	-	-	1	25.0	1	14.3	4	22.2	1	9.1	1	2.6	4	7.6	-	-	2	11.1	-	-
Wednesday	16	08.9	-	-	1	20.0	-	-	-	-	-	-	-	1	2.6	9	17.0	1	4.6	2	11.1	2	66.7	
Thursday	23	12.8	-	-	-	-	-	-	2	11.1	2	18.2	2	18.2	6	15.4	4	7.6	5	22.7	4	22.2	-	-
Friday	20	11.1	-	-	1	20.0	1	25.0	1	14.3	4	22.2	-	-	5	12.8	5	9.4	3	13.6	-	-	-	-
Saturday	65	36.1	-	-	2	40.0	-	-	4	57.1	6	33.3	4	36.4	13	33.3	19	35.9	10	45.5	7	38.9	-	-
Sunday	33	18.3	-	-	1	20.0	2	50.0	-	-	2	11.1	4	36.4	12	30.8	8	15.1	2	9.1	1	5.6	1	33.3
TOTAL	180	100.0	-	-	5	100.0	4	100.0	7	100.0 ^{1/}	18	100.0 ^{1/}	11	100.0 ^{1/}	39	100.0 ^{1/}	53	100.0 ^{1/}	22	100.0 ^{1/}	18	100.0	3	100.0

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

11. Drinking Drivers Involved In Fatal Crashes By Age And Time Of Day: Iowa, 1984

Table 9 shows the distribution of drinking drivers by time of day and by age groups. The drivers aged 19 and 20 were involved in the most fatal alcohol-related crashes and the highest percentage of these occurred during the hours of darkness. For all age groups 82.8 percent of the drinking drivers were involved in crashes between the hours of 6:00 P.M. and 6:00 A.M.

TABLE 9
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND TIME OF DAY:
IOWA, 1984

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.	32	17.8	-	-	-	-	1	0.25	-	-	-	-	-	-	8	20.5	11	20.8	2	9.1	9	50.0	1	33.3
9:00-11:59 P.M.	30	16.7	-	-	2	0.40	1	0.25	1	14.3	4	22.2	2	18.2	4	10.3	8	15.1	5	22.7	3	16.7	-	-
12:00- 2:59 A.M.	69	38.3	-	-	1	0.20	2	0.50	5	71.4	10	55.6	5	45.5	19	48.7	17	32.1	7	31.8	3	16.7	-	-
3:00- 5:59 A.M.	18	10.0	-	-	-	-	-	-	-	-	2	11.1	2	18.2	2	5.1	8	15.1	3	13.6	-	-	1	33.3
6:00- 8:59 A.M.	2	1.1	-	-	-	-	-	-	-	-	-	-	-	-	1	2.6	1	1.9	-	-	-	-	-	-
9:00-11:59 A.M.	4	2.2	-	-	-	-	-	-	-	-	-	-	1	9.1	1	2.6	1	1.9	1	4.6	-	-	-	-
12:00- 2:59 P.M.	5	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3.8	1	4.6	2	11.1	-	-
3:00- 5:59 P.M.	12	6.7	-	-	2	0.40	-	-	1	14.3	2	11.1	-	-	2	5.1	1	1.9	3	13.6	1	5.6	-	-
Time Unknown	8	4.4	-	-	-	-	-	-	-	-	-	-	1	9.1	2	5.1	4	7.6	-	-	-	-	1	33.3
TOTAL	180	100.0	-	-	5	100.0	4	100.0	7	100.0	18	100.0	11	100.0 ^{1/}	39	100.0	53	100.0 ^{1/}	22	100.0	18	100.0 ^{1/}	3	100.0 ^{1/}

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

12. Relationship Between The Age Of Drinking Drivers And The Mean Blood Alcohol Concentration In Fatal Crashes: Iowa, 1984

The number of drivers and the mean blood alcohol concentration were tabulated according to age groups in Table 10.

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	31	.120
20	10	.160
21-24	40	.156
25-34	51	.182
35-44	20	.189
45-54	8	.122
55-64	4	.209
65 and up	4	.083
Unknown	-	-
All Ages	168	.159

13. Alcohol-Related Fatal Crashes And Fatalities By Month: Iowa, 1984

The variation by month of the year in 1984 is shown in Table 11. The months of September and October ranked highest in the number of alcohol-related fatal crashes and fatalities.

TABLE 11
NUMBER AND PERCENTAGE OF ALCOHOL-RELATED FATAL CRASHES,
FATALITIES, AND DRINKING DRIVERS BY MONTH;
IOWA, 1984

Month	Fatal Crashes				Fatalities		
	Drinking Drivers/ Pedes- trians	All Fatal Crashes	Alcohol Related Crashes	% Alcohol Related Crashes	All Fatal- ities	Alcohol Related Fatal- ities	% Alcohol Related Fatal- ities
January	9/0	18	7	38.9	25	13	52.0
February	8/1	20	9	45.0	21	10	47.6
March	12/0	29	12	41.4	32	12	37.5
April	9/1	20	7	77.8	23	10	43.5
May	7/0	28	6	21.4	32	6	18.8
June	15/2	33	16	48.5	37	18	48.7
July	18/2	38	20	52.6	40	21	52.5
August	21/2	38	21	55.3	39	22	56.4
September	26/2	40	26	65.0	47	32	68.1
October	29/0	48	27	56.3	51	30	58.8
November	13/0	34	12	35.3	40	13	32.5
December	13/0	30	13	43.3	33	14	42.4
Total	180 ¹ / ₁₀	376	176	46.8	420	201	47.9

¹ This includes the three unknown drivers.

14. Violations Committed By Drinking Drivers Involved In Fatal Crashes:
Iowa, 1984

Violations frequently committed by drinking drivers were investigated and ranked by type of crash, as indicated in Table 12.

Driving left of center and speeding accounted for 58.1 percent of the violations in multiple vehicle fatal crashes.

Drinking drivers who were speeding and failed to have control caused 80.0 percent of the violations in single vehicle fatal crashes.

Violations	Multiple Vehicle		Single Vehicle	
	#	%	#	%
Drove Left of Center	33	44.6	-	-
Speeding	10	13.5	35	29.2
Failure to Have Control	8	10.8	61	50.8
Failure to Yield	2	2.7	-	-
Ran Stop Sign	7	9.5	-	-
Ran Traffic Signal	2	2.7	-	-
Ran Railroad Signal	-	-	2	1.7
Reckless Driving	4	5.4	8	6.7
Wrong Way on a One Way Street	1	1.4	1	0.8
Improper Passing	1	1.4	-	-
Improper Turn	-	-	-	-
Pedestrian Violation	-	-	10	8.3
Violation By Other Driver	1	1.4	-	-
Violations By Other Drinking Driver	1	1.4	-	-
Other	4	5.4	2	1.7
Unknown	-	-	1	0.8
Total	74 ^{1/}	100.0 ^{2/}	120 ^{1/}	100.0

^{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.

15. Ages Of Drinking Drivers Involved In Fatal And Injury Traffic Crashes: Iowa, 1982-1984

Table 13 shows the ages of drinking drivers involved in fatal and injury motor vehicle traffic crashes over a period of three years in Iowa. It also shows the percentage in each age or age group.

TABLE 13
AGES OF DRINKING DRIVERS INVOLVED IN FATAL AND INJURY TRAFFIC CRASHES:
IOWA, 1982-1984

Age of Drinking Drivers	Fatal Accidents						Injury Accidents					
	#			%			#			%		
	1982	1983	1984	1982	1983	1984	1982	1983	1984	1982	1983	1984
15 Years and Under	2	-	-	1.2	-	-	9	14	10	0.4	0.7	0.4
16 Years	4	5	5	2.4	2.4	2.8	62	45	48	2.6	2.1	1.9
17 Years	15	8	4	9.1	3.8	2.2	108	74	97	4.5	3.5	3.9
18 Years	7	18	7	4.2	8.5	3.9	138	135	158	5.7	6.3	6.3
19 Years	14	23	18	8.5	10.9	10.0	213	160	209	8.8	7.5	8.4
20 Years	10	12	11	6.1	5.7	6.1	191	171	199	7.9	8.0	8.0
21 - 24 Years	36	41	39	21.8	19.4	21.7	587	483	570	24.4	22.6	22.8
25 - 34 Years	39	66	53	23.6	31.3	29.4	682	610	711	28.3	28.6	28.4
35 - 44 Years	19	10	22	11.5	4.7	12.2	219	232	296	9.1	10.9	11.8
45 - 54 Years	9	9	9	5.5	4.3	5.0	100	106	93	4.2	5.0	3.7
55 - 64 Years	8	9	4	4.8	4.3	2.2	57	65	65	2.4	3.0	2.6
65 Years and Over	-	7	5	-	3.3	2.8	30	27	41	1.2	1.3	1.6
Not Stated	2	3	3	1.2	1.4	1.7	13	11	6	0.5	0.5	0.2
TOTAL DRINKING DRIVERS	165	211	180	100.0	100.0 ^{1/}	100.0	2,409	2,133	2,503	100.0	100.0	100.0

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

16. Ages Of Drinking Drivers Involved In Property Damage And In All Traffic Crashes: Iowa, 1982-1984

Table 14 shows the ages of drinking drivers involved in property damage and in all traffic crashes over a period of three years. It also shows the percentage in each age or age group.

TABLE 14
AGES OF DRINKING DRIVERS INVOLVED IN PROPERTY DAMAGE AND IN ALL TRAFFIC CRASHES:
IOWA, 1982-1984

Age of Drinking Drivers	Property Damage Accidents						All Accidents					
	#			%			#			%		
	1982	1983	1984	1982	1983	1984	1982	1983	1984	1982	1983	1984
15 Years and Under	6	4	13	0.2	0.2	0.6	17	18	23	0.3	0.4	0.5
16 Years	50	31	31	2.0	1.5	1.4	116	81	84	2.3	1.8	1.7
17 Years	109	73	75	4.3	3.5	3.4	232	155	176	4.5	3.5	3.6
18 Years	153	136	127	6.0	6.5	5.8	298	289	292	5.8	6.5	6.0
19 Years	210	176	176	8.3	8.4	8.0	437	359	403	8.6	8.1	8.3
20 Years	208	144	160	8.2	6.8	7.3	409	327	370	8.0	7.4	7.6
21 - 24 Years	532	480	511	21.0	22.8	23.3	1,155	1,004	1,120	22.6	22.6	23.0
25 - 34 Years	716	570	586	28.2	27.1	26.7	1,437	1,246	1,350	28.1	28.0	27.7
35 - 44 Years	262	226	238	10.3	10.7	10.8	500	468	556	9.8	10.5	11.4
45 - 54 Years	136	114	132	5.4	5.4	6.0	245	229	234	4.8	5.1	4.8
55 - 64 Years	77	76	75	3.0	3.6	3.4	142	150	144	2.8	3.4	3.0
65 Years and Over	54	43	44	2.1	2.0	2.0	84	77	90	1.6	1.7	1.8
Not Stated	23	30	29	0.9	1.4	1.3	38	44	38	0.7	1.0	0.8
TOTAL DRINKING DRIVERS	2,536	2,103	2,197	100.0 ^{1/}	100.0 ^{1/}	100.0	5,110	4,447	4,880	100.0 ^{1/}	100.0	100.0 ^{1/}

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

17. Alcohol-Related Motor Vehicle Traffic Fatalities On Major Holidays: Iowa, 1982-1984

A study of alcohol-related motor vehicle traffic fatalities on major holidays over a period of three years shows that Christmas and Thanksgiving have the least fatalities.

TABLE 15
ALCOHOL-RELATED MOTOR VEHICLE TRAFFIC FATALITIES ON MAJOR HOLIDAYS:^{1/}
IOWA, 1982-1984

	1982			1983			1984		
	Total Fatalities	A.R. Fatalities	A.R. Percentage	Total Fatalities	A.R. Fatalities	A.R. Percentage	Total Fatalities	A.R. Fatalities	A.R. Percentage
New Years Day	4 (3)	3	0.75	17 (3)	11	0.65	3 (3)	3	100.0
Memorial Day	3 (3)	2	0.67	10 (3)	9	0.90	4 (3)	-	-
Fourth of July	5 (3)	3	0.60	9 (3)	8	0.89	3 (1)	2	66.7
Labor Day	9 (3)	6	0.67	5 (3)	2	0.40	7 (3)	7	100.0
16 Thanksgiving Day	8 (4)	3	0.38	3 (4)	1	0.34	4 (4)	-	-
Christmas Day	10 (3)	2	0.20	2 (3)	-	-	6 (4)	2	33.3

^{1/} Figures in parenthesis show the number of days in each holiday.

18. Alcohol-Related Fatal Crashes By Location: Iowa, 1984

An analysis showed that 76.1 percent of the crashes occurred in the rural areas while only 23.9 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	-	1	1	-	1	1	-	3	1	3	1	1	13	7.3
Primary	4	6	4	3	2	7	13	10	14	8	3	4	78	44.9
County	3	2	6	3	2	5	6	5	8	12	5	8	65	36.9
City Streets	-	-	1	1	1	2	1	3	3	4	3	-	19	10.8
Others	-	-	-	-	-	1	-	-	-	-	-	-	1	0.1
Total	7	9	12	7	6	16	20	21	26	27	12	13	176	100.0

The preceding table shows that 44.9 percent of the alcohol-related fatal crashes occurred on U.S./State highways, 36.9 percent on county roads and 10.8 percent on city streets. Only 7.3 percent occurred on interstates, but this was an increase over our 1983 report.

19. Counties Without Alcohol-Related Fatal Crashes: Iowa, 1984

The following 27 counties had no reported alcohol-related fatal crashes in 1984, according to State accident files.

Adams	Decatur	Iowa	Monroe	Union
Bremer	Dickinson	Jones	Montgomery	Warren
Cass	Emmet	Kossuth	Pocahontas	Worth
Cherokee	Greene	Louisa	Sac	
Clarke	Hancock	Madison	Shelby	
Davis	Humboldt	Monona	Taylor	

In 1984, 46 counties exceeded the state average of 46.8 percent alcohol-related fatal crashes as shown in Table 13. These counties accounted for 69.9 percent of the total alcohol-related fatal crashes in the state. The average proportion of alcohol-related fatal crashes in these counties was 65.4 percent.

Counties with their corresponding number and percentage of alcohol-related fatal crashes are shown for the year 1984 in Table 17.

TABLE 17
 COUNTIES RECORDING FATAL ALCOHOL INVOLVEMENT ABOVE THE STATE
 AVERAGE OF 46.8 PERCENT:
 IOWA, 1984

County	Total Crashes	Alcohol-Related Crashes	Percent
Allamakee	5	3	60.0
Appanoose	2	2	100.0
Audubon	2	1	50.0
Benton	4	2	50.0
Boone	2	1	50.0
Butler	1	1	100.0
Calhoun	2	1	50.0
Carroll	2	1	50.0
Cedar	4	2	50.0
Cerro Gordo	4	3	75.0
Clay	1	1	100.0
Clayton	3	2	66.7
Clinton	3	2	66.7
Crawford	4	3	75.0
Dallas	2	2	100.0
Delaware	3	2	66.7
Des Moines	4	2	50.0
Dubuque	11	8	72.7
Floyd	1	1	100.0
Franklin	4	2	50.0
Fremont	3	2	66.7
Grundy	2	2	100.0
Guthrie	2	1	50.0
Henry	4	3	75.0
Howard	6	4	66.7
Jackson	2	2	100.0
Jefferson	3	2	66.7
Johnson	9	5	55.6
Lee	5	5	100.0
Linn	12	7	58.3
Mahaska	6	3	50.0
Marshall	8	4	50.0
Mills	2	1	50.0
Mitchell	2	2	100.0
O'Brien	2	1	50.0
Page	4	3	75.0
Palo Alto	1	1	100.0
Pottawattamie	10	5	50.0
Ringgold	2	1	50.0
Scott	15	10	66.7
Sioux	3	2	66.7
Story	7	5	71.4
Wapello	2	1	100.0
Winnebago	3	2	66.7
Winneshiek	4	3	75.0
Wright	5	3	60.0
Total	188	123	65.4

TABLE 18
ALCOHOL-RELATED FATAL CRASHES AND FATALITIES BY COUNTY:
IOWA, 1984

County	Fatal Accidents			Fatalities		
	Total	Alcohol-Related	% Alcohol-Related	Total	Alcohol-Related	% Alcohol-Related
	1984	1984	1984	1984	1984	1984
Adair	3	1	33.3	3	1	33.3
Adams	1	-	-	1	-	-
Allamakee	5	3	60.0	5	3	60.0
Appanoose	2	2	100.0	2	2	100.0
Audubon	2	1	50.0	2	1	50.0
Benton	4	2	50.0	4	2	50.0
Black Hawk	9	2	22.2	10	2	20.0
Boone	2	1	50.0	2	1	50.0
Bremer	-	-	-	-	-	-
Buchanan	6	2	33.3	6	2	33.3
Buena Vista	6	2	33.3	8	2	25.0
Butler	1	1	100.0	1	1	100.0
Calhoun	2	1	50.0	2	1	50.0
Carroll	2	1	50.0	3	1	33.3
Cass	1	-	-	1	-	-
Cedar	4	2	50.0	4	2	50.0
Cerro Gordo	4	3	75.0	5	4	80.0
Cherokee	1	-	-	1	-	-
Chickasaw	3	1	33.3	3	1	33.3
Clarke	-	-	-	-	-	-
Clay	1	1	100.0	1	1	100.0
Clayton	3	2	66.7	3	2	66.7
Clinton	3	2	66.7	5	4	80.0
Crawford	4	3	75.0	4	3	75.0
Dallas	2	2	100.0	2	2	100.0
Davis	-	-	-	-	-	-
Decatur	1	-	-	1	-	-
Delaware	3	2	66.7	3	2	66.7
Des Moines	4	2	50.0	5	3	60.0
Dickinson	2	-	-	3	-	-
Dubuque	11	8	72.7	11	8	72.7
Emmet	1	-	-	1	-	-
Fayette	3	1	33.3	5	3	60.0
Floyd	1	1	100.0	1	1	100.0
Franklin	4	2	50.0	4	2	50.0
Fremont	3	2	66.7	3	2	66.7
Greene	1	-	-	1	-	-
Grundy	2	2	100.0	2	2	100.0
Guthrie	2	1	50.0	2	1	50.0
Hamilton	5	2	40.0	5	2	40.0
Hancock	2	-	-	2	-	-
Hardin	4	1	25.0	5	2	40.0
Harrison	5	2	40.0	5	2	40.0
Henry	4	3	75.0	9	8	88.9
Howard	6	4	66.7	6	4	66.7
Humboldt	1	-	-	1	-	-
Ida	4	1	25.0	5	1	20.0
Iowa	1	-	-	1	-	-
Jackson	2	2	100.0	3	3	100.0
Jasper	11	4	36.4	12	4	33.3
Jefferson	3	2	66.7	3	2	66.7

Table 18
Continued

County	Fatal Accidents			Fatalities		
	Total	Alcohol-Related	% Alcohol-Related	Total	Alcohol-Related	% Alcohol-Related
	1984	1984	1984	1984	1984	1984
Johnson	9	5	55.6	11	6	54.6
Jones	2	-	-	2	-	-
Keokuk	3	1	33.3	3	1	33.3
Kossuth	1	-	-	1	-	-
Lee	5	5	100.0	6	6	100.0
Linn	12	7	58.3	12	7	58.3
Louisa	1	-	-	1	-	-
Lucas	4	1	25.0	4	1	25.0
Lyon	3	1	33.3	3	1	33.3
Madison	2	-	-	4	-	-
Mahaska	6	3	50.0	6	3	50.0
Marion	7	3	42.9	8	4	50.0
Marshall	8	4	50.0	9	5	55.6
Mills	2	1	50.0	2	1	50.0
Mitchell	2	2	100.0	2	2	100.0
Monona	-	-	-	-	-	-
Monroe	1	-	-	1	-	-
Montgomery	-	-	-	-	-	-
Muscatine	6	2	33.3	7	2	28.6
O'Brien	2	1	50.0	2	1	50.0
Osceola	3	1	33.3	3	1	33.3
Page	4	3	75.0	4	3	75.0
Palo Alto	1	1	100.0	1	1	100.0
Plymouth	4	1	25.0	4	1	25.0
Pocahontas	3	-	-	3	-	-
Polk	30	12	40.0	32	14	43.8
Pottawattamie	10	5	50.0	10	5	50.0
Poweshiek	5	2	40.0	6	2	33.3
Ringgold	2	1	50.0	2	1	50.0
Sac	-	-	-	-	-	-
Scott	15	10	66.7	16	11	68.8
Shelby	-	-	-	-	-	-
Sioux	3	2	66.7	3	2	66.7
Story	7	5	71.4	8	5	62.5
Tama	3	1	33.3	5	2	40.0
Taylor	-	-	-	-	-	-
Union	3	-	-	3	-	-
Van Buren	4	1	25.0	5	1	20.0
Wapello	2	2	100.0	5	5	100.0
Warren	3	-	-	4	-	-
Washington	5	1	20.0	5	1	20.0
Wayne	3	1	33.3	3	1	33.3
Webster	9	3	33.3	12	3	25.0
Winnebago	3	2	66.7	4	3	75.0
Winneshiek	4	3	75.0	4	3	75.0
Woodbury	10	3	30.0	10	3	30.0
Worth	2	-	-	2	-	-
Wright	5	3	60.0	5	3	60.0
TOTAL	376	176	46.8	420	201	47.9

22. Position Of Fatalities By Age And Sex: Iowa, 1984

Fatalities in alcohol-related crashes for 1984 were investigated and listed under the categories of alcohol-related vehicle occupants and non-alcohol-related vehicle occupants. It is interesting to note that 81.6 percent of the fatalities occurred in the alcohol-related vehicle with 61.7 percent of these fatalities being the known driver of that vehicle.

Of the thirty-seven passengers killed in alcohol-related crashes in the alcohol-related vehicle, twenty-one or 56.8 percent were riding in the front seat of the vehicle.

Of the eleven passengers killed in alcohol-related crashes, but in the other vehicle, eight or 72.7 percent were riding in the front seat of that vehicle.

TABLE 19
FATALITIES IN ALCOHOL-RELATED CRASHES - BY AGE, SEX AND POSITION
IOWA, 1984

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	Total				
	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	4	-	3	-	8	1	9	1	5	-	20	3	41	2	11	2	2	2	3	-	3	-	-	-	-	-	112	12	124	61.7
	Passengers	2	1	1	1	1	-	3	-	1	-	4	2	3	1	1	1	-	2	4	1	2	3	1	-	1	1	-	-	-	-	-	-	24	13	37	18.4
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3	-	3	1.5
	Total	2	1	1	1	4	1	7	-	4	-	12	3	14	2	6	1	20	5	45	3	14	5	3	2	4	1	3	-	-	-	-	-	139	25	164	81.6
Occupants of Other Vehicles	Drivers	-	-	-	-	-	1	-	-	1	-	-	-	-	1	-	1	-	2	-	1	1	-	-	-	2	-	-	-	-	-	-	-	6	4	10	5.0
	Passengers	1	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	2	1	-	1	-	2	-	-	-	-	-	-	-	4	7	11	5.5
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	1	-	1	-	-	1	-	1	-	-	-	-	1	1	-	2	-	2	2	2	1	-	1	-	4	-	-	-	-	-	-	-	10	11	21	10.5
Pedestrians	-	-	-	-	-	-	1	2	-	-	2	-	-	-	4	-	-	-	1	-	-	-	1	1	2	-	-	-	-	-	-	-	11	3	14	7.0	
Bicyclists	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	1.0	
Grand Total	3	1	2	1	4	2	7	1	6	2	12	3	16	3	7	1	27	5	48	5	17	6	3	3	5	6	5	-	-	-	-	162	39	201	100.0 ^{1/}		

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

23. Position Of Injured Persons By Age And Sex: Iowa, 1984

The alcohol-related fatal crashes of 1984, not only took 201 lives but caused 160 additional persons to be injured. Data showed that 114 or 71.3 percent of these injured persons were riding in the vehicles operated by drinking drivers. Forty-two alcohol consuming drivers were included in the 114 injuries.

Of those who were vehicle passengers, including the occupants of both the alcohol-related vehicle and the non-alcohol related vehicle, 53.4 percent were riding in the front seat.

TABLE 20
INJURED PERSONS IN ALCOHOL-RELATED FATAL CRASHES - BY AGE, SEX AND POSITION
IOWA, 1984

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		M F		M F		M F		M F		M F		M F		M F		M F						
Occupants of Alcohol-Related Vehicles	Drivers	-	-	-	-	1	-	-	-	3	-	8	1	1	-	5	1	4	-	8	-	5	1	1	1	-	-	2	-	-	-	-	-	38	4	42	26.3
	Passengers	1	4	2	2	5	-	5	2	5	1	4	1	2	6	-	-	5	4	9	5	3	2	-	-	-	-	-	-	-	-	41	27	68	42.5		
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	1	-	4	-	4	2.5		
	Total	1	4	2	2	6	-	5	2	8	1	12	2	3	6	6	1	9	4	18	5	9	3	2	1	-	-	2	-	-	-	83	31	114	71.3		
Occupants of Other Vehicles	Drivers	-	-	-	-	2	-	1	1	2	-	2	-	1	-	1	-	2	1	5	1	3	1	3	-	1	-	1	-	-	-	-	-	24	4	28	17.5
	Passengers	-	2	1	-	-	-	1	1	-	-	-	-	-	-	1	-	1	3	2	2	1	1	-	-	-	-	-	-	-	-	7	9	16	10.0		
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	2	1	-	2	-	2	2	2	-	2	-	1	-	2	-	3	4	7	3	4	2	3	-	1	-	1	-	-	-	31	13	44	27.5		
Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1.3			
Bicyclists	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Grand Total	1	6	3	2	8	-	7	4	10	1	14	2	4	6	9	1	12	8	25	8	12	5	5	1	1	1	3	-	-	-	1	-	115	45	160	100.0 ^{1/}	

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

24. Legal History With Drinking Drivers Involved In Fatal Crashes By Age:
Iowa, 1970-1984

TABLE 21 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
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
1982	6	15	7	14	10	52	111	165 ^{1/}	37.6
OWI law with administrative revocation, July 1, 1982									
1983	5	8	18	23	12	66	142	211 ^{2/}	46.5
1984	5	4	7	18	11	45	132	117 ^{2/}	46.3
OWI law revised and tougher penalties for administrative revocation applied, July 1, 1984									

^{1/} 2 Unknown
^{2/} 3 Unknown

25. Drunk Driving Arrests In Iowa: 1974-1984

TABLE 22 DRUNK DRIVING ARRESTS IOWA, 1974-1984			
Year	Statewide Total	Year	Statewide Total
1974	4,001	1980	12,055
1975	5,745	1981	12,871
1976	7,967	1982	13,725
1977	11,466	1983	14,695
1978	11,397	1984	15,090
1979	11,501		

Source: Iowa Uniform Crime Reports

Year	ISP OWI Arrests	Year	ISP OWI Arrests
1974	1,673	1980	1,990
1975	1,912	1981	2,336
1976	2,873	1982	3,125
1977	3,107	1983	2,942
1978	2,410	1984	3,413
1979	1,698		

Source: Iowa State Patrol

Barcode Inside