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ALCOHOL-RELATED FATAL CRASH STUDY: IOWA

1981



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 1981

1. Out of a total of 529 fatal traffic crashes in 1981, 236 were alcohol-related. These crashes claimed 276 lives or 45.1 percent of the total traffic fatalities.
2. In 1981, 16 pedestrians were killed as a result of alcohol involvement. Twelve crashes involved drinking pedestrians only, two involved both a drinking driver and a drinking pedestrian, one crash involved a drinking pedestrian and a hit and run driver, and one pedestrian was killed by a drinking driver. Of the fifteen drinking pedestrians, 14 had BAC reports ranging from 0.021 to 0.388 percent and averaging 0.172. The ages ranged from 16 years to 76 years with one third percent aged 45 years and over.
3. In 1981, 66.9 percent of the alcohol-related fatal crashes were single motor vehicle crashes. The average BAC level of drivers involved in single crashes (0.180) was higher than the average of drivers involved in multiple crashes (0.150).
4. Of the 256 drinking drivers/pedestrians, 219 or 85.5 percent had blood alcohol tests. The average BAC of drivers tested was 0.169 and 80.3 percent of the drivers tested had a BAC of 0.100 percent or more. Data also showed that 61.1 percent of the drivers tested had a BAC of 0.150 or more which is symptomatic of the problem driver.
5. Approximately 44.8 percent of the drinking drivers involved in fatal traffic crashes were 24 years of age or younger. This shows a decrease from 1980 when the percentage of drivers 24 years and younger was 50.7.
6. 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.) especially for the drivers 24 years of age or younger.
7. The result of the analysis indicated that both the younger and older drivers were involved in considerably more fatal crashes than middle-aged drivers during the weekends starting with Friday.
8. The study also revealed that drivers 19 years of age and under had lower levels of alcohol in their blood than older drivers when involved in fatal crashes. This suggests that young drivers are more vulnerable to traffic crashes when alcohol is involved.
9. The months of March and July ranked highest in the proportion of alcohol-related fatal crashes in 1981.
10. Driving left of center and speeding accounted for 55.3 percent of the violations in multiple vehicle alcohol-related fatal crashes. Approximately 78.3 percent of the violations in single vehicle crashes were speeding and failure to have control of the vehicle.
11. In 1981, 48 counties exceeded the state average of 44.6 percent alcohol-related fatal crashes as shown in Table 13. These counties accounted for 66.5 percent of the total alcohol-related fatal crashes in the state. Twenty counties had no reported alcohol-related fatal crashes in 1981.

12. About 42.8 percent of the alcohol-related crashes occurred on U.S./State highways, 36.9 percent on county roads, and 14.4 percent on city streets. Only 5.5 percent occurred on interstates.
13. The proportion of alcohol-related fatal crashes has increased in the years 1975-1981 (39.6 percent) when compared with the years 1970-1974 (31.3 percent). However, the data indicated that Iowa's Alcohol Safety Action Program has resulted in an improvement in reporting alcohol involvement and a sizable increase in the numbers of BAC tests performed. It is difficult, therefore, to compare the time periods with respect to the true alcohol-related accident experience. Surrogate measures cannot provide an alternative because of a change in the automated record system in 1977.

ALCOHOL-RELATED FATAL CRASH STUDY: IOWA, 1981

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, 1981

In 1981, 236 or 44.6 percent of the 529 fatal traffic crashes in the state were alcohol-related. These alcohol-related crashes claimed 276 lives and represented 45.1 percent of the total killed on Iowa's roads. Table 1 shows the number of drinking drivers according to the degree of drinking.

Degree of Drinking	Fatal Crashes			Fatalities		
	#	% of Subtotal	% of Grand Total	#	% of Subtotal	% of Grand Total
Driver Ability Impaired	186	78.8	35.2	220	79.7	35.9
Driver Ability Not Impaired	37	15.7	7.0	43	15.6	7.0
Pedestrian (only) Drinking	13 ^{1/}	5.5	2.4	13 ^{1/}	4.7	2.1
Drinking Driver Ability Not Stated	---	-----	-----	---	-----	-----
Subtotal	236	100.0	44.6	276	100.0	45.1
Total Not Drinking or Unknown	293	-----	55.4	336	-----	54.9
Grand Total	529	-----	100.0	612	-----	100.0

^{1/} One crash was a hit and run accident. Pedestrian known to be drinking, driver's condition unknown.

4. Drinking Pedestrians: Iowa, 1981

In 1981, 16 pedestrians were fatally injured as a result of a alcohol involvement. This comprised 34.8 percent of the total pedestrians (46) killed in 1981. Fifteen of these fatalities were drinking pedestrians: twelve crashes in which the pedestrian alone was drinking, one in which the pedestrian was drinking and the driver's condition was unknown because it was a hit and run accident, and two in which the pedestrian and the driver were both drinking. One person was killed where the driver alone was drinking. Table 2 shows the pedestrian fatalities due to alcohol consumption. Of the 15 drinking pedestrians, fourteen had BAC reports ranging from 0.021 to 0.388 percent and averaging 0.172. The ages of the drinking pedestrians ranged from 16 to 76 years of age with 33.3 percent of the drinking pedestrians aged 45 years and over. Three of the drinking pedestrians were female.

TABLE 2
ALCOHOL-RELATED FATALITIES:
IOWA, 1981

Fatality Group	Category	#	%
Pedestrian Fatalities	Related to Drinking Pedestrians (only)	13 ^{1/}	4.7
	Related to Drinking Drivers and Drinking Pedestrians	2	0.7
	Related to Drinking Drivers (only)	1	0.4
Driver & Passenger Fatalities	Related to Drinking Drivers	260	94.2
Total Alcohol-Related Fatalities		276	100.0

^{1/} One accident involved a drinking pedestrian and a hit and run driver.

5. Fatal Crashes Involving Drinking Drivers By Type Of Crash: Iowa, 1981

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 66.9 percent of the alcohol-related fatal crashes involved single vehicles. This table also shows an average BAC of 0.180 percent for those operators. The average BAC level in single vehicle accidents was higher than the level of drivers in multiple vehicle crashes.

TABLE 3
ALCOHOL-RELATED FATAL CRASHES BY TYPE OF CRASH:
IOWA, 1981

Type of Crash	Fatal Crashes				Fatalities			
	Number of Crashes	% of Grand Total	% of Subtotal	Number of Drivers With BAC	Mean BAC's	Number of Fatalities	% of Grand Total	% of Subtotal
SINGLE MOTOR VEHICLE	158	66.9	100.0	136	.180	178	64.5	100.0
Overtuned	47	19.9	29.7	43	.176	50	18.1	28.1
Collided with Fixed Object	87	36.9	55.1	73	.187	104	37.7	58.4
Collided with Drinking Pedestrian	15	6.4	9.5	15	.167	15	5.4	8.4
Collided with Non-Drinking Pedestrian	1	0.4	0.6	1	.222	1	0.4	0.6
Collided with Bicyclist	2	0.8	1.3	2	.116	2	0.7	1.1
Others	6	2.5	3.8	2	.190	6	2.2	3.4
SUBTOTAL MULTIPLE MOTOR VEHICLE	78	33.1	100.0	83	.150	98	35.5	100.0
Collided with Motor Vehicle in Traffic	73	30.9	93.6	79	.154	91	33.0	92.9
Train	5	2.1	6.4	4	.092	7	2.5	7.1
Grand Total SINGLE AND MULTIPLE	236	100.0	-----	219	.169	276	100.0	-----

6. Number Of Drinking Drivers Tested By Degree Of Impairment: Iowa, 1981

In 1981, there were 241 drinking drivers and 15 drinking pedestrians. Of these, blood alcohol test results were reported for 205 drivers and 14 pedestrians. Of the "ability impaired" category (totaling 194), 176 or 90.7 percent had known BACs. Of the "ability not impaired" category, 43 or 70.5 percent had test results reported. Table 4 shows the proportion of drinking drivers/pedestrians with alcohol test results.

Drinking Drivers and Pedestrians	TOTAL		Ability Impaired		Ability Not Impaired		Impairment Not Stated	
	#	%	#	%	#	%	#	%
BAC Reported	219	85.5	176	90.7	43	70.5	-	-----
BAC Unknown	37	14.5	18	9.3	18	29.5	1	100.0
Total	256 ^{1/}	100.0	194	100.0	61	100.0	1	100.0

^{1/} This includes 15 drinking pedestrians, 11 "impaired" and 4 "not impaired".

7. Number Of Drinking Drivers Tested By BAC Level: Iowa, 1981

Table 5 shows the frequency of drinking drivers/pedestrians by BAC level. Of the 219 tested, 176 had a BAC of 0.100 percent or more. A BAC of 0.100 and above is presumptive evidence of operating a motor vehicle while under the influence (OMVUI) in the State of Iowa. Data also showed that 134 or 61.1 percent had a BAC of 0.150 or more.

BAC Level	Number of Drinking Drivers/Pedestrians	Percent of Drinking Drivers/ Pedestrians in Each BAC Level
Below .050	15	6.8
.050-.099	28 ^{1/}	12.8
.100-.149	42 ^{1/}	19.2
.150-.199	59 ^{1/}	26.9
.200-.249	45 ^{1/}	20.5
.250-.299	21 ^{1/}	9.6
.300-.349	4 ^{1/}	1.8
.350-.399	2 ^{1/}	0.9
.400+	3	1.4
Total	219	100.0*

^{1/} Includes one or more drinking pedestrians.

* Percentages does not actually total 100.0 due to rounding.

8. Drinking Drivers Involved In Fatal Crashes By Age: Iowa, 1981

The age distribution of drinking drivers involved in fatal crashes in 1981 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, 108 or 44.8 percent were 24 years of age or younger. This proportion exceeds the already large proportion of young drivers involved in fatal crashes which is 37.4 percent. When compared with the proportion of young drivers with a valid drivers license (22.3 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, 1981

Age	Drinking Drivers		All Drivers		Number of Licensed Drivers*	
	#	%	#	%	#	%
16 & Below	4	1.7	36	4.5	44,053	1.8
17	9	3.7	31	3.9	50,650	2.1
18	20	8.3	41	5.2	54,508	2.3
19	17	7.1	38	4.8	59,393	2.5
20	19	7.9	35	4.4	63,690	2.6
21-24	39	16.2	117	14.7	261,927	10.8
25-34	82	34.0	199	25.0	623,856	25.8
35-44	27	11.2	96	12.1	373,439	15.4
45-54	8	3.3	63	7.9	290,008	11.9
55-64	9	3.7	62	7.8	275,376	11.4
65 & Up	4	1.7	60	7.5	325,414	13.4
Driver Unknown	3	1.2	18	2.3	-----	-----
Total	241	100.0	796	100.0 ^{1/}	2,422,314	100.0

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

* Preliminary list of licensed drivers. The preliminary list includes any learner's permits and the deceased drivers have not been removed. The updated report was not completed when this book went to print.

NOTE: This does not include the 15 drinking pedestrians. We had 16 alcohol-related accidents involving pedestrians. Of these:

- 12 drivers were not drinking
- 2 drivers and pedestrians both drinking
- 1 was a hit and run accident (only pedestrian known AR)
- 1 where only the driver was drinking

9. Drinking Drivers Involved In Crashes By Age And By Day Of The Week: Iowa, 1981

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.

TABLE 7
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND BY DAY OF WEEK:
IOWA, 1981

Days of The Week	Total		Under 16		16-18 Years		19 Years		20 Years		21-24 Years		25-34 Years		35-44 Years		45-64 Years		65 Years & Older		Driver Unknown	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Monday	14	5.8	-	-----	1	3.2	1	5.9	1	5.3	3	7.7	3	3.7	3	11.1	1	5.9	1	25.0	-	-----
Tuesday	22	9.1	-	-----	2	6.5	1	5.9	--	-----	5	12.8	9	11.0	3	11.1	2	11.8	-	-----	-	-----
Wednesday	19	7.9	-	-----	2	6.5	1	5.9	2	10.5	6	15.4	4	4.9	2	7.4	2	11.8	-	-----	-	-----
Thursday	19	7.9	-	-----	2	6.5	1	5.9	3	15.8	1	2.6	7	8.5	2	7.4	1	5.9	1	25.0	1	33.3
Friday	45	18.7	-	-----	6	19.4	3	17.6	2	10.5	5	12.8	18	22.0	7	25.9	3	17.6	1	25.0	-	-----
Saturday	66	27.4	-	-----	9	29.7	4	23.5	5	26.3	13	33.3	23	28.0	5	18.5	6	35.3	-	-----	1	33.3
Sunday	56	23.2	2	100.0	9	29.7	6	35.3	6	31.6	6	15.4	18	22.0	5	18.5	2	11.8	1	25.0	1	33.3
TOTAL	241	100.0	2	100.0	31	100.0 ^{1/}	17	100.0	19	100.0	39	100.0	82	100.0 ^{1/}	27	100.0 ^{1/}	17	100.0 ^{1/}	4	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, 1981

Table 8 shows the distribution of drinking drivers by time of day and by age groups. The drivers in ages of 19 and 20 years were involved in the most fatal alcohol-related crashes and the highest percentage of these occurred during the hours of 12:00 Midnight - 2:59 A.M.

TABLE 8
DRINKING DRIVERS INVOLVED IN FATAL CRASHES BY AGE AND TIME OF DAY:
IOWA, 1981

Time	Total		Under 16		16-18 Years		19 Years		20 Years		21-24 Years		25-34 Years		35-44 Years		45-64 Years		65 Years & Older		Driver Unknown	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
6:00- 8:59 P.M.	35	14.5	-	-----	3	9.7	3	17.6	--	-----	8	20.5	13	15.9	5	18.5	2	11.8	1	25.0	-	-----
9:00-11:59 P.M.	68	28.2	-	-----	9	29.0	4	23.6	5	26.3	9	23.1	27	32.9	9	33.3	4	23.5	1	25.0	-	-----
12:00- 2:59 A.M.	80	33.2	2	100.0	14	45.1	8	47.1	11	57.9	10	25.6	21	25.6	7	25.9	4	23.5	-	-----	3	100.0
3:00- 5:59 A.M.	24	10.0	-	-----	2	6.5	2	11.8	2	10.5	8	20.5	8	9.8	--	-----	2	11.8	-	-----	-	-----
6:00- 8:59 A.M.	2	0.8	-	-----	--	-----	--	-----	--	-----	1	2.6	--	-----	--	-----	1	5.9	-	-----	-	-----
9:00-11:59 A.M.	3	1.2	-	-----	--	-----	--	-----	--	-----	--	-----	2	2.4	--	-----	1	5.9	-	-----	-	-----
12:00- 2:59 P.M.	10	4.1	-	-----	--	-----	--	-----	1	5.3	1	2.6	2	2.4	3	11.1	2	11.8	1	25.0	-	-----
3:00- 5:00 P.M.	13	5.4	-	-----	3	9.7	--	-----	--	-----	2	5.1	4	4.9	3	11.1	--	-----	1	25.0	-	-----
Time Unknown	6	2.5	-	-----	--	-----	--	-----	--	-----	--	-----	5	6.1	--	-----	1	5.9	-	-----	-	-----
TOTAL	241	100.0 ^{1/}	2	100.0	31	100.0	17	100.0 ^{1/}	19	100.0	39	100.0	82	100.0	27	100.0 ^{1/}	17	100.0 ^{1/}	4	100.0	3	100.0

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

13. Violations Committed By Drinking Drivers Involved In Fatal Crashes:
Iowa, 1981

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 55.3 percent of the violations in multiple vehicle fatal crashes.

Drinking drivers who were speeding and failed to have control caused 78.3 percent of the violations in single vehicle fatal crashes.

TABLE 11
VIOLATIONS COMMITTED BY DRINKING DRIVERS:
IOWA, 1981

Violations	Multiple Vehicle		Single Vehicle	
	#	%	#	%
Drove Left of Center	37	35.9	---	-----
Speeding	20	19.4	81	46.3
Failure to Have Control	9	8.7	56	32.0
Failure to Yield	9	8.7	---	-----
Ran Stop Sign	8	7.8	1	0.6
Ran Traffic Signal	1	1.0	---	-----
Ran Railroad Signal	---	-----	5	2.9
Reckless Driving	3	2.9	10	5.7
Wrong Way on a One Way Street	2	1.9	---	-----
Improper Passing	3	2.9	---	-----
Improper Turn	2	1.9	---	-----
Pedestrian Violation	---	-----	15	8.6
Violation By Other Driver	2	1.9	---	-----
Violations By Other Drinking Driver	6	5.8	---	-----
Other	1	1.0	6	3.4
Unknown	---	-----	1	0.6
Total	103	100.0 ^{1/}	175	100.0 ^{1/}

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

14. Alcohol-Related Fatal Crashes By Location: Iowa, 1981

An analysis showed that 73.7 percent of the crashes occurred in the rural areas while only 26.3 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	--	--	--	3	1	3	2	--	13	5.5
Primary	5	7	6	9	12	6	11	14	12	8	4	7	101	42.8
County	6	3	9	4	5	10	13	7	9	7	6	8	87	36.9
City Streets	2	1	4	3	6	4	2	2	3	4	1	2	34	14.4
Others	--	--	--	--	--	--	--	--	1	--	--	--	1	0.4
Total	15	12	19	17	23	20	26	26	26	22	13	17	236	100.0

The preceding table shows that 42.8 percent of the alcohol-related fatal crashes occurred on U.S./State highways, 36.9 percent on county roads and 14.4 percent on city streets. Only 5.5 percent occurred on interstates, but that was an increase over previous years (1977-1980).

15. Alcohol-Related Fatal Crashes By County: Iowa, 1981

The following 20 counties had no reported alcohol-related fatal crashes in 1981, according to State accident files.

Adair	Dickinson	Marshall	Ringgold
Bremer	Grundy	Monroe	Story
Butler	Jefferson	O'Brien	Van Buren
Calhoun	Madison	Osceola	Wright
Davis	Mahaska	Pocahontas	Worth

In 1981, 48 counties exceeded the state average of 44.6 percent alcohol-related fatal crashes as shown in Table 13. These counties accounted for 66.5 percent of the total alcohol-related fatal crashes in the state. The average proportion of alcohol-related fatal crashes in these counties was 61.1 percent.

Counties with their corresponding number and percentage of alcohol-related fatal crashes are shown for the year 1981.

TABLE 13
COUNTIES RECORDING FATAL ALCOHOL INVOLVEMENT ABOVE THE STATE
AVERAGE OF 44.6 PERCENT:
IOWA, 1981

County	Total Crashes	Alcohol-Related Crashes	Percent
Adams	2	1	50.0
Allamakee	3	2	66.7
Appanoose	4	3	75.0
Audubon	2	2	100.0
Buchanan	5	3	60.0
Buena Vista	2	1	50.0
Cerro Gordo	7	6	85.7
Cherokee	5	3	60.0
Chickasaw	1	1	100.0
Clarke	4	2	50.0
Clay	2	1	50.0
Clayton	5	3	60.0
Clinton	14	9	64.3
Dallas	5	3	60.0
Decatur	1	1	100.0
Dubuque	13	8	61.5
Emmet	4	2	50.0
Fremont	3	2	66.7
Guthrie	1	1	100.0
Hamilton	2	1	50.0
Hancock	3	2	66.7
Hardin	4	2	50.0
Howard	3	2	66.7
Humboldt	3	2	66.7
Ida	2	1	50.0
Jackson	8	4	50.0
Johnson	12	7	58.3
Kossuth	4	2	50.0
Louisa	3	2	66.7
Lucas	4	2	50.0
Lyon	4	2	50.0
Mills	2	2	100.0
Mitchell	2	2	100.0
Monona	6	3	50.0
Montgomery	4	2	50.0
Palo Alto	2	1	50.0
Plymouth	6	4	66.7
Pottawatomie	24	13	54.2
Scott	25	17	68.0
Sioux	4	3	75.0
Tama	7	4	57.1
Taylor	2	2	100.0
Union	4	3	75.0
Wapello	6	3	50.0
Wayne	2	1	50.0
Webster	13	7	46.2
Winnebago	1	1	100.0
Woodbury	12	6	50.0
Total	257	157	61.1

TABLE 14
ALCOHOL-RELATED FATAL CRASHES AND FATALITIES BY COUNTY:
IOWA, 1980-1981

County	Fatal Accidents						Fatalities					
	Total		Alcohol-Related		% Alcohol-Related		Total		Alcohol-Related		% Alcohol-Related	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
Adair	6	---	1	---	16.7	-----	9	---	1	---	11.1	-----
Adams	1	2	---	1	-----	50.0	2	2	---	1	-----	50.0
Allamakee	6	3	1	2	16.7	66.7	6	4	1	3	16.7	75.0
Appanoose	1	4	---	3	-----	75.0	2	4	---	3	-----	75.0
Audubon	3	2	1	2	33.3	100.0	3	2	1	2	33.3	100.0
Benton	8	6	---	1	-----	16.7	8	6	---	1	-----	16.7
Black Hawk	11	24	3	8	27.3	33.3	16	28	6	8	37.5	28.6
Boone	7	8	3	3	42.9	37.5	7	11	3	4	42.9	36.4
Bremer	7	1	3	---	42.9	-----	7	1	3	---	42.9	-----
Buchanan	3	5	1	3	33.3	60.0	3	6	1	4	33.3	66.7
Buena Vista	5	2	1	1	20.0	50.0	5	2	1	1	20.0	50.0
Butler	4	3	2	---	50.0	-----	4	3	2	---	50.0	-----
Calhoun	---	---	---	---	-----	-----	---	---	---	---	-----	-----
Carroll	6	3	4	1	66.7	33.3	8	4	6	1	75.0	25.0
Cass	8	3	1	1	12.5	33.3	9	3	1	1	11.1	33.3
Cedar	3	7	1	2	33.3	28.6	3	8	1	3	33.3	37.5
Cerro Gordo	11	7	6	6	54.5	85.7	12	8	7	7	58.3	87.5
Cherokee	4	5	2	3	50.0	60.0	4	5	2	3	50.0	60.0
Chickasaw	4	1	---	1	-----	100.0	4	1	---	1	-----	100.0
Clarke	3	4	2	2	66.7	50.0	3	7	2	5	66.7	71.4
Clay	5	2	2	1	40.0	50.0	8	2	2	1	25.0	50.0
Clayton	7	5	3	3	42.9	60.0	9	7	3	4	33.3	57.1
Clinton	10	14	5	9	50.0	64.3	11	17	6	12	54.5	70.6
Crawford	5	4	2	1	40.0	25.0	6	5	2	2	33.3	40.0
Dallas	11	5	5	3	45.5	60.0	14	5	5	3	35.7	60.0
Davis	1	2	1	---	100.0	-----	2	2	2	---	100.0	-----
Decatur	2	1	1	1	50.0	100.0	2	1	1	1	50.0	100.0
Delaware	2	5	1	2	50.0	40.0	3	6	2	2	66.7	33.3
Des Moines	6	5	2	2	33.3	40.0	8	6	2	2	25.0	33.3
Dickinson	5	1	3	---	60.0	-----	6	1	4	---	66.7	-----
Dubuque	12	13	9	8	75.0	61.5	12	15	9	10	75.0	66.7

Table 14
Continued

County	Fatal Accidents					Fatalities						
	Total		Alcohol-Related		% Alcohol-Related		Total		Alcohol-Related		% Alcohol-Related	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
Emmet	2	4	---	2	-----	50.0	2	5	---	2	-----	40.0
Fayette	4	5	1	1	25.0	20.0	4	6	1	1	25.0	16.7
Floyd	7	5	5	2	71.4	40.0	10	6	8	2	80.0	33.3
Franklin	5	4	3	1	60.0	25.0	7	4	3	1	42.9	25.9
Fremont	1	3	1	2	100.0	66.7	2	3	2	2	100.0	66.7
Greene	7	4	3	1	42.9	25.0	8	4	4	1	50.0	25.0
Grundy	4	1	---	---	---	---	5	1	---	---	---	---
Guthrie	3	1	2	1	66.7	100.0	3	1	2	1	66.7	100.0
Hamilton	3	2	---	1	---	50.0	3	2	---	1	---	50.0
Hancock	2	3	1	2	50.0	66.7	3	6	2	5	66.7	83.3
Hardin	4	4	4	2	100.0	50.0	5	4	5	2	100.0	50.0
Harrison	9	5	2	1	22.2	20.0	11	5	2	1	18.2	20.0
Henry	2	5	1	2	50.0	40.0	2	5	1	2	50.0	40.0
Howard	2	3	---	2	---	66.7	3	4	---	3	---	75.0
Humboldt	2	3	1	2	50.0	66.7	2	3	1	2	50.0	66.7
Ida	1	2	---	1	---	50.0	1	4	---	1	---	25.0
Iowa	9	5	---	2	---	40.0	10	6	---	3	---	50.0
Jackson	2	8	---	4	---	50.0	2	9	---	4	---	44.4
Jasper	6	6	4	1	66.7	16.7	6	6	4	1	66.7	16.7
Jefferson	4	3	2	---	50.0	---	4	3	2	---	50.0	---
Johnson	14	12	10	7	71.4	58.3	17	14	13	8	76.5	57.1
Jones	4	7	2	2	50.0	28.6	4	8	2	2	50.0	25.0
Keokuk	7	3	3	1	42.9	33.3	12	3	3	1	25.0	33.3
Kossuth	5	4	---	2	---	50.0	6	4	---	2	---	25.0
Lee	12	10	6	4	50.0	40.0	14	11	7	4	50.0	36.4
Linn	15	17	6	7	40.0	41.2	16	18	7	8	43.8	44.4
Louisa	3	3	2	2	66.7	66.7	3	5	2	2	66.7	40.0
Lucas	4	4	2	2	50.0	50.0	4	4	2	2	50.0	50.0
Lyon	3	4	---	2	---	50.0	3	4	---	2	---	50.0
Madison	1	1	---	---	---	---	1	2	---	---	---	---
Mahaska	2	---	2	---	100.0	---	2	---	2	---	100.0	---
Marion	2	5	---	2	---	40.0	2	6	---	3	---	50.0

Table 14
Continued

County	Fatal Accidents						Fatalities					
	Total		Alcohol-Related		% Alcohol-Related		Total		Alcohol-Related		% Alcohol-Related	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
Marshall	11	6	5	---	45.5	-----	13	7	5	---	38.5	-----
Mills	2	2	---	2	-----	100.0	3	2	---	2	-----	100.0
Mitchell	2	2	1	2	50.0	100.0	3	2	1	2	33.3	100.0
Monona	6	6	3	3	50.0	50.0	8	6	5	3	62.5	50.0
Monroe	6	1	---	---	-----	-----	7	3	---	---	-----	-----
Montgomery	2	4	1	2	50.0	50.0	3	5	1	3	33.3	60.0
Muscatine	11	10	4	4	36.4	40.0	11	12	4	6	36.4	50.0
O'Brien	1	7	1	---	100.0	-----	3	7	3	---	100.0	-----
Osceola	1	1	1	---	100.0	-----	1	1	1	---	100.0	-----
Page	4	3	1	1	25.0	33.3	4	3	1	1	25.0	33.3
Palo Alto	2	2	1	1	50.0	50.0	2	3	1	2	50.0	66.7
Plymouth	5	6	4	4	80.0	66.7	5	6	4	4	80.0	66.7
Pocahontas	6	3	1	---	16.7	-----	7	6	1	---	14.3	-----
Polk	50	43	18	17	36.0	39.5	57	51	20	20	35.1	39.2
Pottawattamie	11	24	2	13	18.2	54.2	14	26	2	14	14.3	53.8
Poweshiek	4	5	1	1	25.0	20.0	4	7	1	1	25.0	14.3
Ringgold	4	1	2	---	50.0	-----	4	2	2	---	50.0	-----
Sac	6	5	1	2	16.7	40.0	6	7	1	2	16.7	28.6
Scott	20	25	16	17	80.0	68.0	23	28	19	20	82.6	71.4
Shelby	1	3	---	1	-----	33.3	1	3	---	1	-----	33.3
Sioux	6	4	1	3	16.7	75.0	6	4	1	3	16.7	75.0
Story	3	7	1	---	33.3	-----	3	8	1	---	33.3	-----
Tama	4	7	4	4	100.0	57.1	5	8	5	4	100.0	50.0
Taylor	2	2	---	2	-----	100.0	2	2	---	2	-----	100.0
Union	4	4	3	3	75.0	75.0	4	6	3	5	75.0	83.3
Van Buren	---	1	---	---	-----	-----	---	1	---	---	-----	-----
Wapello	4	6	2	3	50.0	50.0	4	7	2	3	50.0	42.9
Warren	8	3	---	1	-----	33.3	9	3	---	1	-----	33.3
Washington	4	11	2	4	50.0	36.4	5	12	2	5	40.0	41.7
Wayne	3	2	3	1	100.0	50.0	3	2	3	1	100.0	50.0
Webster	13	13	4	6	30.8	46.2	15	14	5	7	33.3	50.0

Table 14
Continued

County	Fatal Accidents						Fatalities					
	Total		Alcohol-Related		% Alcohol-Related		Total		Alcohol-Related		% Alcohol-Related	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
Winnebago	1	1	1	1	100.0	100.0	1	2	1	2	100.0	100.0
Winneshiek	4	3	1	1	25.0	33.3	4	3	1	1	25.0	33.3
Woodbury	10	12	4	6	40.0	50.0	10	14	4	7	40.0	50.0
Worth	1	---	---	---	---	---	1	---	---	---	---	---
Wright	1	1	---	---	---	---	2	1	---	---	---	---
TOTAL	541	529	218	236	40.3	44.6	626	612	251	276	40.1	45.1

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