UPDATE REPORT

ON

SPEED LIMITS IN IOWA

PREPARED
by

TASK FORCE ON SPEED LIMITS

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EXECUTIVE SUMMARY

The National Highway System Designation Act of 1995 repealed the National Maximum Speed Limit (NMSL) and returned authority to set speed limits to the states. In the interest of providing information to legislative decision-makers, the Iowa Safety Management System Coordinating Committee (SMS) formed a Speed Limit Task Force. The Speed Limit Task Force has issued reports on the subject of speed limits in early 1996, 1997, 1998 and 1999.

Iowa Code section 321.285 was amended in 1996 to authorize the Department of Transportation (DOT) to increase speed limits to 65 mph on certain divided multi-lane highways.

Summary of Speed Limit Increases on Iowa Expressways and Freeways[1]

- 355 miles of rural, four-lane divided freeways and expressways were included in the initial Iowa DOT engineering review of highways eligible for increased speed limits under the new law.
- After the review, 248 miles of highway had speed limits increased to 65 mph.
- As of January 2000, over 538 miles of Iowa freeways and expressways had the increased speed limit of 65 mph.

This Report is a compilation of data gathered in Iowa and from other states regarding changing speed limits and changing travel speeds, crashes, injuries, and fatalities. Roadways with more recent speed limit changes are not in the study data captured for this report.

Key Findings on Speeds on Iowa's Rural Expressways and Freeways

- The 85th percentile operating speeds have increased an average of 7.8 mph (from 61.6 to 69.4 mph) since the new speed limits went into effect in 1996. The 85th percentile speed is the speed 85 percent of vehicles travel at or below, and 15 percent of vehicles exceed. (Refer to page 5 for 85th Percentile speed details.)

[1] "Freeways" are divided, multiple-lane highways with full access control (no intersections) "Expressways" are like freeways, but include at grade intersections.

- The percent of vehicles observed in violation of the posted speed limit decreased from 71% to 31% immediately following the 1996 change in the speed limit from 55 to 65 mph. However, in 1999—three years after the speed limit change—the percent in violation had increased to 47%. Studies indicate that average vehicle driver (50th percentile) speeds remain near 65 mph on Iowa's freeways and expressways. (Refer to Table 2.)
- In comparing the Iowa data for the Interstate system with the other states, the speeds are approximately the same as other states with 70 mph speed limits, but about 5 mph less than states with 75 mph speed limits.

Key Findings on Crashes on Iowa's Rural Expressways and Freeways

- The sections of expressway where speeds were increased from 55 to 65 mph in 1996 continue to show a higher frequency of fatal crashes before the speed limit change. The totals for mid 1996 to mid 1999 include 26 fatal crashes involving 33 fatalities. This contrasts sharply with the mid 1993-mid 1996 totals of 3 fatal crashes and 3 fatalities.
- Crash and injury rates on Iowa expressways before and after the speed limit increased from 55 to 65 mph are compared in Table ES-1. The data showed increases of:
  - 28% for the rate of "Fatal and Injury Crashes"
  - 23% for the rate of "All Crashes"
  - 75% for the rate of "Fatal Plus Major Injuries"
  - 26% for the rate of "Other" injuries

Table ES-1 Crash and Injury Rate Comparisons on Iowa Expressways

	"Before" Rates Per HMVM*	"After" Rates Per HMVM*	Percent Change
Fatal Crashes	0.30	1.88	+ 527%
Fatal and Injury Crashes	25	32	+ 28%
All Crashes	77	95	+ 23%
Fatalities	0.30	2.39	+ 697%
Fatalities Plus Major Injuries	5.1	8.9	+ 75%
Other Less Severe Injuries	35	44	+ 26%

Rates Per Hundred Million Vehicle Miles (HMVM) from Table 7

*"Before" Rates are based on composite totals from the 1992-1993 and 1994-1995 data shown in Table 7

- Crash rates on 65 mph fully access controlled, non-Interstate freeways were approximately 2 to 3 times greater than crash rates on the Interstate System.
- While an increase in fatalities, injuries, and total crashes following the speed limit change has been documented, it is important to continue to monitor crash data from these systems.
- The number of Iowa State Patrol speeding citations issued has not experienced any significant increases or decreases from 1993 to 1999. (See Table 13, page 31.)

Key Findings from Surrounding States

Table ES-2 contains rural Interstate fatality data from Iowa and surrounding states, and is summarized here:

- In Minnesota, rural Interstate speed limits were increased to 70 mph in July 1997. The average of 1998-1999 rural Interstate fatalities was up 56% compared to the 1993-1996 average.
- Missouri has reported annual Interstate fatal crashes 34.4%, 49.6% and 43.2% higher than the annual average prior to the speed limit increase to 70 mph. Missouri averaged 125 fatal crashes per year on their Interstate for the three years preceding the speed limit change. Following the speed limit increase in 1996, the number of fatal crashes increased to 168, 187 and 179 in 1996, 1997 and 1998 respectively.
- In Nebraska, where rural Interstate speed limits were increased to 75 mph, 1996-1999 average rural Interstate fatalities were up 64% compared to the 1993-1995 average.

- South Dakota raised the rural Interstate speed limit to 75 mph in early 1996. Annual rural Interstate fatalities for 1996-1999 remained at 15, unchanged from the 1993-1995 average.
- Iowa's average annual fatalities on rural Interstates also remained unchanged, averaging 32 for both the 1993-1995 and 1996-1999 periods.

Table ES-2 Rural Interstate Fatalities in Iowa and Surrounding States

State	Limit Change	1993-1995 Annual Ave.	1996-1999 Annual Ave.	Percent Change
Iowa	No, 65 mph	32.0	32.0	0
Minnesota	Yes, 70 mph	19.5	30.5	+ 56%
Missouri	Yes, 70 mph	125	178	+ 42%
Nebraska	Yes, 75 mph	19.7	32.3	+ 64%
South Dakota	Yes, 75 mph	15.0	15.0	0

- Because of the increase in total miles traveled, Iowa's rates for rural Interstate fatalities and fatal crashes have declined modestly since 1988. However, the rural Interstate rates have not decreased as much as the rates on the rural Primary System. This can be seen in Tables A-1 and A-2 in the Appendix.
- A comparison was also made of total traffic fatalities for Iowa and surrounding states for 1993-1995 and 1996-1998. The states that did not raise speed limits above 65 mph (IA, IL, WI) experienced declines of 5.9%, 5.7% and an increase of 1.2% respectively. The states that raised their speed limit above 65 mph experienced increases in their traffic fatalities ranging from 6.7% to 19.3%. See Table ES-3 and Table A-3 in the Appendix.

Table ES-3 Change in Total Traffic Fatalities from 1993-95 to 1996-98

States That Did Not Change Speed Limits Above 65 mph		States That Did Change Speed Limits Above 65 mph	
Iowa	- 5.9%	Kansas	+ 11.7%
Illinois	- 5.7%	Minnesota	+ 6.7%
Wisconsin	+ 1.2%	Missouri	+ 11.6%
		Nebraska	+ 19.3%
		South Dakota	+ 8.0%

- Some state fatality statistics for the interstate system were from the statewide Interstate system including both rural and urban Interstates.
- Kansas, Nebraska, and South Dakota also increased the speed limit on many of the two-lane highways.

INTRODUCTION

The National Highway Designation Act of 1995 repealed the National Maximum Speed Limit (NMSL) and returned authority to set speed limits to the states. To provide information to legislative decision-makers, the Iowa Safety Management System Coordinating Committee (SMS) formed a Speed Limit Task Force in late 1995. This Task Force developed information reports on the subject of speed limits early in 1996, 1997, 1998 and 1999. Copies of these reports are available by contacting the Iowa Department of Transportation Office of Traffic Engineering in Ames.

As in past years, the SMS reconvened the Speed Limit Task Force to develop an update on what has happened with speed limits, operating speeds and crash statistics in the past 12 months.

This report is a compilation of the findings of the Task Force. It contains information on speed limit changes, operating speeds, fatalities, injuries, and speeding citations. It also contains Information on car and truck fuel efficiency relative to speed, and a discussion of items relevant to speed limit changes.

SPEED LIMIT CHANGES IN IOWA

Iowa Code section 321.285 was amended in 1996 to authorize the Department of Transportation (DOT) to increase speed limits up to 65 mph on certain divided multi-lane highways.

Table 1 is a tabulation of the 21 sections of rural freeways and expressways[1] in Iowa where the speed limit is posted at 65 mph. The list includes a few sections where construction was completed after the new speed limit law was enacted. The table shows the speed limit is 65 mph on a total of 538 miles.

Engineering studies were made on each section. Freeway and expressway studies included a review of design characteristics, a check on the crash history, and a field review. The speed limit has remained 55 mph on a few sections of roadway. For some short, isolated sections, it was decided to wait until the section was extended before considering an increase in the speed limit to 65 mph.

The reasons for not increasing some speed limits were:

- Unfavorable physical characteristics
- Adverse crash history
- Length considered to be too short

[1] "Freeways" are divided, multiple-lane highways with full access control (no intersections) "Expressways" are like freeways, but include at grade intersections.

Table 1 Sections of Divided Multi-lane Highways Currently Posted 65 mph

Route	Location	Length (miles)
Iowa 13	U.S. 151 to Central City	11.8
U.S. 18	I-35 to County Road T26 (Rudd)	22.5
U.S. 20	Iowa/ Nebraska line to end of divided section east of Moville (short 55, ECL Sioux City)	21.5
	U.S. 169 to county Road R77	33.7
	Grundy County line to near Dubuque	93.7
U.S. 30	East Jct. U.S. 169 (Ogden) to Colo (55 at Boone and Nevada)	41.4
	Marshalltown Bypass	7.8
	U.S. 218 (W, Jct.) to Iowa 13	22.0
	U.S. 61 to Clinton	17.2
U.S. 34	I-9 to U.S. 275	8.3
U.S. 61	Ft. Madison to Burlington	15.0
	I-80 to Dubuque Airport Entrance	58.0
U.S. 63	Waterloo to Iowa 3	12.6
U.S. 65	Des Moines Bypass (I-80 to U.S.65 / U.S. 69)	15.0
U.S. 65 / 69	Des Moines to Indianola	11.0
U.S. 71	Spencer to Milford	8.6
Iowa 141	I-35/I-80 to Perry (55 at Granger)	21.8
U.S. 151	Iowa 13 to east of Springville	10.1
Iowa 163	Polk/Jasper County Line to 2 mi. N. of Eddyville	51.0
U.S. 218	Cedar Falls to N. of Waverly (55 at Janesville)	18.0
	I-80 to County Road H28 in Henry County	37.3
	Total miles	538.3

OPERATING SPEEDS IN IOWA

85th Percentile Speeds

One statistic commonly used to study travel speeds is the 85th percentile speed. It is the speed at or below which 85 percent of the free flow traffic travels. This is considered to be a reasonable and safe speed. Fifteen percent travel above the 85th percentile and may be traveling too fast for conditions.

Other statistics used in this section are the 50th percentile speed and the 15th percentile speed. The 50th percentile is also the median speed. It is the speed at which one-half of the traffic is traveling above and one-half is traveling below. It is a good measure of the central tendency of the speed distribution. The 15th percentile speed is the speed at or below which 15 percent of the free flowing traffic is traveling.

The 248 miles of freeway and expressway previously described is where speed limits were increased first. Speed data were collected before and after speed limits were changed on these 248 miles of highway. A summary of this data is in Table 2.

The average 85th percentile speed before the increase was 61.6 mph. The 85th percentile speed in 1996, after the 65 mph speed limit had been in effect for one to six months, was 67.6 mph. Although the speed limit was increased 10 mph, the 85th percentile operating speed increased 6.0 mph.

In every year since the increase, the 85th percentile speed has increased over the previous year. The 85th percentile speed is now 7.8 mph higher than it was before the speed limit changes.

Speed Variance

Speed variance is the difference in travel speeds between vehicles on the road. Under ideal conditions, all vehicles would be traveling at the same speed. In other words, there would be no variation in speeds and therefore, speed related crashes would be minimized. Theoretically, there would be no rear end collisions and there would be no need for lane changing and passing. Motorists tend to travel at different speeds so there

Table 2 Percentile Speeds on 65 mph Iowa Freeways and Expressways

		85th Percentile Speed					50th Percentile Speed					15th Percentile Speed				
Route	Location	1996 Before Changes	1996 After Changes	1997	1998	1999	1996 Before Changes	1996 After Changes	1997	1998	1999	1996 Before Changes	1996 After Changes	1997	1998	1999
US 20	Iowa 38 to Dubuque	62	69	70	70	70	58	65	67	66	66	53	59	62	62	61
US 20	Grundy Co. Line to US 218/I-380	64	69	69	70	70	59	64	64	66	65	56	59	58	59	59
US 20	US 169 to West Jct IA 17	64	68	69	70	70	60	65	65	66	67	56	59	61	61	62
US 20	I-29 to End Divided Section (W. of Moville	61	66	67	69	68	58	62	63	65	64	53	57	58	60	59
US 30	Ogden to Nevada	60	68	67	69	69	57	64	63	64	65	54	58	56	59	59
US 30	Iowa 201 to US 151	61	67	70	68	70	57	64	65	65	66	54	60	60	59	60
US 30	US 61 to Clinton	61	70	70	68	71	57	65	66	64	66	53	60	61	60	61
US 218	IA 22 to N. of IA 92	63	69	68	70	70	58	65	64	66	67	55	61	60	62	62
US 71	Spencer to Milford	61	66	67	67	68	57	64	63	64	65	54	58	58	60	60
US 69/65	Des Moines to Indianola	60	68	67	69	69	57	63	64	64	65	54	58	59	60	60
IA 141	I-35/80 to Granger	62	67	68	69	71	58	62	63	64	67	53	57	59	60	63
US 151	IA 13 to E. of Springville	62	68	68	69	70	57	63	63	64	65	52	57	58	59	59
IA 13	US 151 to Central City	60	67	68	68	68	56	62	63	64	63	53	56	57	59	57
US 63	Waterloo to Iowa 3	60	65	67	68	70	56	62	63	64	65	53	57	57	58	60
US 34	I-29 to US 275	62	N/A	68	66	67	57	N/A	63	61	63	53	N/A	58	58	56
US 61	Ft. Madison to Burlington	62	N/A	67	68	68	57	N/A	63	64	64	53	N/A	58	58	58
US 30	Marshalltown Bypass	N/A	N/A	69	69	69	N/A	N/A	65	65	65	N/A	N/A	61	61	60
US 61	North of DeWitt to Maquoketa	N/A	N/A	69	69	71	N/A	N/A	65	65	67	N/A	N/A	60	60	62
	Average (mph)	**61.6**	**67.6**	**68.2**	**68.7**	**69.4**	**57.4**	**63.6**	**64.0**	**64.5**	**65.3**	**53.7**	**58.3**	**58.9**	**59.7**	**59.9**
	Interstate System	**n/a**	**74**	**74**	**74**	**75**	**n/a**	**68**	**68**	**69**	**69**	**n/a**	**62**	**62**	**63**	**64**

will be variations. Good speed limit strategy attempts to keep variations in speed to a minimum.

Percentile Distribution

One way to examine travel speed variance is by looking at the distribution of speeds. Table 2 shows the 85th, 50th, and 15th percentile travel speeds for the 65 mph Iowa freeway and expressway segments both before and after the speed limits were increased. The greater the difference between the 15th and 85th percentile speeds, the more variation there is in the speeds being driven. This difference was 7.9 mph before the speed limit increase and 9.3 mph for both 1996 and 1997. In 1998 this difference decreased to 9.0 mph. Then in 1999 the difference increased to 9.5 mph.

Figure 1 graphically shows the changes in percentile speeds. It appears that the increase in variation for 1996 and 1997 is the result of the slower vehicles not increasing their speed as much as the faster vehicles. In 1998 it appears that the slower drivers have increased their speed more than the faster drivers, and in 1999 the faster drivers are again increasing their speed.

- Comparing the “Before Changes” data and the “1999” data, the 85th percentile and 50th percentile speeds each increased 7.8 mph and 7.9 mph respectively, while the 15th percentile increased by 6.2 mph.
- The variance in the upper half of the speed distribution remained approximately the same at 4.2 mph before and after the speed limit changes.
- The variance in the lower half of the speeds increased from 3.7 mph before the changes to 5.4 mph after the changes.
- The variance in speeds has increased since the speed limits were changed. This variance is 1.6 mph greater than it was before the speed limit was increased.

The percentile speeds also show that more drivers are complying with the 65 mph speed limits when compared to compliance with the former 55 mph speed limit.

- Before the increase, the 85th percentile speed was 6.6 mph over the posted 55 mph speed limit.

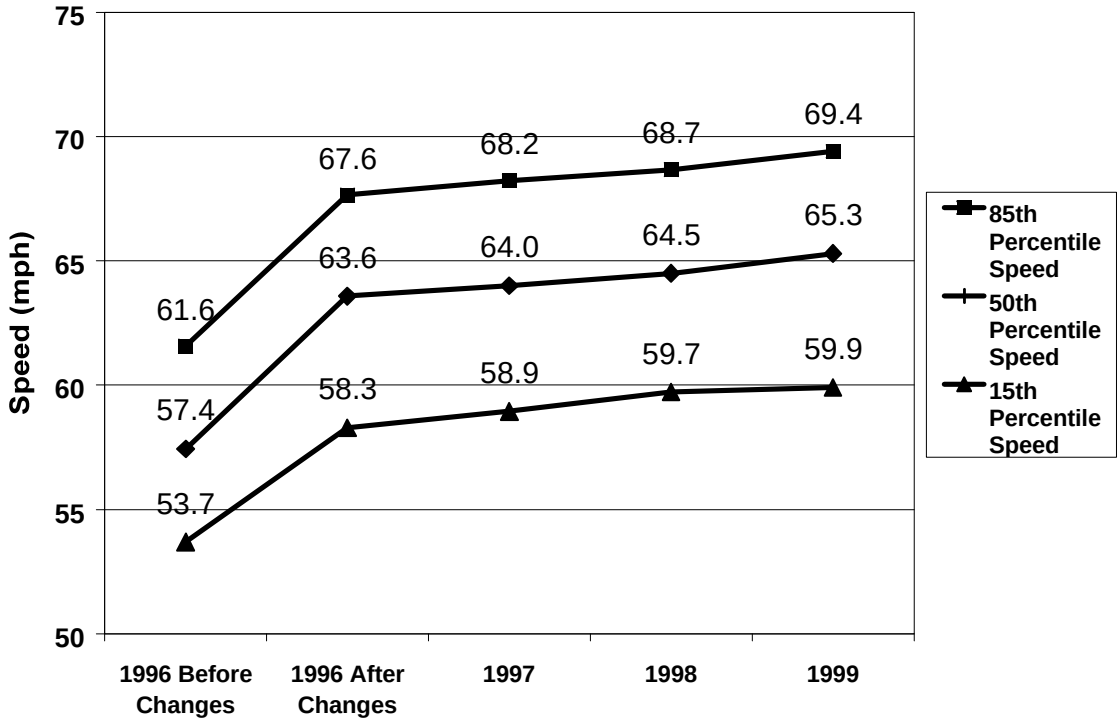

Figure 1 Changes in Speed Variance on Iowa Freeways and Expressways (85th percentile to 15th percentile)

- In 1996, after the 65 mph speed limit had been in effect for one to six months, the 85th percentile speed was 2.6 mph over the posted speed limit.
- In 1997 and 1998, the average 85th percentile speeds were 3.2 mph and 3.7 mph above the new posted speed limit.
- And in 1999 the 85th percentile speed was 4.4 mph above the speed limit.

This indicates that motorists on the divided multi-lane highways have complied more closely to the 65 mph speed limit than they did with the 55 mph speed limit. However, the percent of motorists violating the 65 mph speed limit on Iowa freeways and expressways has increased from 31.2% right after the change to 47.2% in 1999.

Pace Speeds

Another way to judge travel speed variance is by looking at the pace speed. The pace speed is the 10 mph speed range that contains the highest number of observations. The higher the percentage in the pace speed, the less variation there is in travel speeds.

Table 3 lists the pace speeds for the Iowa freeways and expressways that had their speed limits increased to 65 mph and shows the percent of observations (vehicles) that were in the 10 mph pace. Higher percentages within the pace speeds indicate less speed variance. The averages from Table 2 are also shown graphically in Figure 2.

Table 3 shows that the 10 mph pace speed increased 6 mph in 1996, after the speed limit was increased to 65 mph. The 6 mph change was less than the 10 mph increase in the speed limit. The average pace has increased each year since the speed limit was increased. The average pace speed has increased 7.9 mph.

- Before the speed limit was increased, 80.7% of drivers were in the 10 mph pace.
- After the increase to 65 mph in 1996, this figure dropped to 74.1%. This indicates a slightly wider dispersion in speeds, which, in theory, is detrimental to safety.
- In 1997 and 1998, the percent in the 10 mph pace went up, which indicates a slight improvement, or reduction in speed variance.
- In 1999 the percent in the 10 mph pace has dropped to 74.2%.

Table 3 Pace Speeds on 65 mph Iowa Freeways and Expressways

		10 mph Pace Speed (mph)					% in 10 mph Pace Speed				
Route	Location	1996 Before Changes	1996 After Changes	1997	1998	1999	1996 Before Changes	1996 After Changes	1997	1998	1999
US 20	Iowa 38 to Dubuque	54-63	61-70	62-71	62-71	62-71	76.4	68.8	76.4	77.5	74.2
US 20	Grundy Co. Line to US 218/I-380	55-64	60-69	60-69	61-70	62-71	80.5	74.3	68.1	70.1	68.1
US 20	US 169 to West Jct IA 17	55-64	59-68	61-70	61-70	62-71	77.0	78.4	80.6	76.8	79.7
US 20	I-29 to End Divided (W. of Moville	53-62	58-67	59-68	60-69	60-69	79.5	74.5	74.2	80.5	73.7
US 30	Ogden to Nevada	52-61	60-69	59-68	61-70	61-70	87.8	71.5	71.5	74.3	74.8
US 30	Iowa 201 to US 151	53-62	59-68	60-69	60-69	61-70	82.4	81.7	70.1	73.9	75.0
US 30	US 61 to Clinton	53-62	62-71	61-70	59-68	63-72	81.0	71.5	75.7	79.8	73.9
US 218	IA 22 to End Divided (N. of IA 92)	54-63	61-70	61-70	62-71	62-71	76.2	78.1	77.9	78.5	80.4
US 71	Spencer to Milford	52-61	58-67	59-68	60-69	60-69	86.9	80.2	77.7	80.4	79.0
US 69/65	Des Moines to Indianola	52-61	58-67	59-68	60-69	61-70	86.8	72.2	78.2	74.7	73.6
IA 141	I-35/80 to Granger	53-62	59-68	59-68	61-70	62-71	79.6	68.8	73.9	73.8	80.2
US 151	IA 13 to E. of Springville	53-62	58-67	58-67	61-70	61-70	72.2	67.4	70.8	73.4	70.9
IA 13	US 151 to Central City	52-61	58-67	59-68	59-68	59-68	84.4	67.7	68.7	72.7	68.3
US 63	Waterloo to Iowa 3	53-62	57-66	59-68	60-69	61-70	85.4	82.9	73.2	72.1	72.2
US 34	I-29 to US 275	53-62	N/A	58-67	56-65	59-68	74.8	N/A	70.9	65.7	70.9
US 61	Ft. Madison to Burlington	N/A	N/A	59-68	60-69	60-69	N/A	N/A	76.0	76.6	71.2
US 30	Marshalltown Bypass	N/A	N/A	61-70	61-70	60-69	N/A	N/A	80.6	78.2	73.0
US 61	North of DeWitt to Maquoketa	N/A	N/A	59-68	61-70	62-71	N/A	N/A	77.2	74.2	76.5
	Average	**53-62**	**59-68**	**59-68**	**60-69**	**61-70**	**80.7**	**74.1**	**74.5**	**75.2**	**74.2**

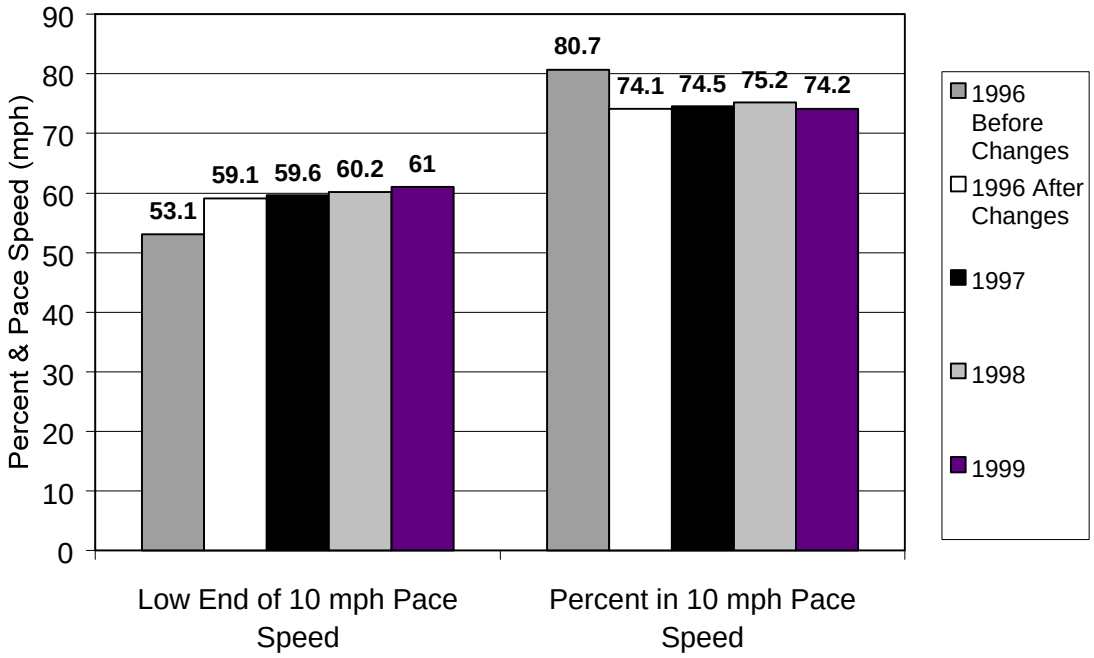

Figure 2 Changes in Pace Speeds on 65 mph Iowa Freeways and Expressways

Speed Compliance

Table 4, Figure 3, and Figure 4 show the percentage of motorists exceeding the posted speed limit. Before the speed limit was increased, an average of 71.0% of motorists exceeded the posted 55 mph speed limit. After the freeway and expressway speed limits were raised to 65 mph, the percent in violation dropped significantly to 31.2%. In other words, almost 70% of motorists were in compliance following the change. In 1997 and 1998 the percent in violation increased to 35.2% and 41.4%, respectively. Another increase was experienced in 1999 and 47.2% now violate the speed limit. Although the percent of vehicles exceeding 70 mph in Table 3 and Figure 4 continued to increase in 1999, no vehicles exceeding 75 mph were observed in the 1999 sample.

Table 4 Percent Exceeding High Speeds on 65 mph Iowa Freeways and Expressways (Non-Interstate)

		Percent in Violation					Percent Exceeding 70 mph					Percent Exceeding 75 mph				
Route	Location	1996 Before Changes	1996 After Changes	1997	1998	1999	1996 Before Changes	1996 After Changes	1997	1998	1999	1996 Before Changes	1996 After Changes	1997	1998	1999
US 20	Iowa 38 to Dubuque	70.8	41.9	58.6	59.4	55.1	0	8	15	13	7	0	1	2	0	0
US 20	Grundy Co. Line to US 218/I-380	86.6	36.3	38.7	52.3	42.0	1	7	7	9	5	0	0	1	0	0
US 20	US 169 to West Jct IA 17	86.4	42.9	46.0	51.7	62.1	0	3	6	12	8	0	0	0	0	0
US 20	I-29 to End Divided Section (W. of Moville)	70.5	21.6	25.8	45.1	37.5	0	3	4	5	3	0	1	0	0	0
US 30	Ogden to Nevada	71.6	34.4	26.4	40.1	46.6	0	2	3	7	4	0	0	0	0	0
US 30	Iowa 201 to US 151	67.8	27.7	45.5	41.1	52.7	0	2	12	8	6	0	0	1	0	0
US 30	US 61 to Clinton	69.8	47.0	52.2	35.7	57.2	0	14	12	4	9	0	1	1	0	0
US 218	IA 22 to End Divided Section (N. of IA 92)	78.0	39.8	34.7	54.0	60.6	1	7	3	14	7	1	0	0	0	0
US 71	Spencer to Milford	70.8	25.6	28.2	33.5	39.2	0	0	1	3	3	0	0	0	0	0
US 69/65	Des Moines to Indianola	72.6	31.5	32.4	38.2	43.4	0	4	4	6	6	0	1	1	0	0
IA 141	I-35/80 to Granger	71.4	25.2	26.3	38.7	61.6	1	5	5	7	10	0	1	1	0	0
US 151	IA 13 to E. of Springville	61.9	28.1	28.1	39.3	45.3	1	5	6	7	7	0	1	1	0	0
IA 13	US 151 to Central City	60.4	23.0	28.5	34.7	30.0	0	2	5	6	5	0	0	0	0	0
US 63	Waterloo to Iowa 3	60.9	11.8	26.1	35.0	49.8	1	1	3	5	8	0	0	0	0	0
US 34	I-29 to US 275	66.0	N/A	26.3	19.3	25.7	1	N/A	4	3	2	0	N/A	0	0	0
US 61	Ft. Madison to Burlington	N/A	N/A	26.7	34.2	36.4	1	N/A	2	3	2	0	N/A	0	0	0
US 30	Marshalltown Bypass	N/A	N/A	47.0	44.6	46.3	N/A	N/A	7	9	6	N/A	N/A	0	0	0
US 61	North of DeWitt to Maquoketa	N/A	N/A	36.8	47.5	58.1	N/A	N/A	10	10	10	N/A	N/A	1	0	0
	Average	**71.0**	**31.2**	**35.2**	**41.4**	**47.2**	**0.4**	**4.5**	**6.1**	**7.3**	**6.0**	**0.1**	**0.4**	**0.5**	**0.0**	**0.0**
	Interstate System	**n/a**	**72.7**	**74.1**	**78.9**	**80.1**	**n/a**	**34.7**	**37.2**	**41.6**	**44.5**	**n/a**	**9.8**	**10.5**	**13.3**	**14.3**

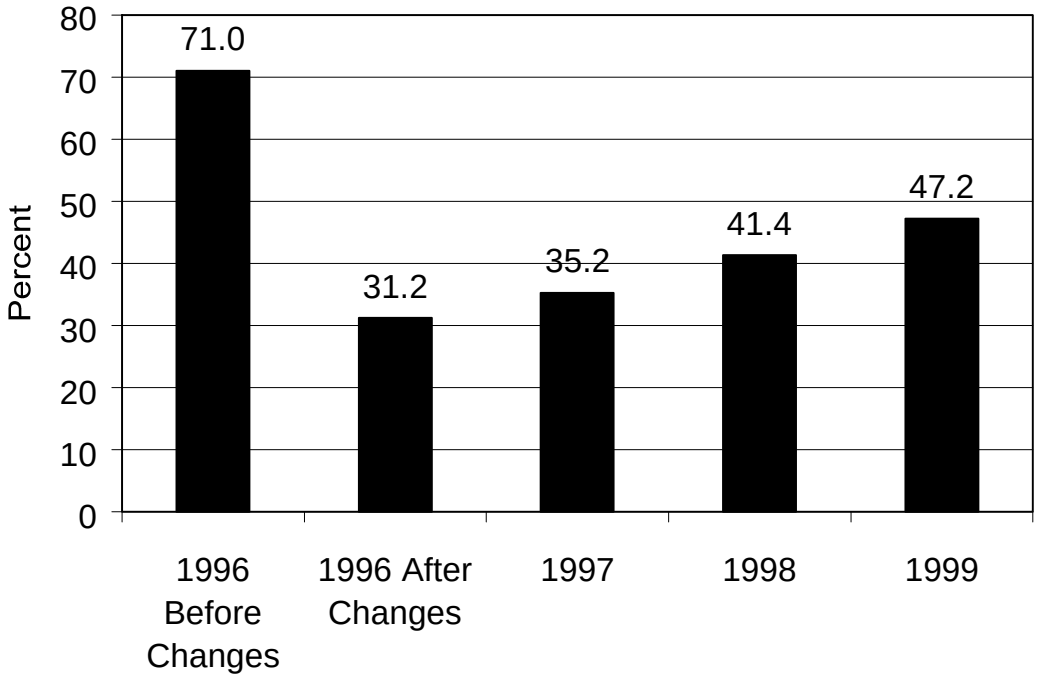

Figure 3 Percent in Violation of the Speed Limit on Iowa's Rural Freeways and Expressways

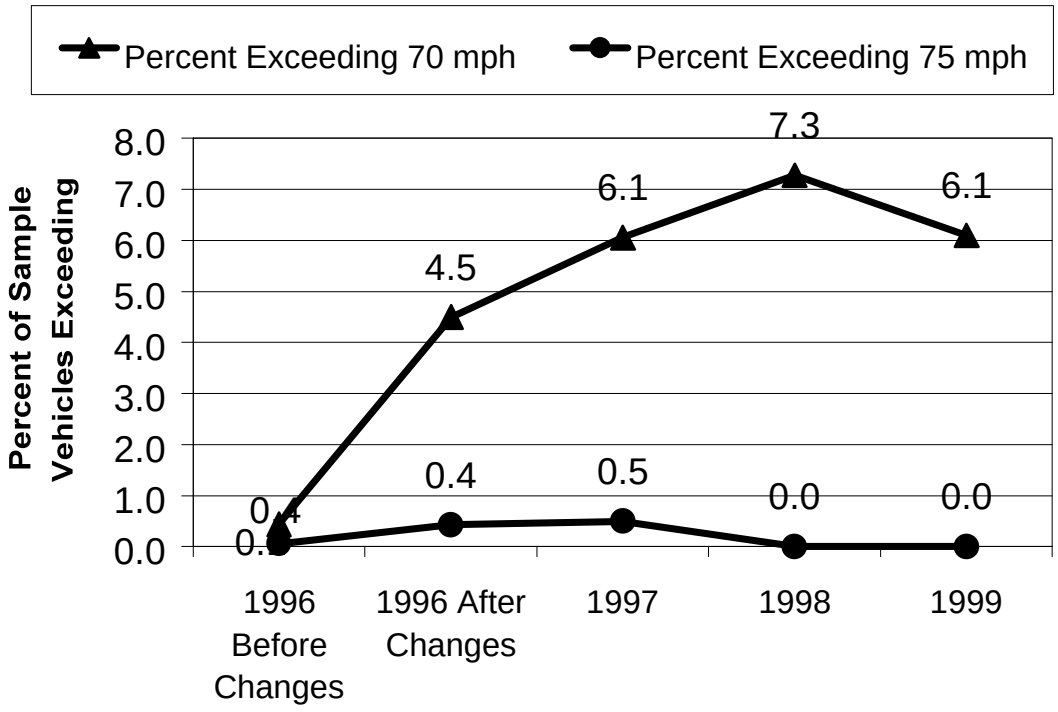

Figure 4 Percent Exceeding High Speeds on 65 mph Iowa Freeways and Expressways

CRASH DATA FOR IOWA

Historical Travel and Crash Data by Road System

Tables A-1 through A-9 in the Appendix illustrate the historical trends in travel, crashes, fatalities and rates on the following road systems in Iowa from 1970 – 1998:

Table A-1 - Statewide
Table A-2 - Rural Interstate
Table A-3 - Rural Primary
Table A-4 - Rural Secondary (County Roads)
Table A-5 - Rural Totals
Table A-6 - Municipal Interstate
Table A-7 - Municipal Primary
Table A-8 - City Streets
Table A-9 - Municipal Totals

The tables also show the dates of speed limit changes and the increases in the minimum dollar thresholds for crash reporting for the 1970 - 1998 time period. Table A-1 also shows the effective dates of some of the important safety related laws that have been enacted.

Rural Interstate and Primary Systems

Table 5 and Table 6 contain summary data from Table A-2 and Table A-3 in the Appendix.

Table 5 Historical Trends in Iowa - Average Annual Travel in Hundred Million Vehicle Miles (HMVM)

	Rural Interstate		Rural Primary	
Time Period	Travel HMVM	Percent Change	Travel HMVM	Percent Change
1981 - 1986 (Six year average)	25.3		56.9	
1988 - 1993 (Six year average)	36.0	42%	65.9	16%
1994 - 1998 (Five year average)	44.3	23%	76.5	16%
1981-86 vs. 1994-98		75%		34%

Table 6 Historical Crash Data Trends in Iowa Rural Interstate and Primary Systems

Road System Time Periods	Average Annual Number of:		Rates Per 100 Million Vehicle Miles of Travel		
	Fatal Crashes	Fatalities	Fatal Crashes	Fatalities	Fatal+Injury Crashes
Rural Interstate System					
1981 - 1986 (Six Years)	17	21	0.65	0.82	20
1988 - 1993 (Six Years)	26	31	0.72	0.86	18
1994 - 1998 (Five Years)	24	32	0.54	0.71	18
Rural Primary System					
1981 - 1986 (Six Years)	141	168	2.48	2.96	44
1988 - 1993 (Six Years)	143	175	2.17	2.66	40
1994 - 1998 (Five Years)	142	172	1.86	2.25	41

Note: Interstate speed limits were raised from 55 mph to 65 mph in 1987.

Table 5 illustrates the trend in travel on these systems during the six-year periods before and after the Interstate and freeway speed limit increases in 1987, and also during the past five years (1994-1998).

As shown, average annual rural Interstate travel:

- increased 42% from the 1981-1986 to the 1988-1993 time periods
- increased 23% more from 1988-1993 to 1994-1998
- increased 75% overall from the 1981-1986 period to 1994-1998.

Table A-2 in the Appendix shows that rural Interstate more than doubled from 1981 to1998, even though mileage increased only slightly from 632 miles to 654 miles.

In Table 6, crash information for the two road systems is compared over the same three time periods as shown in Table 5.

On the Rural Primary System, average fatal crash rates and fatality rates per hundred million vehicle miles (HMVM) of travel declined during each of the three time periods. The rates of 1.86 fatal crashes per HMVM and 2.25 fatalities per HMVM over the 1994-1998 time period are 25% and 24% less than the rates of 2.48 and 2.96 during the 1981-1986 period.

In 1987 the Rural Interstate speed limit was raised from 55 to 65 mph. When comparing annual average rates for the six years before and after the change, the fatal crash rate increased 10.8% (from 0.65 to 0.72 fatal crashes per HMVM) and the fatality rate increased 4.9% (from 0.82 to 0.86 fatalities per HMVM).

During the latest time period from 1994-1998, fatal crash and fatality rates fell to 0.54 and 0.71. These decreases of 17% and 12% respectively when compared to the average rates for 1981-1986 before the speed limit increase, are somewhat less than the 25% and 24% reductions that occurred on the Rural Primary System.

Also shown in Table 6 are the rates for fatal plus injury crashes for the same time periods. These rates did not change very much on either road system.

Expressway and Freeway Crash Information

Table 7 compares crash and crash rate experience on expressways after the speed limit increase with the same sections before the increase and to expressways that were left at 55 mph. Also shown is the same information for 65 mph freeways and rural Interstate during the same approximate time period as the “after” data on the expressways.

The first section summarizes data for about 167 miles of expressway where speed limits were raised between mid-1996 and the end of 1997.

The time periods for the fifteen sections analyzed, ran from the month following the speed limit increase through May 1999. The time periods for the “after” analysis ranged from 18 to 35 months with the average about 32 months. This year’s report adds 17 months of experience to the data for each segment in the “after” analysis. As noted on the table, crash data for 1999 is based on preliminary information in all cases.

In the second section of the table, the “before” data is based on the same respective months from 1993-1996 for each of the fifteen sections, excluding the four sections which were two-lane highways during the “before” period.

Table 8 summarizes the rates “before” and “after” the speed limit increase shown in Table 7.

Table 7 Expressway, Freeway, and Rural Interstate Summary of Crash and Injury Rates by Speed Limit

Roadway Type - Speed Limit	Number of Miles	100 Million Vehicle Miles (HMVM)	Crash/Injury Summaries - Numbers and Rates Per Hundred Million Vehicle Miles of Travel						
			Legend	Fatal Crashes	Fatal + Injury Crashes	Total Crashes	Fatalities	Fatal + Major Injuries	Other Injuries
(1) Expressways - 65 mph (After) Approximately July, 1996 - May, 1999 From month after speed limit increase to 65 mph through May, 1999 on fifteen (15) sections.	**166.7**	**13.82**	(Number)	(26)	(438)	(1,309)	(33)	(123)	(611)
			Rate	**1.88**	**32**	**95**	**2.39**	**8.9**	**44**
(2) Expressways - 55 mph (Before) Approximately July, 1993 - May, 1996 Corresponding months in 1993 -1996 for same sections listed above, excluding four (4) sections not four-lane divided before 1993.	**130.7**	**9.85**	(Number)	(3)	(248)	(759)	(3)	(50)	(341)
			Rate	**0.30**	**25**	**77**	**0.30**	**5.1**	**35**
(3) Expressways - 55 mph June, 1996 - May, 1999 Includes ten (10) Expressway sections at least four (4) miles in length where speed limit remained at 55 mph.	**79.1**	**7.71**	(Number)	(4)	(198)	(478)	(4)	(42)	(303)
			Rate	**0.52**	**26**	**62**	**0.52**	**5.4**	**39**
(4) Non-Interstate Freeways - 65 mph June, 1996 - May, 1999 Includes eight (8) Freeway sections at least four (4) miles in length with speed limit of 65 mph.	**125.8**	**12.04**	(Number)	(11)	(365)	(1,096)	(12)	(85)	(535)
			Rate	**0.91**	**30**	**91**	**1.00**	**7.1**	**44**
(5) Rural Interstate - 65 mph January, 1996 - December, 1998 Includes all Rural Interstate sections in the state.	**654.0**	**137.25**	(Number)	(74)	(2,487)	(7,386)	(96)	(600)	(3,485)
			Rate	**0.54**	**18**	**54**	**0.70**	**4.4**	**25**

Interstate or Freeway: Fully controlled access with access points only at interchanges.
Expressway: Partially controlled access with at-grade intersections. (May include some interchanges)

Note: 1999 Crash Information is Based on Preliminary Data

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All categories of rates increased at least 23% during the “after” time period. In particular, fatal crash and fatality rates increased by 527% and 697%. These “after” rates are also three-to-five times the respective rates for the expressway sections that remain at 55 mph and over twice the respective rates for the 65 mph freeway sections.

- During the “before” period, one of the twelve study sections had two fatal crashes and one other section had one fatal crash.
- During the “after” time period fifteen of the sixteen study sections had at least one fatal crash.

Seven study sections had multiple fatal crashes; including four sections with two, two sections with three, and one section (Mills County U.S. 34) with five fatal crashes. Of the 26 fatal crashes during the “after” period on the expressways, twelve were intersection crashes and fourteen were non-intersection crashes.

Table 8 Crash and Injury Rate Comparisons on Iowa Expressways

	"Before" Rates * per HMVM	"After" Rates per HMVM	Percent Change
Fatal Crashes	0.3	1.88	+ 528%
Fatal and Injury Crashes	25	32	+ 28%
All Crashes	77	95	+ 23%
Fatalities	0.3	2.39	+ 697%
Fatalities Plus Major Injuries	5.1	8.9	+ 75%
Other Less Severe Injuries	35	44	+ 26%

* "Before" Rates are based on composite totals from the 1992-1993 and 1994-1995 data shown in Table 7.

The third section of Table 7 shows the crashes and rates on ten expressway sections, which remained at 55 mph. The three-year time period from June 1996 through May 1999 approximates the time period of the “after” period of the 65 mph expressways. This group was limited to those sections that were at least four miles in length and includes 79 miles. The additional 18 months of data for these expressway sections substantially reduced the rates from last year’s report and brought them more into line with the “before” rates of the expressways on which the speed limits were increased.

The fourth section shows crash and injury data on 126 miles of 65 mph non-Interstate freeways. It is interesting to note that fatal crash and fatality rates on these higher speed freeways are almost twice the rates on the expressways that remained at 55 mph. The other non-fatal rates were also higher, but not by the same magnitude.

The fifth section reveals that freeway rates are also considerably higher than rates on the Rural Interstate System over much the same time period.

While geometric standards for Iowa freeways are generally the same as for the Interstates, most freeway sections do not have paved shoulders as found on all Interstate highways.

All of these systems will continue to be monitored to see what happens with the crash, fatality, and injury numbers and rates.

SURVEY OF SPEED LIMITS AND SPEEDS IN OTHER STATES

A survey was conducted with several states to obtain information on changes in speed limits for this 2000 report. For this report, only the states bordering Iowa were surveyed.

Previous surveys were reported in the January 1997 *Report on Results of Speed Limit Changes After Repeal of the National Maximum Speed Limit* and the January 1998 *Update Report on Speed Limits in Iowa.* There have been seven states in close proximity to Iowa included in the surveys: South Dakota, Nebraska, Missouri, Illinois, Wisconsin and Minnesota that border Iowa, and nearby Kansas.

Some of these states have raised their speed limits and others have not. There were two basic areas of interest: (1) Have there been further changes in speed limits from what was reported a year ago? and (2) How have operating speeds changed in 1999?

There has been little change in posted speed limits. Overall, operating speeds have been relatively stable with 85th percentile speeds up at most 4 mph from operating speeds in 1997. The operating speeds in 1997 were 1 mph to 3 mph higher than the 1996 operating speeds. None of the states changed speed limits in 1999.

The following paragraphs summarize the limited data collected from the survey of surrounding states. Some comparison data is shown in Table 9.

South Dakota

South Dakota had no changes in speed limits in 1999. The Interstate is posted at 75 mph and all other primary and secondary routes are posted at 65 mph. These changes were made in April of 1996.

Interstate speed monitoring data shows that the 85th percentile speed has increased 0.6 mph from 78.9 mph to 79.5 mph. This small increase compares with a 6.1 mph change from 1995 to 1998 when the speed limit was increased 10 mph. In 1995, it was 72.8 mph (posted 65 mph) and in 1998, it was 78.9 mph (posted 75 mph).

Arterial primary routes results were similar. In 1999, the 85th percentile speed increased 0.9 mph from 70.4 mph to 71.3 mph. There was a 6.0 mph increase between 1995 and 1998 when the speed limit on these routes was raised 10 mph from 55 mph to 65 mph.

Table 9 Speed Limits and Speeds in Surrounding States

State	1997 Speed Limit Change?	System	Current Speed Limit (mph)	85th Percentile Speed (mph) 1996	1997	1998	1999
South Dakota	No	Interstate	75	77.3	77.7	78.9	79.5
		Primary	65	69.2	70.2	70.4	71.3
		Secondary	65				
Nebraska	No	Interstate	75	78	78	78	78
		Expressway/Primary	65	59	63	63	63
		Secondary	55	64	65	66	66
Kansas	No	Interstate	70				
		Expressway	70				
		Primary	65				
		Secondary	65				
Missouri	No	Interstate	70		73.4		74.1
		Expressway	70		74.1		72.7
		Primary	65		65.8		64.7
		Secondary	65				
Illinois*	No	Interstate	65	70.0	71.6	72.1	72.0
		Expressway	65				
		Primary	55	64.3	65.4	65.5	64.2
		Secondary	55	63.0	62.8	64.2	63.5
Wisconsin	No	Expressway	65		71.3	71.8	
Minnesota	Yes	Interstate	70		72.0	75.1	76.2
		Expressway	65		68.0	70.4	72.3
		Primary	55			64.9	64.7
		Secondary	55				
Iowa	No	Interstate	65	74.0	73.8	74.0	75.0
		Expressway	65	67.6	68.2	69.0	72.0
		Primary	55	66.6	66.3	68.0	69.0
		Secondary	55	63.4	64.8	68.0	67.0

* Illinois has a car / truck speed limit differential of 65 mph and 55 mph, respectively.

Nebraska

Nebraska did not respond to this year's survey. Posted speed limits in Nebraska have remained the same since 1996, with the exception of a few locations where the roadways have been improved. Rural Interstates have posted speed limits of 75 mph, while all other road types are set at 55, 60, or 65 mph, depending on their design. Expressways have a maximum limit of 65 mph, while primary highways are all 55 or 60 mph.

1998 operating speeds on the urban Interstates were up 2 mph and remained the same on rural Interstates.

Kansas

The State of Kansas advised that they are completing countywide speed limit audits and changing speed limits as appropriate. In 1996, Interstates and expressways were raised

to 70 mph while all other routes were raised to 65 mph. They do not have data on any changes in operating speeds or any shifts in traffic patterns.

Missouri

They have maximum allowable limits of 70 mph on rural Interstates and expressways, 60 mph on urban Interstates, and 65 mph on primary and secondary facilities. Furthermore, the 65 mph speed limit on primary and secondary facilities is only posted on approved highways. Many of those facilities have posted speed limits of 55 mph or 60 mph. The 85th percentile speed on the Interstate is 74.1 mph, on expressways 72.7 mph, and on the primary roads: 64.7 mph.

Illinois

Illinois has had a rural speed limit of 65 mph on freeways (Interstate and other freeways) since April 1987 and, since December 1995, on some expressways as well. In December 1995 an additional 126 freeway miles were increased to 65 mph and 118 expressway miles were increased from 55 mph to 65 mph. All other primary and secondary routes in Illinois carry a 55 mph speed limit. There is a car/truck differential with trucks over 4 tons, campers, and vehicles towing trailers are limited to 55 mph on all routes.

There were some minor changes in 85th percentile operating speeds on Illinois highways in 1999 compared to 1998. For the freeways, there was a decrease of 0.1 mph from 72.1 to 72.0 mph or 2.0 mph higher than the 1996 speeds. Data are not available for expressways. On primary routes, there was a 1.2 mph decrease in speed from 65.5 to 64.3 mph, no change in speed from 1996. Secondary speeds went down 0.7 mph from 64.2 to 63.5 mph, 0.5 mph higher than in 1996.

Wisconsin

Wisconsin did not respond to this year's survey. They did not change their speed limits in 1999. Interstate and expressway speed limits are 65 mph and they are 55 mph on primary and secondary roads. In 1998 they indicated that operating speeds on expressways, other freeways and 2-lane highways have increased less than 1 mph. Overall the 85th percentile speeds have increased since 1995 when the speed limit was

changed on the expressway. The increase ranges from 0.6 mph on rural freeways to 5.8 mph on expressways.

Minnesota

The State of Minnesota changed speed limits in 1997 on Interstates from 65 to 70 mph and on expressways from 55 to 65 mph. A total of 700 miles of each class was reported. Interstate travel speeds appear to be up approximately 4.2 mph with a 1.0 mph decrease on 55 mph highways. They reported no apparent shift in traffic patterns. The before/after 85th percentile speed on freeway and expressway routes showed an increase of 4.3 mph.

Iowa

The 85th percentile speed in Iowa has remained relatively constant on the Interstate System. We have experienced 3-5 mph increases since 1996 in the 85th percentile speeds for the expressway, primary, and secondary systems. In comparing the Iowa data for the Interstate system with the other states, the speeds are approximately the same as other states with 70 mph speed limits, but about 5 mph less than states with 75 mph speed limits.

On the other highway systems, the 85th percentile speeds in Iowa, when compared to other states with similar speed limits, are about the same on expressways and 5 mph higher on the primary and secondary systems.

INJURY AND FATALITY COMPARISONS WITH SURROUNDING STATES

It is on the Interstate highways where the experiences of states that raised their speed limits above 65 mph provide the starkest contrast with the states that did not raise their speed limits. This is understandable because all of the states that raised their speed limits above 65 mph did so on Interstate highways. Some states raised only Interstate speed limits, while other states raised limits on selected roads, and still other states raised limits on virtually all roads.

Table 10 summarizes the rural Interstate fatality trends in Iowa and surrounding states. Nebraska reported that rural Interstate fatalities have increased 64% from an average of 19.7 for the three years preceding their speed limit change to an average of 32.3 in the four years following the speed limit change.

Missouri reported annual Interstate fatal crashes up 34.4% in 1996, 49.6% in 1997 and 43.2% in 1998 when compared to the 3-year annual average prior to the speed limit increase. Missouri averaged 125 fatal crashes per year on their Interstate for the three years preceding the speed limit change. Following the speed limit increase in 1996, the number of fatal crashes increased to 168, 187 and 179 in 1996, 1997, and 1998 respectively.

In Minnesota, where Interstate speeds increased from 65 to 70 mph in July 1997, the 1998-1999 average number of fatalities was 30.5, up 56% from the 1993-96 average of 19.5.

By contrast, Iowa's average annual fatalities on rural Interstates increased by 48% (from 21 to 31) following the increase in speed limits from 55 mph to 65 mph, but have remained stable at approximately 31 since 1988.

South Dakota is the only one of Iowa's four adjacent states (Minnesota, Missouri, Nebraska and South Dakota) that raised rural Interstate limits and did not experience a significant increase in rural Interstate fatalities. Average annual rural Interstate fatalities in South Dakota for 1996-1999 remained at 15, unchanged from the 1993-1995 average.

Table 10 Rural Interstate Fatalities in Iowa and Surrounding States

State	Limit Change	1993-1995 Average	1996-1999 Average	Percent Change
Iowa[a]	No – 65 mph	32.0	32.0	0%
Minnesota[b]	Yes – 75 mph	19.5	30.5	+56%
Missouri[a,c]	Yes – 70 mph	125	178	+42%
Nebraska	Yes – 75 mph	19.7	32.3	+64%
South Dakota	Yes – 75 mph	15	15	0%
Wisconsin	No – 65 mph			
Illinois	No – 65 mph			

[a] Iowa and Missouri comparisons are for 1993-95 and 1996-98 since 1999 data was not available.
[b] Minnesota comparisons are 1993-96 and 1998-99 since the change to 70 mph did not occur until July 1997.
[c] Missouri figures are for the entire Interstate system.

Rural Interstate Injuries

The Speed Limit Task Force gathered all available traffic injury data for rural Interstate highways from Iowa's neighboring states. That data is shown in Table 11.

Table 11 Rural Interstate Traffic Injuries in Iowa and Surrounding States

State	Limit Changed	1993	1994	1995	1993-95 Ave.	1996	1997	1998	1999	1996-98 Ave.	Change in Ave.
IA	NO-65mph	1272	1119	1185	1192	1339	1421	1229	--	1330	+11.6%
MN*	YES-70mph	862	908	807	*929	1139	1155	922	1040	*1039	+11.8%
MO**	YES-70mph				5794	6560	6361	6581	--	6501	+10.9%
NE	YES-75mph	797	868	886	850	1000	998	948	--	982	+15.5%
SD	YES-75mph	569	463	513	515	742	764	559	601	617	+19.9%

* Minnesota raised the rural Interstate speed limit to 70 mph in July 1997. Minnesota comparisons are 93-96 averages and 97-99 averages.
**Missouri data is from the entire Interstate system since a rural/urban breakout was not readily available. Also 93-95 injury figures reflect the 3-year average annual total.

To make a better, more complete determination of the possible impact of speed limit changes on rural Interstate injuries, data from 1993 to 1995 was compared with data from 1996 to 1998. Injury data for 1999 was available in a few cases. In those cases, 1993-1995 data was compared with 1996-1999 data.

Neighboring states Nebraska and South Dakota increased rural Interstate speed limits from 65 to 75 mph during the spring of 1996. Missouri increased rural Interstate speed limits from 65 to 70 mph at that time. Minnesota increased their rural Interstate speed limit from 65 to 70 mph in July 1997.

By using three years of data prior to the change and three years of data after the speed changes, any trends that may have occurred can be viewed from a broader perspective rather than a single year's data. In the case of Minnesota, which raised rural Interstate speed limits to 70 mph in 1997, data from 1993 to 1996 is compared to 1997 to 1999 data.

Generally, rural Interstate traffic injuries have been on the increase in Iowa and all neighboring states; however, the magnitude of this increase is greatest in South Dakota and Nebraska, the two that increased rural Interstate speeds to 75 mph.

In South Dakota, for example, rural Interstate traffic injuries averaged 515 annually from 1993 through 1995; after speed limits increased from 65 to 75 mph, 1996-1999 injuries averaged 617 per year, an average increase of 102 injuries or 19.9%.

In Nebraska, average rural Interstate injuries climbed from 850 to 982, an increase of more than 15%.

Iowa, Minnesota and Missouri all reflect increases in rural Interstate traffic injuries in the 11% to 12% range when 1993-95 data are compared with data from 1996 forward.

While more subtle than fatality trends, the rural Interstate injury trends help to confirm and substantiate the growth in rural Interstate injury numbers, particularly in states, which increased limits to 75 mph.

Injury and Fatality Experience on All Roads

In the Midwest, as of the end of 1998, five states had raised their speed limits beyond 65 mph (Kansas, Minnesota, Missouri, Nebraska, and South Dakota,), and three states did not (Illinois, Iowa, and Wisconsin).

- Of the states that raised their speed limits, Kansas, Minnesota, Nebraska and South Dakota all saw an increase in traffic fatalities for 1998; only Missouri experienced a slight decrease. Kansas, Nebraska, and South Dakota also raised the speed limit on many of the rural and two-lane highways.
- All of the states that did not raise their speed limits beyond 65 mph experienced a decrease in traffic fatalities in 1998.

Since four out of five states who raised their speed limits beyond 65 mph had three years worth of fatality data following the raising of the speed limits, a study was conducted using the last three years preceding the speed limit change (1993-1995) and the first three years following the speed limit change (1996-1998). These comparisons are shown in Table 12. Minnesota changed its speed limits in early 1997, so 1995 and 1996 are used as before years and 1997-1998 are used as after years.

Table 12 Three-Year Fatality Averages for the Periods Before and After Raising Speed Limits: 1993-95, 1996-98

States that did NOT change Speed Limits Beyond 65 mph			States that DID Change Speed Limits Beyond 65 mph		
	Average Annual Fatalities			Average Annual Fatalities	
State	1993-95	1996-98	State	1993-95	1996-98
Iowa	488	460	Kansas	437	488
Illinois	1511	1422	Minnesota	586	625
Wisconsin	724	733	Missouri	1048	1170
			Nebraska	254	303
			South Dakota	151	163

Table 12 displays the average annual fatalities for the eight Midwestern States surveyed. It includes Iowa, the six surrounding states that border Iowa and Kansas. As stated earlier, five of the states have raised some of their speed limits above 65 mph; three states have not. This table displays the average yearly fatalities for the years 1993-96 (before) and 1997-1998 (after). The one exception is Minnesota, who raised their speed limits in 1997. The data years for Minnesota are 1995-96 (before) and 1997-1998 (after). These numbers were used to calculate the percentage increase and decrease in Table 13.

Table 13 shows that the three-year average for fatalities in Iowa and Illinois (states that did not raise their speed limits beyond 65 mph) decreased by over 5.7%. Only Wisconsin from this group showed a slight increase in traffic fatalities (1.2%). All four of the states with three years of experience with speed limits higher than 65 mph showed an increase in fatalities for the years at the higher limit. These increases ranged from nearly 8% to over 19%. Minnesota that changed its speed limits in 1997 also showed an

increase in average traffic fatalities (over 6%) during the two years that followed the change.

Table 13 Change in Total Traffic Fatalities from 1993-95 to 1996-98

States That Did Not Change Speed Limits Above 65 mph		States That Did Change Speed Limits Above 65 mph	
Iowa	- 5.9%	Kansas	+ 11.7%
Illinois	- 5.7%	Minnesota	+ 6.7%
Wisconsin	+ 1.2%	Missouri	+ 11.6%
		Nebraska	+ 19.3%
		South Dakota	+ 8.0%

This multi- year data is consistent with the single year data reproduced in the prior Safety Management System Task Force on Speed Limits Reports: Report on Results of Speed Limit Changes After Repeal of National Maximum Speed Limit" (1997), "Update on Speed Limits In Iowa" (1998), and "Update Report on Speed Limits in Iowa" (1999).

SPEED LIMIT ENFORCEMENT

In reviewing the past seven years of Iowa State Patrol speed citation information in Table 14, it appears that citations issued by the Iowa State Patrol have remained fairly constant.

Enforcement activity on Interstate highways and restricted zones increased slightly each year from 1993 through 1996, leveled off in 1997 and 1998, and then increased on Interstate highways again in 1999. Enforcement activity on primary highways remained fairly constant with slight decreases observed in 1998 and 1999. Secondary highway speed enforcement was constant each year with the slight increases observed in 1994 and 1998. Total speed citations have remained fairly constant each year with the exception of 1995 and 1996, when slight increases were observed.

The Iowa State Patrol will continue to actively enforce the speed limit, regardless of what speed limits are set.

Table 14 Iowa State Patrol Speed Limit Citations Issued

Year	Interstate	Primary	Secondary	Restricted Zones*	Total Citations
1993	21,294	72,691	11,390	1,540	106,915
1994	22,750	73,595	13,259	1,513	111,117
1995	26,142	72,497	12,654	1,724	113,017
1996	27,156	71,856	12,153	1,963	113,128
1997	25,956	68,369	12,538	1,847	108,710
1998	25,241	64,808	13,017	1,750	104,816
1999	27,494	64,918	12,736	1,742	106,890

* Restricted Zones are roadway segments with lower speed limits for a particular reason such as a school or residential area.

DISCUSSION ON SPEED LIMIT MODIFICATIONS

Note: *The following section is included verbatim from the January 1996* Report on Speed Limits and Safety for Iowa Highways *to provide historical perspective for readers unfamiliar with the issues and as a review for others. Previous sections of this Report, organized in the same format as the 1996, 1997, and 1998 Reports, have provided current information. Particular attention should be directed to the section in this Report titled "Crash Data for Iowa," starting on Page 15. Comparison of that section to the projections made in the 1996 Report reveals that the actual increase in fatalities on Iowa's rural expressways was essentially double the initial projection of the Task Force.*

The consensus of the Task Force was that this report should not contain specific speed limit recommendations. The purpose of this report is to point out safety factors and to consider the impacts of speed on each. The task of weighing all of the relevant information and deciding whether speed limits should be modified is left to the Legislature and other policy makers. The Task Force urges these groups to be guided by the facts. The welfare of Iowans and visitors to the state should be considered.

All Classes of Highways

- In general, when speed limits are increased, accidents and fatalities will increase. Along with this is an increased cost to society for more severe injuries suffered in accidents.
- Differential speeds between cars, trucks and other vehicles are detrimental to traffic safety.
- If speed limits are increased, consideration should be given to repealing the "Right to Speed" law (Iowa Code 321.210(2)d).
- If speed limits are increased, consideration should be given to a day/night differential. Accident rates are three times higher during hours of darkness than during the day.
- Changing speed limits will require additional expenditures for changing sign messages or adding new signs.
- The increased kinetic energy in an accident at higher speeds may contribute to more severe injuries. An 18 percent increase in speed from 55 mph to 65 mph results in a 40 percent increase in the kinetic energy associated with a moving vehicle. Increasing the speed from 65 mph to 70 mph (an 8 percent increase in speed) results in a 16 percent increase in the kinetic energy.

- A vehicle traveling at 55 mph will require 540 feet to stop and the same vehicle traveling at 65 mph will require 725 feet to stop, a 34 percent increase in required stopping distance for an 18 percent increase in speed. A vehicle traveling at 70 mph will need 840 feet to stop. The additional stopping distance required when vehicle speed is increased from 65 mph to 70 mph, an 8 percent increase in speed, is 115 feet, or a 16 percent increase.

Urban Interstate

- An increase in Urban Interstate speed limits from 55 mph to 65 mph will likely result in an increase of at least three to six fatalities at an economic loss of $1.5 million to $3.0 million annually, using the Iowa DOT fatality costs.
- Since there is considerable variation in design and use of Urban Interstates, speed limits should be set by site-specific engineering studies rather than by the Legislative process.

Rural Interstate

- An increase in the speed limit from 65 mph to 75 mph on rural Interstate will likely result in at least 31 additional fatalities at a cost of $15.5 million annually, using Iowa DOT fatality costs.
- Interstate speed limits should be based on the characteristics of the surrounding environment as opposed to arbitrary rural/urban boundaries. There should be continuity and uniformity of speed limits in suburban sections of metropolitan areas.

Freeways and Expressways

- An increase in the speed limit from 55 mph to 65 mph on Rural Expressways that “look like” Interstates will likely result in at least 3 additional fatalities at a cost of $1.5 million annually, using Iowa DOT fatality costs.
- The public does not perceive the subtle differences in these classifications of highways. Therefore, it may be acceptable to set speed limits on all rural multi-lane divided routes (Interstates, Freeways and Expressways) at the same posted limit.

Other Two-Lane Primary

- An increase in the speed limit from 55 mph to 65 mph on Rural Primary will likely result in at least 50 additional fatalities and a cost of $25 million annually, using Iowa DOT fatality costs.
- An increase in the Rural Primary speed limit will require a substantial additional expenditure to resurvey, remark and relocate signs for No Passing Zones.
- An increase in speed limits will lengthen the distance required to pass, while at the same time passing opportunities are reduced because of longer No Passing Zones.

Secondary Roads

- An increase in the speed limit from 55 mph to 65 mph on Secondary Roads will likely result in at least 44 additional fatalities and a cost of $22 million annually, using Iowa DOT fatality costs.
- The fatality rate on Secondary Roads is the highest of any of the road systems.
- Generally, the design characteristics and safety features of Secondary Roads are not sufficient to safely accommodate higher speed limits.
- The public tends to drive at higher speeds on the Secondary system than on the Rural Primary System. If the speed limit is increased on Rural Primaries, the speed on paved Secondaries will likely increase, regardless of the posted speed limit.
- An increase in the Rural Secondary speed limit will require a substantial additional expenditure to resurvey, remark and relocate signs for No Passing Zones.
- An increase in speed limits will lengthen the distance required to pass at the same time passing opportunities are reduced because of longer No Passing Zones.
- If different speed limits are posted on the Primary and Secondary Systems, it will require counties to install more signs.

VEHICLE OPERATING COSTS AT HIGHER SPEEDS

Note: *The following section is included verbatim from the January 1998* Update Report on Speed Limits in Iowa.

Many factors are impacted by raising speed limits, such as travel times, user costs, pollution, and user preference. Although most of those factors are outside of the scope of this Report, the Speed Limit Task Force was able to gather information on the impact of higher speeds on vehicle operating costs.

Trucks

The motor carrier industry has two primary considerations regarding speed limits. The first is safety. The second consideration is the cost of operation at various speeds. In 1987, The Maintenance Council (TMC) of the American Trucking Associations (ATA) conducted a study of the costs of operating trucks at 55 mph vs. 65 mph.

The study was conducted with the following three objectives in mind.

1. Determine the test fuel economy penalties of operating at a 65 mile per hour maximum speed with both old and new equipment.
2. Obtain the best possible estimates of component degradation at higher vehicle operating speeds.
3. Determine productivity gains to be realized by operating at 65 mph rather than 55.

Although the study was done 10 years ago, the three major truck engine manufacturers confirm that the study's conclusions on fuel economy and oil consumption remain relatively accurate. The study conclusions are listed below.

1. Speed costs money. The rule of thumb for all heavy trucks is that for every one mile per hour increase in average vehicle speed there is a 2.2 percent increase in fuel consumption or a 0.14-mile per gallon penalty in fuel economy. Current estimates are a 0.10-mile per gallon penalty.
2. Operating equipment at speeds higher than 55 mph generally decreases component service life and shortens preventative maintenance intervals. Some examples include:

- A 10-mph increase in operating speed results in a 10 to 15 percent decrease in miles-to-engine overhaul.
- Oil consumption can be expected to increase by 15 percent.
- Tread life on tires was estimated to decrease 5 to 16 percent from 55 mph to 65 mph.
- Brake life was estimated to decrease up to 15 percent with the speed limit increase.

3. On the issue of productivity gains, TMC concluded that it was not possible to prove any productivity gains by increasing the speed limit from 55 mph to 65 mph. The Task Force could not locate statistics to support or refute the productivity arguments.

Passenger Cars

The passenger vehicle segment of the motor vehicle industry has operated under the following “rules of thumb” as it relates to fuel economy and increased speeds. This information is based on all passenger cars and light trucks.

Fuel economy “rules of thumb”:

- As a vehicle’s speed increases from 65 mph to 70 mph there is typically a 10 percent decrease in fuel economy.
- The 10 percent decrease is not a linear relationship, meaning there is an increasingly greater decrease in economy as speed increases.
- Sport utility vehicles, as a class, experience approximately a 20 percent decrease in fuel economy for an increase in speed from 65 to 75 mph.
- Air resistance is the largest contributor to a decrease in fuel economy. More aerodynamic vehicles will incur a lower decrease in economy.

OTHER REPORTS

Many reports about the effects of increased speed limits on safety came to the Task Force's attention. The reports are as follows:

Impact of the 65 mph Speed Limit on Iowa's Rural Interstate Highways: An Integrated Bayesian Forecasting and Dynamic Modeling Approach, November 1997. Sponsored by the Center for Transportation Research and Education, Ames, IA. Authored by Shanmuganathan Raju, R. Souleyrette, and T.H. Maze.

Effect Of 1996 Speed Limit Changes On Motor Vehicle Occupant Fatalities, October 1997. Sponsored by the Insurance Institute for Highway Safety, Arlington, VA. Authored by Charles M. Farmer, R. A. Retting, and A. K. Lund.

"Did The 65 Mph Speed Limit Save Lives?," 1994. Authored by Charles Lave and Patrick Elias, Department of Economics, University of California, Irvine, CA.

Impact Of Speed Limit Increases On Crash Injury Severity: Analysis Of Single-Vehicle Crashes On North Carolina Interstate Highways, November 1998. Authored by Henry Renski and Asad J. Khattak, Department of City and Regional Planning, The University of North Carolina and Forrest M. Council, Highway Safety Research Center, The University of North Carolina, Chapel Hill, NC.

Deaths Go Up on Interstate Highways Where Higher Speed Limits are Posted, January 1999. Sponsored by the Insurance Institute for Highway Safety, Arlington, VA.

Report to Congress: *The Effect of Increased Speed Limits in the Post-NMSL Era*, February 1998. Sponsored by the National Highway Traffic Safety Administration, Federal Highway Administration, U.S. Department of Transportation, Washington D.C.

Special Report 254: Managing Speed, Review of Current Practice for Setting and Enforcing Speed Limits, 1998. Sponsored by the Transportation Research Board, National Research Council.

Copies of these reports are available by calling the Engineering Division at the Iowa Department of Transportation at 515-239-1513. Requests may also be made by e-mail at tcrouch@max.state.ia.us.

Other studies, reports and media articles are available. The Task Force did not do a literature search nor intend this report to be a summary of other's work. The Task Force compiled information believed to be helpful to Iowa's decision makers.

APPENDIX

Table A - 1 : STATEWIDE

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal + Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	16,053	752	22,324	64,666	87,742	912	4.68	5.68	144	547
1971	16,582	681	21,411	65,010	87,102	828	4.11	4.99	133	525
1972	17,127	722	23,810	67,385	91,917	875	4.22	5.11	143	537
1973	17,691	682	24,689	71,253	96,624	813	3.86	4.60	143	546
1970-1973	**67,453**	**2,837**	**92,234**	**268,314**	**363,385**	**3428**	**4.21**	**5.08**	**141**	**539**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	17,250	583	22,851	67,683	91,117	685	3.38	3.97	136	528
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	17,853	578	23,082	71,165	94,825	674	3.24	3.78	133	531
1976 *	18,441	663	* 24,218	* 73,119	* 98,000	785	3.60	4.26	NA	NA
1977	19,028	561	22,358	64,852	87,771	640	2.95	3.36	120	461
1978	19,467	563	21,651	68,999	91,213	650	2.89	3.34	114	469
1979	18,959	566	20,727	65,676	86,969	655	2.99	3.45	112	459
1980	18,305	541	20,280	56,979	77,800	626	2.96	3.42	114	425
1974-1980	**129,303**	**4,055**	**130,949 ****	**395,354 ****	**529,695 ****	**4,715**	**3.14**	**3.65**	**121 ****	**478 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	18,715	529	19,945	47,789	68,263	612	2.83	3.27	109	365
July 1, 1982 - OWI Administrative License Revocation										
1982	19,391	431	17,933	43,185	61,549	480	2.22	2.48	95	317
1983	19,712	434	18,049	42,707	61,190	510	2.20	2.59	94	310
July 1, 1984 - Child Restraint Law										
1984	20,481	376	19,378	43,064	62,818	420	1.84	2.05	96	307
1985	20,104	415	18,752	44,457	63,624	624	2.06	3.10	95	316
1986	20,481	388	18,522	42,773	61,683	441	1.89	2.15	92	301
1981-1986	**118,884**	**2,573**	**112,579**	**263,975**	**379,127**	**3,087**	**2.16**	**2.60**	**97**	**319**
January 1, 1987 - Iowa Seat Belt Law										
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**20,824**	**443**	**18,695**	**44,320**	**63,458**	**491**	**2.13**	**2.36**	**92**	**305**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	21,834	494	19,123	48,284	67,901	557	2.26	2.55	90	311
1989	22,509	452	20,612	49,652	70,716	515	2.01	2.29	94	314
1990	23,165	403	20,577	50,812	71,792	464	1.74	2.00	91	310
1991	23,752	424	20,034	50,814	71,272	489	1.79	2.06	86	300
1992	24,411	388	23,011	45,862	69,261	437	1.59	1.79	96	284
1993	25,396	399	24,503	48,706	73,608	457	1.57	1.80	98	290
1988-1993	**141,067**	**2,560**	**127,860**	**294,130**	**424,550**	**2,919**	**1.81**	**2.07**	**92**	**301**
1994	26,039	416	24,927	48,705	74,048	479	1.60	1.84	97	284
1995	26,659	446	26,250	49,544	76,240	527	1.67	1.98	100	286
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	27,587	411	25,297	52,649	78,357	465	1.49	1.69	93	284
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	28,404	411	25,513	45,589	71,513	468	1.45	1.65	91	252
1998	29,376	386	24,471	39,184	64,041	449	1.31	1.53	85	218
1994-1998	**138,065**	**2,070**	**126,458**	**235,671**	**364,199**	**2,388**	**1.50**	**1.73**	**93**	**264**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

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Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 2 : RURAL INTERSTATE

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal + Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	1,902	38	454	873	1,365	57	2.00	3.00	26	72
1971	2,001	25	564	1,082	1,671	31	1.25	1.55	29	84
1972	1,977	35	560	1,045	1,640	37	1.77	1.87	30	83
1973	2,039	41	633	1,266	1,940	48	2.01	2.35	33	95
1970-1973	**7,919**	**139**	**2,211**	**4,266**	**6,616**	**173**	**1.76**	**2.18**	**30**	**84**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	1,851	23	414	881	1,318	24	1.24	1.30	24	71
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	2,000	29	511	1,272	1,812	40	1.45	2.00	27	91
1976 *	2,242	20	NA	NA	NA	27	0.89	1.20	NA	NA
1977	2,326	19	523	1,169	1,711	21	0.82	0.90	23	74
1978	2,422	27	606	1,408	2,041	28	1.11	1.16	26	84
1979	2,296	19	472	1,160	1,651	20	0.83	0.87	21	72
1980	2,246	22	467	1,170	1,659	30	0.98	1.34	22	74
1974-1980	**15,383**	**159**	**** 2,993**	**** 7,060**	**** 10,192**	**190**	**1.03**	**1.24**	**** 24**	**** 78**
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	2,357	28	443	964	1,435	35	1.19	1.48	20	61
1982	2,330	15	521	1,179	1,715	22	0.64	0.94	23	74
1983	2,406	17	486	1,121	1,624	21	0.71	0.87	21	67
1984	2,620	13	466	1,100	1,579	15	0.50	0.57	18	60
1985	2,661	13	480	1,192	1,685	18	0.49	0.68	19	63
1986	2,806	13	510	1,213	1,736	14	0.46	0.50	19	62
1981-1986	**15,180**	**99**	**2,906**	**6,769**	**9,774**	**125**	**0.65**	**0.82**	**20**	**64**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**2,962**	**21**	**502**	**1,309**	**1,832**	**23**	**0.71**	**0.78**	**18**	**62**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	3,282	28	538	1,341	1,907	35	0.85	1.07	17	58
1989	3,454	26	569	1,413	2,008	28	0.75	0.81	17	58
1990	3,531	23	586	1,552	2,161	27	0.65	0.76	17	61
1991	3,565	25	589	1,625	2,239	32	0.70	0.90	17	63
1992	3,775	25	627	1,413	2,065	29	0.66	0.77	17	55
1993	3,965	29	776	1,793	2,598	34	0.73	0.86	20	66
1988-1993	**21,572**	**156**	**3,685**	**9,137**	**12,978**	**185**	**0.72**	**0.86**	**18**	**60**
1994	4,156	26	691	1,504	2,221	36	0.63	0.87	17	53
1995	4,249	19	740	1,590	2,349	26	0.45	0.61	18	55
Beginning in Mid-1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	4,423	20	769	1,797	2,586	30	0.45	0.68	18	58
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	4,508	29	873	1,655	2,557	32	0.64	0.71	20	57
1998	4,794	25	771	1,447	2,243	34	0.52	0.71	17	47
1994-1998	**22,130**	**119**	**3,844**	**7,993**	**11,956**	**158**	**0.54**	**0.71**	**18**	**54**

*** For 1976, injury, property damage, and total crash data is not available by road road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 3 : RURAL PRIMARY

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal + Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	5,498	317	3,991	7,041	11,349	398	5.77	7.24	78	206
1971	5,706	283	3,620	7,008	10,911	385	4.96	6.75	68	191
1972	5,560	316	4,146	7,447	11,909	397	5.68	7.14	80	214
1973	5,566	278	4,140	7,344	11,762	350	4.99	6.29	79	211
1970-1973	**22,330**	**1,194**	**15,897**	**28,840**	**45,931**	**1530**	**5.35**	**6.85**	**77**	**206**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	5,563	224	3,091	5,777	9,092	288	4.03	5.18	60	163
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	5,494	244	3,180	6,215	9,639	296	4.44	5.39	62	175
1976 *	5,565	227	NA	NA	NA	282	4.08	5.07	NA	NA
1977	5,665	187	3,023	5,916	9,126	230	3.30	4.06	57	161
1978	6,031	185	2,883	5,900	8,968	224	3.07	3.71	51	149
1979	5,932	186	2,733	5,691	8,610	238	3.14	4.01	49	145
1980	5,644	162	2,525	5,015	7,702	198	2.87	3.51	48	136
1974-1980	**39,894**	**1,415**	**17,435 ****	**34,514 ****	**53,137 ****	**1,756**	**3.55**	**4.40**	**54 ****	**155 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	5,614	161	2,514	4,322	6,997	196	2.87	3.49	48	125
1982	5,560	129	2,318	4,385	6,832	143	2.32	2.57	44	123
1983	5,676	147	2,207	4,375	6,729	180	2.59	3.17	41	119
1984	5,896	123	2,519	4,792	7,434	148	2.09	2.51	45	126
1985	5,628	153	2,194	4,827	7,174	181	2.72	3.22	42	127
1986	5,771	134	2,311	5,173	7,618	161	2.32	2.79	42	132
1981-1986	**34,145**	**847**	**14,063**	**27,874**	**42,784**	**1,009**	**2.48**	**2.96**	**44**	**125**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**5,846**	**147**	**2,231**	**5,253**	**7,631**	**166**	**2.51**	**2.84**	**41**	**131**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	6,061	160	2,295	5,644	8,099	194	2.64	3.20	41	134
1989	6,302	151	2,385	5,596	8,132	186	2.40	2.95	40	129
1990	6,540	142	2,511	6,168	8,821	174	2.17	2.66	41	135
1991	6,623	149	2,324	5,947	8,420	188	2.25	2.84	37	127
1992	6,883	119	2,604	5,597	8,320	143	1.73	2.08	40	121
1993	7,122	137	2,761	5,908	8,806	165	1.92	2.32	41	124
1988-1993	**39,531**	**858**	**14,880**	**34,860**	**50,598**	**1,050**	**2.17**	**2.66**	**40**	**128**
1994	7,286	126	2,699	5,754	8,579	150	1.73	2.06	39	118
1995	7,383	163	2,879	6,331	9,373	207	2.21	2.80	41	127
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	7,582	149	3,046	7,156	10,351	166	1.97	2.19	42	137
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	7,837	133	3,201	6,534	9,868	167	1.70	2.13	43	126
1998	8,142	140	2,989	5,838	8,967	170	1.72	2.09	38	110
1994-1998	**38,230**	**711**	**14,814**	**31,613**	**47,138**	**860**	**1.86**	**2.25**	**41**	**123**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

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Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 4 : RURAL SECONDARY (County Roads)

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100 **Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night**										
1970	2,908	199	3,834	6,573	10,606	237	6.84	8.15	139	365
1971	2,981	202	3,630	6,624	10,456	230	6.78	7.72	129	351
1972	3,049	204	3,851	6,554	10,609	258	6.69	8.46	133	348
1973	3,144	203	3,820	6,997	11,020	241	6.46	7.67	128	351
1970-1973	**12,082**	**808**	**15,135**	**26,748**	**42,691**	**966**	**6.69**	**8.00**	**132**	**353**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	3,206	166	3,925	6,923	11,014	188	5.18	5.86	128	344
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	3,289	169	3,931	7,523	11,623	194	5.14	5.90	125	353
1976 *	3,335	223	NA	NA	NA	264	6.69	7.92	NA	NA
1977	3,377	167	4,058	7,445	11,670	191	4.95	5.66	125	346
1978	3,443	183	3,943	7,607	11,733	205	5.32	5.95	120	341
1979	3,365	193	3,877	7,142	11,212	217	5.74	6.45	121	333
1980	3,289	188	4,083	6,831	11,102	212	5.72	6.45	130	338
1974-1980	**23,304**	**1,289**	**23,817** **	**43,471** **	**68,354** **	**1,471**	**5.53**	**6.31**	**125** **	**342** **
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	3,433	173	4,175	6,163	10,511	201	5.04	5.85	127	306
1982	3,762	151	3,483	5,216	8,850	176	4.01	4.68	97	235
1983	3,816	148	3,208	5,184	8,540	172	3.88	4.51	88	224
1984	3,834	137	3,572	5,309	9,018	146	3.57	3.81	97	235
1985	3,686	139	3,402	5,300	8,841	157	3.77	4.26	96	240
1986	3,612	129	3,438	5,679	9,246	145	3.57	4.01	99	256
1981-1986	**22,143**	**877**	**21,278**	**32,851**	**55,006**	**997**	**3.96**	**4.50**	**100**	**248**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**3,632**	**142**	**3,725**	**5,877**	**9,744**	**163**	**3.91**	**4.49**	**106**	**268**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	3,743	160	3,810	6,357	10,327	174	4.27	4.65	106	276
1989	3,856	137	3,791	6,545	10,473	153	3.55	3.97	102	272
1990	3,995	121	3,694	6,464	10,279	139	3.03	3.48	95	257
1991	4,095	143	3,485	6,453	10,081	156	3.49	3.81	89	246
1992	4,164	134	3,862	6,074	10,070	153	3.22	3.67	96	242
1993	4,260	128	3,679	6,229	10,036	147	3.00	3.45	89	236
1988-1993	**24,113**	**823**	**22,321**	**38,122**	**61,266**	**922**	**3.41**	**3.82**	**96**	**254**
1994	4,301	150	4,032	6,748	10,930	166	3.49	3.86	97	254
1995	4,336	155	4,243	7,050	11,448	178	3.57	4.11	101	264
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	4,412	144	4,105	7,600	11,849	163	3.26	3.69	96	269
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	4,558	133	4,048	6,755	10,936	144	2.92	3.16	92	240
1998	4,612	122	3,879	5,772	9,773	134	2.65	2.91	87	212
1994-1998	**22,219**	**704**	**20,307**	**33,925**	**54,936**	**785**	**3.17**	**3.53**	**95**	**247**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportation

A-5 RURAL TOTALS

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100 **Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night**										
1970	10,308	554	8,279	14,487	23,320	692	5.37	6.71	86	226
1971	10,608	510	7,814	14,714	23,038	646	4.81	6.09	78	217
1972	10,586	555	8,557	15,046	24,158	692	5.24	6.54	86	228
1973	10,749	522	8,593	15,637	24,752	639	4.86	5.94	85	230
1970-1973	**42,251**	**2,141**	**33,243**	**59,884**	**95,268**	**2,669**	**5.07**	**6.32**	**84**	**225**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	10,620	413	7,430	13,581	21,424	500	3.89	4.71	74	202
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	10,783	442	7,622	15,010	23,074	530	4.10	4.92	75	214
1976 *	11,142	470	NA	NA	NA	573	4.22	5.14	NA	NA
1977	11,368	373	7,604	14,530	22,507	442	3.28	3.89	70	198
1978	11,896	395	7,432	14,915	22,742	457	3.32	3.84	66	191
1979	11,593	398	7,082	13,993	21,473	475	3.43	4.10	65	185
1980	11,179	372	7,075	13,016	20,463	440	3.33	3.94	67	183
1974-1980	**78,581**	**2,863**	**44,245 ****	**85,045 ****	**131,683 ****	**3,417**	**3.64**	**4.35**	**69 ****	**195 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	11,404	362	7,132	11,449	18,943	432	3.17	3.79	66	166
1982	11,652	295	6,322	10,780	17,397	341	2.53	2.93	57	149
1983	11,898	312	5,901	10,680	16,893	373	2.62	3.13	52	142
1984	12,350	273	6,557	11,201	18,031	309	2.21	2.50	55	146
1985	11,975	305	6,076	11,319	17,700	356	2.55	2.97	53	148
1986	12,189	276	6,259	12,065	18,600	320	2.26	2.63	54	153
1981-1986	**71,468**	**1,823**	**38,247**	**67,494**	**107,564**	**2,131**	**2.55**	**2.98**	**56**	**151**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**12,440**	**310**	**6,458**	**12,439**	**19,207**	**352**	**2.49**	**2.83**	**54**	**154**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	13,086	348	6,643	13,342	20,333	403	2.66	3.08	53	155
1989	13,612	314	6,745	13,554	20,613	367	2.31	2.70	52	151
1990	14,066	286	6,791	14,184	21,261	340	2.03	2.42	50	151
1991	14,283	317	6,398	14,025	20,740	376	2.22	2.63	47	145
1992	14,822	278	7,093	13,084	20,455	325	1.88	2.19	50	138
1993	15,347	294	7,216	13,930	21,440	346	1.92	2.25	49	140
1988-1993	**85,216**	**1,837**	**40,886**	**82,119**	**124,842**	**2,157**	**2.16**	**2.53**	**50**	**147**
1994	15,743	302	7,422	14,006	21,730	352	1.92	2.24	49	138
1995	15,968	337	7,862	14,971	23,170	411	2.11	2.57	51	145
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	16,417	313	7,920	16,553	24,786	359	1.91	2.19	50	151
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	16,903	295	8,122	14,944	23,361	343	1.75	2.03	50	138
1998	17,548	287	7,639	13,057	20,983	338	1.64	1.93	45	120
1994-1998	**82,579**	**1,534**	**38,965**	**73,531**	**114,030**	**1,803**	**1.86**	**2.18**	**49**	**138**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportati

Table A - 6 : MUNICIPAL INTERSTATE

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100 **Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night**										
1970	404	9	239	582	830	16	2.23	3.96	61	205
1971	471	5	263	698	966	6	1.06	1.27	57	205
1972	490	4	326	827	1,157	5	0.82	1.02	67	236
1973	517	8	426	1,047	1,481	9	1.55	1.74	84	286
1970-1973	**1,882**	**26**	**1,254**	**3,154**	**4,434**	**36**	**1.38**	**1.91**	**68**	**236**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	517	6	320	871	1,197	6	1.16	1.16	63	232
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	545	5	295	810	1,110	6	0.92	1.10	55	204
1976 *	600	13	NA	NA	NA	14	2.17	2.33	NA	NA
1977	624	6	383	985	1,374	6	0.96	0.96	62	220
1978	665	7	378	1,130	1,515	8	1.05	1.20	58	228
1979	654	7	396	962	1,365	7	1.07	1.07	62	209
1980	656	7	320	935	1,262	8	1.07	1.22	50	192
1974-1980	**4,261**	**51**	**2,092 ****	**5,693 ****	**7,823 ****	**55**	**1.20**	**1.29**	**58 ****	**214 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	686	7	354	838	1,199	7	1.02	1.02	53	175
1982	704	9	396	865	1,270	9	1.28	1.28	58	180
1983	716	16	454	946	1,416	21	2.23	2.93	66	198
1984	867	12	500	1,018	1,530	14	1.38	1.61	59	176
1985	882	9	507	1,124	1,640	9	1.02	1.02	59	186
1986	939	7	486	1,046	1,539	7	0.75	0.75	53	164
1981-1986	**4,794**	**60**	**2,697**	**5,837**	**8,594**	**67**	**1.25**	**1.40**	**58**	**179**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**988**	**8**	**486**	**1,061**	**1,555**	**8**	**0.81**	**0.81**	**50**	**157**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	1,112	11	384	993	1,388	12	0.99	1.08	36	125
1989	1,174	11	484	1,104	1,599	11	0.94	0.94	42	136
1990	1,244	9	464	1,002	1,475	9	0.72	0.72	38	119
1991	1,283	5	608	1,391	2,004	6	0.39	0.47	48	156
1992	1,330	12	668	1,322	2,002	12	0.90	0.90	51	151
1993	1,435	11	888	1,509	2,408	11	0.77	0.77	63	168
1988-1993	**7,578**	**59**	**3,496**	**7,321**	**10,876**	**61**	**0.78**	**0.80**	**47**	**144**
1994	1,468	14	848	1,349	2,211	14	0.95	0.95	59	151
1995	1,542	2	878	1,402	2,282	2	0.13	0.13	57	148
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	1,729	12	919	1,475	2,406	12	0.69	0.69	54	139
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	1,772	7	1,067	1,448	2,522	8	0.40	0.45	61	142
1998	1,833	9	961	1,222	2,192	12	0.49	0.65	53	120
1994-1998	**8,344**	**44**	**4,673**	**6,896**	**11,613**	**48**	**0.53**	**0.58**	**57**	**139**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 7 : MUNICIPAL PRIMARY

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	2,121	82	4,899	14,307	19,288	93	3.87	4.38	235	909
1971	2,216	86	4,548	14,084	18,718	94	3.88	4.24	209	845
1972	2,276	65	5,317	14,739	20,121	71	2.86	3.12	236	884
1973	2,319	75	5,461	15,327	20,863	83	3.23	3.58	239	900
1970-1973	**8,932**	**308**	**20,225**	**58,457**	**78,990**	**341**	**3.45**	**3.82**	**230**	**884**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	2,321	78	5,400	15,771	21,249	88	3.36	3.79	236	916
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	2,320	58	5,274	15,323	20,655	61	2.50	2.63	230	890
1976 *	2,370	83	NA	NA	NA	90	3.50	3.80	NA	NA
1977	2,429	73	5,319	15,769	21,161	81	3.01	3.33	222	871
1978	2,580	79	5,233	16,823	22,135	95	3.06	3.68	206	858
1979	2,483	65	4,720	15,515	20,300	69	2.62	2.78	193	818
1980	2,398	88	4,613	12,862	17,563	100	3.67	4.17	196	732
1974-1980	**16,901**	**524**	**30,559 ****	**92,063 ****	**123,063 ****	**584**	**3.10**	**3.46**	**213 ****	**847 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	2,372	77	4,359	10,954	15,390	84	3.25	3.54	187	649
1982	2,365	68	3,917	9,522	13,507	70	2.88	2.96	168	571
1983	2,375	53	4,074	9,441	13,568	61	2.23	2.57	174	571
1984	2,509	44	4,358	9,679	14,081	49	1.75	1.95	175	561
1985	2,448	48	4,254	9,638	13,940	55	1.96	2.25	176	569
1986	2,440	43	3,984	8,919	12,946	46	1.76	1.89	165	531
1981-1986	**14,509**	**333**	**24,946**	**58,153**	**83,432**	**365**	**2.30**	**2.52**	**174**	**575**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**2,411**	**55**	**4,004**	**9,601**	**13,660**	**59**	**2.28**	**2.45**	**168**	**567**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	2,521	56	4,218	10,327	14,601	60	2.22	2.38	170	579
1989	2,644	64	4,749	10,692	15,505	71	2.42	2.69	182	586
1990	2,749	50	4,629	10,806	15,485	56	1.82	2.04	170	563
1991	2,775	45	4,550	10,572	15,167	45	1.62	1.62	166	547
1992	2,842	32	5,499	9,397	14,928	34	1.13	1.20	195	525
1993	2,935	46	5,736	9,793	15,575	47	1.57	1.60	197	531
1988-1993	**16,466**	**293**	**29,381**	**61,587**	**91,261**	**313**	**1.78**	**1.90**	**180**	**554**
1994	2,966	40	5,696	9,367	15,103	43	1.35	1.45	193	509
1995	3,037	47	5,934	9,337	15,318	51	1.55	1.68	197	504
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	3,119	36	5,605	9,492	15,133	39	1.15	1.25	181	485
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	3,232	46	5,588	8,434	14,068	51	1.42	1.58	174	435
1998	3,318	37	5,737	7,826	13,600	42	1.12	1.27	174	410
1994-1998	**15,672**	**206**	**28,560**	**44,456**	**73,222**	**226**	**1.31**	**1.44**	**184**	**467**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 8 : CITY STREETS

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	3,220	107	8,907	35,290	44,304	111	3.32	3.45	280	1,376
1971	3,207	80	8,786	35,514	44,380	82	2.49	2.56	276	1,384
1972	3,775	98	9,610	36,773	46,481	107	2.60	2.83	257	1,231
1973	4,106	77	10,209	39,242	49,528	82	1.88	2.00	251	1,206
1970-1973	**14,308**	**362**	**37,512**	**146,819**	**184,693**	**382**	**2.53**	**2.67**	**265**	**1,291**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	3,792	86	9,701	37,460	47,247	91	2.27	2.40	258	1,246
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	4,205	73	9,891	40,022	49,986	77	1.74	1.83	237	1189
1976 *	4,329	97	NA	NA	NA	108	2.24	2.49	NA	NA
1977	4,607	109	9,052	33,568	42,729	111	2.37	2.41	199	927
1978	4,326	82	8,608	36,131	44,821	90	1.90	2.08	201	1036
1979	4,229	96	8,529	35,206	43,831	104	2.27	2.46	204	1036
1980	4,072	74	8,272	30,166	38,512	78	1.82	1.92	205	946
1974-1980	**29,560**	**617**	**** 54,053**	**** 212,553**	**** 267,126**	**659**	**2.09**	**2.23**	**** 216**	**** 1059**
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	4,253	83	8,100	24,548	32,731	89	1.95	2.09	192	770
1982	4,670	59	7,298	22,018	29,375	60	1.26	1.28	158	629
1983	4,723	53	7,620	21,640	29,313	55	1.12	1.16	162	621
1984	4,755	47	7,963	21,166	29,176	48	0.99	1.01	168	614
1985	4,799	53	7,915	22,376	30,344	53	1.10	1.10	166	632
1986	4,913	62	7,793	20,743	28,598	68	1.26	1.38	160	582
1981-1986	**28,113**	**357**	**46,689**	**132,491**	**179,537**	**373**	**1.27**	**1.33**	**167**	**639**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**4,985**	**70**	**7,747**	**21,219**	**29,036**	**72**	**1.40**	**1.44**	**157**	**582**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	5,115	79	7,878	23,622	31,579	82	1.54	1.60	156	617
1989	5,079	63	8,634	24,302	32,999	66	1.24	1.30	171	650
1990	5,106	58	8,693	24,820	33,571	59	1.14	1.16	171	657
1991	5,231	57	8,478	24,826	33,361	62	1.09	1.19	163	638
1992	5,417	66	9,751	22,059	31,876	66	1.22	1.22	181	588
1993	5,679	48	10,663	23,474	34,185	53	0.85	0.93	189	602
1988-1993	**31,627**	**371**	**54,097**	**143,103**	**197,571**	**388**	**1.17**	**1.23**	**172**	**625**
1994	5,862	60	10,961	23,983	35,004	70	1.02	1.19	188	597
1995	6,112	60	11,576	23,834	35,470	63	0.98	1.03	190	580
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	6,322	50	10,853	25,129	36,032	55	0.79	0.87	172	570
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	6,497	63	10,736	20,763	31,562	66	0.97	1.02	166	486
1998	6,677	53	10,134	17,079	27,266	57	0.79	0.85	153	408
1994-1998	**31,470**	**286**	**54,260**	**110,788**	**165,334**	**311**	**0.91**	**0.99**	**173**	**525**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

Updated February, 2000
Transportation Safety Office
Engineering Division
Iowa Department of Transportation

Table A - 9 : MUNICIPAL TOTALS

SUMMARY OF TRAVEL, CRASHES, FATALITIES AND RATES IN IOWA

1970 THROUGH 1998

Year	Vehicle Miles (Millions)	Number of Crashes				Number of Fatalities	Rates Per 100 Million Vehicle Miles of Travel			
		Fatal	Injury	Property Damage	Total		Fatal Crashes	Fatalities	Fatal+Injury Crashes	Total Crashes
Minimum Property Damage Threshhold at $100										
Speed Limits: Interstate, 75 MPH Day/65 MPH Night - Primary, 70 MPH Day/60 MPH Night										
1970	5,745	198	14,045	50,179	64,422	220	3.45	3.83	248	1,121
1971	5,894	171	13,597	50,296	64,064	182	2.90	3.09	234	1,087
1972	6,541	167	15,253	52,339	67,759	183	2.55	2.80	236	1,036
1973	6,942	160	16,096	55,616	71,872	174	2.30	2.51	234	1,035
1970-1973	**25,122**	**696**	**58,991**	**208,430**	**268,117**	**759**	**2.77**	**3.02**	**238**	**1,067**
January 1, 1974 - Maximum Speed Limit Lowered to 55 MPH on all Road Systems										
1974	6,630	170	15,421	54,102	69,693	185	2.56	2.79	235	1,051
July 1, 1975 - Property Damage Threshhold Raised to $250										
1975	7,070	136	15,460	56,155	71,751	144	1.92	2.04	221	1,015
1976 *	7,299	193	NA	NA	NA	212	2.64	2.90	NA	NA
1977	7,660	188	14,754	50,322	65,264	198	2.45	2.58	195	852
1978	7,571	168	14,219	54,084	68,471	193	2.22	2.55	190	904
1979	7,366	168	13,645	51,683	65,496	180	2.28	2.44	188	889
1980	7,125	169	13,205	43,963	57,337	186	2.37	2.61	188	805
1974-1980	**50,721**	**1,192**	**86,704 ****	**310,309 ****	**398,012 ****	**1,298**	**2.35**	**2.56**	**202 ****	**917 ****
July 1, 1981 - Property Damage Threshhold Raised to $500										
1981	7,311	167	12,813	36,340	49,320	180	2.28	2.46	178	675
1982	7,739	136	11,611	32,405	44,152	139	1.76	1.80	152	571
1983	7,814	122	12,148	32,027	44,297	137	1.56	1.75	157	567
1984	8,131	103	12,821	31,863	44,787	111	1.27	1.37	159	551
1985	8,129	110	12,676	33,138	45,924	117	1.35	1.44	157	565
1986	8,292	112	12,263	30,708	43,083	121	1.35	1.46	149	520
1981-1986	**47,416**	**750**	**74,332**	**196,481**	**271,563**	**805**	**1.58**	**1.70**	**158**	**573**
May 12, 1987 - Rural Interstate Speed Limit Raised to 65 MPH										
1987	**8,384**	**133**	**12,237**	**31,881**	**44,251**	**139**	**1.59**	**1.66**	**148**	**528**
December 28, 1987 - Rural Non-Interstate Freeway Speed Limits Raised to 65 MPH										
1988	8,748	146	12,480	34,942	47,568	154	1.67	1.76	144	544
1989	8,897	138	13,867	36,098	50,103	148	1.55	1.66	157	563
1990	9,099	117	13,786	36,628	50,531	124	1.29	1.36	153	555
1991	9,289	107	13,636	36,789	50,532	113	1.15	1.22	148	544
1992	9,589	110	15,918	32,778	48,806	112	1.15	1.17	167	509
1993	10,049	105	17,287	34,776	52,168	111	1.04	1.10	173	519
1988-1993	**55,671**	**723**	**86,974**	**212,011**	**299,708**	**762**	**1.30**	**1.37**	**158**	**538**
1994	10,296	114	17,505	34,699	52,318	127	1.11	1.23	171	508
1995	10,691	109	18,388	34,573	53,070	116	1.02	1.09	173	496
Beginning in 1996 Speed Limits on Selected Sections of Rural Four-Lane Divided Expressways Raised to 65 MPH										
1996	11,170	98	17,377	36,096	53,571	106	0.88	0.95	156	480
July 1, 1997 - Property Damage Threshhold Raised to $1,000										
1997	11,501	116	17,391	30,645	48,152	125	1.01	1.09	152	419
1998	11,828	99	16,832	26,127	43,058	111	0.84	0.94	143	364
1994-1998	**55,486**	**536**	**87,493**	**162,140**	**250,169**	**585**	**0.97**	**1.05**	**159**	**451**

*** For 1976, injury, property damage, and total crash data is not available by road system because only fatal crashes were fully coded into the data system for that year.**

**** Because of the unavailable crash data for 1976, these summary totals and rates do not include 1976 data.**

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Transportation Safety Office
Engineering Division
Iowa Department of Transportation