

TRAFFIC ACCIDENTS IN SPAIN AND THE U.S.A.:
A CROSS-CULTURAL COMPARISON OF ASSOCIATED FACTORS

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16. Abstract <p>This report presents the results of a cross-cultural analysis of factors associated with traffic accidents in Spain and the U.S.A. The research was performed as the first phase of a project on cross-cultural differences in driver risk-taking in the two countries. The analysis was based on the data from 1984 and, whenever possible, on fatal accidents. The findings are presented in a tabular form with an accompanying commentary for each table. Because of the potential reporting differences in the two countries, the present findings should be interpreted with caution and should be viewed only as indicating possible trends. With this caveat in mind, the following are some of the factors with differential involvement in traffic accidents in the two countries: fatality rates per vehicle and per person, proportion of rural and urban accidents, pedestrian fatalities, time-of-the-day and day-of-the-week peaks and troughs, atmospheric factors, speeding citations in accidents, alcohol citations in accidents, violations of traffic laws, and involvement of young persons.</p>					
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INTRODUCTION

This research was performed as the first phase of a study of cross-cultural differences in driver risk-taking in Spain and the U.S. The aim was to provide information concerning differences (and similarities) between traffic-accident trends in Spain and the U.S. Subsequent phases of the study will experimentally examine potential factors with differential influence on driver risk-taking in these two countries.

The emphasis in the analysis was on fatal accidents and fatalities, since it is well known that accidents involving nonfatal injuries are reported less reliably. All of the data are for 1984, the latest year the data were available. The Spanish data are based on the information provided in *Boletín Informativo: Accidentes 1984*, published in 1985 by Dirección General de Tráfico, Ministerio del Interior, in Madrid. The U.S. data are primarily from the Fatal Accident Reporting System (FARS). The U.S. injury-accident data in Table 1, as well as the U.S. data in Table 2, are based on information in *Accident Facts*, 1985 edition, published by the National Safety Council in Chicago.

The data are presented in tabular form, and each table is followed by brief comments on the main features. Whenever possible, comparable data are presented for both countries (Tables 1-23). The tables containing data from both countries cover the following broad areas: general statistics (Tables 1-3), environmental factors (Tables 3-16), vehicular factors (Table 17), and driver factors (Tables 18-23). However, this report also contains several analyses for only one of the two countries, when the information from the other country was unavailable. Tables containing only Spanish data (Tables 24-26) concern driver factors, while those containing only U.S. data concern environmental factors (Tables 27-31) and vehicular factors (Table 32).

It is acknowledged that differences in the reporting systems of the two countries could be responsible for some of the obtained findings. Consequently, no statistical tests of significance were performed, and the obtained differences should be viewed only as possible trends.

TABULAR COMPARISONS AND COMMENTS

TABLE 1

BASIC FATALITY, INJURY, AND ACCIDENT STATISTICS, 1984

Measure	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Fatalities	4,827	44,241	81.3%	58.0%	18.7%	42.0%
Injuries	115,528	1,700,000	54.0%		46.0	
Fatal Accidents	4,007	39,622	79.1%	56.6%	20.9%	43.3%
Injury Accidents	70,104	1,100,000	44.7%		55.3%	
Fatalities per Accident with Fatalities	1.2	1.1	1.2	1.1	1.1	1.1
Injuries per accident with injuries	1.6	1.5	2.0		1.4	
Pedestrian Fatalities	1,024	7,022	57.5%	33.7%	42.5%	66.3%
Non-Pedestrian Fatalities	3,803	37,219	87.6%	62.5%	12.2%	37.5%

Comments:

- (a) Proportionally more rural fatal accidents occurred in Spain (81%) than in the U.S. (58%).
- (b) Fatality rates per accidents with fatalities, and injury rates per accidents with injuries, are similar in the two countries.
- (c) Pedestrian fatalities account for 21% of all fatalities in Spain and 16% in the U.S.
- (d) Proportionally more rural pedestrian fatalities occurred in Spain (58%) than in the U.S. (34%).

TABLE 2
FATALITY, INJURY, AND ACCIDENTS RATES, 1984

Measure	Spain	U.S.A.
Fatality rate per		
100,000 km	5.1*	1.7
10,000 vehicles	4.3	2.6
10,000 drivers		2.9
10,000 people	1.3	2.0
Injury rate per		
100,000 km	81.1*	61.2
10,000 vehicles	103.2	97.5
10,000 drivers		107.9
10,000 people	30.2	72.1
Accident rate per		
100,000 km	44.9*	40.0
10,000 vehicles	66.2	63.7
10,000 drivers		70.5
10,000 people	19.4	47.1

*Applicable to rural roads only.

Comments:

- (a) Fatality rates per 100,000 km are not directly comparable, since the Spanish data are for rural roads only.
- (b) The fatality rate per 10,000 vehicles is higher in Spain (4.3) than in the U.S. (2.6), but the fatality rate per 10,000 people is lower in Spain (1.3) than in the U.S. (2.0).
- (c) The injury and accident rates per 10,000 vehicles are comparable for the two countries, but the differences per 10,000 people are even greater for accident and injury rates than for the fatality rates.

TABLE 3

FIRST EVENT IN FATAL ACCIDENTS, 1984 (column %)

Event	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Pedestrian collision	24.1	16.5	17.6	9.8	49.1	25.3
Angle collision	11.6	16.6	11.3	14.5	12.5	19.5
Head-on collision	21.6	14.8	24.7	18.2	9.9	10.3
Rear-end collision	6.0	4.6	6.5	4.0	4.3	5.4
Other collision	14.7	36.8	14.2	38.3	16.1	33.9
Non-collision	22.0	11.0	25.7	15.1	8.1	5.6
Unknown	0.0	0.1	0.0	0.1	0.0	0.0

Comments:

- (a) Pedestrian collisions are more frequent in Spain than in the U.S. (24% vs. 16%), as are head-on collisions (22% vs. 15%), and non-collision accidents (22% vs. 11%). On the other hand, angle collisions are less frequent in Spain than in the U.S. (12% vs. 17%), as are other types of collisions (15% vs. 37%).
- (b) Similar trends are evident in the data for rural and urban roads.

TABLE 4
FATAL ACCIDENTS BY MONTH, 1984 (column %)

Month	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
January	8.0	6.5	7.9	5.8	8.7	7.4
February	6.6	6.3	6.4	5.9	7.2	6.9
March	7.2	7.4	7.0	7.3	7.8	7.5
April	7.6	7.3	7.5	7.2	8.1	7.6
May	6.5	8.5	6.7	8.4	6.0	8.7
June	7.5	9.3	7.5	9.6	7.6	8.8
July	9.9	9.6	10.4	10.1	8.1	8.9
August	10.8	9.6	11.2	10.1	9.2	9.1
September	9.0	9.4	8.9	9.6	9.3	9.0
October	8.8	9.2	9.0	9.1	7.9	9.2
November	8.8	8.5	8.4	8.6	10.4	8.2
December	9.3	8.5	9.2	8.3	9.7	8.7

Comments:

- (a) The Spanish rural fatal accidents peak in August, while those in the U.S. peak in July and August.
- (a) The lowest number of rural fatal accidents occurred in Spain in February and in the U.S. in January.
- (c) The Spanish urban fatal accidents peak in November, while those in the U.S. peak in October.
- (d) The lowest number of urban fatal accidents occurred in Spain in May and in the U.S. in February.

TABLE 5

FATAL ACCIDENTS BY DAY OF THE WEEK, 1984 (column %)

Day	Total		Rural		Urban	
	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>
Monday	14.5	<i>11.8</i>	14.4	<i>12.4</i>	14.9	<i>11.3</i>
Tuesday	11.1	<i>11.0</i>	11.1	<i>11.5</i>	10.9	<i>10.6</i>
Wednesday	11.6	<i>11.6</i>	11.1	<i>12.2</i>	13.9	<i>11.2</i>
Thursday	12.4	<i>12.6</i>	12.2	<i>13.2</i>	12.9	<i>12.2</i>
Friday	14.7	<i>16.2</i>	14.7	<i>16.3</i>	14.7	<i>16.1</i>
Saturday	17.0	<i>20.1</i>	16.8	<i>18.6</i>	17.6	<i>21.2</i>
Sunday	18.6	<i>16.7</i>	19.6	<i>15.9</i>	15.2	<i>17.3</i>

Comments:

- (a) The Spanish fatal accidents peak on Sundays, while those in the U.S. peak on Saturdays.
- (b) The pattern is the same for rural roads only, but for urban roads only the peak in both countries is on Saturdays.
- (c) The lowest number of fatal accidents occurred on Tuesday in both countries.
- (d) More detailed analyses by day of the week and time of the day are shown in Tables 7 through 12.

TABLE 6
FATAL ACCIDENTS BY TIME OF DAY, 1984 (column %)

Hour	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
24-1	5.3	5.7	5.6	5.4	4.1	6.1
1-2	3.5	5.7	3.3	5.1	3.9	6.3
2-3	4.1	5.4	4.3	4.8	3.7	6.2
3-4	3.8	3.2	3.8	3.2	3.9	3.2
4-5	3.0	2.3	3.2	2.4	2.5	2.2
5-6	2.5	2.0	2.7	2.2	1.8	1.9
6-7	3.4	2.7	3.5	2.7	2.7	2.7
7-8	3.1	2.8	3.3	2.9	2.6	2.6
8-9	3.1	2.4	3.2	2.5	2.6	2.1
9-10	3.2	2.4	3.1	2.5	3.8	2.3
10-11	3.3	2.6	3.2	2.8	3.7	2.5
11-12	3.4	2.9	3.0	2.9	4.8	2.9
12-13	4.0	3.1	3.4	3.2	6.0	2.9
13-14	4.0	3.4	3.9	3.5	4.3	3.2
14-15	3.9	4.3	3.7	4.4	4.4	4.0
15-16	4.8	4.8	4.8	5.2	4.4	4.4
16-17	4.9	5.0	4.8	5.4	5.1	4.4
17-18	4.8	5.5	4.9	5.5	4.4	5.5
18-19	6.8	5.8	6.7	5.8	7.0	5.8
19-20	6.3	5.4	6.3	5.3	6.3	5.5
20-21	4.9	5.3	5.3	5.1	3.7	5.6
21-22	5.8	5.4	5.8	5.2	5.8	5.5
22-23	5.2	5.5	5.3	5.4	4.8	5.8
23-24	2.6	5.8	2.5	5.6	3.3	6.1
Unknown	0.2	0.8	0.3	1.1	0.0	0.5

Comments:

- (a) The Spanish fatal accidents are most numerous during the following times of the day: 18:00-19:00 (6.8%), 19:00-20:00 (6.3%), 21:00-22:00 (5.8%), and 24:00-1:00 (5.3%). The U.S. fatal accidents are most numerous during the following times of the day: 18:00-19:00 (5.8%), 23:00-24:00 (5.8%), 24:00-1:00 (5.7%), and 1:00-2:00 (5.7%).
- (b) The lowest number of fatal accidents in both countries occurred during the time period of 5:00-6:00 (2.5%) in Spain and (2.0%) in the U.S.
- (c) More detailed analyses by day of the week and time of the day are shown in Tables 7 through 12.

TABLE 7

TIME OF THE DAY AND DAY OF THE WEEK OF ALL
FATAL AND INJURY ACCIDENTS, 1984
(Spain; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.7	0.4	0.4	0.4	0.5	0.7	1.0
1-2	0.3	0.2	0.2	0.2	0.3	0.5	0.5
2-3	0.3	0.2	0.2	0.2	0.3	0.6	0.8
3-4	0.2	0.2	0.2	0.2	0.2	0.5	0.8
4-5	0.2	0.2	0.1	0.2	0.2	0.4	0.5
5-6	0.2	0.2	0.2	0.2	0.2	0.3	0.4
6-7	0.3	0.3	0.3	0.3	0.3	0.2	0.3
7-8	0.5	0.5	0.4	0.4	0.5	0.3	0.2
8-9	0.6	0.5	0.5	0.5	0.5	0.4	0.3
9-10	0.6	0.5	0.5	0.5	0.6	0.6	0.4
10-11	0.6	0.6	0.6	0.6	0.6	0.7	0.6
11-12	0.8	0.7	0.7	0.7	0.6	0.8	0.7
12-13	0.8	0.9	0.9	0.8	0.9	0.9	0.7
13-14	0.8	0.8	0.8	0.8	1.0	0.9	0.8
14-15	0.8	0.8	0.8	0.8	0.9	0.7	0.7
15-16	0.8	0.7	0.6	0.7	0.8	0.9	0.7
16-17	0.8	0.8	0.8	0.8	1.0	0.8	0.8
17-18	0.9	0.8	0.8	0.8	1.1	0.8	1.0
18-19	0.9	0.8	0.9	0.9	1.1	0.9	1.1
19-20	0.8	0.9	0.8	0.9	1.0	0.9	1.0
20-21	0.8	0.7	0.7	0.7	0.7	0.9	0.9
21-22	0.6	0.6	0.6	0.6	0.8	0.9	1.0
22-23	0.5	0.5	0.5	0.5	0.7	0.9	0.9
23-24	0.2	0.1	0.2	0.2	0.2	0.3	0.3

Comment:

Since the rural and urban patterns are different, it is more meaningful to consider separately the rural and urban data (see the discussions following Tables 9 and 11).

TABLE 8

TIME OF THE DAY AND DAY OF THE WEEK OF ALL FATAL ACCIDENTS, 1984
(U.S.A.; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.5	0.5	0.5	0.6	0.6	1.6	1.4
1-2	0.4	0.3	0.5	0.6	0.6	1.5	1.7
2-3	0.4	0.4	0.4	0.5	0.6	1.6	1.4
3-4	0.3	0.2	0.2	0.3	0.3	0.9	1.0
4-5	0.2	0.2	0.1	0.2	0.3	0.7	0.6
5-6	0.2	0.2	0.2	0.2	0.3	0.5	0.3
6-7	0.4	0.4	0.4	0.4	0.4	0.4	0.4
7-8	0.4	0.4	0.5	0.4	0.5	0.3	0.3
8-9	0.4	0.3	0.3	0.4	0.4	0.4	0.3
9-10	0.4	0.3	0.3	0.4	0.4	0.4	0.3
10-11	0.4	0.4	0.4	0.4	0.4	0.4	0.3
11-12	0.4	0.4	0.4	0.4	0.5	0.5	0.4
12-13	0.4	0.4	0.4	0.4	0.5	0.5	0.4
13-14	0.5	0.4	0.4	0.5	0.5	0.5	0.5
14-15	0.6	0.6	0.6	0.6	0.7	0.6	0.6
15-16	0.7	0.7	0.6	0.6	0.9	0.7	0.7
16-17	0.6	0.7	0.6	0.7	0.8	0.8	0.7
17-18	0.7	0.6	0.7	0.7	0.9	1.0	0.9
18-19	0.7	0.6	0.7	0.8	1.0	1.1	0.9
19-20	0.7	0.6	0.7	0.7	0.9	1.0	0.9
20-21	0.7	0.5	0.7	0.7	0.9	1.0	0.9
21-22	0.6	0.6	0.6	0.7	1.1	1.0	0.7
22-23	0.6	0.6	0.6	0.7	1.2	1.1	0.7
23-24	0.5	0.5	0.6	0.8	1.5	1.2	0.6
Unknown	0.1	0.1	0.1	0.1	0.1	0.2	0.2

Comment:

Since the rural and urban patterns are somewhat different, it is more meaningful to consider separately the rural and urban data (see the discussions following Tables 10 and 12).

TABLE 9

TIME OF THE DAY AND DAY OF THE WEEK OF RURAL
FATAL AND INJURY ACCIDENTS, 1984 (Spain; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.9	0.4	0.4	0.4	0.5	0.8	1.2
1-2	0.4	0.2	0.2	0.3	0.4	0.6	0.9
2-3	0.4	0.2	0.3	0.3	0.3	0.6	1.0
3-4	0.3	0.2	0.2	0.2	0.3	0.5	1.1
4-5	0.3	0.2	0.1	0.2	0.2	0.4	0.7
5-6	0.2	0.2	0.2	0.2	0.3	0.4	0.5
6-7	0.5	0.3	0.3	0.4	0.3	0.3	0.4
7-8	0.6	0.5	0.4	0.5	0.4	0.5	0.3
8-9	0.7	0.5	0.4	0.5	0.5	0.5	0.4
9-10	0.5	0.5	0.5	0.5	0.5	0.6	0.6
10-11	0.7	0.5	0.5	0.5	0.5	0.7	0.7
11-12	0.7	0.5	0.6	0.5	0.5	0.8	0.7
12-13	0.7	0.6	0.6	0.6	0.6	0.8	0.8
13-14	0.7	0.6	0.6	0.6	0.8	0.8	0.9
14-15	0.7	0.6	0.7	0.6	0.8	0.7	0.7
15-16	0.7	0.7	0.6	0.6	0.8	0.9	0.9
16-17	0.7	0.7	0.7	0.8	0.9	0.9	1.0
17-18	0.8	0.7	0.7	0.7	0.9	0.9	1.3
18-19	0.8	0.8	0.8	0.8	1.1	1.1	1.5
19-20	0.7	0.8	0.8	0.8	1.1	1.0	1.2
20-21	0.6	0.5	0.6	0.5	0.8	1.0	1.0
21-22	0.5	0.6	0.5	0.5	0.8	0.9	1.2
22-23	0.5	0.5	0.5	0.5	0.7	1.1	1.2
23-24	0.3	0.2	0.2	0.2	0.3	0.4	0.4

Comments:

- (a) These data are for fatal and injury accidents; the analogous U.S. table (Table 10) contains data for fatal accidents only.
- (b) The Spanish rural accidents are most numerous during the following time periods: Fridays, 16:00-20:00; Saturdays, 15:00-23:00; Sundays, 24:00-4:00, 13:00-14:00, and 15:00-23:00; and Mondays, 24:00-1:00.
- (c) The highest number of Spanish rural accidents occurred on Sundays, 18:00-19:00.
- (d) The lowest number of Spanish accidents occurred on Wednesdays, 4:00-5:00.

TABLE 10

TIME OF THE DAY AND DAY OF THE WEEK OF RURAL
FATAL ACCIDENTS, 1984 (U.S.A.; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.5	0.3	0.5	0.6	0.6	1.6	1.3
1-2	0.4	0.3	0.3	0.5	0.5	1.4	1.6
2-3	0.4	0.3	0.4	0.4	0.5	1.4	1.3
3-4	0.3	0.2	0.2	0.3	0.4	0.9	0.9
4-5	0.2	0.2	0.1	0.2	0.3	0.8	0.6
5-6	0.3	0.3	0.2	0.2	0.3	0.5	0.3
6-7	0.4	0.4	0.4	0.3	0.4	0.5	0.3
7-8	0.4	0.4	0.5	0.4	0.5	0.4	0.3
8-9	0.4	0.4	0.3	0.4	0.3	0.4	0.3
9-10	0.4	0.3	0.3	0.4	0.3	0.4	0.3
10-11	0.4	0.4	0.4	0.4	0.4	0.5	0.3
11-12	0.3	0.4	0.4	0.4	0.5	0.6	0.4
12-13	0.4	0.4	0.4	0.4	0.5	0.6	0.5
13-14	0.5	0.4	0.4	0.4	0.6	0.6	0.5
14-15	0.7	0.6	0.6	0.6	0.6	0.7	0.7
15-16	0.7	0.6	0.7	0.7	0.9	0.8	0.8
16-17	0.7	0.7	0.6	0.8	0.9	0.9	0.8
17-18	0.7	0.6	0.7	0.6	0.9	1.1	0.9
18-19	0.7	0.6	0.7	0.7	1.0	1.2	1.0
19-20	0.6	0.5	0.6	0.6	0.9	1.1	0.9
20-21	0.6	0.5	0.6	0.6	0.9	1.1	0.9
21-22	0.5	0.6	0.6	0.7	1.1	1.0	0.7
22-23	0.5	0.5	0.6	0.7	1.2	1.2	0.7
23-24	0.5	0.5	0.5	0.7	1.5	1.3	0.5
Unknown	0.1	0.1	0.1	0.1	0.1	0.2	0.2

Comments:

- (a) These data are for fatal accidents only; the analogous Spanish table (Table 9) contains data for fatal and injury accidents.
- (b) The U.S. rural fatal accidents are most numerous during the following time periods: Fridays, 15:00-24:00; Saturdays, 24:00-4:00, and 16:00-23:00; and Sundays, 24:00-4:00, and 17:00-21:00.
- (c) The highest number of U.S. rural fatal accidents occurred on Saturdays, 24:00-1:00.
- (d) The lowest number of U.S. rural fatal accidents occurred on Wednesdays, 4:00-5:00.

TABLE 11

TIME OF THE DAY AND DAY OF THE WEEK OF URBAN
FATAL AND INJURY ACCIDENTS, 1984 (Spain; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.5	0.4	0.4	0.4	0.5	0.7	0.8
1-2	0.3	0.2	0.2	0.2	0.2	0.5	0.6
2-3	0.2	0.2	0.2	0.2	0.3	0.5	0.6
3-4	0.1	0.1	0.1	0.2	0.2	0.5	0.6
4-5	0.1	0.1	0.1	0.1	0.2	0.4	0.4
5-6	0.2	0.2	0.1	0.2	0.2	0.2	0.3
6-7	0.3	0.2	0.2	0.2	0.3	0.2	0.2
7-8	0.5	0.5	0.4	0.4	0.5	0.2	0.2
8-9	0.6	0.6	0.6	0.6	0.6	0.3	0.2
9-10	0.6	0.6	0.6	0.6	0.6	0.5	0.3
10-11	0.7	0.7	0.6	0.7	0.6	0.8	0.5
11-12	0.9	0.8	0.8	0.8	0.8	0.9	0.6
12-13	1.0	1.1	1.2	1.0	1.1	1.0	0.7
13-14	0.9	0.9	0.9	0.9	1.1	0.9	0.7
14-15	0.9	1.0	1.0	1.0	1.0	0.8	0.7
15-16	0.8	0.8	0.7	0.7	0.9	0.8	0.5
16-17	0.9	0.8	0.8	0.8	1.0	0.7	0.6
17-18	1.0	0.9	0.9	0.9	1.1	0.8	0.8
18-19	1.0	0.9	1.0	0.9	1.2	0.8	0.8
19-20	0.9	1.0	0.9	1.0	1.0	0.8	0.8
20-21	0.7	0.7	0.8	0.9	0.9	0.8	0.7
21-22	0.7	0.6	0.7	0.7	0.9	0.9	0.8
22-23	0.5	0.5	0.5	0.6	0.7	0.7	0.7
23-24	0.2	0.1	0.2	0.2	0.2	0.3	0.2

Comments:

- (a) These data are for fatal and injury accidents; the analogous U.S. table (Table 12) contains data for fatal accidents only.
- (b) The Spanish urban accidents are most numerous during the following time periods: Mondays, 11:00-15:00, and 16:00-20:00; Tuesdays and Wednesdays, 12:00-15:00 and 17:00-20:00; Thursdays, 12:00-15:00 and 17:00-21:00; Fridays, 12:00-22:00; and Saturdays, 11:00-14:00 and 21:00-22:00.
- (c) The highest number of Spanish urban accidents occurred on Wednesdays, 12:00-13:00.
- (d) The lowest number of Spanish urban accidents occurred on Mondays, 3:00-5:00, Tuesdays, 3:00-5:00 and 23:00-24:00; Wednesdays, 3:00-6:00; and Thursdays, 4:00-5:00.

TABLE 12

TIME OF THE DAY AND DAY OF THE WEEK OF
URBAN FATAL ACCIDENTS, 1984 (U.S.A; total %)

Hour	Day of the week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
24-1	0.6	0.6	0.6	0.6	0.7	1.5	1.5
1-2	0.5	0.4	0.6	0.7	0.7	1.7	1.7
2-3	0.5	0.5	0.5	0.7	0.7	2.0	1.4
3-4	0.2	0.2	0.3	0.3	0.3	0.8	1.0
4-5	0.2	0.2	0.1	0.2	0.3	0.6	0.6
5-6	0.2	0.2	0.2	0.2	0.3	0.5	0.3
6-7	0.3	0.4	0.4	0.4	0.4	0.4	0.4
7-8	0.4	0.4	0.4	0.4	0.4	0.3	0.3
8-9	0.3	0.2	0.3	0.3	0.4	0.3	0.2
9-10	0.4	0.4	0.3	0.3	0.4	0.3	0.2
10-11	0.4	0.3	0.4	0.4	0.4	0.4	0.2
11-12	0.5	0.3	0.4	0.4	0.5	0.4	0.3
12-13	0.5	0.4	0.4	0.4	0.4	0.4	0.4
13-14	0.5	0.4	0.4	0.5	0.5	0.4	0.4
14-15	0.6	0.6	0.6	0.6	0.7	0.6	0.4
15-16	0.7	0.7	0.6	0.6	0.8	0.5	0.5
16-17	0.6	0.8	0.6	0.6	0.7	0.7	0.5
17-18	0.8	0.7	0.7	0.8	0.9	0.9	0.8
18-19	0.8	0.7	0.8	0.9	0.9	1.0	0.7
19-20	0.7	0.7	0.8	0.7	0.9	0.9	0.8
20-21	0.7	0.6	0.7	0.7	1.0	0.9	0.9
21-22	0.7	0.6	0.6	0.8	1.2	0.9	0.8
22-23	0.7	0.6	0.7	0.8	1.2	0.9	0.7
23-24	0.5	0.5	0.7	0.9	1.6	1.1	0.8
Unknown	0.0	0.1	0.0	0.1	0.0	0.2	0.1

Comments:

- (a) These data are for fatal accidents only; the analogous Spanish table (Table 11) contains data for fatal and injury accidents.
- (b) The U.S. urban fatal accidents are most numerous during the following time periods: Thursdays, 18:00-19:00 and 23:00-24:00; Fridays, 17:00-24:00; Saturdays, 24:00-3:00 and 17:00-24:00; and Sundays, 24:00-4:00 and 20:00-21:00.
- (c) The highest number of U.S. urban fatal accidents occurred on Saturdays, 2:00-3:00.
- (d) The lowest number of U.S. urban fatal accidents occurred on Wednesdays, 4:00-5:00.

TABLE 13

LIGHT CONDITIONS IN FATAL ACCIDENTS, 1984 (column %)

Light Conditions	Total		Rural		Urban	
	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>
Daylight	47.6	43.1	46.7	45.8	50.8	39.5
Dark	32.7	35.3	39.3	45.1	7.5	22.5
Dark but Lighted	15.1	17.5	8.9	4.7	38.4	34.2
Dawn & Dusk	4.7	2.6	5.0	2.7	3.2	2.5
Unknown	0.0	0.3	0.0	0.3	0.0	0.2

Comment:

The percentages of fatal accidents by light conditions are similar in the two countries.

TABLE 14

ATMOSPHERIC CONDITIONS IN ACCIDENTS, 1984* (column %)

Condition	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Good	91.8	86.3	90.4	86.1	93.0	86.5
Rain	7.3	9.2	8.2	8.5	6.7	10.2
Fog	0.7	1.7	1.2	2.1	0.3	1.1
Sleet	0.1	0.3	0.2	0.3	0.1	0.3
Snow	0.0	1.6	0.0	1.9	0.0	1.3
Other	0.0	1.0	0.1	1.1	0.0	0.7

*Spain: fatal or injury accidents; U.S.A.: fatal accidents.

Comments:

- (a) Since the Spanish data are for fatal and injury accidents, and the U.S. data for fatal accidents only, the data in this table and our inferences should be taken with caution.
- (b) Proportionally more accidents occurred under adverse atmospheric conditions (rain, fog, sleet, and snow) in the U.S. than in Spain.

TABLE 15

ROAD GEOMETRY IN FATAL ACCIDENTS, 1984 (column %)

Geometry	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Junction	13.7	26.5	8.8	19.4	32.1	35.8
Non-Junction						
Straight	68.2	49.8	69.7	50.6	62.0	48.8
Curve	18.2	23.5	21.4	29.8	5.9	15.2
Unknown	0.0	0.2	0.0	0.2	0.0	0.2

Comments:

- (a) Proportionally more U.S. than Spanish fatal accidents occurred at junctions, and this is especially the case for rural roads.
- (b) Proportionally more U.S. than Spanish fatal accidents occurred on curves, and this is especially the case for urban roads.
- (c) Proportionally more Spanish than U.S. fatal accidents occurred on straight portions of roadways.

TABLE 16

NUMBERS OF VEHICLES IN FATAL ACCIDENTS, 1984 (column %)

Number of Vehicles	Total		Rural		Urban	
	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>
1	55.7	59.8	52.9	59.8	66.2	59.8
2	37.1	35.5	39.2	36.3	29.0	34.5
3	5.4	3.8	5.8	3.4	3.5	4.5
4+	1.8	0.9	2.0	0.5	1.3	1.2

Comments:

- (a) Single-vehicle accidents account for proportionally more rural fatal accidents in the U.S. than in Spain. Conversely, the situation is reversed for multi-vehicle rural fatal accidents.
- (b) Single-vehicle accidents account for proportionally fewer urban fatal accidents in the U.S. than in Spain. Conversely, the situation is reversed for multi-vehicle urban fatal accidents.

TABLE 17

VEHICLE FACTORS IN ACCIDENTS, 1984* (column %)

Vehicle Factor	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
None	98.1	92.1	97.4	92.9	98.7	91.1
Tires	0.8	0.9	1.4	1.0	0.3	0.8
Brakes	0.4	0.4	0.2	0.4	0.5	0.4
Steering	0.1	0.1	0.1	0.1	0.1	0.1
Headlighting	0.1	0.1	0.1	0.1	0.1	0.1
Other/Unknown	0.5	6.4	0.8	5.5	0.3	7.5

*Spain: fatal or injury accidents; U.S.A.: fatal accidents.

Comments:

- (a) Since the Spanish data are for fatal and injury accidents, and the U.S. data for fatal accidents only, the data in this table and our inferences should be taken with caution.
- (b) The primary vehicular factors (tires, brakes, steering, and headlighting) are cited in similar proportions in accidents for both countries.
- (c) Relatively fewer Spanish accident reports cited vehicle defects.

TABLE 18

SPEEDING IN ACCIDENTS, 1984* (column %)

Speeding	Total		Rural		Urban	
	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>	Spain	<i>U.S.A.</i>
Too Fast	13.6	<i>7.4</i>	19.6	<i>8.1</i>	9.0	<i>6.5</i>
Too Slow	0.0	<i>0.0</i>	0.0	<i>0.0</i>	0.0	<i>0.0</i>
Other	86.4	<i>92.6</i>	80.4	<i>91.9</i>	91.0	<i>93.5</i>

*Spain: fatal or injury accidents; U.S.A.: fatal accidents.

Comments:

- (a) Since the Spanish data are for fatal and injury accidents, and the U.S. data for fatal accidents only, the data in this table and our inferences should be taken with caution.
- (b) Speeding is cited more often in Spanish than in U.S. accidents.
- (c) This difference is especially pronounced when considering data for rural roads.

TABLE 19

TRAFFIC VIOLATIONS IN ACCIDENTS, 1984* (column %)

Violation	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Priority	4.2	2.8	2.1	2.5	6.1	3.2
Following Distance	4.9	0.2	3.7	0.2	6.0	0.3
Signs & Signals	7.3	1.6	3.6	1.4	10.5	1.9
Improper Turn	3.1	0.6	2.7	0.5	3.5	0.7
Wrong Direction	3.3	1.1	5.0	1.4	1.9	0.8
Overtaking	2.5	0.7	3.6	0.8	1.6	0.4
Erratic Driving	0.6	2.7	0.4	2.6	0.6	2.9
Other	23.6	27.5	32.1	29.6	17.2	28.3
None	50.5	62.8	47.2	61.0	53.3	65.0

*Spain: fatal or injury accidents; U.S.A.: fatal accidents.

Comments:

- (a) Since the Spanish data are for fatal and injury accidents, and the U.S. data for fatal accidents only, the data in this table and our inferences should be taken with caution.
- (b) Spanish drivers are proportionally more often cited for committing the following traffic violations in accidents: Priority, following distance, signs and signals, improper turn, wrong direction, and overtaking.
- (c) U.S. drivers are more often cited in accidents as driving erratically.

TABLE 20

ALCOHOL INVOLVEMENT IN ACCIDENTS, 1984* (column %)

Alcohol Involvement	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
Yes	2.1	40.9	2.4	43.2	1.8	37.9
No	97.9	59.1	97.6	56.8	98.2	62.1

*Spain: fatal or injury accidents; U.S.A.: fatal accidents.

Comments:

- (a) Since the Spanish data are for fatal and injury accidents, and the U.S. data for fatal accidents only, the data in this table and our inferences should be taken with caution.
- (b) Alcohol is cited as contributing to accidents approximately twenty times as often in the U.S. as in Spain.

TABLE 21

AGE DISTRIBUTION OF ALL FATALITIES, 1984 (column %)

Age	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
0-4	1.7	2.0	1.4	1.9	3.0	2.3
5-14	4.5	4.9	4.1	4.6	5.7	5.2
15-17	4.2	6.5	4.2	7.1	4.6	5.6
18-24	21.8	26.0	22.5	26.4	18.7	25.5
25-44	29.7	32.8	32.2	33.4	19.2	32.0
45-64	23.3	14.7	23.9	14.9	20.9	14.5
65-74	7.0	6.4	6.2	6.0	10.7	6.9
74<	5.9	6.1	4.3	5.3	12.9	7.1
Unknown	1.8	0.6	1.3	0.4	3.8	0.8

Comments:

- (a) Proportionally more younger people (under 45 years of age) are killed in traffic accidents in the U.S. than in Spain.
- (b) Conversely, proportionally more middle-aged and older people (45 years of age and over) are killed in Spain than in the U.S.

TABLE 22

AGE DISTRIBUTION OF PEDESTRIAN FATALITIES, 1984 (column %)

Age	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
0-4	4.0	4.4	2.7	3.6	5.7	4.9
4-14	8.6	10.7	7.0	11.4	10.8	10.4
15-17	3.0	3.3	3.7	4.0	2.1	2.9
18-24	6.5	13.7	8.5	17.3	3.9	11.9
25-44	12.3	26.4	15.8	30.2	7.6	24.5
45-64	27.1	18.7	29.5	17.0	23.7	19.7
65-74	15.5	9.0	14.1	5.8	17.5	10.5
74<	19.4	11.8	14.9	8.7	25.5	13.4
Unknown	3.5	1.9	3.7	1.9	3.2	1.9

Comments:

- (a) Proportionally more young pedestrians (under 45 years of age) are killed in traffic accidents in the U.S. than in Spain.
- (b) Conversely, proportionally more middle-aged and older (45 years of age and over) are killed in Spain than in the U.S.

TABLE 23

AGE DISTRIBUTION OF NON-PEDESTRIAN FATALITIES, 1984 (column %)

Age	Total		Rural		Urban	
	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.
0-4	1.1	1.6	1.2	1.7	0.4	1.4
5-14	3.4	3.8	3.6	3.9	1.9	3.5
15-17	4.6	7.1	4.2	7.4	7.0	6.5
18-24	25.9	28.4	25.0	27.4	32.3	30.1
25-44	34.4	34.1	35.0	33.8	30.0	34.6
45-64	22.3	14.0	22.9	14.7	18.3	12.8
65-74	4.7	5.9	4.8	6.0	4.5	5.7
74<	2.3	5.0	2.4	5.0	1.7	5.0
Unknown	1.3	0.3	0.9	0.2	3.8	0.3

Comments:

- (a) Proportionally more younger non-pedestrians (under 45 years of age) are killed in traffic accidents in the U.S. than in Spain.
- (b) Proportionally more middle-aged non-pedestrians (between 45 and 64 years of age) are killed in traffic accidents in Spain than in the U.S.
- (c) Proportionally more older non-pedestrians (65 years of age and older) are killed in traffic accidents in the U.S. than in Spain.

TABLE 24

NATIONALITY OF DRIVERS IN FATAL OR INJURY ACCIDENTS, 1984 (Spain only)

Nationality	Proportion of Rural Accidents out of the Total Number of Accidents
Spain	.45
Portugal	.70
France	.79
Morocco	.76
Germany	.77
UK	.74
Italy	.72
Switzerland	.81
Belgium	.81
Holland	.64
U.S.A.	.66
Other	.65

Comments:

- (a) This table contains Spanish data only, since no comparable U.S. data were available.
- (b) Foreign drivers in Spain have proportionally more rural accidents than do Spanish drivers, and the proportion of rural accidents by foreign drivers varies with their nationality.

TABLE 25

AGE OF THE DRIVER VS. EXPERIENCE IN FATAL OR INJURY
ACCIDENTS, 1984 (Spain, the first ten years only; column %)

Years of Having Driver's License	Age	
	45-64	65 or more
<1	7.5	16.7
1-2	6.8	11.1
2-3	6.5	6.3
3-4	6.0	5.6
4-5	9.4	7.9
5-6	11.0	4.0
6-7	11.5	9.9
7-8	13.1	12.7
8-9	13.1	12.3
9-10	15.2	13.5
10 or less	100.0	100.0

Comments:

- (a) This table contains Spanish data only, since no comparable U.S. data were available.
- (b) For drivers who have had a driver's license for ten years or less, the years of most and least accidents are age-dependent.
- (c) For drivers in the age bracket of 45 to 64 years of age, and who have had a driver's license for ten years or less, the least number of accidents occurred during the fourth year of having a driver's license. For these drivers most accidents occurred during their tenth year of having a driver's license.
- (d) For drivers 65 years of age or older, and who have had a driver's license for ten years or less, the least number of accidents occurred during their sixth year of having a driver's license. For these drivers most accidents occurred during their first year of having a driver's license.

TABLE 26

AGE OF THE DRIVER VS. EXPERIENCE IN FATAL OR INJURY
ACCIDENTS, 1984 (Spain, the first five years only; column %)

Years of Having Driver's License	18-24	24-44	45-64	65 or more
<1	19.2	14.5	20.6	35.0
1-2	30.4	20.0	18.8	23.3
2-3	23.3	18.5	18.0	13.3
3-4	19.2	20.4	16.6	11.7
4-5	16.3	28.8	25.9	16.7
5 or less	100.0	100.0	100.0	100.0

Comments:

- (a) This table contains Spanish data only, since no comparable U.S. data were available.
- (b) For drivers who have had a driver's license for five years or less, the years of most and least accidents are age-dependent. For example, for drivers between 18 and 24 years of age, most accidents occurred during their second year of having a driver's license, and the least number occurred during the fifth year; for drivers between 24 and 44 years of age, most accidents occurred during the fifth year and the least number of accidents during the first year.

TABLE 27

MODEL YEAR OF THE VEHICLES IN FATAL ACCIDENTS, 1984
(U.S.A. only; column %)

Model Year	Total	Rural	Urban
< 1966	2.3	2.3	2.1
1966	0.8	0.9	0.8
1967	1.1	1.0	1.0
1968	1.3	1.2	1.3
1969	1.8	1.8	1.8
1970	2.3	2.3	2.2
1971	2.7	2.7	2.7
1972	3.9	3.8	3.9
1973	5.0	5.0	4.9
1974	5.3	5.3	5.4
1975	4.5	4.5	4.5
1976	6.2	6.3	6.1
1977	7.4	7.4	7.4
1978	8.1	8.2	8.0
1979	8.7	8.8	8.6
1980	7.1	7.2	7.1
1981	6.9	7.0	6.7
1982	7.2	7.1	7.3
1983	7.3	7.2	7.3
1984	7.4	7.5	7.4
1985	0.4	0.4	0.4
Unknown	2.4	1.8	3.1

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
- (b) The 1979 vehicle model year was the model year most frequently involved in the 1984 U.S. fatal accidents.

TABLE 28

ROADWAY SURFACE CONDITIONS IN FATAL
ACCIDENTS, 1984 (U.S.A. only; column %)

Condition	Total	Rural	Urban
Dry	81.3	81.2	81.6
Wet	14.3	13.4	15.5
Snow or slush	1.7	2.1	1.3
Ice	2.0	2.7	1.1
Sand, dirt, or oil	0.1	0.2	0.1
Other	0.2	0.2	0.2
Unknown	0.2	0.2	0.3

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
 (b) Dry road conditions occurred during 81% of all U.S. fatal accidents.

TABLE 29

TYPE OF ROADWAY IN FATAL ACCIDENTS, 1984 (U.S.A. only; column %)

Flow	Total	Rural	Urban
Undivided	71.5	81.2	58.8
Divided, without barrier	20.4	16.2	26.0
Divided, with barrier	6.4	2.1	12.0
One way	1.1	0.2	2.2
Unknown	0.6	0.2	0.9

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
- (b) Fatal accidents on undivided roadways account for 81% of all U.S. rural fatal accidents.
- (c) Fatal accidents on undivided roadways account for 59% of all U.S. urban fatal accidents.

TABLE 30

NUMBER OF TRAVEL LANES IN FATAL ACCIDENTS, 1984 (U.S.A. only; column %)

Number of lanes	Total	Rural	Urban
1	0.6	0.4	0.8
2	79.8	91.8	64.2
3	5.8	1.9	10.9
4	10.6	4.8	18.2
5	1.1	0.5	1.8
6+	0.9	0.2	1.8
Unknown	1.3	0.4	2.3

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
- (b) Fatal accidents on two-lane roads account for 92% of all U.S. rural fatal accidents.
- (c) Fatal accidents on two-lane roads account for 64% of all U.S. urban fatal accidents.

TABLE 31

SPEED LIMIT IN FATAL ACCIDENTS, 1984 (U.S.A. only; column %)

Speed limit (mph)	Total	Rural	Urban
No statutory limit	0.1	0.2	0.1
15 or less	0.2	0.1	0.3
20	0.3	0.2	0.4
25	5.3	1.7	10.0
30	8.5	2.6	16.1
35	11.5	5.1	19.9
40	6.8	3.6	10.9
45	10.1	8.3	12.4
50	5.2	5.3	5.0
55	48.9	70.1	21.3
Unknown	3.2	2.8	3.7

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
- (b) Ten percent of all U.S. rural fatal accidents occurred on roadways with speed limits of 35 mph (56 km/h) or less.
- (c) Seventy percent of all U.S. rural fatal accidents occurred on roadways with speed limits of 55 mph (89 km/h).
- (d) Forty-seven percent of all U.S. urban fatal accidents occurred on roadways with speed limits of 35 mph (56 km/h) or less.
- (e) Twenty-one percent of all U.S. urban fatal accidents occurred on roadways with speed limits of 55 mph (89 km/h).

TABLE 32

ROADWAY PROFILE IN FATAL ACCIDENTS, 1984 (U.S.A. only; column %)

Profile	Total	Rural	Urban
Level	71.7	66.7	78.3
Grade	24.4	29.2	18.1
Hillcrest	2.1	2.7	1.4
Sag	0.2	0.2	0.1
Unknown	1.6	1.3	2.0

Comments:

- (a) This table contains U.S. data only, since no comparable Spanish data were available.
- (b) Sixty-seven percent of all U.S. rural fatal accidents occurred on level roadways.
- (c) Seventy-eight percent of all U.S. urban fatal accidents occurred on level roadways.

CONCLUSIONS

The results suggest the following trends:

General Statistics, Spain and U.S.A.

- (1) The fatality rate per 10,000 vehicles is higher in Spain than in the U.S., but the situation is reversed for the fatality rate per 10,000 persons.
- (2) Spain had proportionally more fatal accidents in rural areas than did the U.S.

Environmental Factors, Spain and U.S.A.

- (3) Fatal accidents involving collisions with pedestrians are more frequent in Spain than in the U.S.
- (4) Rural fatal accidents peak in both countries in summer and reach the lowest number in fall.
- (5) Urban fatal accidents peak in both countries in fall and reach the lowest number in late winter.
- (6) Fatal accidents peak in both countries on weekends and reach the lowest number on Tuesday.
- (7) In terms of time-of-the-day and day-of-the-week, *rural* accidents show similar patterns in the two countries: The peaks are during evening hours on Friday, Saturday, and Sunday, and during early morning hours on Saturday, Sunday, and Monday. (The Monday-morning peak is absent in the U.S. data; the Saturday morning peak is absent in the Spanish data). However, the Spanish data are for fatal and injury accidents, while the U.S. data are for fatal accidents only.
- (8) In terms of time-of-the-day and day-of-the-week, *urban* accidents show markedly different patterns in the two countries: In Spain the accidents peak in the early afternoon hours and early evening hours on Mondays through Saturday; in the U.S. they peak in the evening hours of Thursday through Sunday, and in the early morning hours of Saturday and Sunday. However, the Spanish data are for fatal and injury accidents, while the U.S. data are for fatal accidents only.
- (9) The patterns of fatal accidents by light conditions are similar in the two countries.
- (10) Proportionally more accidents under adverse atmospheric conditions tend to occur in the U.S. than in Spain.
- (11) Proportionally more U.S. than Spanish fatal accidents occur at junctions (and especially rural junctions), and on curves (and especially on urban curves).
- (12) Proportionally more Spanish than U.S. accidents occur on straight portions of roadways.
- (13) More Spanish than U.S. rural fatal accidents involve four or more vehicles.

Vehicular Factors, Spain and U.S.A.

- (14) The primary vehicular factors (tires, brakes, steering, and headlighting) are cited in similar proportions in accidents for both countries.

Driver Factors, Spain and U.S.A.

- (15) Speeding tends to be cited more often in Spanish than in U.S. accidents.
- (16) Spanish drivers tend to be more often cited for violations of priority, following distance, signs and signals, improper turn, wrong direction, and overtaking than do U.S. drivers. U.S. drivers tend to be more often cited as driving erratically than do Spanish drivers.
- (17) Alcohol is cited much more often in the U.S. than in Spain as being involved in accidents.
- (18) Proportionally more younger people in general (and pedestrians in particular) are killed in traffic accidents in the U.S. than in Spain.

Driver Factors, Spain only

- (19) Foreign drivers in Spain have proportionally more rural accidents than do Spanish drivers, and the proportion of rural accidents by foreign drivers varies with their nationality.
- (20) For Spanish drivers who have had a driver's license for five years or less, the years of most and least accidents are age-dependent. For example, for drivers between 18 and 24 years of age, most accidents occurred during their second year of having a driver's license, and the least number occurred during the fifth year; for drivers between 24 and 44 years of age, most accidents occurred during the fifth year and the least number of accidents during the first year.

Vehicular Factors, U.S.A. only

- (21) The 1979 vehicle model year was the model year most frequently involved in the 1984 U.S. fatal accidents.

Environmental Factors, U.S.A. only

- (22) Dry road conditions occur in four-fifths of all U.S. fatal accidents.
- (23) U.S. fatal accidents on undivided roadways are proportionally more frequent in rural than in urban areas. U.S. fatal accidents on divided roadways are proportionally more frequent in urban than in rural areas.
- (24) A quarter of all U.S. fatal accidents occur on roadways with a speed limit of 35 mph (56 km/h) or less.
- (25) A quarter of all U.S. fatal accidents occur on grades.

