

COMMONWEALTH OF KENTUCKY

DEPARTMENT OF TRANSPORTATION

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Division of Research 533 South Limestone Lexington, KY 40508 JULIAN M. CARROLL GOVERNOR

November 20, 1978

H. 3. 73

MEMO TO:

G. F. Kemper

State Highway Engineer

Chairman, Research Committee

SUBJECT:

Research Report No. 513; "Analysis of Weekday, Weekend, and Holiday Accident

Frequencies;" KYP-75-73; HPR-PL-1(14), Part III-B.

On other occasions, we have provided analyses relating accident statistics to causative and(or) associated factors. The report enclosed relates accident frequencies to day, week, month, and season. Some forerunning reports were:

No. 278:

"Accidents at Median Crossovers."

No. 348:

"Elements of Median Design in Relation to Accident Occurrence."

No. 387 and No. 406:

"Relationships between Roadway Geometrics and Accidents (An

Analysis of Kentucky Records)."

Nos. 339, 337, and 408:

"Accidents on Rural Interstate and Parkway Roads and Their Relation

to Pavement Friction."

Nos. 423, 438, and 453:

"Pedestrian Accidents in Kentucky...."

Nos. 442:

"Guardrail Performance: An Analysis of Accidents."

Nos. 427 and 451:

"Accidents Associated with Highway Bridges;" "Highway Accidents at

Bridges."

Nos. 443 and 458:

"Accidents on Rural, Two-Lane Roads and Their Relation to Pavement

Friction."

No. 471:

"Traffic Accidents; Day and Night."

No. 498:

"Characteristics of Bicycle-Related Accidents."

Respectfully submitt

Jas. H. Havens

Director of Research

gd Enc.

cc's: Research Committee

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle		5. Report Date
Analysis of Weekday, Weekend, and H	oliday Accident Frequencies	November 1978
		6. Performing Organization Code
7. Author(s)		8. Performing Organization Report No.
J. G. Pigman, R. L. Rizenbergs, and	D. R. Herd	513
9. Performing Organization Name and Addre Division of Research	SS	10. Work Unit No. (TRAIS)
Kentucky Department of Transportation	n	
533 South Limestone		11. Contract or Grant No. KYP-75-73
Lexington, Kentucky 40508		13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address		
		Interim
		14. Sponsoring Agency Code
TOTAL PROPERTY.		
15. Supplementary Notes		
Study Title: Investigation of Traffic Fl	ow and Safety Characteristics, Relation	onships and Parameters.
16. Abstract		
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On rural roads, t	he largest number of accidents have or	ccurred on Saturdays, Fridays,
	ively. Tuesdays generally had the low	
	for two-lane roads were on Sundays	
	rstates and toll roads) were the highes	
	bstantially higher than on weekdays. I	
were lower during no	liday periods than during weekends n ecidents per day than weekends but	had more accidents per day
	ic during holidays, however, was signi	
weekends or weekda	<u> </u>	
17. Key Words Weekend Accidents	18. Distribution S	tatement
Weekday Accidents	ŧ	
Holiday Accidents		
Accident Rates Fatal Accident Rates		
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages 22. Price

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Research Report 513

ANALYSIS OF WEEKDAY, WEEKEND, AND HOLIDAY ACCIDENT FREQUENCIES

KYP-75-73; HPR-PL-1(14), Part III B

by

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DEPARTMENT OF TRANSPORTATION
Commonwealth of Kentucky

The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Bureau of Highways.

This report does not constitute a standard, specification, or regulation.

INTRODUCTION

Much of weekend traffic is non-business and recreational, and the trends are that the number of these trips are increasing. The "energy crisis" in late 1973, and the reduction in speed limit on March 1, 1974, however, affected weekend travel. A study by the Division of Research revealed that significant reductions in the number and rates of highway accidents, fatalities, and injuries coincided with the period of time that is generally referred to as the "energy crisis" (1). Slower speeds were considered to be a primary factor in the reduction of accidents. A significant change in weekend and holiday trips was suspected as contributing to the reduction of accident rates; however, information was lacking from which to make this determination.

The purpose of this study was to analyze and summarize accident statistics for weekday, weekend, and holiday periods.

PROCEDURE

Accidents on weekdays, weekends, and holidays were analyzed by summarizing number of accidents, number of fatalities, accident rates, and fatal accident rates. Rates were expressed as accidents per 100 million vehicle-miles (MVM)(160 million vehicle-kilometers) of travel. The analysis focused primarily on data for 1973, 1974, and 1975, but 1976 data were also used. It was necessary to compute accident rates for the rural highway system and its three major components:

- 1. two-lane (including three-lane) roads,
- 2. four-lane roads, and
- 3. expressways (interstates and parkways (toll roads)).

Accident rates were computed for day of the week and month.

A separate file was available for each of the years of study. Since implementation of uniform accident reporting in July 1975, the number of accidents reported have increased from approximately 30,000 to 140,000 per year. The data base, of course, is different. The increased portion of accidents reported since July 1975 come from local jurisdictions. The largest number of accidents come from the five urban counties in the state. To insure that only rural accidents were included, those occurring in the mostly urban counties of Fayette, Jefferson, Boone, Campbell, and Kenton were omitted. Only accidents investigated by the State Police were included in the analysis. Accidents were summarized by severity (fatal, injury, and property damage only) for each day of week, month, year, and type of road.

Computation of vehicle-miles (vehicle-kilometers) of travel on each type of road by day of week and month presented problems because data were not available in the desired form. However, in a previous study (2), monthly volumes of travel for a three-year period (1973-1975) had been determined. Adjustment factors were calculated and applied to convert monthly volumes to daily volumes. Traffic count summaries from 44 automatic traffic recorder stations (28 on two-lane roads, 5 on four-lane roads, and 11 on expressways) were analyzed. The month-to-day factors were computed as follows:

- All data from automatic counters, located on each type of road, were grouped together.
- The data from each group (type of road) were summed by day of week for each month and week. Weekly totals were combined to obtain the monthly totals.
- The sum for each day of week was divided by the monthly total to yield day-of-week factors.
- The day-of-week factor multiplied by the monthly volume of travel for the particular year yielded a daily volume of travel.

Total accident and fatality rates were computed for each day of week, month, year, and for each type of road. Saturday and Sunday values were combined to calculate weekend accident rates, and Monday through Friday values were combined to calculate weekday rates.

A separate analysis was made for holidays during the study periods. Holidays were New Year's Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The number of days included in each holiday period were those observed by state government in Kentucky. The entire 24-hour period was included for every day of the holiday period.

A factor was developed to represent the percentage of the montly volume in each holiday. This factor was multiplied by vehicle-miles (vehicle-kilometers) of travel during the month of the holiday to obtain travel during the holiday. Accident rates were calculated from vehicle-miles (vehicle-kilometers) of travel and number of accidents for respective holidays.

It was also necessary to separate accidents and travel during holidays from the weekday and weekend accidents and travel. This was done to insure that only applicable data were used to calculate accident rates for weekdays, weekends, and holidays. Again, adjustment factors were developed for holiday periods by using volumes from automatic traffic recorder sites for 1973 through 1975.

RESULTS

Number of Accidents

Number of accidents by day of the week, year, and highway system are plotted in Figures 1 through 4. Number and percentage of accidents for each day of the week are shown in Table 1. The largest number of accidents occurred on Saturdays, Fridays, and Sundays, respectively. Tuesdays generally had the lowest number of accidents. The "energy crisis", and the associated reduction in speed limit on March 1, 1974, substantially reduced number of accidents occurred compared to 1973. Accidents increased in 1975 to the 1973 levels. Accidents during 1976 were even higher for each day of the week (Figure 4).

A summary of 1976 statewide accidents (Table 1) showed a weekly distribution considerably different from that of accidents reported by State Police in rural areas. On a statewide basis, Fridays had the highest percentage of weekly accidents; this was followed by Saturdays and Mondays. The emergence on Fridays and Mondays as days having high percentages of accidents may be explained by the fact the 55-percent of accidents reported in 1976 were in urban areas. The higher volumes associated with urban traffic during weekdays and Saturdays and the accompanying congestion could contribute to a larger percentage of accidents on weekdays and Saturdays and a smaller percentage on Sundays, when traffic is light. Saturdays in urban areas are unique because of high traffic volumes related to shopping.

The distribution of accidents by weekday and weekend periods for 1973 through 1976 is presented in Table 2. Percentages of accidents occurring on weekends have steadily decreased from 34.6 percent in 1973 to 31.8 percent in 1976. A trend in decreasing percentage of accidents during the weekends may be taking place on rural roads, except expressways. Accidents experienced on expressways decreased between 1973 and 1974 but increased between 1974 and 1975. Also, a larger percentage of accidents were occurring on expressways compared to other roads during the weekends in 1973 and 1975.

Number of Fatal Accidents

A summary of fatal accidents by weekday and weekend periods is presented in Table 3. Plots of number of fatal accidents by day of week for each type of road are presented in Figures 5 through 8. For two-lane roads, the distributions of accidents were

generally the same for fatal accidents as for all accidents (Figure 1). However, on four-lane roads and expressways, there were no patterns. The variation in the data may be attributed to a limited data base. The general trend in percentage of fatal accidents on weekends also shows a gradual decrease in the period from 1973 to 1975. This decrease coincided with the large decrease in total number of accidents during the same period.

Accident Rates

Accident rates, rather than numbers of accidents, have been accepted as the primary means of comparing and viewing accident levels. Accident rates by day of week for each type of road are presented in Figures 9 through 12. Saturdays and Sundays were days with the highest accident rates for two-lane roads. For four-lane roads, no particular trends were discerned. Accident rates for expressways indicated reduced levels during the middle of the week if 1974 "energy crisis" data were ignored. Distributions of weekday and weekend accident rates for various roads are summarized in Table 4. Weekend accident rates decreased between 1973 and 1974 and then increased in 1975 to near the 1973 levels. This again represents the effects of the "energy crisis" and the associated reduction in speed limit. Each year the weekend accident rates were higher than weekday rates for all roads except four-lane roads. Apparently weekend rates were not affected to any greater extent than weekday rates by the "energy crisis".

A summary of weekday and weekend travel is presented in Table 5. Even though total travel on weekends was approximately the same in 1973 and 1974, and then increased in 1975, the ratio of weekday to weekend travel was generally the same for those periods.

Seasonal variations in accident rates are presented in Figure 13. The seasons were designated as follows:

Spring - March, April, May

Summer - June, July, August

Fall - September, October, November

Winter - December, January, February

Significant differences in accident rates were found among seasons of the year. Seasons with highest accident rates were fall and winter, followed by spring and summer. Days of the week with the highest accident rates in each season were Saturdays and Sundays, followed by Fridays. Sundays exhibited especially large differences in accident rates throughout the seasons.

Fatal Accident Rates

Fatality rates by day of week for rural roads are presented in Figure 14. The trends are similar to rates of all accidents. Saturdays and Sundays again had the highest rates, followed by Friday. This pattern was generally the same each year, but the magnitudes of the rates were considerably different. In 1973, rates were higher every day of the week than they were in 1974 or 1975. The distributions of fatality rates by weekdays and weekends are summarized in Table 6. The data show that rates for each type of road were highest in 1973 and generally the same in 1974 and 1975. The large reduction in 1974 and since must be attributed primarily to the lower speed limit in effect since March 1, 1974.

Holiday Accident Rates

Safety officials have placed a great deal of emphasis on the dangers associated with driving on holidays. Accident rates for the years 1973 through 1975 were calculated for several holidays; and the results are presented in Tables 7, 8, and 9. From these tables, it was noted that Christmas and Memorial Day had the highest accident rates in 1973 and 1975, but New Year's and Thanksgiving had the highest rates in 1974. In an attempt to determine if accident rates were related to volume of travel, average daily vehicle-miles (vehicle-kilometers) of travel were determined for each holiday during a three-year period. No relationship was found between accident rates on holidays and daily vehicle-miles (vehicle-kilometers) of travel. Summaries of vehicle-miles (vehicle-kilometers) of travel during holiday periods for various types of roads are presented in Tables A1, A2, and A3 in the APPENDIX; and number of fatal and all accidents are presented in Tables A4, A5, and A6.

The most significant results from the study are presented in Table 10. A comparison of accident rates for weekday, weekend, and holiday periods revealed that rates for weekdays were substantially lower than for weekends and that holiday rates were lower than weekend rates. Also shown in Table 10 is a comparison of fatal accident rates for a three-year period. Fatal accident rates were also lowest on weekdays, and holiday rates were lower than weekend rates. There was an exception in 1975 when holiday rates of fatal accidents were higher than weekend rates. Again, travel for the various time periods was determined and the results are presented in Table 11. Daily vehicle-miles (vehicle-kilometers) of travel were highest on holidays every year. Travel on holidays was about 17-percent higher than on weekends not involving holidays; yet, accident rates were lower (4 to 12 percent) during holidays.

Occurrences of numbers of accidents per day for the various periods are cited in Table 12. Here too, the lowest number of accidents are shown to occur during weekdays and the highest during weekends. Accidents on holidays were more numerous than on weekdays, but the differences were not large.

TABLE 1. NUMBER AND PERCENT OF ACCIDENTS BY DAY OF WEEK (STATE-POLICE REPORTED ACCIDENTS IN RURAL AREAS)

DAY	197	3	197	4	197	5	197	6	1	976%
MEEK DF	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
SUNDAY	4,327	15.4	3,397	14.1	4,232	15.0	4,458	14.1	15,407	11.1
MONDAY	3,578	12.7	3,052	12.6	3,608	12.8	4 - 138	13.1	19,529	14.1
TUESDAY	3,375	12.0	3,048	12.6	3,368	11.9	3.881	12.3	17,894	12.9
WEDNESDAY	3,432	12.2	3,093	12.8	3,637	12.9	4,083	12.9	18,841	13.6
THURSDAY	3,570	12.7	2,959	12.3	3,802	13.4	4,048	12.8	18,820	13.6
FRIDAY	4,452	15.8	4,023	16.7	4+623	16.3	5,424	17.1	25,390	18.3
SATURDAY	5,401	19.2	4,573	18.9	5,022	17.7	5•584	17.7	22,830	16.4
TOTAL	28,135	100.0	24,145	100.0	28,292	100.0	31,612	100.0	138,711	100.0

*INCLUDES ALL ACCIDENTS REPORTED IN 1976

TABLE 2. DISTRIBUTION OF WEEKDAY AND WEEKEND ACCIDENTS
BY TYPE OF ROAD

		WEE	KDAY	WEEKEND			
YEAR	ROAD	NUMBER	PERCENT	NUMBER	PERCENT		
	TWO-LANE	15,875	65.4	8,380	34.6		
1973	FOUR-LANE	854	69.1	381	30.9		
	EXPRESSWAY	1,678	63.4	967	36.6		
	ALL	18,407	65.4	9,728	34.6		
	TWO-LANE	14,258	66.6	7,155	33.4		
1974	FOUR-LANE	. 688	74.1	2 40	25.9		
	EXPRESSWAY	1,229	68.1	575	31.9		
	ALL	16,175	67.0	7,970	33.0		
	TWO-LANE	17,175	67.4	8,325	32.6		
1975	FOUR-LANE	677	75.0	226	25.0		
	EXPRESSWAY	1,186	62.8	703	37.2		
	ALL	19,038	67.3	9,254	32.7		
1976	ALL	21,570	68.2	10,042	31.8		
1976≄	ALL	100,474	72.5	38+237	27.5		

‡INCLUDES ALL ACCIDENTS REPORTED IN 1976

TABLE 3. DISTRIBUTION OF WEEKDAY AND WEEKEND FATAL ACCIDENTS BY TYPE OF ROAD

		WEE	KDAY	WEE	KEND
YEAR	ROAD	NUMBER	PERCENT	NUMBER	PERCENT
	TWO-LANE	401	61.l	255	38.9
1973	FOUR-LANE	22	61.1	14	38.9
	EXPRESSWAY	46	63.0	27	37.0
	ALL	469	61.3	296	38.7
	TWO-LANE	321	64.7	175	35.3
1974	FOUR-LANE	14	60.9	9	39.1
	EXPRESSWAY	26	63.4	15	36.6
	ALL	361	64.5	199	35.5
	TWO-LANE	352	65.8	183	34.2
1975	FOUR-LANE	17	89.5	2	10.5
	EXPRESSWAY	25	52.1	23	47.9
	ALL	394	65.4	208	34.6

TABLE 4. DISTRIBUTION OF WEEKDAY AND WEEKEND ACCIDENT RATES BY TYPE OF ROAD

		ACCIDENT	S/100 MVM
YEAR	ROAD	WEEKDAY	WEEKEND
	TWO-LANE	252	311
1973	FOUR-LANE	154	179
	EXPRESSWAY	88	98
	ALL	211	253
	TWO-LANE	224	274
1974	FOUR-LANE	125	117
	EXPRESSWAY	61	78
	ALL	184	216
	TWO-LANE	251	304
1975	FOUR-LANE	119	106
	EXPRESSWAY	60	74
	ALL	203	238

TABLE 5. WEEKDAY AND WEEKEND DISTRIBUTION OF TRAVEL

		WEEK	DAY	WEE	KEND	TOTAL
YEAR	ROAD	TRAVEL	PERCENT	TRAVEL	PERCENT	TRAVEL
	TWO-LANE	6,292	70.0	2,695	30.0	8,987
1973	FOUR-LANE	555	72.3	212	27.7	76
	EXPRESSWAY	1,906	67.l	934	32•9	2,840
	ALL	8.744	69.5	3,841	30.5	12,58
	TWO-LANE	6,373	71.0	2,608	29.0	8,98
1974	FOUR-LANE	552	73.0	204	27.0	75
	EXPRESSWAY	1,848	68.0	871	32.0	2,71
	ALL	8,773	70.4	3,683	29.6	12,45
	TWO-LANE	6,823	71.4	2,731	28.6	9,55
1975	FOUR-LANE	569	72.8	213	27.2	78.
	EXPRESSWAY	1,967	67.4	953	32.6	2,92
	ALL	9,358	70.0	3+898	29.4	13,25

*MILLION VEHICLE-MILES (1.6 MILLION VEHICLE-KILOMETERS)

TABLE 6. DISTRIBUTION OF WEEKDAY AND WEEKEND FATAL ACCIDENT RATES BY TYPE OF ROAD

		FATAL ACCID	ENTS/100MVM
YEAR	ROAD	WEEKDAY	WEEKEN
1973	TWO-LANE	6.4	9.5
	FOUR-LANE	3.9	6.6
	EXPRESSWAY	2.4	2•6
	ALL	5.3	7.7
1974	TWO-LANE	5.0	6.0
	FOUR-LANE	3.0	4.0
	EXPRESSWAY	1.4	1.7
	ALL	4.1	5.4
1975	TWO-LANE	5.3	6.7
	FOUR-LANE	2.9	0.9
	EXPRESSWAY	1.3	2.4
	ALL	4.2	5.3

TABLE 7. HOLIDAY ACCIDENT RATES - 1973

	ACCIDENTS /100 MVM								
	TWO-LANE		FOUR-LANĘ		EXPRESSWAYS		ALL		
	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	
NEW YEAR'S									
(DECEMBER 30-31, 1972									
JANUARY 1, 1973)	296	4.9	455	0	67.2	0	242	5.4	
EASTER									
(APRIL 21-22)	258	5.0	274	0	40.2	0	203	3.4	
MEMORIAL DAY									
(MAY 26-28)	343	12.7	300	0	95.7	0	280	9.0	
INDEPENDENCE DAY									
(JULY 3-5)	268	8.1	220	12.9	63.6	7,1	218	8-1	
LABOR DAY									
(SEPTEMBER 1-3)	266	7.5	158	0	89.0	0	222	5.5	
THANKSGIVING									
(NOVEMBER 22-25)	299	12.1	238	0	55.6	0	236	8.4	
CHRISTMAS									
(DECEMBER 22-25)	346	6.2	336	0	68.0	3.8	281	5.3	
TOTAL (22 DAYS)	298	8.8	274	2.3	69.5	1,5	242	6.7	

TABLE 8. HOLIDAY ACCIDENT RATES - 1974

				ACCIDE	NTS/10	O MVM		
	TWO-	TWO-LANE		FOUR-LANE		SSWAYS	ALL	
	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAI
NEW YEAR'S								
(DECEMBER 29-31, 1973								
JANUARY 1, 1974)	313	9.2	422	0	162	4.4	244	8.5
EASTER								
(APRIL 13-14)	188	4.3	141	0	37	0	152	3.1
MEMORIAL DAY								
(MAY 25-27)	245	3.1	88	0	40	0	185	2.2
INDEPENDENCE DAY								
(JULY 3-5)	209	4.8	185	0	46	0	173	3.5
LABOR DAY								
(AUGUST 31								
SEPTEMBER 1-2)	211	3.9	221	0	56	0	177	2.8
THANKSG IVING								
(NOVEMBER 28-30								
DECEMBER 1)	301	6.0	137	0	79	0	232	4.0
CHRISTMAS								
(DECEMBER 24-26)	238	9.8	264	0	36	0	190	6.9
TOTAL								
(22 DAYS)	256	5.9	211	0	67	0.5	203	4.4

TABLE 9. HOLIDAY ACCIDENT RATES - 1975

		, ACCIDENTS/100 MVM								
	TWO-LANE		FOUR	FOUR-LANE		SSWAYS	A	L]		
	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL		
NEW YEAR'S										
(DECEMBER 31, 1974										
JANUARY 1, 1975)	232	11.6	144	0	41	0	187	8.5		
EASTER										
(MARCH 29-30)	263	5.7	178	0	63	4.9	206	5.2		
MEMORIAL DAY										
(MAY 24-26)	296	8•4	122	0	55	0	237	6.2		
INDEPENDENCE DAY										
(JULY 4-6)	241	9.1	47	15.6	86	7.8	191	9.0		
LABOR DAY										
(AUGUST 30-31,										
SEPTEMBER 1)	239	2 • 2	203	0	43	0	189	1.5		
THANKSGIVING										
(NOVEMBER 27-30)	28 9	6.6	93	0	76	5.2	225	5.9		
CHRISTMAS										
(DECEMBER 24-28)	322	9.8	127	0	81	0	241	5.8		
TOTAL										
(22 DAYS)	275	7.5	126	2.3	68	2.7	215	5.9		

TABLE 10. A COMPARISON OF WEEKDAY, WEEKEND, AND HOLIDAY ACCIDENT RATES

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			ACCIDENT	5/100 MV	M	
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WEEKDAYS	210	5.3	184 4	1	'03 4 .	1
MEENDAIS	210) e)	104 7	91	. J	1
WEEKENDS	252	7.8	218 5	• 7 2	41 5.	4
HOLIDAYS	242	6.7	193 4	• 2 - 2	15 5	7

TABLE 11. COMPARISON OF WEEKDAY. WEEKEND.

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			1973	1974	1975
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	WEEKDAYS		32.13	31.89	34.44
	MELINUALD		<i></i>		
		Etriki beleriye da da Billi Dili bilbi berriken			
	WEEKENDS		32.49	31.39	32.59
	MELITIOS				
And the second s	HOLIDAYS		37.27	39.32	39.97
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TABLE 12. COMPARISON OF ACCIDENTS PER DAY ON WEEKDAYS, WEEKENDS, AND HOLIDAYS

A	CCIDENTS/DAY
1973	1974 1975
WEEKDAYS 70 WEEKENDS* 94	62 73 77 89
HOLIDAYS 78	67 76

*INCLUDES HOLIDAY WEEKENDS

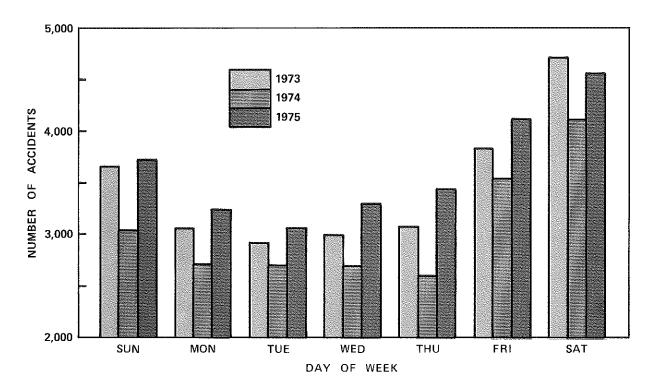


Figure 1. Number of Accidents versus Day of Week; Two-Lane Roads.

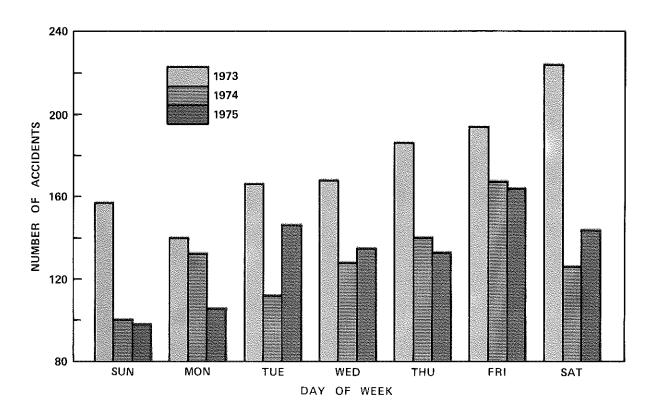


Figure 2. Number of Accidents versus Day of Week; Four-Lane Roads.

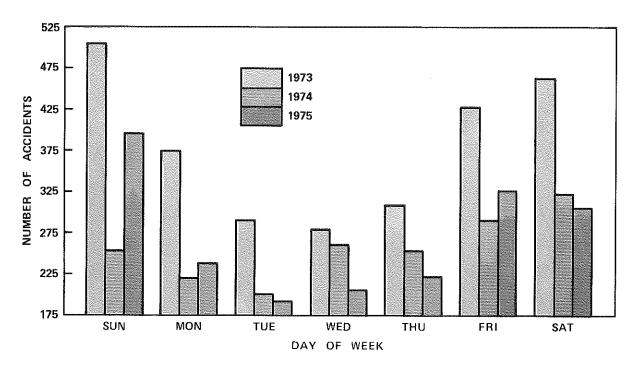


Figure 3. Number of Accidents versus Day of Week; Expressways.

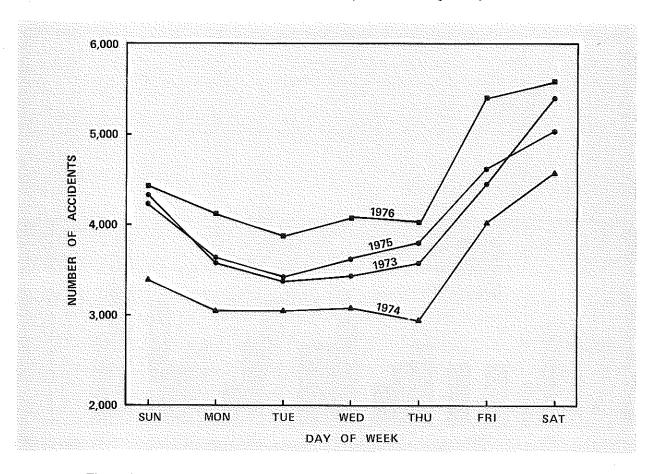


Figure 4. Number of Accidents versus Day of Week; Two-Lane and Four-Lane Roads and Expressways.

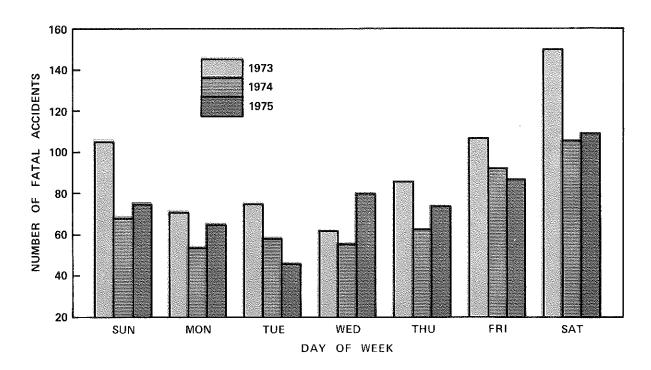


Figure 5. Number of Fatal Accidents versus Day of Week; Two-Lane Roads.

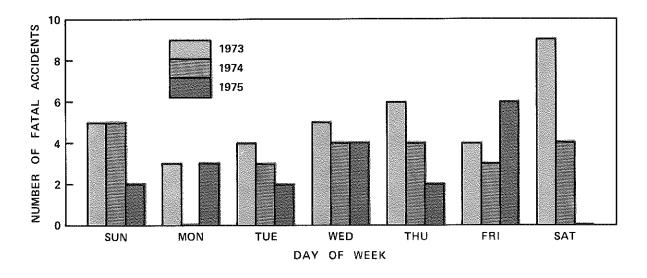


Figure 6. Number of Fatal Accidents versus Day of Week; Four-Lane Roads.

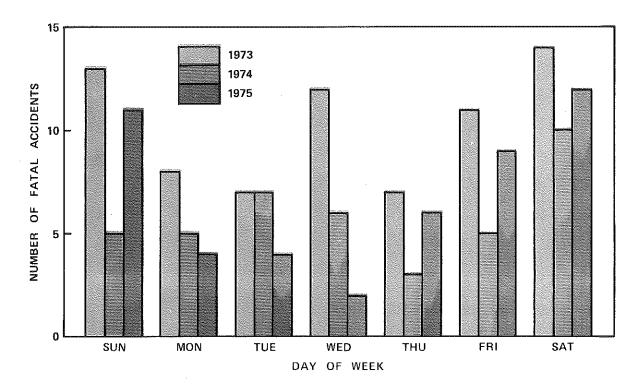


Figure 7. Number of Fatal Accidents versus Day of Week; Expressways.

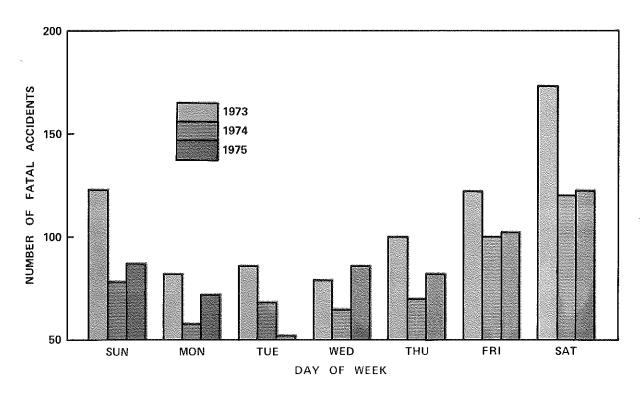


Figure 8. Number of Fatal Accidents versus Day of Week; Two-Lane and Four-Lane Roads and Expressways.

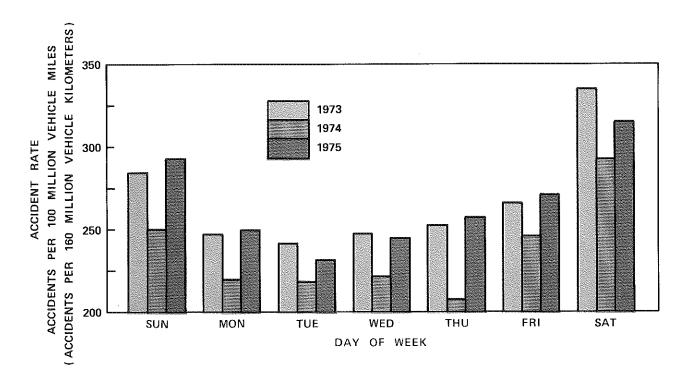


Figure 9. Accident Rate versus Day of Week; Two-Lane Roads.

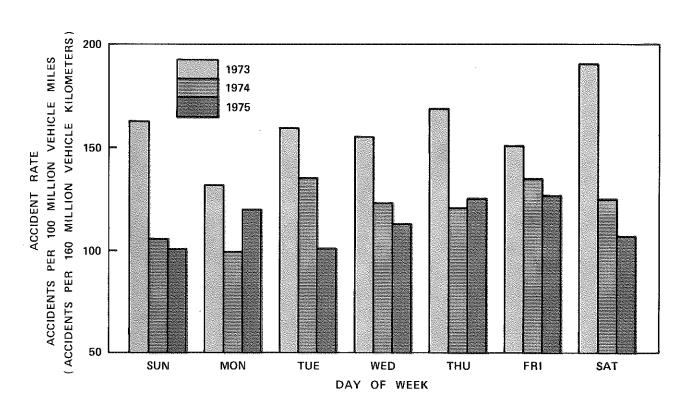


Figure 10. Accident Rate versus Day of Week; Four-Lane Roads.

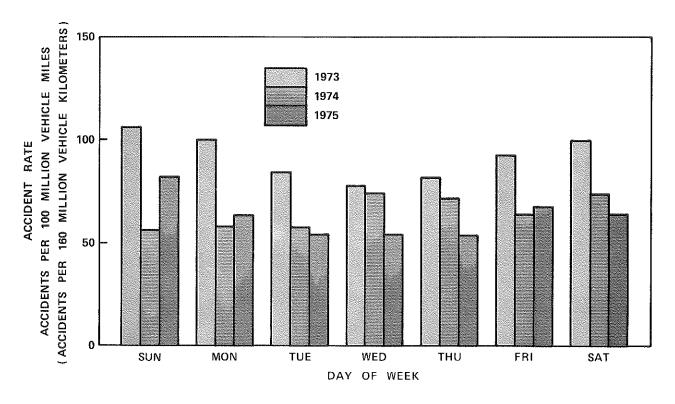


Figure 11. Accident Rate versus Day of Week; Expressways.

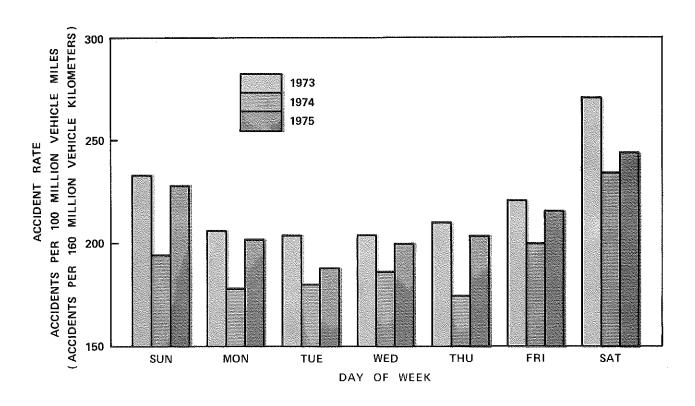


Figure 12. Accident Rate versus Day of Week; Two-Lane and Four-lane Roads and Expressways.

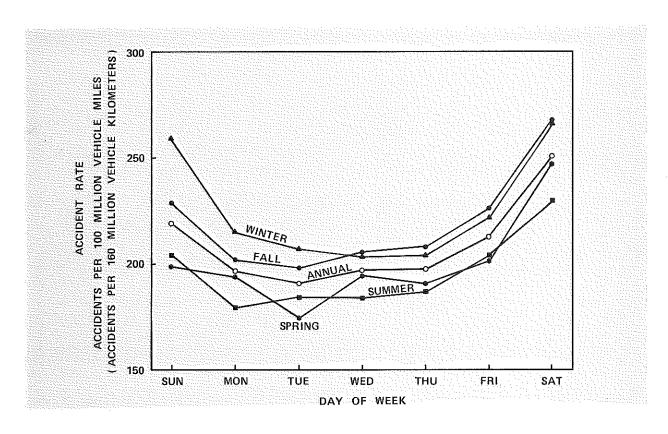


Figure 13. Accident Rate versus Day of Week by Seasons of the Year (1973-1975); Two-Lane and Four-Lane Roads and Expressways.

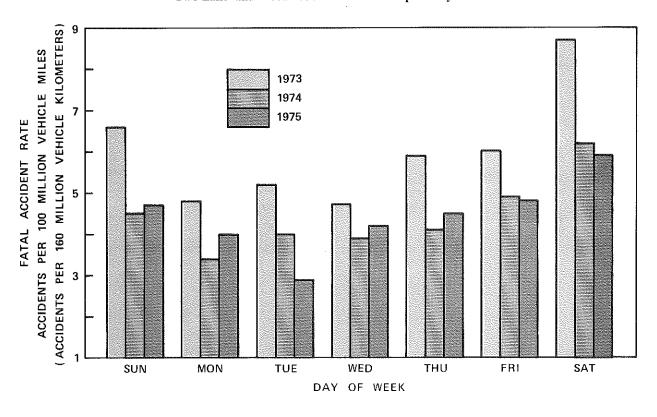


Figure 14. Fatal Accident Rate versus Day of Week; Two-Lane and Four-Lane Roads and Expressways.

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- 1. Agent, K. R.; and Herd, D. R.; First Year Effects of the Energy Crisis on Traffic in Kentucky, Division of Research, Kentucky Department of Transportation, May 1975.
- 2. Agent, K. R.; Relationships between Roadway Geometrics and Accidents (An Analysis of Kentucky Records), Division of Research, Kentucky Department of Transporation, April 1974.

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APPENDIX

SUMMARIES OF VEHICLE-MILES (VEHICLE-KILOMETERS) OF TRAVEL AND NUMBER OF ACCIDENTS DURING HOLIDAY PERIODS

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TABLE Al. HOLIDAY TRAVEL - 1973

		ROAD				
HOLIDAY	TWO-LANE	FOUR-LANE	EXPRESSWAYS	AVERAGE PER DAY	TOTAL	
NEW YEAR'S						
(DECEMBER 30-31, 1972						
JANUARY 1, 1973)	61.78≉	4.83	25.28	30.63	91.89	
EASTER						
IAPRIL 21-22)	60,10	4.75	22.36	43.61	87.21	
MEMORIAL DAY						
(MAY 26-28)	94•33	6.34	33.43	44.70	134.10	
INDEPENDENCE DAY						
(JULY 3-5)	86.86	7.72	28.29	40.96	122.87	
LABOR DAY						
(SEPTEMBER 1-3)	93.04	6.33	28.08	42.48	127.45	
THANKSGIVING						
(NOVEMBER 22-25)	99.34	7.55	35.96	35.71	142.85	
CHRISTMAS						
(DECEMBER 22-25)	80.86	6.25	26•45	28.39	113.56	
TOTAL						
(22 DAYS)	576.31	43.77	199.85	37.27	819.93	

*MILLION VEHICLE-MILES (1.6 MILLION VEHICLE-KILOMETERS) OF TRAVEL

TABLE A2. HOLIDAY TRAVEL - 1974

		ROAD			
HOLIDAY	TWO-LANE	FOUR-LANE	EXPRESSWAYS	AVERAGE PER DAY	TOTAL
NEW YEAR S					
(DECEMBER 29-31, 1973					
JANUARY 1, 1974)	65.52≄	5.45	22.87	23.86	93.8
EASTER				erepake er	
(APRIL 13-14)	69.30	4.95	21.42	47.84	95.5
MEMORIAL DAY					
(MAY 25-27)	96.76	6.78	35.31	46.28	138.8
INDEPENDENCE DAY					
(JULY 3-4)	104.72	8.66	30.67	48.02	144.0
LABOR DAY					
(AUGUST 31					
SEPTEMBER 1-2)	103.35	7.24	32.01	47.53	142.6
THANKSGIVING					
(NOVEMBER 28-30)	100.10	8.01	40.35	37.12	148.4
CHRISTMAS					
(DECEMBER 24-26)	71.41	5.30	24.85	33.85	101.5
TOTAL				11	1996 12
(22 DAYS)	578.45	43.99	198.29	39.32	865 . 0

★MILLION VEHICLE-MILES (1.6 MILLION VEHICLE-KILOMETERS) OF TRAVEL

TABLE A3. HOLIDAY TRAVEL - 1975

			ROAD		
HOLIDAY	TWO-LANE	FOUR LANE	EXPRESSWAYS	AVERAGE PER DAY	TOTAL
NEW YEAR'S					
(DECEMBER 31, 1974 JANUARY 1, 1975) EASTER	43.17*	3.47	12.29	29.47	58.93
(MARCH 29-30) MEMORIAL DAY	52.83	3.94	20.54	38.66	77.31
(MAY 24-26) INDEPENDENCE DAY	106.61	6.56	30.82	48.00	143.99
(JULY 4-6) LABOR DAY (AUGUST 30-31	99.18	6•39	38.23	47.93	143,80
SEPTEMBER 1) THANKSGIVING	92.69	6.91	32,61	44.07	132.21
(NOVEMBER 27-30) CHRISTMAS	105.46	7.55	38.37	37.85	151.38
(DECEMBER 24-28)	112.03	7.89	51.75	34.33	171.67
TOTAL (22 DAYS)	611.97	42.71	224.61	39.97	879 • 29

TABLE A4. NUMBERS OF ACCIDENTS ON HOLIDAYS - 1973

AND CONTROL OF THE CO				ROA	(D			
	TWC	-LANE	FOUR	-LANE	EXPRES	SWAYS	Al	L
HOLIDAY	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL
NEW YEAR'S	183	5	22	0	17	0	222	5
EASTER	155	3	13	0	9	0	177	3
MEMORIAL DAY	324	12	19	0	32	0	375	12
INDEPENDENCE DAY	233	7	17	1	18	2	268	10
LABOR DAY	248	7	10	0	25	0	283	7
THANKSGIVING	297	12	18	0	20	0	337	12
CHRISTMAS	280	5	21	0	18	1	319	6
TOTAL	1720	51	120	1	139	3	1981	55

TABLE A5. NUMBERS OF ACCIDENTS ON HOLIDAYS - 1974

HOLIDAY	TWO-	LANE	FOUR-	LANE	EXPRESSWAYS ALL			
	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL
NEW YEAR'S	205	6	23	0	37	1	229	8
EASTER	130	3	7	0	8	0	145	3
MEMORIAL DAY	237	3	6	0	14	0	257	3
INDEPENDENCE DAY	219	5	16	0	14	0	249	5
LABOR DAY	218	4	16	0	18	0	252	4
THANKSGIVING	301	6	11	0	32	0	344	6
CHRISTMAS	170	7	14	О	9	0	193	7

TABLE A6. NUMBERS OF ACCIDENTS ON HOLIDAYS - 1975

	TWO-	LANE	FOUR	-LANE	EXPR	ESSWAYS	AL	L.
HOLIDAY	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATAL	TOTAL	FATA
NEW YEAR'S	100	5	5	0	5	0	110	5
EASTER	139	3	7	0	13	1	159	4
MEMORIAL DAY	316	9	8	0	17	0	341	9
INDEPENDENCE DAY	239	9	3	1	33	3	275	13
LABOR DAY	222	2	14	0	14	. 0	250	2
THANKSGIVING	305	7	7	0	29	2	341	9
CHRISTMAS	361	10	10	0	42	0	413	10

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