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**DIRECT OBSERVATION
OF SEAT BELT USE IN MICHIGAN:
APRIL 1986**

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MAY, 1986

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16. Abstract <p>Results of a direct-observation study of seat belt use in Michigan conducted in April, 1986, were compared with results of previous surveys in December, 1984; April, 1985; July, 1985; and December, 1985. The current survey observed a sample of 17,776 occupants in 12,191 cars and light trucks between March 31 and April 19, 1986. The main finding was that use of seat belts changed little between December, 1985, and April, 1986. Restraint use among all motorists observed was 43.7% in April, 1986, compared to 43.0% in December, 1985. Only among occupants age 0-3 was there evidence of an increase in restraint use, from 59.1% in December, 1985, to 73.3% in April, 1986. Belt use for other age groups in April, 1986, was as follows: 38.4% for those age 4-15, 36.2% among those age 16-29, 44.9% among those age 30-59, and 52.5% among those age 60 years and older. In the current survey, females continued to exhibit a higher restraint use than males (48.6% vs. 39.6%). As in previous surveys, restraint use varied by region of the state. Despite the absence of an increase in restraint use from December, 1985, to April, 1986, belt use remains significantly higher than it was before Michigan's mandatory use law took effect (43.7% in April, 1986, versus 19.8% in December, 1984). Additional survey waves are scheduled for July and December, 1986.</p>			
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CONTENTS

1	INTRODUCTION	1
2	METHODS	3
3	RESULTS	9
4	REFERENCES	33
5	APPENDIX A	35
6	APPENDIX B	39

LIST OF FIGURES

3.1	Overall restraint use	10
3.2	Restraint use by seat location, occupants age 16 and over	14
3.3	Restraint use by seat position	16
3.4	Restraint use by age	17
3.5	Driver restraint use by age	18
3.6	Restraint use by vehicle type	21
3.7	Restraint use by region	24

LIST OF TABLES

2.1	Descriptive Statistics for the 240 Observation Sites	5
2.2	Sample Distributions for Major Variables by Seating Position.....	6-7
3.1	Percent Restrained by Major Variables and Seat Location	11-12
3.2	Restraint Use by Age and Seating Position	15
3.3	Percent Restraint Use by Sex, Type of Vehicle, Observation Site, and Weather Conditions.....	20
3.4	Percent Restraint Use by Time of Day and Day of Week	22
3.5	Percent Restraint Use by Michigan Department of Transportation Regions	23
3.6	Restraint Use, Number of Vehicles Observed, and Number of Occupants for Each Sampling Area.....	26
3.7	Number of Occupants in Nonstandard Seating Positions by Age	27
3.8	Percent of Belted Occupants with Incorrect Use	29-30

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1 INTRODUCTION

Twenty-four states in the U.S. have now passed mandatory adult seat belt laws. To evaluate the effects of Michigan's mandatory seat belt law, The University of Michigan Transportation Research Institute is conducting a series of direct-observation surveys of seat belt use among motor vehicle occupants throughout the State of Michigan. Two survey waves (December, 1984, and April, 1985) were conducted prior to Michigan's mandatory seat belt law. A third wave was conducted in July, 1985, immediately following implementation of the law. A fourth wave was conducted in December, 1985, five months after the law took effect. The survey reported here was conducted from March 31 to April 19, 1986, after nine months of compulsory belt use. The surveys examined differential restraint use by age, sex, seating position, time of day, day of week, type of roadway, weather conditions, vehicle type and size, and region of the state. Readers are referred to previous reports for complete results of the previous surveys (Wagenaar and Wiviott, 1984; Wagenaar and Wiviott, 1985a; Wagenaar and Wiviott, 1985b; and Wagenaar, Wiviott, and Businski, 1985). Data collected in the two pre-law waves provide a baseline against which effects of the law are assessed. The current report compares restraint use nine months after the law took effect with the previous results. Additional survey waves are scheduled for July and December, 1986.

2 METHODS

Trained personnel observed motor vehicles at a carefully selected probability sample of 240 intersections throughout the State of Michigan. Observers recorded restraint use, seat position, estimated age, and sex for occupants in all seating positions in each sampled vehicle. The size and type of vehicle was also recorded.

Detailed information on the seating positions of all occupants was recorded, including those in nonstandard seating positions. Specifically, observers noted whether passengers were sitting, standing, kneeling, or lying on the seat, floor, or cargo area of the vehicle. Passengers riding on the lap of another occupant were also recorded. The objective was to collect data on the full complement of restraint use and related information for all occupants of vehicles included in the sample.

In addition to the items recorded in previous waves, observers in July and December, 1985, and in the current wave were instructed to record incorrect use of seat belts. Examples of incorrect belt use included: positioning the shoulder harness under the outboard arm, behind the back, or over the inside shoulder; and restraining two occupants with one seat belt. The category of incorrect belt use does not include occupants (typically in the 4-15 age group) who are too short to wear a shoulder belt in the correct position across the chest. Often such occupants place the belt under the arm or behind the back. These occupants were coded as correctly belted. Occupants incorrectly using seat belts were coded as "belted" and, therefore, appear in the tables and figures below as restrained. However, incorrect use of belts was recorded to assess the extent of incorrect use and to permit further analyses of motorists who use seat belts incorrectly.

Observers also noted when an observed vehicle was state-, city-, county-, or federally-owned. These special vehicles were tallied in two groups: state vehicles and other government vehicles. These data allowed for comparison of belt use among the general public with use among government employees, many of whom have been required by department policy to use seat belts since 1978.

Observers limited the number of vehicles recorded during any given signal cycle to three. This procedure was adopted during the July wave. After the mandatory use law took effect, motorists in long traffic queues buckled up after noticing the observer examine

vehicles ahead of them in the queue. Recording data on only the first three vehicles prevented inclusion of these motorists in the survey.

The sample of 240 sites was identical to all previous survey waves except that three alternate sites were selected (from the pool of sites selected in the original sample design) to replace sites at which an insufficient number of observations could be made due to the absence of traffic. Three full-time observers were hired for the April survey wave. As in all previous survey waves, new observers participated in an intensive training program (described in the first report of this series; Wagenaar and Wiviott, 1984).

The first observer visited 81 sites; the second, 74; and the third, 70. The remaining 15 sites were observed by the field supervisor. As in the April, July, and December survey waves, two-person teams were used to observe at certain central city sites. At these sites two observers collected data at the same intersection but from different paths of traffic. Each observer recorded half of the required vehicles at each site. Using two-person teams for central city sites allowed for efficient and rapid collection of data while providing security for the observers. All other sites were observed by a single person.

The distributions of site observations by day of week and hour of day were similar to previous survey waves. Descriptive statistics for the 240 observation sites are shown in Table 2.1.

Actual numbers of cases observed across categories of the major variables are shown in Table 2.2. Restraint use estimates based on small numbers of cases, such as those for occupants in extra seats, cargo areas, or held in laps, need to be interpreted with care.

In addition to showing the actual number of cases by subcategory, Table 2.2 indicates the extent of missing data for each variable. The key restraint item was missing for only 0.3% of all occupants observed. These are cases in which the observer could not accurately identify whether the occupant was restrained. Belt use was not recorded for only 0.1% of the 12,191 drivers observed, and 0.1% of the 3,885 front-right occupants observed. Front-center and rear-seat occupants had moderate levels of missing data on restraint use (1.0% to 5.2%; see Table 2.2). Missing data rates for all other variables were less than 1.0%.

To ensure comparability across survey waves, the same methods were used in each of the survey waves, except for the few minor differences noted here. Sample design, data collection methods, and analytic procedures are discussed in detail in the first report of this series (Wagenaar and Wiviott, 1984).

TABLE 2.1
Descriptive Statistics for the 240 Observation Sites

Day of Week		Start Time		Site Choice		Weather		Observer	
Monday	14.2%	7-10 AM	17.1%	Primary	98.8%	Sunny	61.7%	(A)	6.3%
Tuesday	14.2%	10-12 AM	25.0%	Alternate	1.3%	Cloudy	31.3%	(B)	33.8%
Wednesday	14.2%	12-2 PM	19.6%			Rain	5.8%	(C)	30.8%
Thursday	13.8%	2-4 PM	26.3%			Snow	1.3%	(D)	29.2%
Friday	17.1%	4-5 PM	12.1%						
Saturday	13.8%								
Sunday	12.9%								
TOTALS	100%		100%		100%		100%		100%

TABLE 2.2 Continued

	Seating Position									
	Driver	Front Center	Front Right	Rear Left	Rear Center	Rear Right	Extra Seats	Cargo Area	Held in Lap	All ¹
<u>Time of Day</u>										
7-9 AM	711	8	169	15	12	18	0	5	0	939
9-10 AM	1,109	10	269	33	19	44	4	0	6	1,495
10-11 AM	1,482	25	412	59	32	58	0	1	6	2,076
11-12 AM	1,649	32	538	58	46	95	4	9	6	2,440
12-1 PM	1,099	21	362	48	36	72	2	5	5	1,651
1-2 PM	1,233	24	438	52	39	69	0	7	5	1,867
2-3 PM	1,621	29	578	60	37	87	0	11	8	2,433
3-4 PM	1,540	29	537	72	39	92	0	4	8	2,322
4-5 PM	1,159	20	398	46	26	65	0	1	2	1,719
5-6 PM	588	12	184	13	10	21	0	3	3	834
Missing	0	0	0	0	0	0	0	0	0	0
<u>Weather</u>										
Sunny	7,536	129	2,364	282	186	385	8	17	28	10,947
Cloudy	3,826	72	1,276	153	93	204	2	29	20	5,675
Rain	701	7	215	18	17	30	0	0	0	988
Snow	128	2	30	3	0	2	0	0	0	166
Missing	0	0	0	0	0	0	0	0	0	0
<u>MDOT Region</u>										
Western U.P.	611	18	148	26	8	15	0	0	2	829
Eastern U.P.	406	18	189	31	13	36	0	2	3	698
Northwest	612	14	255	27	22	41	4	0	5	982
Northeast	408	13	182	14	10	20	2	0	4	655
West Central	1,427	25	512	40	24	71	2	12	5	2,119
East Central	1,400	33	518	75	56	95	0	7	9	2,193
Southwest	1,416	22	470	42	31	55	2	6	4	2,050
Southeast	1,209	18	375	51	38	72	0	10	3	1,777
Metro Detroit	4,702	49	1,236	150	94	216	0	9	14	6,473
Missing	0	0	0	0	0	0	0	0	0	0
TOTAL N	12,191	210	3,885	456	296	621	10	46	49	17,776

¹ Includes 12 occupants standing.

3 RESULTS

Seat belts or child restraint devices were used by 43.7% of all occupants observed during April, 1986. This is essentially identical to the 43.0% use rate in December, 1985 (Figure 3.1); the difference is clearly not statistically significant ($Z=0.35$).

While current restraint use is lower than restraint use observed in July, 1985, immediately after the law took effect, it is still higher than before implementation of the mandatory seat belt law. The April, 1986, use rate of 43.7% represents a 120.7% increase from the December, 1984, rate of 19.8%.

A large increase in belt use occurred immediately after the law took effect in July, 1985; at that time, 58.5% of motorists were restrained. Belt use then declined to 43.0% by December, 1985, and has remained constant through April, 1986. This pattern of a substantial immediate increase in belt use immediately following implementation of a belt law, followed by a partial decline in use over the subsequent six to twelve months, has frequently been found. For example, in New York, the first state to pass and implement seat belt legislation, belt use increased from 15.9% before the law to 57.1% immediately following its effective date. Nine months after implementation, however, use had declined to 46.0% (Rood, Kraichy, and Carubia, 1985).

Table 3.1 provides summary information on restraint use by seating location (front and rear) for each major variable of the study: sex, age, type of vehicle, site type, day of week, time of day, weather, and region. Across all variables, restraint use was higher among front seat occupants than rear seat occupants (44.9% vs. 32.4%). This finding is consistent with expectations, given that the law only applies to front seat occupants.

Because young children have particularly high rates of restraint use as a result of mandatory child restraint legislation implemented in 1982 (Wagenaar, 1984; Wagenaar and Webster, 1985), effects of the mandatory seat belt law can best be seen by excluding children under the age of 16 from the analyses. In December, 1984, restraint use for adults (16 and over) was 18.3% among front-seat occupants and 7.2% among rear-seat occupants. A noticeable increase in belt use was seen in April, 1985, after the law was enacted but before implementation. In July, 1985, immediately after implementation, restraint use among front-seat occupants more than doubled, increasing to 60.5%. In December, 1985, five months

FIGURE 3.1

Overall Restraint Use

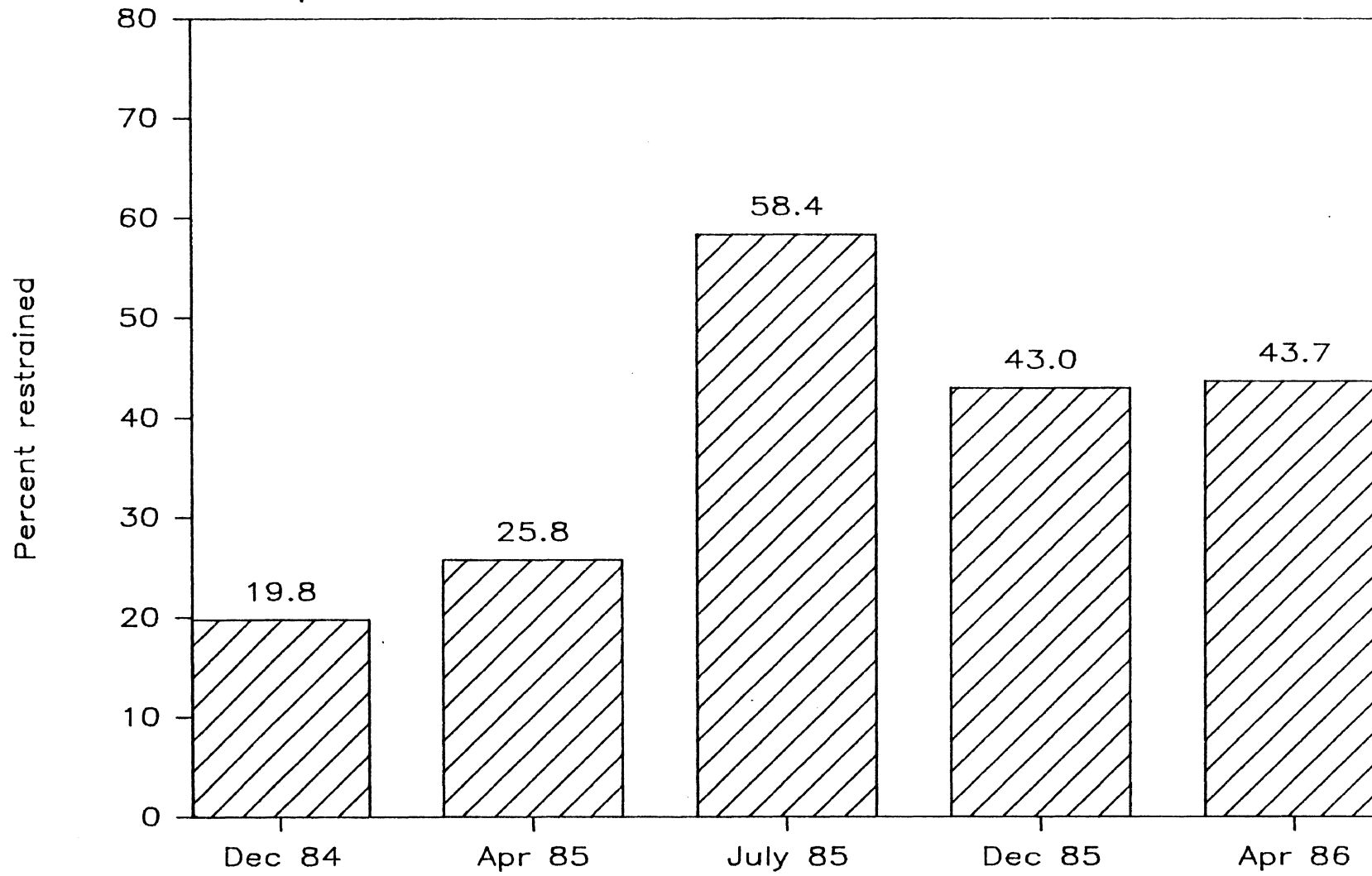


TABLE 3.1
Percent Restrained by Major Variables and Seat Location¹

	Seating Location		
	Front Seat	Rear Seat	All ²
<u>Sex</u>			
Male	40.3	34.3	39.6
Female	50.6	30.5	48.6
<u>Age</u>			
0-3	77.2	82.8	73.3
4-15	53.8	28.1	38.4
16-29	37.8	4.5	36.2
30-59	45.4	10.4	44.9
60+	54.4	6.2	52.5
<u>Type of Vehicle</u>			
Small Car	49.8	40.0	48.8
Mid-Sized Car	47.7	33.1	46.3
Large Car	42.1	27.8	40.7
Pickup Truck	33.3	0.0	33.2
Van	41.9	30.8	39.5
Other	55.2	62.4	54.2
<u>Site Type</u>			
Intersection	42.6	31.8	41.6
Freeway Exit	52.7	34.4	51.0
<u>Day of Week</u>			
Monday	45.0	44.0	44.6
Tuesday	37.1	15.6	35.6
Wednesday	49.3	35.9	48.2
Thursday	48.2	28.9	46.6
Friday	46.5	40.9	45.9
Saturday	44.6	28.4	42.9
Sunday	43.0	30.4	41.3

TABLE 3.1 Continued

	Seating Location		
	Front Seat	Rear Seat	All ²
<u>Time of Day</u>			
7-9 AM	46.8	29.3	45.7
9-10 AM	49.6	36.7	48.6
10-11 AM	44.3	45.1	44.2
11-12 AM	44.2	36.9	43.3
12-1 PM	43.7	30.6	42.1
1-2 PM	49.0	38.0	47.7
2-3 PM	43.6	30.2	42.2
3-4 PM	45.3	18.2	42.7
4-5 PM	42.3	29.4	41.2
5-6 PM	40.5	36.1	40.1
<u>Weather</u>			
Sunny	46.1	37.6	45.2
Cloudy	43.3	22.0	41.3
Rain	41.5	30.8	40.8
Snow	43.3	24.6	42.5
<u>MDOT Region</u>			
Western U.P.	44.3	43.7	44.1
Eastern U.P.	35.5	23.7	33.8
Northwest	48.7	40.0	47.5
Northeast	46.5	43.2	45.7
West Central	34.2	24.5	33.4
East Central	47.9	22.7	45.0
Southwest	44.7	30.1	43.5
Southeast	55.3	49.9	54.4
Metro Detroit	44.4	32.1	43.3
TOTAL	44.9	32.4	43.7

¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Restraint use includes correct and incorrect use of child restraint devices and seat belts.

²Includes occupants riding in third and fourth seats of station wagons and vans and in nonstandard seating positions (i.e., on laps, in cargo area, on floor).

after the law took effect, the increase between April and July deteriorated by half. In December, 1985, restraint use was down to 44.0% among front seat occupants and 6.9% among rear seat occupants. In the current wave, adult restraint use remained at the levels seen in December 1985 (44.4% among front-seat occupants and 6.6% among rear-seat occupants; Figure 3.2).

The only two seat positions where the effects of the law are still visible are drivers and front-right occupants. Restraint use in all other positions remained comparable to levels observed in December, 1984. Restraint use was higher among drivers than occupants in other seating positions in all applicable age groups (Table 3.2 and Figure 3.3).

The highest rate of restraint use was observed among occupants age 0-3. A total of 73.3% of occupants 0-3 years were restrained, compared to 38.4% of occupants 4-15 years, 36.2% of occupants 16-29 years, 44.9% of occupants 30-59 years, and 52.5% of occupants 60 years and older (Table 3.2). All age groups experienced only marginal increases or decreases in restraint use from the previous wave (Figure 3.4). Although occupants age 0-3 exhibited an increase in restraint use from the 59.1% level in December, 1985, and surpassed the 70.0% use rate observed immediately following implementation of the mandatory seat belt law, this increase was not statistically significant due to the small size of the sample and the multistage sample design ($Z=1.49$). In any event, the results indicate that relatively high rates of restraint use among young children are being maintained.

Incorrect use of child restraint devices remains an area of concern. In all previous survey waves approximately 20% of child restraint devices observed were used incorrectly. In the current wave 27.3% of child seats observed were used incorrectly. Because incorrect use is limited only to cases obvious to the observer (due to the data collection process used), data presented here should be considered a conservative estimate of incorrect belt use.

In previous survey waves motorists age 60 years and older appeared to experience the greatest effect of the mandatory seat belt law. Although restraint use among occupants 60 years and older declined slightly between December, 1985, and April, 1986 (from 54.0% to 52.5%), this age group still exhibited a higher use rate than any other age group except occupants age 0-3. In addition, the increase in restraint use between December, 1984 (pre-law) and the current survey wave was greater among those aged 60 years and older (259.6%) than among the younger three groups: 4-15 (60.7%), 16-29 (95.7%), and 30-59 (144.0%).

The pattern of driver restraint use by age was similar to that of total occupants by age (Figure 3.5).

FIGURE 3.2

Restraint Use by Seat Location

Occupants Age 16 and Over

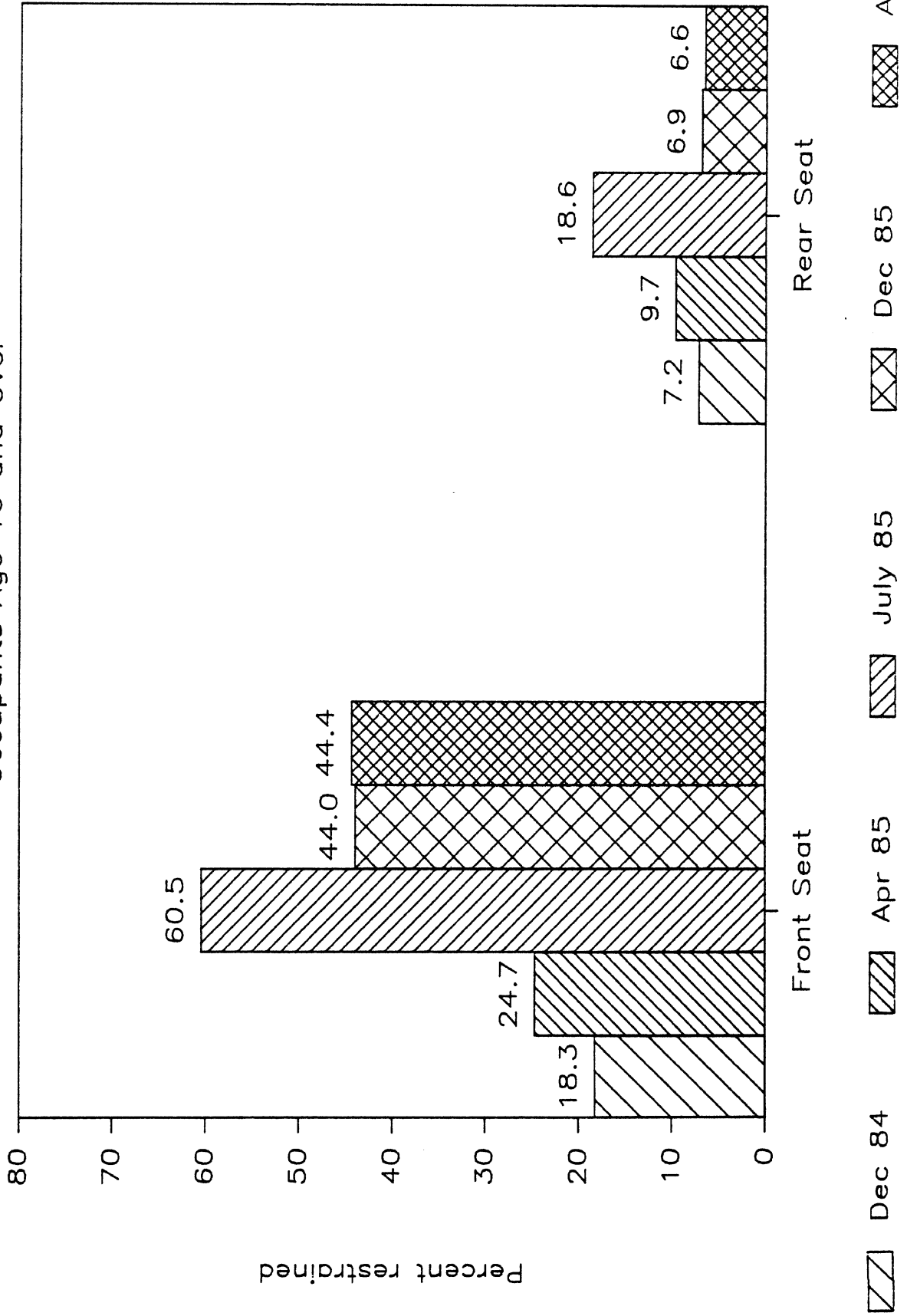


TABLE 3.2
Restraint Use by Age and Seating Position¹

Age Group	Seating Position									
	Driver	Front Center	Front Right	Rear Left	Rear Center	Rear Right	Extra Seats	Cargo Area	Held in Lap	All ²
<u>Age 0-3</u>										
% Belted	—	16.4	35.4	18.8	8.2	20.0	—	0.0	0.0	18.9
% Correct CRD	—	11.7	37.5	45.6	54.1	53.8	—	0.0	0.0	39.7
% Incorrect CRD	—	25.9	14.4	21.1	10.3	13.2	—	0.0	0.0	14.7
% Restrained ³	—	54.0	87.3	85.5	72.5	87.0	—	0.0	0.0	73.3
Unweighted N	—	44	90	101	67	103	0	2	40	449
<u>Age 4-15</u>										
% Restrained	100.0	31.1	56.5	34.5	15.3	31.5	43.4	0.0	7.5	38.4
Unweighted N	2	67	463	215	174	266	6	17	9	1,229
<u>Age 16-29</u>										
% Restrained	40.4	3.9	30.3	2.1	3.3	6.2	0.0	0.0	—	36.2
Unweighted N	3,540	52	1,047	64	37	109	2	19	0	4,870
<u>Age 30-59</u>										
% Restrained	46.7	6.6	40.3	17.6	0.0	8.4	0.0	0.0	—	44.9
Unweighted N	7,015	39	1,598	37	8	78	2	5	0	8,782
<u>Age 60+</u>										
% Restrained	55.0	0.0	53.3	9.5	0.0	5.1	—	—	—	52.5
Unweighted N	1,623	8	667	33	5	62	0	0	0	2,398
<u>All Ages</u>										
% Restrained	45.9	24.1	42.7	38.7	26.4	30.8	25.2	0.0	1.4	43.7
Unweighted N	12,191	210	3,885	456	296	621	10	46	49	17,776

¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Unweighted Ns indicate the actual number of occupants observed in a given group.

²Restraint use for all positions includes cargo areas, passengers held in laps, and passengers standing.

³Percent restrained includes correct and incorrect CRD use.

FIGURE 3.3

Restraint Use by Seat Location

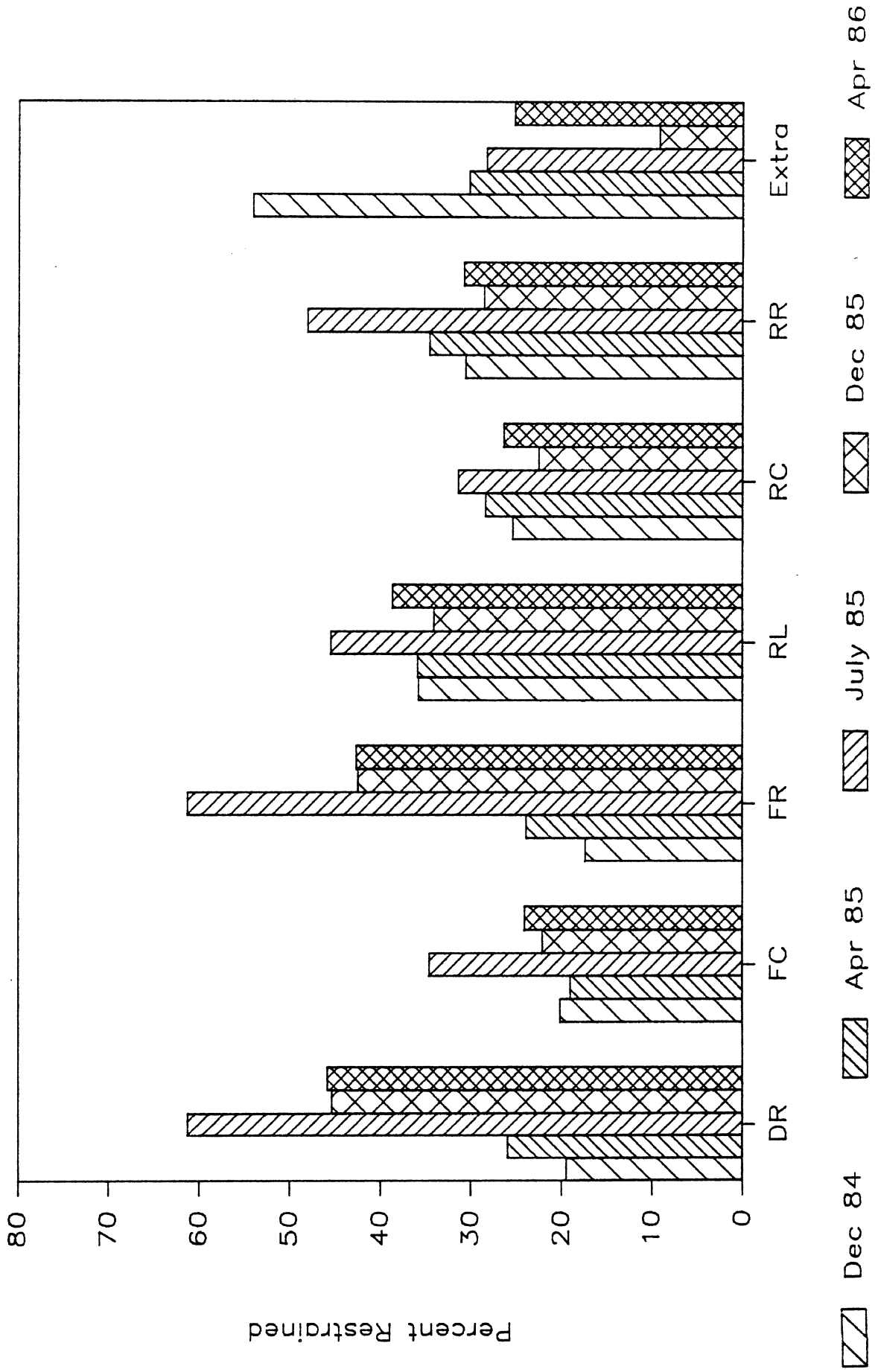


FIGURE 3.4
 Restraint Use by Age

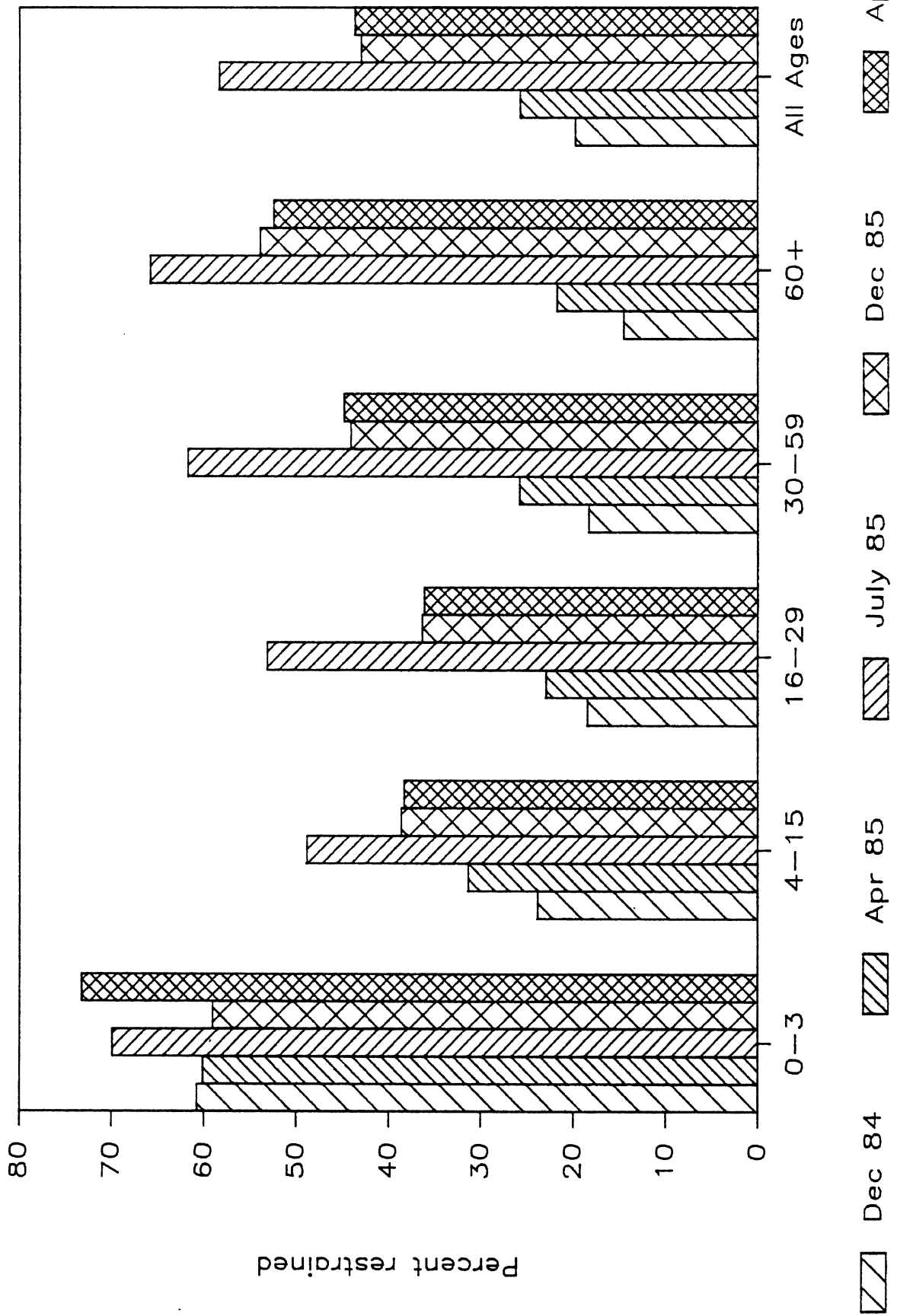
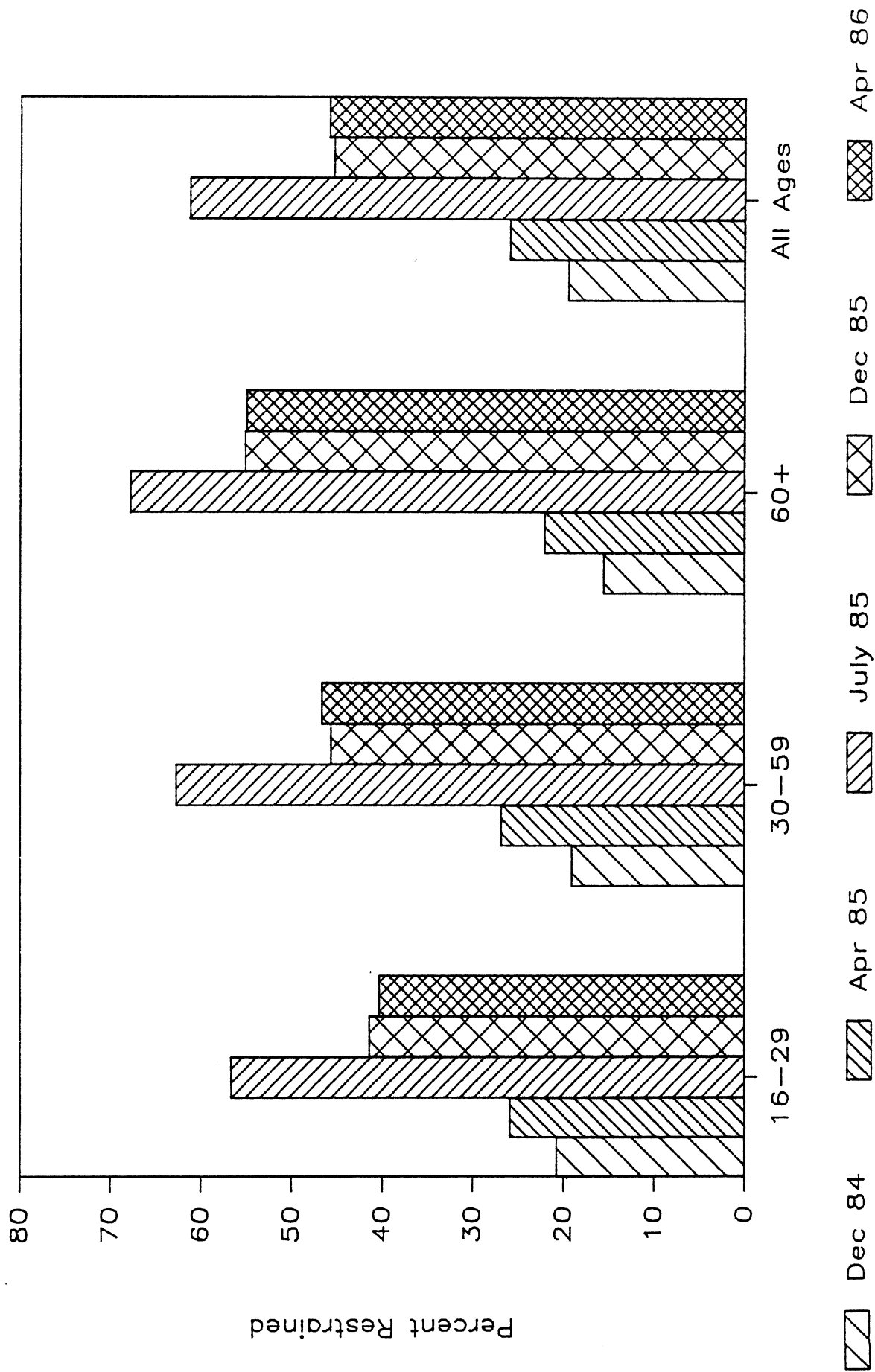


FIGURE 3.5

Driver Restraint Use by Age



Restraint use varied by occupant sex, as in previous survey waves, with a greater proportion of females than males using restraints (48.6% vs. 39.6%; Table 3.3). But the rate of increase in belt use among females and males since December, 1984, has been similar.

Restraint use by type of vehicle exhibited the same pattern as that observed in all previous survey waves (Table 3.3 and Figure 3.6).¹ Occupants of small cars had a higher restraint use rate (48.8%) than occupants of mid-sized cars (46.3%), large cars (40.7%), vans (39.5%), or pickup trucks (33.2%). As in the December, 1985, survey wave but unlike the earlier waves, occupants of other vehicles (including truck-based station wagons and utility vehicles) were the most likely to use restraints (54.2%).

Restraint use has been consistently higher at freeway exits than local intersections throughout the series of surveys (51.0% vs. 41.6% in the current wave). However restraint use at intersections exhibited about the same increase as use at freeway exits between December, 1984, and April, 1986 (121.3% vs. 118.9%).

Restraint use in the current survey did not vary significantly by weather conditions (Table 3.3). Comparisons with previous survey waves showed no consistent pattern of restraint use by weather conditions.

There was no consistent pattern of belt use across time of day and day of week (Table 3.4), consistent with results of previous survey waves.

Throughout the series of surveys, restraint use has varied by region of the state (Table 3.5 and Figure 3.7). In the current survey wave, restraint use ranged from a low of 33.4% in the West Central region to a high of 54.4% in the Southeast region. In previous survey waves, the Eastern upper peninsula had exhibited the lowest rate of restraint use. The West Central and East Central regions were the only regions to experience declines in restraint use between December, 1985, and the current survey wave. The West Central region includes northern Kent County, the jurisdiction of the 63d District Judge who, early this year, received nationwide attention for suspending fines for violators of the mandatory seat belt law. This publicity may have reinforced public perception in the region that strict enforcement of the law is lacking and may have contributed to the decline in restraint use. The decrease in restraint use in the East Central region is perhaps due, in part, to spillover effects of the publicity, given the close proximity of the two regions.

1. Information on type of vehicle was not collected during the April, 1985, survey wave. Instead, license plate numbers were recorded, but this practice proved to be problematic. Readers are referred to the April report for details.

TABLE 3.3
Percent Restraint Use by Sex, Type of Vehicle,
Observation Site, and Weather Conditions¹

	Seating Position							
	Driver	Front Center	Front Right	Rear Left	Rear Center	Rear Right	Extra Seats ²	All ³
<u>Sex</u>								
Male	41.1	28.0	36.1	42.4	25.6	32.5	33.8	39.6
Female	53.8	21.4	46.0	34.1	27.6	29.5	20.1	48.6
<u>Type of Vehicle</u>								
Small Car	50.6	37.2	46.8	41.7	35.1	41.1	—	48.8
Mid-Sized Car	48.4	22.5	46.0	40.4	30.9	29.3	—	46.3
Large Car	43.4	26.1	39.2	36.3	19.7	25.7	100.0	40.7
Pickup Truck ⁴	34.6	21.3	31.1	0.0	0.0	0.0	—	33.2
Van	41.3	0.0	44.7	34.6	20.6	36.6	0.0	39.5
Other	56.2	73.7	50.9	79.0	38.6	57.4	—	54.2
<u>Observation Site</u>								
Intersection	43.6	26.1	40.3	37.9	26.2	30.0	33.8	41.6
Freeway Exit	53.8	16.7	51.1	41.6	27.0	33.3	0.0	51.0
<u>Weather Conditions</u>								
Mostly Sunny	47.0	30.6	43.7	44.6	32.4	35.0	0.0	45.2
Mostly Cloudy	44.3	13.1	41.9	27.7	14.5	21.6	100.0	41.3
Raining	43.0	14.1	37.5	33.1	23.4	33.6	—	40.8
Snowing	44.1	0.0	40.5	15.0	—	33.8	—	42.5
TOTAL	45.9	24.1	42.7	38.7	26.4	30.8	25.2	43.7

¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Restraint use includes correct and incorrect use of child restraint devices.

²Based on only 10 observed occupants.

³Restraint use for all positions includes cargo areas, passengers held in laps, and passengers standing.

⁴Data on rear seat passengers includes six occupants, riding in crew cabs.

FIGURE 3.6

Restraint Use by Vehicle Type

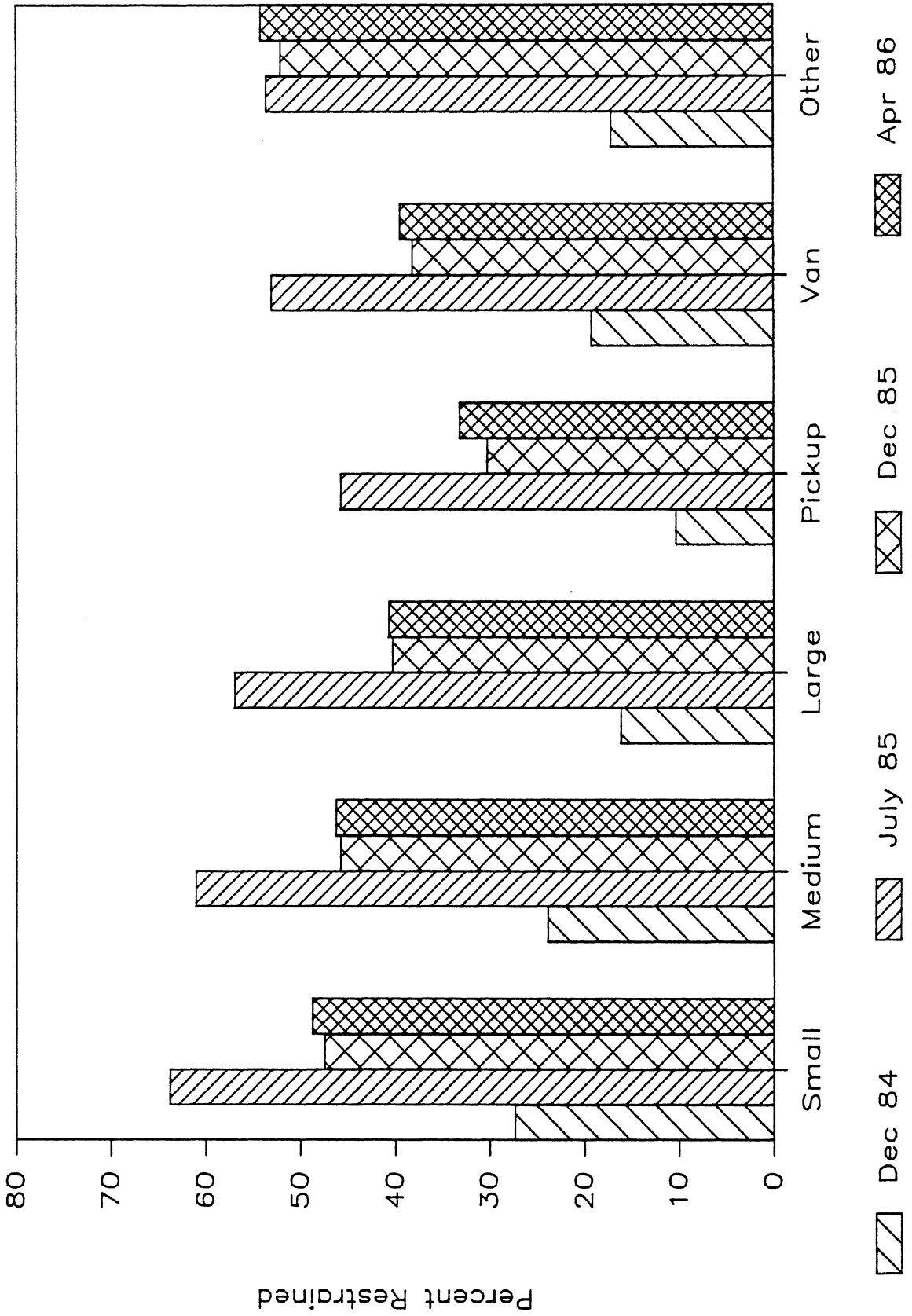


TABLE 3.4
Percent Restraint Use by Time of Day and Day of Week¹

	Seating Position							
	Driver	Front Center	Front Right	Rear Left	Rear Center	Rear Right	Extra Seats ²	All ³
<u>Time of Day</u>								
7-9 AM	46.8	11.9	47.9	25.8	39.0	25.4	—	45.7
9-10 AM	48.7	18.6	54.3	35.4	44.8	34.3	60.5	48.6
10-11 AM	44.6	53.2	42.8	50.6	47.0	38.7	—	44.2
11-12 AM	45.8	22.4	40.1	42.5	32.9	35.5	0.0	43.3
12-1 PM	44.2	17.8	43.4	31.5	26.3	32.0	0.0	42.1
1-2 PM	50.3	27.6	46.1	51.0	25.7	35.1	—	47.7
2-3 PM	44.6	23.5	41.8	38.4	17.8	30.0	—	42.2
3-4 PM	47.0	13.2	41.9	23.4	11.7	17.0	—	42.7
4-5 PM	44.6	18.8	36.8	36.8	11.4	31.8	—	41.2
5-6 PM	41.6	16.0	38.4	59.6	21.1	29.9	—	40.1
<u>Day of Week</u>								
Monday	45.6	39.1	43.7	46.2	37.5	45.2	0.0	44.6
Tuesday	38.9	8.4	31.3	22.7	11.0	14.2	—	35.6
Wednesday	50.4	29.2	45.3	41.8	30.8	35.2	—	48.2
Thursday	49.4	14.7	44.7	30.1	26.5	28.8	—	46.6
Friday	47.2	39.5	43.9	49.7	36.8	35.5	0.0	45.9
Saturday	45.0	12.3	45.6	30.8	24.3	29.1	—	42.9
Sunday	43.8	21.2	42.8	40.6	20.5	27.2	43.4	41.3
TOTAL	45.9	24.1	42.7	38.7	26.4	30.8	25.2	43.7

¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Restraint use includes correct and incorrect use of child restraint devices.

²Based on only 10 observed occupants.

³Restraint use for all positions includes cargo areas, passengers held in laps, and passengers standing.

TABLE 3.5
Percent Restraint Use by Michigan Department of Transportation Regions¹

MDOT Region	Seating Position							
	Driver	Front Center	Front Right	Rear Left	Rear Center	Rear Right	Extra Seats ²	All ³
1. Western U.P.	45.6	20.0	41.2	50.0	12.5	50.0	—	44.1
2. Eastern U.P.	36.9	17.7	33.9	22.5	30.8	22.1	—	33.8
3. Northwest	48.7	28.6	49.8	40.7	27.3	46.3	0.0	47.5
4. Northeast	47.3	33.3	45.6	57.1	20.0	45.0	0.0	45.7
5. West Central	33.1	16.2	38.1	32.4	33.5	16.9	100.0	33.4
6. East Central	49.6	16.2	45.2	29.0	14.4	22.7	—	45.0
7. Southwest	45.0	13.3	45.5	37.9	25.4	26.9	0.0	43.5
8. Southeast	57.2	41.0	49.8	53.6	37.8	53.7	—	54.4
Metro Detroit	45.7	30.4	39.9	39.4	27.8	29.1	—	43.3
TOTAL	45.9	24.1	42.7	38.7	26.4	30.8	25.2	43.7

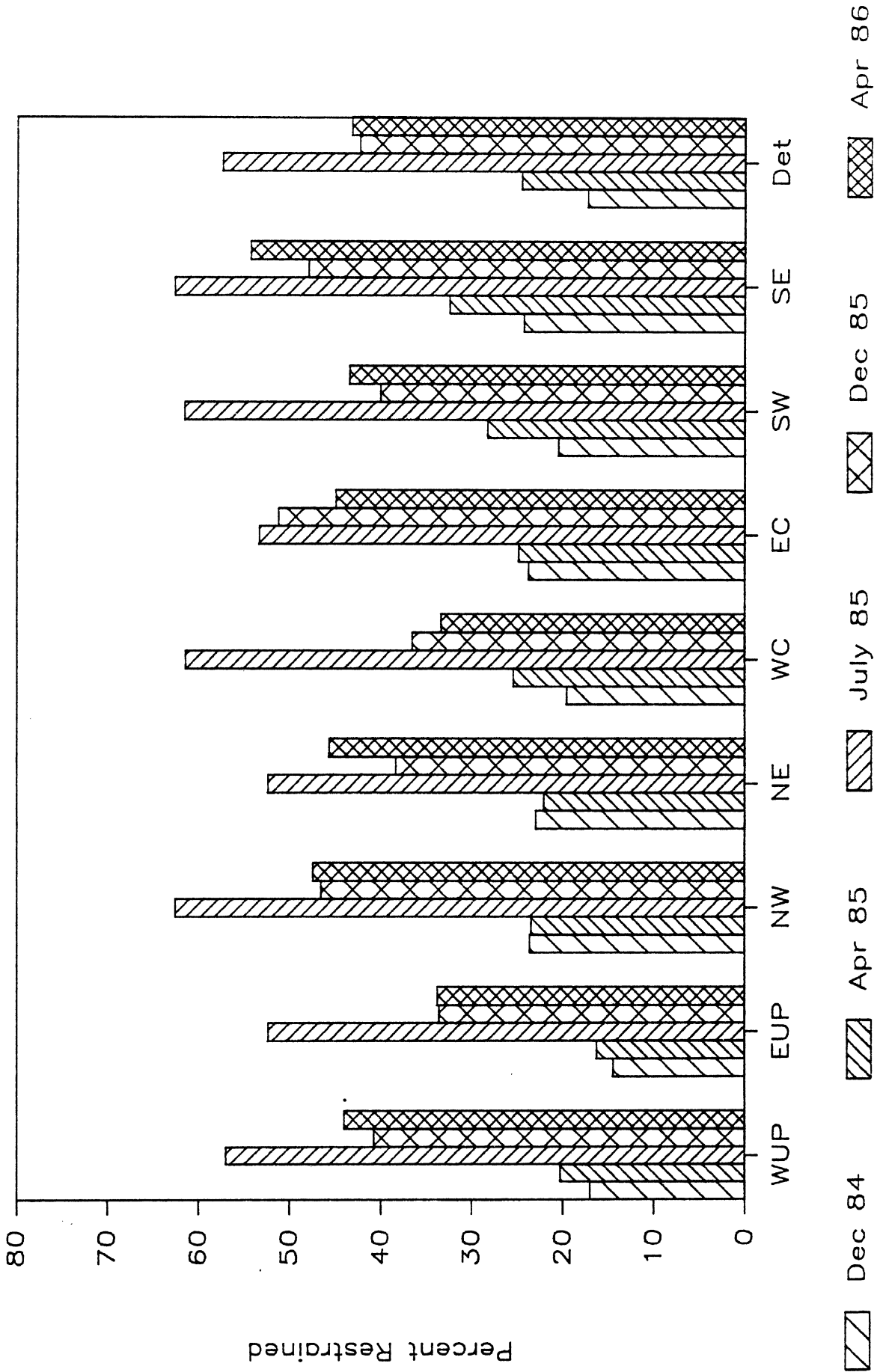
¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Restraint use includes correct and incorrect use of child restraint devices.

²Based on only 10 observed occupants.

³Restraint use for all positions includes cargo areas, passengers held in laps and passengers standing.

FIGURE 3.7

Restraint Use by Region



Consistent with previous survey waves, there was much variability in restraint use by sampling area (Table 3.6). Restraint use tended to be lower in rural and central-city areas. Sampling areas with the highest restraint use rates were Ingham County, City of East Lansing (66.7%), remaining Ingham County (66.0%), Washtenaw County, City of Ann Arbor (64.6%), Grand Traverse County (58.7%), and Eaton County (55.8%). The lowest restraint use rates were observed in Mecosta-Newaygo Counties (24.4%), Wayne County, City of Melvindale (27.6%), Muskegon County (28.0%), Wayne County, City of Wyandotte (29.3%), and Delta County (30.0%). The City of Detroit, which had the lowest observed use of restraints in December, 1985 (25.4%), increased its use rate to 35.5%. Sample sizes in each sampling area are relatively small, however, and any changes in restraint use in individual sampling areas should be interpreted with care.

By individual sampling area, there was no consistent pattern of change in restraint use from previous survey waves. Twenty-one sampling areas exhibited a decline in restraint use, twenty-two exhibited an increase, and one remained constant. Most of these changes are probably due to sampling error and are not of interest.

The percentage increase in restraint use between the current survey wave and December, 1984 (before the compulsory-use legislation was passed) was examined. The largest percentage increases were experienced in Wayne County, City of Detroit (262.2%), Wayne County, City of Trenton (224.6%), and Berrien County (196.9%). One reason for these large percentage increases is the low prelegislation rates of belt use in these areas.

Most state agencies have required the use of seat belts by their employees when traveling in state-owned vehicles since 1978. In the current survey wave, 26 occupants in 24 state vehicles were observed. Fifteen of these occupants were restrained (57.7%). A total of 61 other government vehicles were observed with 75 occupants. Of these occupants, 42 were restrained (56.0%).

Occupants riding in nonstandard positions were tallied separately (Table 3.7). Nonstandard positions included: lying, standing, sitting, or kneeling on the floor, seat, or cargo area; sharing seat belts; and riding on the lap of another occupant. Occupants in nonstandard seating positions were typically under 16 years of age, as might be expected. A total of 14.3% of occupants 0-3 years and 12.2% of occupants 4-15 years were observed in nonstandard seating positions. Within the 0-3 age group, the most common nonstandard seating position was sitting on the lap of another occupant. Within the 4-15 age group, the most common positions were sitting on the edge of the rear seat and sitting in the lap of

TABLE 3.6
Restraint Use, Number of Vehicles Observed, and Number
of Occupants Observed for Each Sampling Area¹

Sampling Area	Number of Vehicles Observed	Number of Occupants Observed	Percent Drivers Restrained	Percent Front Seat Passengers Restrained ²	Percent All Occupants Restrained ²
Barry ³	204	323	40.7	42.6	40.9
Bay	204	290	58.4	48.4	53.0
Berrien County	204	295	37.3	43.4	38.0
Berrien, Niles	204	265	46.6	52.6	47.2
Charlevoix	204	310	51.0	44.4	48.7
Chippewa	204	310	44.6	31.5	38.7
Crawford-Roscommon	204	317	44.1	41.7	41.8
Delta	202	388	29.3	33.1	30.0
Dickinson	203	289	37.4	33.4	36.6
Eaton	204	302	56.9	57.6	55.8
Genesee	609	1,044	48.0	40.1	42.2
Grand Traverse	204	380	63.2	60.2	58.7
Ingham County	204	291	65.7	63.9	66.0
Ingham, East Lansing	204	264	66.7	61.9	66.7
Iosco-Alcona	204	338	50.5	47.3	49.4
Jackson	199	364	51.8	44.7	47.6
Kalamazoo County	204	271	52.5	41.5	49.1
Kalamazoo City	204	285	48.5	43.9	45.6
Kent County	204	277	37.3	43.8	38.6
Kent, Grand Rapids	204	291	35.3	37.5	35.1
Kent, Wyoming	204	322	35.8	42.4	38.2
Lapeer	179	242	53.7	52.4	53.2
Lenawee ³	195	326	41.2	43.1	41.3
Macomb	610	890	49.2	44.0	47.3
Marquette	408	540	49.8	42.7	48.1
Mason	204	292	31.9	34.3	31.5
Mecosta-Newaygo	203	287	27.0	24.6	24.4
Monroe ³	204	271	49.0	36.4	44.6
Montcalm ³	204	260	30.4	34.0	30.4
Muskegon	204	307	28.9	28.0	28.0
Oakland County	1,016	1,341	56.2	52.8	54.9
Oakland, Royal Oak	204	293	46.6	49.1	44.3
Ottawa	204	375	37.3	42.7	37.3
Saginaw	408	617	45.9	46.1	43.2
St. Clair	204	316	36.5	29.5	32.8
VanBuren	192	309	32.3	33.3	30.4
Washtenaw, Ann Arbor	203	261	68.0	54.6	64.6
Wayne, Detroit	1,445	2,050	38.9	31.3	35.5
Wayne, Canton	204	236	50.5	42.9	49.6
Wayne, Garden City	204	276	50.7	36.2	49.1
Wayne, Livonia	203	276	55.6	66.7	56.7
Wayne, Melvindale etc.	204	286	29.4	24.2	27.6
Wayne, Trenton etc.	204	243	46.1	50.0	46.1
Wayne, Wyandotte	204	266	32.8	21.6	29.3
TOTAL	12,191	17,776	45.9	41.9	43.7

¹All percentages are based on weighted analyses.

²Includes correct and incorrect use of child restraint devices.

³For these sampling areas no signalized freeway exits existed. Therefore, freeway exits required by the sample design were selected from an adjacent county.

TABLE 3.7
Number of Occupants in Nonstandard Seating Positions by Age¹

Position	Age of Occupant		
	0-3	4-15	16+
<u>Lying</u>			
Front seat	0	3	0
Rear seat	1	7	0
Rear floor	0	1	0
<u>Standing</u>			
Front seat	2	3	0
Front floor	1	1	0
Rear seat	6	11	0
Rear floor	0	8	0
Cargo area	0	0	0
Between bucket seats	0	1	0
<u>Kneeling</u>			
Front seat	1	1	0
Rear seat	1	9	0
<u>Sitting</u>			
On edge of front seat	2	4	1
On edge of rear seat	8	79	6
Between bucket seats	1	1	0
On lap	40	13	0
On Rear floor	0	2	0
On Front floor	0	0	0
Shared seat belt	1	6	1
Total occupants in nonstandard positions	64	150	8
Total occupants in all positions	449	1,229	16,050

¹ Data are not weighted.

another occupant. Several occupants in both the 0-3 and 4-15 groups were observed standing on the rear seat.

Table 3.8 identifies the percentage of belted occupants with incorrect seat belt use (incorrect use of child restraint devices is **not** included). A total of 2.9% of all occupants using seat belts were using them incorrectly, compared to 5.0% in December, 1985, and 5.9% in July, 1985. Incorrect belt use was more common among drivers and front-right occupants than rear-center or rear-right occupants. Incorrect belt use was also higher among females than males. One possible explanation for a decline in incorrect belt use is that occupants who immediately after the law took effect used their belts incorrectly are no longer using them at all.

During the July, 1985, survey wave, occupants of some vehicles employed methods to **appear** restrained, when they were not. The relative absence of these attempts at deception in December, 1985, and April, 1986, may be due to the realization by persons attempting such deception that there was little likelihood of being stopped for violating the law.²

The perception that strict enforcement of the mandatory seat belt law is lacking may also account for the overall decline in restraint use since the July survey wave, immediately following implementation of the law. In July, restraint use was observed to be 58.4%. By December, the use rate had declined to 43.0%, where it remained, essentially, during the current survey wave (43.7%). Just as the failure to use seat belts voluntarily has been associated with the perception that **crashes** do not pose a high-probability threat (Slovic and others, 1978), the failure to use seat belts under mandatory seat belt legislation conditions may be due to the perception that **detection** is not a high-probability threat.

Results of attitudinal surveys of licensed drivers conducted in New York, a state with patterns of restraint use similar to Michigan since passage and implementation of mandatory seat belt legislation, support these conclusions. The attitudinal surveys were conducted as part of evaluation of New York's mandatory occupant restraint law. Results indicated that the decline in use rates over time is related to a perception of the low risk of enforcement as well as a decrease in publicity, rather than a decline in support for the law (Rood and Kraichy, 1985). An association between seat belt use and perceived risk of detection is also supported by results of a seat belt use law enforcement and publicity campaign conducted in Elmira, New York, in late 1985. Belt use increased substantially in

2. The deception issue was discussed in greater detail in the July report; Wagenaar and Wiviott, 1985.

TABLE 3.8
Percent of Belted Occupants with Incorrect Use¹

	Age					
	0-3	4-15	16-29	30-59	60+	All
<u>Position</u>						
Driver	—	0.0	2.5	2.8	4.5	3.0
Front Right	2.6	2.6	2.4	3.0	4.7	3.2
Rear Center	2.0	0.0	0.0	0.0	0.0	1.3
Rear Right	0.0	1.2	0.0	0.0	0.0	0.5
<u>Vehicle Type</u>						
Small	0.0	0.5	2.6	2.2	3.3	2.2
Medium	2.3	2.6	2.3	2.1	5.6	2.7
Large	1.1	2.6	3.2	4.1	3.9	3.7
Pickup	0.0	0.0	1.4	2.4	4.8	2.3
Van	0.0	0.0	1.5	2.9	6.4	2.6
Other	0.0	0.0	3.4	4.0	7.2	3.7
<u>Sex</u>						
Male	0.7	0.6	1.4	2.2	3.0	2.0
Female	1.3	3.0	3.4	3.4	5.7	3.7
<u>Observation Site</u>						
Intersection	0.9	1.9	2.7	3.0	3.2	2.8
Freeway Exit	1.3	0.9	1.9	2.2	8.4	2.9
<u>Weather Conditions</u>						
Mostly Sunny	1.0	2.1	2.7	3.5	4.8	3.3
Mostly Cloudy	1.2	0.9	1.9	1.6	4.2	2.0
Rain	0.0	0.0	1.8	1.2	3.1	1.5
Snow	0.0	0.0	6.9	8.0	0.0	6.0

TABLE 3.8
Continued

	Age					
	0-3	4-15	16-29	30-59	60+	All
<u>Time of Day</u>						
7-9	7.3	0.0	4.4	3.3	0.8	3.2
9-10	3.1	4.6	3.7	4.5	4.0	4.2
10-11	0.0	0.0	3.3	3.0	5.4	3.2
11-12	0.0	0.0	1.6	3.1	4.9	2.7
12-1	0.0	0.0	2.9	3.3	6.4	3.2
1-2	3.9	5.9	2.1	2.8	4.5	3.2
2-3	0.0	0.0	2.9	1.7	2.7	2.0
3-4	0.0	0.0	1.6	2.0	7.3	2.5
4-5	0.0	5.9	2.0	2.6	1.7	2.4
5-7	0.0	0.0	0.8	2.3	5.4	2.0
<u>Day of Week</u>						
Monday	0.0	2.0	6.1	5.3	7.3	5.3
Tuesday	4.8	2.7	2.6	2.7	0.9	2.5
Wednesday	2.6	1.5	1.4	2.8	5.0	2.8
Thursday	0.0	0.0	0.4	2.0	5.6	2.0
Friday	1.5	1.5	2.2	3.0	6.5	3.1
Saturday	0.0	0.0	1.4	1.8	3.1	1.7
Sunday	0.0	3.8	3.5	2.4	1.7	2.5
TOTAL	1.0	1.7	2.5	2.8	4.5	2.9

¹All percents are based on analyses weighted according to the sample design to accurately represent the entire state. Misuse includes all forms of incorrect use of seat belts, but does not include incorrectly used child restraint devices.

Elmira following the campaign while declining in a comparison city during the same period (Williams and others, 1986).

It is apparent that stricter enforcement of the Michigan mandatory seat belt law will need to occur if the law is to prove entirely successful. In addition, as discussed in the December, 1985, report (Wagenaar, Wiviott, and Businski, 1985), adherence to the law would be facilitated if the law itself permitted primary rather than secondary enforcement. Increased enforcement efforts should be coupled with major publicity campaigns to maximize their effect.

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Williams, A.F., Preusser, D.F., Blomberg, R.D., and Lund, A.K. *Results of a Seat Belt Use Law Enforcement and Publicity Campaign in Elmira, New York*. Washington, D.C.: Insurance Institute for Highway Safety, March, 1986.

APPENDIX A

**MICHIGAN DEPARTMENT OF TRANSPORTATION
REGION MAP**

APPENDIX B

SEAT BELT SURVEY CODEBOOK

Site Variables

Variables 1 through 19 describe site level information.
The frequencies for the site variables contain one record for
each of the 240 sites.

Variable	1	SITE NUMBER	MD1: None	Field Width: 3
			MD2: None	Type: Numeric

Variable	2	SITE TYPE	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ	Prct	SITE TYPE
190	79.2	1. Intersection
50	20.8	2. Freeway Exit

Variable	3	SITE CHOICE	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ	Prct	SITE CHOICE
237	98.7	1. Primary
3	1.2	2. Secondary

Variable	4	MONTH	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

FREQ	Prct	MONTH
0	0.0	01. January
0	0.0	02. February
16	6.7	03. March
224	93.3	04. April
0	0.0	05. May
0	0.0	06. June
0	0.0	07. July
0	0.0	08. August
0	0.0	09. September
0	0.0	10. October
0	0.0	11. November
0	0.0	12. December

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

Variable	5	DAY OF MONTH	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	6	START HOUR	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

FREQ		Prct	START HOUR
18	7.5		08.
23	9.6		09.
27	11.2		10.
33	13.7		11.
23	9.6		12.
24	10.0		13.
32	13.3		14.
31	12.9		15.
20	8.3		16.
9	3.7		17.

Variable	7	START MINUTE	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	8	DAY OF WEEK	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ		Prct	DAY OF WEEK
34	14.2		1. Monday
34	14.2		2. Tuesday
34	14.2		3. Wednesday
33	13.7		4. Thursday
41	17.1		5. Friday
33	13.7		6. Saturday
31	12.9		7. Sunday

Variable	9	WEATHER	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ		Prct	WEATHER
148	61.7		1. Mostly Sunny
75	31.2		2. Mostly Cloudy
14	5.8		3. Rain
3	1.2		4. Snow

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

43

Variable	10	BREAK TIME (MINUTES)	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	11	END HOUR	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

	FREQ	Prcnt	END HOUR
	12	5.0	08.
	16	6.7	09.
	27	11.2	10.
	33	13.7	11.
	25	10.4	12.
	25	10.4	13.
	33	13.7	14.
	26	10.8	15.
	26	10.8	16.
	17	7.1	17.

Variable	12	END MINUTE	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	13	SAMPLE REGION	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

	FREQ	Prcnt	SAMPLE REGION
	20	8.3	1. Upper
	20	8.3	2. Northern
	20	8.3	3. Western
	20	8.3	4. Central
	20	8.3	5. South Central
	20	8.3	6. Eastern
	120	50.0	7. South Eastern

Variable	14	PSU ID	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

	FREQ	Prcnt	PSU ID
	4	1.7	08. BARRY
	4	1.7	09. BAY
	4	1.7	11. BERRIEN COUNTY
	4	1.7	12. BERRIEN, NILES
	4	1.7	15. CHARLEVOIX

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

FREQ	Prcnt	Var 14	PSU ID
4	1.7	17.	CHIPPEWA
4	1.7	20.	CRAWFORD-ROSCOMMON
4	1.7	21.	DELTA
4	1.7	22.	DICKINSON
4	1.7	23.	EATON
12	5.0	25.	GENESEE
4	1.7	28.	GRAND TRAVERSE
4	1.7	33.	INGHAM COUNTY
4	1.7	34.	INGHAM, EAST LANSING
4	1.7	35.	IOSOC-ALCONA
4	1.7	38.	JACKSON
4	1.7	39.	KALAMAZOO COUNTY
4	1.7	40.	KALAMAZOO, CITY OF
4	1.7	41.	KENT COUNTY
4	1.7	42.	KENT, GRAND RAPIDS
4	1.7	43.	KENT, WYOMING
4	1.7	44.	LAPEER
4	1.7	46.	LENAWEE
12	5.0	50.	MACOMB
8	3.3	52.	MARQUETTE
4	1.7	53.	MASON
4	1.7	54.	MECSOTA-NEWAYGO
4	1.7	58.	MONROE
4	1.7	59.	MONTCALM
4	1.7	61.	MUSKEGON
20	8.3	63.	OAKLAND COUNTY
4	1.7	64.	OAKLAND, ROYAL OAK
4	1.7	70.	OTTAWA
8	3.3	73.	SAGINAW
4	1.7	74.	ST. CLAIR
4	1.7	80.	VANBUREN
4	1.7	81.	WASHTENAW, ANN ARBOR
28	11.7	82.	WAYNE, DETROIT
4	1.7	83.	WAYNE, CANTON
4	1.7	84.	WAYNE, GARDEN CITY
4	1.7	85.	WAYNE, LIVONIA
4	1.7	86.	WAYNE, MELVINDALE ETC.
4	1.7	87.	WAYNE, TRENTON ETC.
4	1.7	88.	WAYNE, WYANDOTTE

Variable	15	MDOT REGION	MD1:	None	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ	Prcnt	MDOT REGION
12	5.0	1. Western U.P.
8	3.3	2. Eastern U.P.
12	5.0	3. Northwest
8	3.3	4. Northeast

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

45

FREQ	Prcnt	Var 15	MDOT REGION
28	11.7	5.	West Central
28	11.7	6.	East Central
28	11.7	7.	Southwest
24	10.0	8.	Southeast
92	38.3	9.	Metro Detroit

Variable	16	<u>REGION WEIGHT</u>	MD1: None	Field Width: 5
			MD2: None	Type: Numeric
			Implied Dec Places: 4	

Variable	17	<u>ELAPSED TIME</u>	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	18	<u>SITE OBSERVER</u>	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ	Prcnt	PRIMARY OBSERVER FOR THIS SITE
15	6.2	1. Observer #1
81	33.7	2. Observer #2
0	0.0	3. Observer #3
74	30.8	4. Observer #4
70	29.2	5. Observer #5

Variable	19	<u>SAMPLE ERROR COMP UNIT #</u>	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

Vehicle variables

Variables 20 through 34 describe the vehicle and driver.
The frequencies for the vehicle variables reflect one record
for each vehicle observed.

Variable	20	VEHICLE OBSERVER	MD1: None	Field Width: 1
			MD2: None	Type: Numeric

FREQ Prcnt ACTUAL OBSERVER FOR THIS VEHICLE

714	5.9	1. Observer #1
4169	34.2	2. Observer #2
3761	30.9	4. Observer #4
3547	29.1	5. Observer #5

Variable	21	VEHICLE TYPE	MD1: 8	Field Width: 1
			MD2: None	Type: Numeric

FREQ Prcnt VEHICLE TYPE

3228	26.5	1. Small Car
3227	26.5	2. Midsize Car
3451	28.3	3. Large Car
1334	10.9	4. Pickup
640	5.2	5. Van
275	2.3	6. Other
36	0.3	8. Missing Data

Variable	22	SEQUENCE NUMBER	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

Variable	23	SITE # COUNT	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

FREQ Prcnt COUNT OF VEHICLES OBSERVED AT THIS SITE

26	0.2	26.
34	0.3	34.
39	0.3	39.
44	0.4	44.
94	0.8	47.

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

FREQ	Prcnt	Var 23	SITE #	COUNT
48	0.4		48.	
98	0.8		49.	
650	5.3		50.	
10403	85.3		51.	
53	0.4		53.	
702	5.8		54.	

Variable	24	<u>OBSERVER COUNT</u>	MD1:	None	Field Width:	2
			MD2:	None	Type:	Numeric

FREQ	Prcnt	NUMBER OF VEHICLES COUNTED BY THIS OBSERVER
26	0.2	26.
34	0.3	34.
39	0.3	39.
44	0.4	44.
94	0.8	47.
48	0.4	48.
98	0.8	49.
650	5.3	50.
10403	85.3	51.
53	0.4	53.
702	5.8	54.

Variable	25	<u>SITE/OBSERVER SEQ #</u>	MD1:	None	Field Width:	2
			MD2:	None	Type:	Numeric

Variable	26	<u>HOUR OF OBSERVATION</u>	MD1:	88	Field Width:	2
			MD2:	None	Type:	Numeric

FREQ	Prcnt	HOUR OF THE DAY THIS VEHICLE WAS OBSERVED
711	5.8	08.
1109	9.1	09.
1482	12.2	10.
1649	13.5	11.
1099	9.0	12.
1233	10.1	13.
1621	13.3	14.
1540	12.6	15.
1159	9.5	16.
588	4.8	17.

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

49

Variable	27	MINUTE OF OBSERVATION	MD1: 88	Field Width: 2
			MD2: None	Type: Numeric

Variable	28	SITE WEIGHT	MD1: None	Field Width: 6
			MD2: None	Type: Numeric
			Implied Dec Places: 4	

Variable	29	TOTAL WEIGHT	MD1: None	Field Width: 6
			MD2: None	Type: Numeric
			Implied Dec Places: 4	

Variable	30	WAVE	MD1: None	Field Width: 2
			MD2: None	Type: Numeric

FREQ	Prcnt	WAVE
12191	100.0	05. Wave 5

Variable	31	DRIVER BELTED (Y/N)	MD1: 8	Field Width: 1
			MD2: None	Type: Numeric

FREQ	Prcnt	DRIVER BELTED (Y/N)
6625	54.3	1. Not Belted
5553	45.5	2. Belted
13	0.1	8. Missing data

Variable	32	DRIVER RESTRAINT USE	MD1: 8	Field Width: 1
			MD2: None	Type: Numeric

FREQ	Prcnt	DRIVER RESTRAINT USE
6625	54.3	1. Not Belted
5553	45.5	2. Belted
13	0.1	8. Missing Data

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

Variable	33	DRIVER SEX	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ	Prcnt	DRIVER SEX
7550	61.9	1. Male
4633	38.0	2. Female
8	0.1	8. Missing Data

Variable	34	DRIVER AGE	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ	Prcnt	DRIVER AGE
2	0.0	2. 4-15
3540	29.0	3. 16-29
7015	57.5	4. 30-59
1623	13.3	5. 60+
11	0.1	8. Missing Data

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

51

Variables 35 through 37 describe the occupants.
The frequencies for the occupant variables contain
one record for each occupied occupant position.

Variable	35	POSITION	MD1:	88	Field Width:	2
			MD2:	None	Type:	Numeric

FREQ	Prct	POSITION
12191	68.6	01. Front Left
209	1.2	02. Front Center
3886	21.9	03. Front Right
456	2.6	04. Rear Left
296	1.7	05. Rear Center
621	3.5	06. Rear Right
49	0.3	07. In Lap
46	0.3	08. Cargo Area
10	0.1	09. Extra Seat
12	0.1	10. Standing
0	0.0	88. Missing Data

Variable	36	BELTED (Y/N)	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ	Prct	BELTED (Y/N)
10035	56.5	1. Not Belted
7695	43.3	2. Belted (any type)
46	0.3	8. Missing Data

Variable	37	RESTRAINT USE	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ	Prct	RESTRAINT USE
10035	56.5	1. Not Belted
7445	41.9	2. Belted
182	1.0	3. CRD OK
68	0.4	4. CRD Wrong
46	0.3	8. Missing Data

MICHIGAN SEAT BELT SURVEY
Wave 5, Spring 1986

Variable	38	SEX	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ		Prcnt	SEX
9597	54.0		1. Male
8140	45.8		2. Female
39	0.2		8. Missing Data

Variable	39	AGE	MD1:	8	Field Width:	1
			MD2:	None	Type:	Numeric

FREQ		Prcnt	AGE
449	2.5		1. 0-3
1229	6.9		2. 4-15
4870	27.4		3. 16-29
8782	49.4		4. 30-59
2398	13.5		5. 60+
48	0.3		8. Missing Data

Variable	40	SPECIAL TAG	MD1:	None	Field Width:	2
			MD2:	None	Type:	Numeric

FREQ		Prcnt	SPECIAL TAG
17554	98.8		00. None
220	1.2		01. Shoulder Belt Misused
2	0.0		02. Lap Belt Misused