

MICHIGAN DRIVER PROFILE

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April 1968

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Acknowledgement

The data in this report were made available to HSRI by the Michigan Department of State. We appreciate the assistance of the staff of Secretary of State, James M. Hare; Mr. Harold Kimmel and the supervisors in the drivers license records section were particularly cooperative and helpful.

INTRODUCTION

The Michigan Driver Profile is about the people who drive motor vehicles on the streets and highways of Michigan. It is an attempt to extract some meaningful information about driver characteristics and behavior from a sampling of the official record files. Those files have something to say about each of almost five million Michigan drivers. Our principal purpose here is to stimulate the search for more effective measures for eliminating "bad" driving. Preliminary analyses of the profile data suggest that certain driver record data are associated more strongly with drivers who have accidents than with those free of accidents. Comments on some of the data are included with the tables; more sophisticated analyses are being undertaken and will be discussed in future reporting.

The data are voluminous; their presentation fills the many tables constituting this report. We have chosen an unabridged presentation at this point, rather than synopses and analyses, to provide the reader with available data that may answer questions of particular interest to him.

To illustrate the kinds of observations which might be made, we found that of the 1084 drivers in the profile:

1. Twenty percent were between the ages 36 and 45 years and experienced a few less than 20% of the accidents recorded by the profile drivers last year.
2. Only 6.6% were teenagers, but these drivers experienced more than 12% of the accidents last year.

DATA SOURCE

The information contained in this report was obtained from the Michigan driver records maintained in the offices of the Michigan Department of State, Driver Services Department, in June, 1967. The Michigan files contain more than 4,000,000 drivers' records and are presently maintained by manual filing. However, the entire system is being reduced to computer storage. A number of files, including "problem drivers" (a designation applied to any driver who accumulates nine points against his record in the preceding 24 months) and the "A" files (those listed alphabetically), have been or are being transferred to computer storage. In addition, all new files opened are processed for computer storage.

The driver records are updated continually as new information is submitted to the Department of State. Usually, a record is begun with the submission of a driver's license application. However, records are also opened for drivers without Michigan licenses who are arrested for traffic violations or are involved in accidents; these may be either unlicensed drivers or drivers holding out-of-state licenses. In any event, a file is opened under the same numbering system used to generate the license number for drivers licensed in Michigan. This is a soundex system employing the driver's name and birth date (month and day). After a record is opened, additional information may be filed, including:

A. Accident Information. The Michigan State Police daily submit accident data to the Department of State. These data are taken from accident reports submitted to the State Police by all reporting agencies in the state. The data are usually available within a period of a few days to a month following the accident, depending upon the promptness of the original accident investigation agency.

B. Conviction Information. The convicting court sends a record of motor vehicle offense convictions to the Department of State. (Arrests not resulting in convictions are not recorded in the

driver record files.) Recorded convictions include:

- | | |
|---|--|
| (1) Speeding | (5) Leaving the scene of an accident |
| (2) Drunken driving | (6) Perjury in proceedings related to motor vehicle registrations. |
| (3) Reckless driving | |
| (4) Manslaughter or negligent homicide with a vehicle | |

Since no overall control is exercised with regard to reporting, this information may be delayed for a matter of weeks or months before insertion in the driver records.*

C. Driver Improvement Information. Delinquent drivers may be subjected to various driver review or improvement activities under the auspices of Department of State. These include: (1) issuing warning letters; (2) driver re-examination; (3) license revocation, suspension or restriction; and (4) driver instruction. Reports of these activities appear in the driver records.

D. Financial Responsibility and Mandatory Suspension. Michigan's financial responsibility laws require certain drivers--such as uninsured drivers, and drivers with unsatisfied judgments following accidents--to provide proof of financial responsibility in order to retain their drivers licenses. In addition, certain driving offenses result in mandatory license revocation. Reports of all such actions, including the following categories of suspensions, are found in the driver reports:

- | | |
|---|--|
| (1) Drunk driving | (8) Three convictions of reckless driving (12 mos) |
| (2) Permitting the drunk to drive | (9) Felony conviction (vehicle used in the crime) |
| (3) Felonious driving | (10) Use of narcotics |
| (4) Unsatisfied judgment | (11) Perjury |
| (5) Negligent homicide | (12) Failure to file security following an accident. |
| (6) Leaving the scene of a personal injury accident | |
| (7) Manslaughter | |

*The Secretary of State assigns points against driver records; it is to the advantage of drivers to delay the submission of conviction notices by appeals or other tactics.

The Department of State exercises jurisdiction in these matters and supplies the appropriate information to the files.

The foregoing are the basic types of information found in the drivers records. Figure 1 illustrates the printout form of a computer-stored record. Manually filed cards frequently consist of a series of notices placed in the file, but some of them have been reduced to a summary form by file clerks.

A discussion of the layout of the record files in the offices of the Michigan Department of State and of the sampling routine used in study is found in Appendix 1.

DC-OPER		04/15/67	PAGE 1
			04/15/65
			MICH
05/11/62 DETROIT	04/20/62 PROHIBITED TURN		4/07308
10/02/62 HUNTINGTON WOODS	10/01/62 SPEED 40/30		4/07309
01/23/63 ROYAL OAK	01/02/63 DISOBEY RED TRAFFIC SIGNAL		4/07310
09/06/63 OAK PARK	09/02/63 DISOBEY RED TRAFFIC SIGNAL		4/07311
	*** WARNING LETTER 09/26/63		
12/09/63 BERKLEY	12/05/63 FAIL YIELD TO VEHICLE		4/07312
	*** REF'D FOR RE-EXAM D 1-9-63		
	ACCIDENT 12/05/63, #149126		
	BERKLEY PD		
	2 VEH 0 INJ 0 KILLED		
	V2 X4 P5		5/490040
	*** RE-EXAM DATE 1-29-64,		
	INSTRUCTIONS, MULTIPLE		
	INTERVIEW PROGRAM		5/490041
03/11/64 ROYAL OAK	01/15/64 CARELESS DRIVING		5/490042
	ACCIDENT 05/13/64, #64622		
	THUJ PD		
	2 VEH 0 INJ 0 KILLED		
	V9 X4 P5		5/490043
10/14/64 ROYAL OAK	09/07/64 EQUIPMENT VIOL.--HUFFLEH		2 5/490044
06/29/65 DETROIT	06/29/65 SPEED 60/30		4 5/490045
	*** REF'D FOR RE-EXAM D 10-13-65		
	ACCIDENT 05/13/66, #076840		
	BERKLEY PD		
	2 VEH 0 INJ 0 KILLED		
	X4 P5		A/368083
	*** RE-EXAM DATE 11-19-65,		
	SUSPENDED FROM 11-19-65		
	THRU 12-3-65.		
	UNSATISFACTORY DRIVING		
	RECORD		A/654385
06/29/66 OAK PARK	05/23/66 DISOBEY STOP SIGN		3 A/654386
08/12/66 IONIA	08/07/66 SPEED 90/70		4 A/654387
	*** REF'D FOR RE-EXAM D 10/12/66		13 TOTAL

FIGURE 1. COMPUTER PRINTOUT OF A DRIVER RECORD

SPECIFIC INFORMATION COLLECTED FOR THIS STUDY

The information contained in this report was obtained from the manual record files. Each record selected for the profile was removed from storage and examined by a research assistant. Relevant data were recorded on specially prepared forms. Appendix 2 describes the data codes and the form used by the research assistants in gathering the information.

The following specific items of information were extracted from each record in the sample:

1. Drivers license number. The license number consists of twelve digits preceded by the first letter in the last name (e.g., D357 491 207 671). As mentioned earlier, the number is generated by soundex code using the driver's name and birth date (month and year).
2. Status of the driver's license. Three categories were possible: unexpired, expired, or no record of a Michigan license. This information was taken from license application or inferred in the absence of one.
3. Number of license restrictions. Certain drivers have restricted licenses requiring, for example, driving only especially equipped cars or driving only under limited conditions. The number of restrictions was obtained by counting those listed on each license application.
4. Restriction codes. The identification of as many as three license restrictions was recorded for each driver. Restriction codes are shown in Appendix 3.
5. Sex. Taken from the license application.
6. Month and year of birth. Taken from license application or other form in the file.
7. Age group. At the time a record was examined, the age of the driver in years at the time of his last birthday was computed. That age determined the driver's assignment into one of 8 age groups (see Appendix 2 for codes).
8. Type of license. Three classes of licenses are issued in Michigan: operator (the usual license); chauffeur; and cycle. License type was obtained from the license application.

9. Origin of license. Four classifications were possible:

- (a) Original - indicating an original Michigan license.
- (b) Renewal - indicating a renewed Michigan license.
- (c) Correction - indicating a corrected Michigan license; commonly a name change for a married woman.
- (d) Out of state - indicating an out-of-state license. Such a record would be found in the files either if the driver had experienced a reported accident in Michigan, or if he had been convicted of certain motor vehicle law violations in Michigan.

10. Physical handicaps, seizures, etc. New license applicants must indicate if they suffer either physical handicaps or seizures (epilepsy, etc.). The only choice for the recorder was to list physical handicaps or seizures or to enter "no."

11. Driver Education. Each new license applicant must indicate whether or not he has completed a driver education course. (Yes, No)

12. Accident Information. The following accident information was recorded:

- (a) Number of accidents in the record that occurred during the six months preceding the date the record was examined.
- (b) Number of accidents in the record that occurred during the year preceding the date the record was examined.
- (c) Number of accidents in the record that occurred since January 1, 1961. (Some records were "purged" in 1960. January 1, 1961 was selected as a base date common to all records. No events occurring earlier were recorded).
- (d) Number of accidents in the record that involved one or more fatalities in the accident (not necessarily in the drivers' cars) since January 1, 1961.
- (e) Number of accidents in the record that involved personal injuries (not necessarily in the drivers' cars) since January 1, 1961.

- (f) The time elapsed in months between the dates of the last two accidents in the record.
13. Conviction Information. The following conviction information was recorded:
- (a) The number of convictions in the record that occurred during the six months preceding the date the record was examined.
- (b) The number of convictions in the record that occurred during the year preceding the date the record was examined.
- (c) The number of convictions in the record that occurred since January 1, 1961.
- (d) The time elapsed in months between the dates of the last two convictions in the record.
- (e) The number of alcohol or drug related convictions since January 1, 1961.
- (f) The number of speeding convictions since January 1, 1961.
- (g) The number of reckless driving convictions since January 1, 1961.
14. Suspension and Revocations. The following suspension and revocation information was recorded.
- (a) Whether or not the license was currently suspended or revoked. (Yes, No)
- (b) Whether or not the license had been suspended or revoked at any time since January 1, 1961. (Yes, No)
- (c) The reasons for the last three suspensions or revocations (see codes Appendix 3).
15. Driver Improvement Activity. The following driver improvement activities were recorded.
- (a) Whether or not one or more warning letters had been issued to the driver since January 1, 1961. (Yes, No)
- (b) Whether or not the driver had been referred for license re-examination on one or more occasions since January 1, 1961.

DATA PROBLEMS

This study has attempted to produce a profile of the Michigan Driver as he is described by the official records. This section discusses some matters that may detract from the validity of the work.

1. First, the records themselves are no better than the reporting procedures. This accounts for the serious problem discussed in paragraph 3 below. We also believe that some records which should have been purged from the files have not been (dead drivers, for example, or former Michigan drivers who have moved away). Furthermore, not only is there a time lag between the occurrence of events and the recording of them, but it also can be expected to vary in a non-random manner.
2. Second, some of the information as filed can be confusing and subject to misinterpretation. We believe that the data for parameter No. 21 (license suspended at present) in Tables 4 through 14 to be suspicious because license suspension notices are sometimes filed with a beginning date but without an ending date. In such cases a record might have been labeled as suspended at present even though the suspension was removed. We believe this accounts for our data showing that 3% of the licenses were suspended at present when the true number probably would not exceed 1%. The expected number can be computed as follows: of between 4 and 5 million active drivers, the Secretary of State reports about 50,000 license suspensions or revocations per year (fewer in earlier years). That number is about 1% of the total number of drivers and is significantly less than 3% found in our sample. On the other hand, our data show 7% suspensions at any time since January 1, 1967. That number is more in line with expectations since 1% per year for 7 years makes an accumulated total of 7%. This correlation helps support our explanation of the incorrect number of "present" suspensions. Even if our sample is biased toward drivers with bad re-

cords (as measured by suspensions) we believe it to be by chance since we can find nothing to suggest that our sampling procedure would systematically produce a sample so biased.

On the contrary, if there is any sample bias, it may be against bad drivers. Official review of a problem driver record requires that it be temporarily removed from the files. A notice, listing the record number and where it may be found, is inserted in its place. Because of inadequate instruction, the research assistants selected a different record rather than retrieve the removed one when this situation was encountered. Since this occurred on only two or three occasions, very much less than 1% of the sample was involved.

All of these matters relate to representation. In defense of our technique, we are confident that the sample was randomly selected (except for the matter discussed in the preceding paragraph) and that bias is a matter of chance.* Nevertheless, regrettable shortcomings crept in that should be avoided in more specific enquiries. In spite of them, we believe the data reported allow for valid inferences about Michigan drivers.

3. At the beginning of this project we believed that all traffic accidents and violations

*Computer analyses conducted after this report was completed detected a non-random parameter in the data, month of birth, January and February were overrepresented and December underrepresented. We believe this may be explained as follows: the last 3-digit group in the 12-digit driver license number is derived from the month and day of birth. When filing records, clerks probably tend to put a file with low numbers (January or February) in the 4th 3-digit group in the front of trays and those with high numbers (December) in the backs of trays. Since the research assistants always chose the first file in a tray, a sample biased in this fashion could be produced. The fact that a systematic bias of this nature was produced may tend to discount the probability of systematic bias in other record parameters not a function of the numbering systems.

committed in Michigan would appear on drivers' records maintained in the Offices of the Secretary of State in Lansing. We knew that accident data were supplied to the records by the traffic and Safety Division of the Michigan state police, which is the central depository for accident reports in Michigan. Not until the completion of the survey and after most of the analyses did we learn the following:

A. Until March 10, 1967, the cities of Detroit and Grand Rapids transmitted only fatal accident reports to the Michigan State Police.

B. Until the same date the cities of Saginaw and Bay City sent only fatalities and selected other accidents, probably all personal injuries, to the Michigan State Police. Certain other smaller communities followed a similar procedure.

In short, nonfatal accidents occurring in some cities (notably Grand Rapids and Detroit) have not in the past been entered on the driver records. Consequently, nonfatal accidents are probably under represented in the profile as a whole.

Although we cannot supply the unreported data and although any analyses involving the affected parameters (nonfatal accidents) will perforce be treated circumspectly, we can attempt to estimate the magnitude of the effect for some purposes. After learning of the problem, we returned to the driver record files and recorded the address of each driver included in the profile. We found that:

231 were from Detroit;

34 were from Grand Rapids;

17 were from Saginaw;

9 were from Bay City;

making a total of 291 from cities known not to supply all records of nonfatal accidents. Since these drivers represent 26.8% of the 1087 drivers in the profile, we may estimate that the numbers of nonfatal accidents presented in this report are understated by about that percentage.

It should be pointed out that merely removing those drivers from the profile would not com-

pletely solve the problem. The nonreported accidents were those occurring within the boundaries of nonreporting cities; therefore, the residence of the driver is really not pertinent to the data. Thus, the record of a Detroit driver who had a nonfatal accident in Ann Arbor would show the accident; whereas, the record of an Ann Arbor driver who had such an accident in Detroit would not show that accident. However, since it seems reasonable to expect that city drivers are likely to have most of their in-city accidents in their home cities, we believe the number of drivers from the affected cities gives an indication of the understatement of such accidents.

FUTURE WORK

This work may be extended in at least two ways. First, these data may be subjected to more sophisticated analyses in an attempt to produce some sort of formula for classifying "bad drivers." Second, such analyses may be extended to larger driver populations. The Michigan Department of State is transferring all drivers records to computer storage. It may be feasible to write programs for processing a great many of the records contained in computer tapes. Mr. John Lucia, Head of the Data Processing Section of the Department of State, was willing to discuss such a project in the spring of 1967.



APPENDIX 1

DESCRIPTION OF THE DRIVER RECORD
FILES AND SAMPLING PROCEDURES

Driver records are filed numerically by license number in the offices of the Michigan Department of State in Lansing. Each license number is twelve digits and is preceded by the first letter in the last name. Because the license number is generated by a soundex code from the name and birth date (month and day), the filing sequence is effectively alphabetical.

The files are arranged in 90 bins containing 16 rows of trays each, making a total of 144 trays in a bin. The rows are arranged on a circular endless chain type arrangement so that only one row is accessible to the operators at any one time. Access to other rows is gained by a mechanical, button-actuated, control system that causes the rows to rotate until the desired row appears in the accessible position.

All the records are stored in the 16-row, nine tray arrangement except for those stored in a larger bin which contains about one and a half as many records as contained in the other 90 bins.

The records are filed sequentially by number in the trays. Every tray is filled before records are inserted into the next succeeding trays and every bin is filled before starting a new bin. A full tray contains about 300 records and a full bin contains about 43,000 records. As a result of this procedure, each tray from the first to the last in the files contains approximately the same number of files and also every bin contains about the same number as every other bin. Some variation is to be expected since the records are filed manually without set rules governing the number of records to be placed in a tray.

A sample of about 1000 driver records was desired for obtaining the "Michigan Driver Profile." Slightly more than this number was obtained by drawing 12 records from each of the 96 equal bins and 16 records from the oversized bin. The following regimen was adopted for drawing the sample.

A. The research assistants were instructed to sample each tray (9 abreast) in order beginning at the right end of the row of trays in the accessible position in the bin at the time the bin was approached. If a different row of trays was placed in the accessible position by the regular file clerks during the time the sample was being drawn, the next trays in order from the new row were sampled until nine trays had been sampled. In sum, nine trays in each bin were sampled sequentially beginning at the right hand end and going toward the left. After a given tray was sampled, the next in sequence in whatever row was accessible was sampled.

B. The research assistant was instructed to take the first record in each tray sampled. Since records spill over to the next tray in order when a tray is filled, choosing the first record in each tray should not affect the randomness of the sample. Furthermore, it allows additional samples to be drawn without duplication by selecting the 2nd, 3rd, etc. records in the trays.

C. After the 9th tray was sampled, the next three records (making a total of 12) were chosen as follows:

1. The research assistant noted the 2nd digit in each of the first 3 groups of 3 digits in the license number of the last preceding sample and used those digits in the following way. For example, if the last license number was B 350 295 732 011, the research assistant would select the first record from trays in the 5th, 9th and 3rd sequential positions from the right hand end of the bin. This required shifting the rows in the accessible position to insure the records previously selected from trays in the 5th, 9th and 3rd positions were not chosen twice.

2. In the case of repeated digits (e.g., B 350 250 750 011), the next higher numbers were taken (e.g., 5, 6, and 7).

3. In the case of the digit 0, the digit 1 was substituted.

The research assistants were instructed to consult with regular filing clerks to resolve any unanticipated situations.

Because of the file arrangement, this procedure is believed to have obtained a random sample free of biases imposed by sampling technique. The research assistants did this sampling over a period of several weeks in June 1967.

APPENDIX 2

DRIVER RECORDS CODES

COLUMN NO.	CODES	
1 Blank	(Letter prefix followed by 12 digits)	
2-14 License #	0 Unexpired; 1 Expired; 2 No Michigan license	
15 Expiration	0 None, etc.	
16 # of Restrictions	01 One artificial arm	
17-22 Restriction Codes	02 Two artificial arms	
	03 One artificial leg	
	04 Two artificial legs	
	05 Special steering knob	
	06 Electric turn signals	
	07 Power steering	
	08 Cushions	
	09 Foot pedal extension	
	10 Steering wheel straps	
	11 Hand operated headlight beamswitch	
	12 Hand operated brake	
	13 Hand operated clutch	
	14 Automatic transmission	
	15 Accelerator on left side	
	16 Other	
	17 Corrective lenses	
	18 Outside mirror	
	19 Corrective lenses and outside mirror	
	20 Daylight driving only	
21 Probation--one year	0 Male; 1 Female	
22-27 Month & Year of birth	01 through 12; 00-99	
	28 Age Group	1 Under 20; 2 20-25; 3 26-35; 4 36-45; 5 46-55; 6 56-65; 7 66-75; 8 Above 75
	29 Type of License	0 Operator; 1 Chauffeur; 2 Cycle; 3 Other
	30 Origin of License	0 Original; 1 Renewal; 2 Correction; 3 Out of State; 4 No record of any license
	31 Physical Handicaps	0 Yes; 1 No
	32 Seizures, etc.	0 Yes; 1 No
	33 Driver Ed completed	0 Yes; 1 No
	<u>Accidents</u>	
	34 # in last 6 mos.	0-9 (9=9 or more)
	35 # in last year	"
	36 # since 1/1/61	"
	37 # fatal since 1/1/61	"
	38 # personal injury since 1/1/61	"
	39-40 Elapsed time in mos. between last 2 accidents	Code actual number
	<u>Convictions</u>	
	41 # in last 6 mos.	0-9 (9=9 or more)
	42 # in last year	"
	43-44 # since 1/1/61	Code actual number
	45-46 Elapsed time in mos. between last 2 convictions	"
	47 # of Alcohol or drug-related convs.	0-9 (9=9 or more)
	48 # of speeding	"
	49 # of reckless driving	"
	<u>Suspensions of Revocs.</u>	
	50 At present?	0 Yes; 1 No
	51 Since 1/1/61?	0 Yes; 1 No
	52-57 Reasons for suspensions(last 3)	01 Financial Responsibility (unsatisfied judgment)

- ment, failure to file security, etc.)
- 02 Alcohol, Drugs (or permitting drunk to drive)
- 03 Felony & Driving
- 04 3 Convictions Reckless Driving
- 05 Manslaughter or Negligent Homicide
- 06 Leaving scene of accident
- 07 Perjury
- 08 Unsatisfactory Driving Record
- 09 Mentally Ill
- 10 U.D.A.A. (Unlawfully driving away from accident)
- 11 Physical Reason
- 12 Unable to pass written test
- 13 Altered license
- 14 License not issued for failure to answer summons
- 58 Warning Letter Received on one or more occasions?
- 0 Yes; 1 No
- 59 Referred for Driver Re-examination on one or more occasions?
- 0 Yes; 1 No

+ = No Data

- = Not Applicable



TABLES

TABLE 1	Alphabetical Distribution (By First Letter of Last Name)	TABLE 19	Association Between Convictions Since Jan. 1, 1961 and Accidents in the Past Year
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TABLE 18	Association Between Convictions Since Jan. 1, 1961 and Accidents Since Jan. 1, 1961		

TABLE 1
 Alphabetical Distribution
 (By First Letter of Last Name)
 1087 Drivers

MICHIGAN DRIVER PROFILE

Letter	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
No. of Drivers	25	86	81	51	20	39	56	77	3	33	53	57	97	21	15	61	0	57	112	39	0	21	71	0	0	12
Percent	2.29	7.91	7.45	4.69	1.83	3.58	5.15	7.08	.27	3.03	4.87	5.24	8.92	1.93	1.37	5.61	0	5.24	10.30	3.58	0	1.93	6.53	0	0	1.10

TABLE 2
 Distribution by Year of Birth

Year	No. of Drivers	Percent	Year	No. of Drivers	Percent
1951	2	0.2	1913	19	1.8
1950	14	1.3	1912	20	1.8
1949	22	2.0	1911	16	1.5
1948	21	1.9	1910	15	1.4
1947	23	2.1	1909	15	1.4
1946	26	2.4	1908	19	1.8
1945	32	3.0	1907	15	1.4
1944	21	1.9	1906	13	1.2
1943	28	2.6	1905	18	1.7
1942	33	3.0	1904	14	1.3
1941	18	1.7	1903	10	0.9
1940	18	1.7	1902	11	1.0
1939	17	1.6	1901	7	0.6
1938	22	2.0	1900	9	0.8
1937	19	1.8	1899	4	0.4
1936	21	1.9	1898	9	0.8
1935	27	2.5	1897	3	0.3
1934	16	1.5	1896	4	0.4
1933	16	1.5	1895	8	0.7
1932	32	3.0	1894	6	0.6
1931	17	1.6	1893	2	0.2
1930	33	3.0	1892	3	0.3
1929	16	1.5	1891	3	0.3
1928	22	2.0	1890	4	0.4
1927	26	2.4	1889	3	0.3
1926	24	2.2	1888	1	0.1
1925	20	1.8	1887	2	0.2
1924	20	1.8	1886	4	0.4
1923	13	1.2	1885	3	0.3
1922	31	2.9	1884	3	0.3
1921	27	2.5	1883	0	0.0
1920	21	1.9	1882	1	0.1
1919	14	1.3	1881	1	0.1
1918	18	1.7	1880	1	0.1
1917	26	2.4	1879	1	0.1
1916	18	1.7
1915	9	0.8	1870	1	0.1
1914	15	1.4			

TABLE 3
 Distribution by Age Groups

Group	No. of Drivers	Percent of Total	No. of Males	No. of Females	Sex Unknown
1. Under 20	71	6.5	44	26	1
2. 20-25	161	14.9	104	57	0
3. 26-35	208	19.2	137	71	0
4. 36-45	224	20.7	148	75	1
5. 46-55	181	16.7	116	65	0
6. 56-65	142	13.1	101	41	0
7. 66-75	60	5.5	48	12	0
8. over 75	21	1.9	21	0	0
9. Unknown	16	1.5	7	2	7
TOTALS	1084	99.9	726	349	9

COMMENTS:

1. Records of three drivers were discarded from the profile as inadequate for computer use.
2. Age group no. 4 (36-45 years) contains the largest number of drivers in the profile.
3. More than 2 male drivers (726) appear in the profile for each female driver (349).

TABLE 4

MICHIGAN DRIVER PROFILE

Study of 24 Parameters for All Drivers

	0	1	2	3	4	5	6	7	8	9 or more		0	1	2	3	4	5	6	7	8	9 or more		
1. Was license expired?	No 911 85%	Yes 132 12%	Not known 27 3%									17. Elapsed time in months between last 2 convictions	0-3 94 9%	4-6 41 4%	7-9 41 4%	10-12 22 2%	13-24 77 7%	24+ 57 5%	N.A. 744 69%				
2. How many restrictions imposed?	693 67%	332 32%	7 <1%	1 <1%								18. No. of alcohol- or drug-related convictions since Jan 1, 1961	1059 99%	11 1%	1 <1%								
3. What type of license?	OPR 948 91%	CHAUF 92 9%	CYCLE 0 0%	OTHER 3 <1%	UNKNOWN 2 <1%							19. No. of speeding convictions since Jan 1, 1961	718 67%	192 18%	71 7%	31 3%	22 2%	17 2%	6 <1%	7 <1%	2 <1%	4 <1%	
4. What is origin of license?	121 11%	905 85%	11 1%	10 1%	19 2%							20. No. of reckless driving convictions since Jan 1, 1961	1036 97%	31 3%	4 <1%								
5. Were physical handicaps listed?	No 1022 99%	Yes 14 1%										21. License suspended at present?	Yes 33 3%	No 1030 97%									
6. Were seizures, etc. indicated?	No 1034 99%	Yes 2 <1%										22. License suspended at any time since Jan 1, 1961	Yes 71 7%	No 990 93%									
7. Was Driver Edn. course completed?	No 818 80%	Yes 208 20%										23. Any warning letter since Jan 1, 1961	Yes 76	No 982									
8. No. of accidents in last 6 months	1037 97%	29 3%	3 <1%	1 <1%								24. Driver reexamination since Jan 1, 1961	Yes 75	No 984									
9. No. of accidents in last year	1002 93%	61 6%	6 <1%	1 <1%																			
10. No. of accidents since Jan 1, 1961	757 71%	227 21%	59 6%	20 2%	2 <1%	2 <1%	0 0%	2 <1%	1 <1%														
11. No. of fatal accidents since Jan 1, 1961	1051 99%	7 1%	3 <1%																				
12. No. of personal injury accidents since Jan 1, 1961	929 88%	94 9%	24 2%	10 1%	1 <1%	1 <1%																	
13. Elapsed time in months between last 2 accidents	0-3 16 2%	4-6 10 1%	7-9 9 <1%	10-12 8 <1%	13-24 24 2%	24+ 32 3%	N.A. 973 91%																
14. No. of convictions in last 6 months	991 93%	65 6%	12 1%	1 <1%	1 <1%																		
15. No. of convictions in last yr	908 85%	116 11%	27 3%	14 1%	1 <1%	2 <1%	1 <1%																
16. No. of convictions since Jan 1, 1961	505 47%	246 23%	115 11%	70 7%	44 4%	33 3%	14 1%	10 <1%	17 2%	14 1%													

COMMENTS:

- Of the 12% of the drivers with expired licenses, some may have been dead or drivers who had moved out of the State. Such records cannot be purged until appropriate information has been supplied the Secretary of State. Of the 3% with no record of any license, some may be unlicensed drivers who have been convicted of a driving violation or who have had accidents that have been reported (in each instance the State initiates a file for the unlicensed operator).
 - Of the 20% who had completed a driver education course, more than 90% of these were under 36 years of age.
 - The data shown in items 8 and 9 are conservative, for as is noted in the introduction not all nonfatal accidents were reported in the period covered.
 - Three dates are used in the analyses of the data: (a) January 1, 1961, (b) the date a driver record was examined, and (c) the date one year prior to the date a record was examined. For convenience, the last date is referred to as a "year ago" and the year between the date a record was examined and "a year ago" is referred to as "last year." (Records were examined in June 1967)
- *5. Parameter 4: Col. 0 = Michigan origin; Col. 1 = Michigan renewed; Col. 2 = Michigan correction license; Col. 3 = Out of State; Col. 4 = No record of license.

TABLE 5
Study of 24 Parameters: Male Drivers

	0	1	2	3	4	5	6	7	8	9 or more
1. Was license expired?	No 602 84%	Yes 99 14%	Not known 18 2%							
2. How many re-strictions imposed?	475 68%	212 31%	7 1%	1 <1%						
3. What type of license?	OPR 608 86%	CHAUD 91 13%	CYCL 0 0%	OTHER 2 <1%	UNKNOWN 1 <1%					
4. What is origin of license?	77 11%	620 87%	2 <1%	5 <1%	13 2%					
5. Were physical handicaps listed?	Yes 12 2%	No 686 98%								
6. Were seizures, etc. indicated?	Yes 1 <1%	No 697 99%								
7. Was Driver Edn. course completed?	Yes 127 19%	No 564 81%								
8. No. of accidents in last 6 months	688 96%	23 3%	3 <1%	1 <1%						
9. No. of accidents in last year	661 92%	47 7%	6 1%	1 <1%						
10. No. of accidents since Jan 1, 1961	473 66%	169 24%	48 7%	18 2%	2 <1%	2 <1%	0 0%	2 <1%	1 <1%	
11. No. of fatal accidents since Jan 1, 1961	700 99%	6 1%	2 <1%							
12. No. of personal injury accidents since Jan 1, 1961	604 86%	76 10%	20 3%	6 1%	1 <1%					
13. Elapsed time in months between last 2 accidents	0-3 14 2%	4-6 10 1%	7-9 7 1%	10-12 4 <1%	13-24 16 2%	24+ 23 3%	N.A. 642 89%			
14. No. of convictions in last 6 months	647 90%	57 8%	12 2%	0 0%	1 <1%					
15. No. of convictions in last yr	580 81%	96 13%	24 3%	13 2%	1 <1%	2 <1%	1 <1%			
16. No. of convictions since Jan 1, 1961	274 38%	178 25%	86 12%	58 8%	38 5%	28 4%	13 2%	10 1%	17 2%	14 2%

	0	1	2	3	4	5	6	7	8	9 or more
17. Elapsed time in months between last 2 convictions	0-3 81 11%	4-6 34 5%	7-9 32 4%	10-12 18 2%	13-24 66 9%	24+ 47 7%	N.A. 442 62%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	707 98%	11 2%	1 <1%							
19. No. of speeding convictions since Jan 1, 1961	436 61%	143 20%	56 8%	28 4%	20 3%	16 2%	6 <1%	7 <1%	2 <1%	4 <1%
20. No. of reckless driving convictions since Jan 1, 1961	689 96%	26 4%	4 <1%							
21. License suspended at present?	Yes 26 4%	No 685 96%								
22. License suspended at any time since Jan 1, 1961	Yes 60 8%	No 649 92%								
23. Any warning letter since Jan 1, 1961	Yes 71 10%	No 636 90%								
24. Driver reexamination since Jan 1, 1961	Yes 72 10%	No 636 90%								

COMMENTS:

Male drivers experience measurably more accidents than do female drivers; however, there is little doubt that the average male driver drives more miles than his female counterpart. Whether more exposure accounts for these demonstrable differences in accident experience is a subject for question.

1. Of 725 male drivers, 3.8% had one or more accidents in the past 6 months. Of 352 female drivers, only 1.7% experienced accidents in the same period.
2. Of 715 male drivers, 7.6% had one or more accidents last year. Of 348 female drivers, only 3.7% experienced one or more accidents in the same period.
3. Of 715 male drivers, 33.8% experienced one or more accidents since January 1, 1961, compared with 19.5% of the 348 female drivers. (The mean number for males was 0.501 per driver, and for females 0.239 per driver).
- *4. Parameter 4: Column 0 = Michigan origin; Col. 1 = Michigan renewed; Col. 2 = Michigan correction; Col. 3 = Out of State; Col. 4 = No record.

TABLE 6

MICHIGAN DRIVER PROFILE

Study of 24 Parameters: Female Drivers

	0	1	2	3	4	5	6	7	8	9 or more		0	1	2	3	4	5	6	7	8	9 or more	
1. Was license expired?	No 309 90%	Yes 31 9%	Not known 5 1%									17. Elapsed time in months between last 2 convictions	0-3 13 4%	4-6 7 2%	7-9 9 3%	10-12 4 1%	13-24 11 3%	24+ 10 3%	N.A. 294 84%			
2. How many restrictions imposed?	218 65%	120 35%										18. No. of alcohol- or drug-related convictions since Jan 1, 1961	347 100%									
3. What type of license?	OPR 339 99%	CHAUF 1 <1%	CYCLE 0 0%	OTHER 1 <1%	UNKNOWN 1 <1%							19. No. of speeding convictions since Jan 1, 1961	278 80%	48 14%	15 4%	3 1%	2 <1%	1 <1%				
4. What is origin of license?	44 13%	285 83%	9 3%	4 <1%	3 <1%							20. No. of reckless driving convictions since Jan 1, 1961	342 99%	5 1%								
5. Were physical handicaps listed?	Yes 2 <1%	No 336 99%										21. License suspended at present?	Yes 6 <1%	No 341 98%								
6. Were seizures, etc. indicated?	Yes 1 <1%	No 337 99%										22. License suspended at any time since Jan 1, 1961	Yes 10 3%	No 337 97%								
7. Was Driver Edn. course completed?	Yes 81 23%	No 253 77%										23. Any warning letter since Jan 1, 1961	Yes 5 2%	No 342 98%								
8. No. of accidents in last 6 months	346 98%	6 2%										24. Driver reexamination since Jan 1, 1961	Yes 3 1%	No 344 99%								
9. No. of accidents in last year	335 96%	13 4%																				
10. No. of accidents since Jan 1, 1961	280 80%	55 16%	11 3%	2 <1%																		
11. No. of fatal accidents since Jan 1, 1961	345 99%	1 <1%	1 <1%																			
12. No. of personal injury accidents since Jan 1, 1961	320 92%	17 5%	4 1%	4 1%	0 0%	1 <1%																
13. Elapsed time in months between last 2 accidents	0-3 0 0%	4-6 1 <1%	7-9 2 <1%	10-12 2 <1%	13-24 3 1%	24+ 5 1%	N.A. 336 97%															
14. No. of convictions in last 6 months	340 98%	6 2%	0 0%	1 <1%																		
15. No. of convictions in last yr	325 93%	18 5%	3 1%	1 <1%																		
16. No. of convictions since Jan 1, 1961	229 67%	65 19%	29 8%	12 3%	6 2%	5 1%	1 <1%															

COMMENTS:

1. See Comments for Table 5.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 7
Study of 24 Parameters: Age Group 1

	0	1	2	3	4	5	6	7	8	9 or more
1. Was license expired?	No 65 93%	Yes 0 0%	Not known 5 7%							
2. How many re-strictions imposed?	44 68%	20 31%	1 1%							
3. What type of license?	OPR 65 100%									
4. What is origin of license?	45 65%	19 27%	1 1%	0 0%	5 7%					
5. Were physical handicaps listed?	Yes 3 5%	No 62 95%								
6. Were seizures, etc. indicated?	Yes 2 3%	No 63 97%								
7. Was Driver Edn. course completed?	Yes 57 89%	No 7 11%								
8. No. of accidents in last 6 months	69 97%	2 3%								
9. No. of accidents in last year	63 89%	8 11%								
10. No. of accidents since Jan 1, 1961	54 77%	16 22%	1 1%							
11. No. of fatal accidents since Jan 1, 1961	71 100%									
12. No. of personal injury accidents since Jan 1, 1961	60 86%	9 13%	1 1%							
13. Elapsed time in months between last 2 accidents	0-3 1 1%	4-6 0 0%	7-9 0 0%	10-12 0 0%	13-24 0 0%	24+ 1 1%	N.A. 69 98%			
14. No. of convictions in last 6 months	59 84%	8 11%	2 3%	1 1%	1 1%					
15. No. of convictions in last yr	56 80%	8 11%	2 3%	3 4%	0 0%	1 1%	1 1%			
16. No. of convictions since Jan 1, 1961	46 66%	12 17%	5 7%	3 4%	1 1%	1 1%			2 3%	

	0	1	2	3	4	5	6	7	8	9 or more
17. Elapsed time in months between last 2 convictions	0-3 8 11%	4-6 1 1%	7-9 0 0%	10-12 2 3%	13-24 2 3%	24+ 0 0%	N.A. 58 82%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	71 100%									
19. No. of speeding convictions since Jan 1, 1961	54 76%	11 16%	3 4%	1 1%	2 3%					
20. No. of reckless driving convictions since Jan 1, 1961	68 96%	3 4%								
21. License suspended at present?	Yes 2 3%	No 67 97%								
22. License suspended at any time since Jan 1, 1961	Yes 2 3%	No 66 97%								
23. Any warning letter since Jan 1, 1961	Yes 3 4%	No 66 96%								
24. Driver reexamination since Jan 1, 1961	Yes 3 4%	No 66 96%								

COMMENTS:

1. Age group under 20 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewed
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 8
Study of 24 Parameters: Age Group 2

	0	1	2	3	4	5	6	7	8	9 or more
1. Was license expired?	No 129 81%	Yes 24 15%	Not known 7 4%							
2. How many re-strictions imposed?	122 80%	31 20%								
3. What type of license?	OPR 142 92%	CHAUF 11 7.1%	CYCLE 0 0%	FEOTHER 1 0.7%						
4. What is origin of license?	28 18%	121 75%	3 2%	4 3%	3 2%					
5. Were physical handicaps listed?	Yes 0 0%	No 153 100%								
6. Were seizures, etc. indicated?	Yes	No 153 100%								
7. Was Driver Edn. course completed?	Yes 109 73%	No 41 28%								
8. No. of accidents in last 6 months	154 97%	4 3%	1 <1%							
9. No. of accidents in last year	147 93%	10 6%	2 1%							
10. No. of accidents since Jan 1, 1961	94 59%	36 23%	20 13%	6 4%	1 <1%			1 <1%	1 <1%	
11. No. of fatal accidents since Jan 1, 1961	154 98%	1 <1%	2 1%							
12. No. of personal injury accidents since Jan 1, 1961	130 83%	18 12%	7 4%	0 0%	1 <1%	1 <1%				
13. Elapsed time in months between last 2 accidents	0-3 5 3%	4-6 2 1%	7-9 4 3%	10-12 2 1%	13-24 8 5%	24+ 7 4%	N.A. 131 82%			
14. No. of convictions in last 6 months	145 91%	13 8%	2 1%							
15. No. of convictions in last yr	120 75%	26 16%	11 7%	3 2%						
16. No. of convictions since Jan 1, 1961	48 30%	43 27%	27 17%	13 8%	6 4%	6 4%	4 3%	3 1%	7 4%	3 1%

	0	1	2	3	4	5	6	7	8	9 or more
17. Elapsed time in months between last 2 convictions	0-3 25 16%	4-6 9 6%	7-9 8 5%	10-12 4 2%	13-24 16 10%	24+ 10 6%	N.A. 89 55%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	159 99%	1 1%								
19. No. of speeding convictions since Jan 1, 1961	79 49%	38 24%	14 9%	8 5%	5 3%	6 4%	3 2%	3 2%	2 1%	2 1%
20. No. of reckless driving convictions since Jan 1, 1961	151 95%	7 4%	2 1%							
21. License suspended at present?	Yes 12 7%	No 148 93%								
22. License suspended at any time since Jan 1, 1961	Yes 20 12%	No 140 88%								
23. Any warning letter since Jan 1, 1961	Yes 28 18%	No 129 82%								
24. Driver reexamination since Jan 1, 1961	Yes 21 13%	No 137 87%								

COMMENTS:

- 1. Age group 20-25 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 9

MICHIGAN DRIVER PROFILE

Study of 24 Parameters: Age Group 3

	0	1	2	3	4	5	6	7	8	9 or more		0	1	2	3	4	5	6	7	8	9 or more		
1. Was license expired?	No 174 85%	Yes 28 14%	Not known 3 1%									17. Elapsed time in months between last 2 convictions	0-3 22 11%	4-6 14 7%	7-9 10 5%	10-12 4 2%	13-24 23 11%	24+ 7 3%	N.A. 129 62%				
2. How many restrictions imposed?	154 77%	45 22%	2 1%									18. No. of alcohol- or drug-related convictions since Jan 1, 1961	205 99%	1 <1%	1 <1%								
3. What type of license?	OPR 185 92%	CHAUF 17 8%	CYCLE 0 0%	OTHER 1 <1%								19. No. of speeding convictions since Jan 1, 1961	119 58%	46 22%	16 8%	4 2%	12 6%	5 2%	2 <1%	1 <1%	0 0%	2 <1%	
4. What is origin of license?	29 14%	168 83%	3 1%	3 1%	1 <1%							20. No. of reckless driving convictions since Jan 1, 1961	198 96%	9 4%									
5. Were physical handicaps listed?	Yes 1 <1%	No 200 99%										21. License suspended at present?	Yes 7 3%	No 199 97%									
6. Were seizures, etc. indicated?	Yes 0 0%	No 201 100%										22. License suspended at any time since Jan 1, 1961	Yes 21 10%	No 185 90%									
7. Was Driver Edn. course completed?	Yes 34 17%	No 164 83%										23. Any warning letter since Jan 1, 1961	Yes 14 7%	No 191 93%									
8. No. of accidents in last 6 months	198 96%	8 4%										24. Driver reexamination since Jan 1, 1961	Yes 22 12%	No 183 88%									
9. No. of accidents in last year	189 92%	17 8%																					
10. No. of accidents since Jan 1, 1961	140 68%	49 24%	10 5%	6 3%	1 <1%																		
11. No. of fatal accidents since Jan 1, 1961	204 99%	1 <1%																					
12. No. of personal injury accidents since Jan 1, 1961	171 84%	26 13%	3 1%	5 2%																			
13. Elapsed time in months between last 2 accidents	0-3 1 <1%	4-6 3 1%	7-9 0 0%	10-12 3 1%	13-24 2 1%	24+ 8 4%	N.A. 192 92%																
14. No. of convictions in last 6 months	189 91%	16 8%	2 <1%																				
15. No. of convictions in last yr	173 84%	27 13%	5 2%	2 1%																			
16. No. of convictions since Jan 1, 1961	82 40%	44 21%	24 12%	17 8%	10 5%	11 5%	6 3%	3 1%	4 2%	6 3%													

COMMENTS:

1. Age group 26-35 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 10

MICHIGAN DRIVER PROFILE

Study of 24 Parameters: Age Group 4

	0	1	2	3	4	5	6	7	8	9 or more		0	1	2	3	4	5	6	7	8	9 or more	
1. Was license expired?	No 193 88%	Yes 24 10%	Not known 4 2%									17. Elapsed time in months between last 2 convictions	0-3 20 9%	4-6 7 3%	7-9 7 3%	10-12 5 2%	13-24 11 5%	24+ 18 9%	N.A. 153 69%			
2. How many restrictions imposed?	178 84%	33 16%										18. No. of alcohol- or drug-related convictions since Jan 1, 1961	218 98%	4 2%								
3. What type of license?	OPR 186 86%	CHAUF 29 13%	CYC 0 0%	LEO 1 <1%	THE 1 <1%							19. No. of speeding convictions since Jan 1, 1961	146 66%	43 19%	14 7%	9 4%	3 1%	4 2%	0 0%	2 1%	0 0%	1 <1%
4. What is origin of license?	16 7%	198 90%	4 2%	1 <1%	3 2%							20. No. of reckless driving convictions since Jan 1, 1961	216 98%	5 2%	1 <1%							
5. Were physical handicaps listed?	Yes 1 <1%	No 214 99%										21. License suspended at present?	Yes 3 1%	No 216 99%								
6. Were seizures, etc. indicated?	Yes 0 0%	No 215 100%										22. License suspended at any time since Jan 1, 1961	Yes 8 4%	No 211 96%								
7. Was Driver Edn. course completed?	Yes 4 2%	No 209 98%										23. Any warning letter since Jan 1, 1961	Yes 12 5%	No 207 95%								
8. No. of accidents in last 6 months	210 96%	6 3%	2 1%	1 <1%								24. Driver reexamination since Jan 1, 1961	Yes 13 6%	No 206 94%								
9. No. of accidents in last year	204 93%	11 5%	3 1%	1 <1%																		
10. No. of accidents since Jan 1, 1961	159 73%	43 20%	12 5%	4 2%																		
11. No. of fatal accidents since Jan 1, 1961	214 98%	3 2%	1 <1%																			
12. No. of personal injury accidents since Jan 1, 1961	194 89%	16 7%	6 3%	1 <1%																		
13. Elapsed time in months between last 2 accidents	0-3 7 3%	4-6 3 1%	7-9 0 0%	10-12 1 <1%	13-24 1 <1%	24+ 7 3%	N.A. 201 91%															
14. No. of convictions in last 6 months	198 90%	17 8%	5 2%																			
15. No. of convictions in last yr	185 84%	24 11%	5 2%	4 2%	1 <1%	1 <1%																
16. No. of convictions since Jan 1, 1961	112 50%	45 20%	22 10%	17 8%	9 4%	6 3%	2 1%	1 <1%	4 2%	3 1%												

COMMENTS:

1. Age group 36-45 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 11
Study of 24 Parameters: Age Group 5

	0	1	2	3	4	5	6	7	8	9 OR more
1. Was license expired?	No 167 92%	Yes 14 8%	Not known 0 0%							
2. How many re-strictions imposed?	108 60%	71 39%	1 1%							
3. What type of license?	OPR 157 87%	CHAUF 24 13%								
4. What is origin of license?	3 2%	177 98%								
5. Were physical handicaps listed?	Yes 2 1%	No 178 99%								
6. Were seizures, etc. indicated?	Yes 0 0%	No 180 100%								
7. Was Driver Edn. course completed?	Yes 4 2%	No 176 98%								
8. No. of accidents in last 6 months	178 98%	4 2%								
9. No. of accidents in last year	178 98%	4 2%								
10. No. of accidents since Jan 1, 1961	137 75%	37 20%	7 4%	1 1%						
11. No. of fatal accidents since Jan 1, 1961	181 100%									
12. No. of personal injury accidents since Jan 1, 1961	166 92%	10 6%	2 1%	3 1%						
13. Elapsed time in last 2 accidents	0-3 1 <1%	4-6 1 <1%	7-9 0 0%	10-12 2 <1%	13-24 1 <1%	24+ 3 2%	N.A. 174 96%			
14. No. of convictions in last 6 months	177 97%	5 3%								
15. No. of convictions in last yr	162 89%	16 9%	4 2%							
16. No. of convictions since Jan 1, 1961	94 52%	43 24%	18 10%	6 3%	11 6%	5 3%	1 <1%	2 1%	0 0%	2 1%

	0	1	2	3	4	5	6	7	8	9 OR more
17. Elapsed time in months between last 2 convictions	0-3 11 6%	4-6 6 3%	7-9 5 3%	10-12 2 1%	13-24 17 9%	24+ 9 5%	N.A. 132 73%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	179 98%	3 2%								
19. No. of speeding convictions since Jan 1, 1961	127 70%	28 15%	16 9%	7 4%	0 0%	2 1%	1 <1%	1 <1%		
20. No. of reckless driving convictions since Jan 1, 1961	177 97%	5 3%								
21. License suspended at present?	Yes 3 2%	No 179 98%								
22. License suspended at any time since Jan 1, 1961	Yes 11 6%	No 170 94%								
23. Any warning letter since Jan 1, 1961	Yes 9 5%	No 173 95%								
24. Driver reexamination since Jan 1, 1961	Yes 8 4%	No 174 96%								

COMMENTS:

1. Age group 46-55 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 12
Study of 24 Parameters: Age Group 6

MICHIGAN DRIVER PROFILE

	0	1	2	3	4	5	6	7	8	9 or more
1. Was license expired?	No 124 87%	Yes 17 12%	Not known 1 <1%							
2. How many restrictions imposed?	61 44%	79 56%								
3. What type of license?	OPR 133 94%	CHAUF 8 6%								
4. What is origin of license?	0 0%	139 98%	0 0%	1 <1%	1 <1%					
5. Were physical handicaps listed?	Yes 3 2%	No 139 98%								
6. Were seizures, etc. indicated?	Yes 0 0%	No 139 100%								
7. Was Driver Edn. course completed?	Yes 0 0%	No 139 100%								
8. No. of accidents in last 6 months	137 97%	5 3%								
9. No. of accidents in last year	134 94%	7 5%	1 <1%							
10. No. of accidents since Jan 1, 1961	107 75%	25 18%	5 3%	3 2%	0 0%	2 2%				
11. No. of fatal accidents since Jan 1, 1961	140 99%	2 1%								
12. No. of personal injury accidents since Jan 1, 1961	128 90%	9 6%	4 3%	1 1%						
13. Elapsed time in months between last 2 accidents	0-3 1 <1%	4-6 1 <1%	7-9 3 2%	10-12 0 0%	13-24 3 2%	24+ 2 1%	N.A. 134 93%			
14. No. of convictions in last 6 months	138 97%	3 2%	1 <1%							
15. No. of convictions in last yr	129 91%	12 8%	0 0%	1 <1%						
16. No. of convictions since Jan 1, 1961	76 53%	33 23%	11 8%	10 7%	7 5%	4 3%	0 0%	0 0%	0 0%	1 <1%

	0	1	2	3	4	5	6	7	8	9 or more
17. Elapsed time in months between last 2 convictions	0-3 8 6%	4-6 4 3%	7-9 6 4%	10-12 3 2%	13-24 7 5%	24+ 7 5%	N.A. 109 76%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	140 98%	2 2%								
19. No. of speeding convictions since Jan 1, 1961	114 80%	19 13%	7 5%	2 1%						
20. No. of reckless driving convictions since Jan 1, 1961	139 98%	2 1%	1 <1%							
21. License suspended at present?	Yes 4 3%	No 137 97%								
22. License suspended at any time since Jan 1, 1961	Yes 6 4%	No 135 96%								
23. Any warning letter since Jan 1, 1961	Yes 8 6%	No 133 93%								
24. Driver reexamination since Jan 1, 1961	Yes 5 4%	No 136 96%								

COMMENTS:

1. Age group 56-65 years. Compare data with Table 4.
- *2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 13

MICHIGAN DRIVER PROFILE

Study of 24 Parameters: Age Group 7

	0	1	2	3	4	5	6	7	8	9 or more		0	1	2	3	4	5	6	7	8	9 or more	
1. Was license expired?	No 47 78%	Yes 13 22%	Not known 0 0%									17. Elapsed time in months between last 2 convictions	0-3 1 2%	4-6 0 0%	7-9 5 8%	10-12 0 0%	13-24 3 5%	24+ 2 3%	N.A. 49 82%			
2. How many restrictions imposed?	17 28%	39 65%	3 5%	1 2%								18. No. of alcohol- or drug-related convictions since Jan 1, 1961	60 100%									
3. What type of license?	OPR 57 95%	CHAUF 3 5%										19. No. of speeding convictions since Jan 1, 1961	55 92%	5 8%								
4. What is origin of license?	0 0%	60 100%	0 0%	0 0%	0 0%							20. No. of reckless driving convictions since Jan 1, 1961	60 100%									
5. Were physical handicaps listed?	Yes 2 3%	No 58 97%										21. License suspended at present?	Yes 0 0%	No 60 100%								
6. Were seizures, etc. indicated?	Yes 0 0%	No 60 100%										22. License suspended at any time since Jan 1, 1961	Yes 1 1%	No 59 98%								
7. Was Driver Edn. course completed?	Yes 0 0%	No 59 100%										23. Any warning letter since Jan 1, 1961	Yes 2 3%	No 58 97%								
8. No. of accidents in last 6 months	60 100%	0 0%										24. Driver reexamination since Jan 1, 1961	Yes 2 3%	No 58 97%								
9. No. of accidents in last year	58 97%	2 3%																				
10. No. of accidents since Jan 1, 1961	48 80%	9 15%	3 5%																			
11. No. of fatal accidents since Jan 1, 1961	60 100%																					
12. No. of personal injury accidents since Jan 1, 1961	56 98%	4 2%																				
13. Elapsed time in months between last 2 accidents	0-3	4-6	7-9 2 3%	10-12	13-24 1 2%	24+ 1 95%	N.A. 57															
14. No. of convictions in last 6 months	58 97%	2 3%																				
15. No. of convictions in last yr	58 97%	2 3%																				
16. No. of convictions since Jan 1, 1961	32 53%	17 28%	8 13%	1 1%	0 0%	0 0%	1 1%	1 1%														

COMMENTS:

1. Age group 66-75 years. Compare data with Table 4.
- *2. Parameter 4: Column: 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 14
Study of 24 Parameters: Age Group 8

	0	1	2	3	4	5	6	7	8	9 or more
1. Was license expired?	No 12 57%	Yes 9 43%	Not known 0 0%							
2. How many re-strictions imposed?	7 33%	14 67%								
3. What type of license?	OPR 21 100%									
4. What is origin of license?	0 0%	21 100%								
5. Were physical handicaps listed?	Yes 2 10%	No 19 90%								
6. Were seizures, etc. indicated?	Yes 0 0%	No 21 100%								
7. Was Driver Edn. course completed?	Yes 0 0%	No 21 100%								
8. No. of accidents in last 6 months	21 100%	0 0%								
9. No. of accidents in last year	21 100%									
10. No. of accidents since Jan 1, 1961	14 67%	6 28%	1 5%							
11. No. of fatal accidents since Jan 1, 1961	20 100%									
12. No. of personal injury accidents since Jan 1, 1961	19 95%	1 5%								
13. Elapsed time in months between last 2 accidents	0-3	4-6 1 5%	7-9	10-12 1 10%	13-24	24+ N.A. 20 95%				
14. No. of convictions in last 6 months	21 100%									
15. No. of convictions in last yr	21 100%									
16. No. of convictions since Jan 1, 1961	12 57%	7 33%	0 0%	2 10%						

	0	1	2	3	4	5	6	7	8	9 or more
17. Elapsed time in months between last 2 convictions	0-3	4-6	7-9	10-12 1 5%	13-24	24+ 1 5%	N.A. 19 90%			
18. No. of alcohol- or drug-related convictions since Jan 1, 1961	21 100%									
19. No. of speeding convictions since Jan 1, 1961	19 90%	2 10%								
20. No. of reckless driving convictions since Jan 1, 1961	21 100%									
21. License suspended at present?	Yes 1 5%	No 20 95%								
22. License suspended at any time since Jan 1, 1961	Yes 1 5%	No 20 95%								
23. Any warning letter since Jan 1, 1961	Yes 0 0%	No 21 100%								
24. Driver reexamination since Jan 1, 1961	Yes 0 0%	No 21 100%								

COMMENTS:
1. Age group 75+ years. Compare data with Table 4.
*2. Parameter 4: Column 0 = Michigan origin
1 = Michigan renewal
2 = Michigan correction
3 = Out of State
4 = No record of license

TABLE 15

MICHIGAN DRIVER PROFILE

Study of 19 Parameters As a Function of Age Group

	Age Groups									Age Groups							
	1 Under 20	2 20-25	3 26-35	4 36-45	5 46-55	6 56-65	7 66-75	8 75+		1 Under 20	2 20-25	3 26-35	4 36-45	5 46-55	6 56-65	7 66-75	8 75+
1. Share of sample driver population	6.62% 71	15.11% 162	19.49% 209	20.80% 223	16.97% 182	13.43% 144	5.59% 60	1.95% 21	14. Share of those having 1 or more convictions since Jan. 1, 1961	3.9% 22	20.0% 112	22.4% 125	19.5% 109	15.7% 88	11.8% 66	5.0% 28	1.6% 9
2. Share of those drivers having expired licenses	0% 0	18.6% 24	21.7% 28	18.6% 24	10.8% 14	13.2% 17	10.1% 13	6.9% 9	15. Share of those having 1 or more alcohol and drug related convics.	0% 0	8.3% 1	16.6% 2	33.3% 4	25.0% 3	16.6% 2	0% 0	0% 0
3. Share of those drivers having no record of license	26.3% 5	31.6% 6	15.8% 3	21.0% 4	0% 0	5.2% 1	0% 0	0% 0	16. Share of those having 1 or more speeding convics.	4.8% 17	23.0% 81	25.0% 88	21.6% 76	15.6% 55	7.8% 28	1.4% 5	0.6% 2
4. Share of those having one or more license restrictions	6.2% 21	9.1% 31	13.8% 47	9.7% 33	21.1% 72	23.2% 79	12.6% 43	4.1% 14	17. Share of those having 1 or more reckless driving convictions	8.6% 3	25.7% 9	25.7% 9	17.1% 6	14.3% 5	8.6% 3	0% 0	0% 0
5. Share of those having physical handicaps	21.4% 3	0% 0	7.1% 1	7.1% 1	14.3% 2	21.4% 3	14.3% 2	14.3% 2	18. Share of those having license suspended at present	6.3% 2	37.5% 12	21.9% 7	9.4% 3	9.4% 3	12.5% 4	0% 0	3.1% 1
6. Share of those having completed driver edn.	27.4% 57	52.4% 109	16.3% 34	1.9% 4	1.9% 4	0% 0	0% 0	0% 0	19. Share of those having license suspended since Jan. 1, 1961	2.9% 2	28.6% 20	30.0% 21	11.4% 8	15.7% 11	8.6% 6	1.4% 1	1.4% 1
7. Share of those drivers having 1 or more accidents in past 6 months	6.1% 2	15.2% 5	24.2% 8	27.3% 9	12.1% 4	15.2% 5	0% 0	0% 0									
8. Share of those having 1 or more accidents last year	12.1% 8	18.2% 12	25.8% 17	22.7% 15	6.1% 4	12.1% 8	3.0% 2	0% 0									
9. Share of those having 1 or more accidents since 1/1/61	5.6% 17	20.1% 64	21.6% 60	19.3% 59	14.8% 45	11.5% 35	3.9% 12	2.3% 7									
10. Share of those having 1 or more fatal accidents since Jan. 1, 1961	0% 0	30% 3	10.0% 1	40.0% 4	0% 0	20% 2	0% 0	0% 0									
11. Share of those having 1 or more personal injury accidents since 1/1/61	7.8% 10	21.1% 27	26.6% 34	17.9% 23	11.7% 15	10.9% 14	3.1% 4	0.8% 1									
12. Share of those having 1 or more convictions in past 6 months	15.4% 12	19.2% 15	23.1% 18	28.2% 22	6.4% 5	5.1% 4	2.6% 2	0% 0									
13. Share of those having 1 or more convictions in past year	9.4% 15	25.1% 40	21.3% 34	22.1% 35	12.6% 20	8.2% 13	1.3% 2	0% 0									

COMMENTS:

The headings for the vertical columns (1 through 8) enumerate the age groups and the headings for the horizontal columns (1 through 19) describe the other driver record parameters. Two numbers appear at the intersections of columns: the number of drivers in an age group displaying a given parameter and the percentage that number is of all drivers displaying the parameter. For example, the number "6.62%" at the intersection of horizontal column 1 and vertical column 1 indicates that of all the drivers in the study, 6.6% fell within age group one (under 20). The number at the intersection of horizontal column number 8 and vertical column 1 is 12.1%; this indicates that of all the drivers having one or more accidents last year, 12.1% of them fell within age group 1. Comparing the two numbers at this intersection shows that age group 1 drivers are grossly overrepresented in the population of drivers who experienced one or more accidents last year.

Any other percentage in the table may be compared in this manner with the percentage expected on the basis of population alone. To facilitate such comparisons, those numbers in the table that are larger than the corresponding population percentage have been underlined. In short, underlining indicates overrepresentation (as judged by population) of drivers described by any parameter.

TABLE 16

Association Between Previous Accidents
and Later Ones

No. of accidents between Jan. 1, 1961 and one year ago	No. accidents in past year					TOTALS
	0	1	2	3	1 or more	
0	758 94%	44 5%	4 0.5%	1 0.1%	49 6.1%	807
1	189 92%	16 8%	0 0.5%	17	17 8.2%	206
2	38 93%	2 5%	1 2%	0	3 7.3%	41
3	15 100%	0	0	0	0	15
4	1 50%	1 50%	0	0	1 50%	2
5	1 100%	0	0	0	0	1
1 or more	244 92.1%	19 7.29%	2 0.7%	0	21 7.9%	265

MICHIGAN DRIVER PROFILE

COMMENTS:

If prior accidents are in any way predictive of future accidents, one would expect to find some association between the two parameters. Therefore, Table 16 was constructed from the data in an attempt to reveal any such association by matching accidents last year against accidents between January 1, 1961, and one year ago. The intersection of a vertical and a horizontal column contains two numbers; the top number is the frequency count and the bottom number is the percentage that the frequency is of the total number of drivers experiencing a given number of accidents summed across the horizontal column. To illustrate, the top number at the intersection of horizontal column 2 and vertical column 1 indicates that two drivers who had experienced two accidents between January 1, 1961, and one year ago experienced one accident last year. The bottom number shows that those two drivers represent 5% of the total number drivers who experienced two accidents between January 1, 1961, and one year ago.

We see the following by observing the percentages in the column "one or more:"

1. Of 807 drivers who had no accidents between January 1, 1961, and one year ago, 6.1% experienced one or more accidents last year (94% of the 807 continued with no accidents).
2. Of 206 drivers who experienced one accident between January 1, 1961, and one year ago, 8.2% experienced one or more additional accidents last year.
3. Of the 41 drivers who had two accidents between January 1, 1961, and one year ago, 7.3% experienced one or more additional accidents last year (93% did not).
4. Of the two drivers who had four accidents between January 1, 1961, and one year ago, one (50%) experienced one or more additional accidents last year.

There is a suggestion that drivers who have suffered accidents may be more susceptible to future accidents than those drivers who have not; however, the differences are not statistically significant.

See figure 2 for graphical presentation of data from table 15.

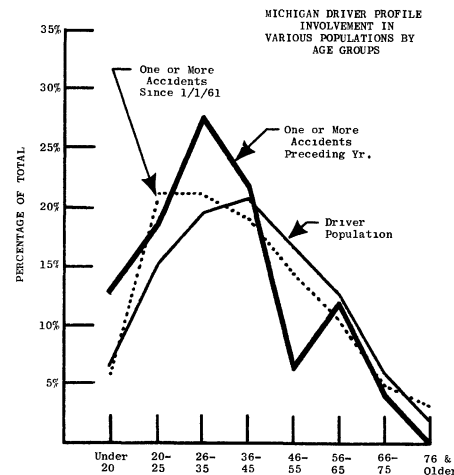


TABLE 17
Association Between Convictions Last Year
and Accidents Last Year

No. of convictions in past year	No. of accidents in past year					TOTALS
	0	1	2	3	1 or more	
0	773 95.8%	33 4.1%	0	1 0.1%	34 4.2%	807
1	88 78.6%	20 17.9%	4 3.5%	0	24 21.4%	112
2	23 82.1%	5 17.9%	0	0	5 17.9%	28
3	11 78.6%	2 14.3%	1 7.1%	0	3 2.1%	14
4	1 100%	0	0	0	0	1
5	3 75%	0	1 25%	0	1 25%	4
6	0	1 100%	0	0	1 100%	1
1 or more	126 78.8%	28 17.5%	6 3.8%	0	34 21.2%	160

TABLE 18
Association Between Convictions Since Jan. 1, 1961
and Accidents Since Jan. 1, 1961

Convictions since January 1, 1961	No. of accidents since Jan. 1, 1961							TOTALS
	0	1	2	3	4	5	1 or more	
0	429 85.6%	62 12.4%	9 1.8%	1 0.2%	0	0	72 14.4%	501
1	157 64.9%	72 29.7%	10 4.1%	3 1.2%	0	0	85 35%	242
2	59 56.2%	29 27.7%	12 11.4%	5 4.8%	0	0	46 43.8%	105
3	38 59.4%	15 23.4%	8 12.5%	3 4.7%	0	0	26 40.6%	64
4	22 55.0%	13 32.5%	5 12.5%	0	0	0	18 45.0%	40
5	16 51.6%	6 19.4%	5 16.1%	3 9.7%	0	1 3.2%	15 48.4%	31
6	5 35.7%	7 50.0%	2 14.3%	0	0	0	9 64.3%	14
7	4 40.0%	4 40.0%	2 20.0%	0	0	0	6 60.0%	10
8	8 50.0%	4 25.0%	3 18.7%	0	1 6.2%	0	8 50.0%	16
9 or more	8 25.8%	14 45.7%	1 3.2%	5 16.1%	2 6.4%	1 3.2%	23 74.1%	31
1 or more	317 57.3%	164 29.7%	48 8.7%	19 3.4%	3 0.5%	2 0.4%	236 42.7%	553

TABLE 19
Association Between Convictions Since
Jan. 1, 1961 and Accidents in the
Past Year

No. of convictions since January 1, 1961	No. of accidents in past year				TOTALS
	0	1	2	1 or more	
0	486 97.0%	15 2.9%	0	15 2.9%	501
1	225 93.0%	16 6.6%	1 0.4%	17 7.0%	242
2	98 93.3%	6 5.7%	1 0.9%	7 6.6%	105
3	58 90.6%	6 9.4%	0	6 9.4%	64
4	36 90.0%	4 10.0%	0	6 9.4%	40
5	28 90.3%	3 9.7%	0	4 10.0%	31
6	11 78.6%	3 21.4%	0	3 9.7%	14
7	7 70.0%	3 30.0%	0	3 30.0%	10
8	12 75.0%	2 12.5%	2 12.5%	4 25.0%	16
9 or more	39 88.6%	3 6.8%	2 4.5%	5 11.4%	44
1 or more	507 89.6%	46 8.1%	6 1.1%	52 9.2%	566

COMMENTS:

Tables 17, 18, and 19 present data in several categories to show the association between convictions and accidents. The layout of the tables is the same as that discussed for Table 16.

The following statements are derived from the "one or more" column of Table 17:

1. Of 807 drivers who had no convictions last year, 4.2% experienced one or more accidents in the same period (95.8% had no accidents).
2. Of 112 drivers who had one conviction last year, 21.4% also experienced one or more accidents (78.6% had no accidents).
3. Of 28 drivers who had two convictions last year, 17.9% experienced one or more accidents (82.1% had no accidents).
4. Of 160 drivers who had one or more convictions last year, 21.2% experienced one or more accidents.

Table 18 matches accidents since January 1, 1961, against convictions since January 1, 1961, and Table 19 matches accidents last year against accidents since January 1, 1961. All these data suggest an association between convictions and accidents. Although we know that a single event, of course, may produce both an accident and a conviction, the data show that the correlation between accidents and convictions is not one to one.

The following observations were derived from table 18:

1. Of 307 drivers (representing 422 accidents) who experienced one or more accidents since January 1, 1961, 28.3% (88 in number) experienced the same number of accidents and convictions (the data do not imply whether or not the accidents and convictions were independent). The 88 drivers represented 26.0% of the accidents (110 in number).
2. 29.3% (90 in number) experienced more accidents than convictions. The 90 drivers experienced 30.1% (127 in number) of the 422 accidents. Since these 90 drivers suffered only 23 convictions, it can be deduced that no less than 25% (104) of the 422 accidents did not result in convictions.
3. 42.3% (130 in number) experienced more convictions than accidents. The 130 drivers experienced 43.8% of the 185 accidents. It may be inferred that no less than 42.3% of the accident drivers had convictions not associated with accidents. On the other hand, of the 746 drivers who experienced no accidents, 42.3% (317 in number) had one or more convictions that could not have been associated with accidents. It is possible that convictions not resulting from accidents situations have little association with the probability of accident.

See figure 3 for graphical presentation of data in table 15.

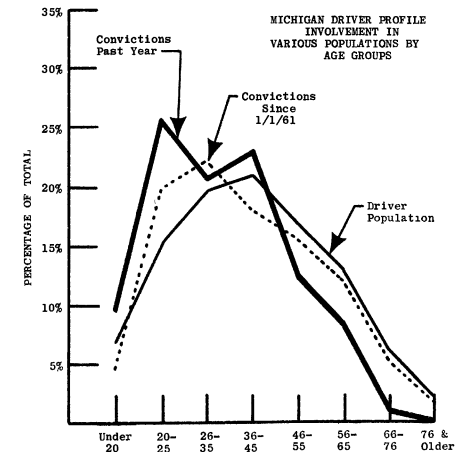


TABLE 20
Association Between License Suspensions/Revocations
and Accidents

Suspensions/Revocations
since Jan. 1, 1961

		No. of Accidents since Jan. 1, 1961						TOTALS	
		0	1	2	3	4	5		1 or more
Yes		35	35	7	4	1	1	48	83
		42.1%	42.1%	8.4%	4.8%	1.2%	1.2%	57.8%	
No		725	202	49	15	1	1	268	993
		73.0%	20.3%	5.0%	1.5%	0.1%	0.1%	27.0%	

COMMENTS:

This table presents the analysis of accidents since January 1, 1961, as a function of suspensions-revocations (yes or no) since January 1, 1961. The data in the "one or more" column show that of 83 drivers whose licenses were suspended or revoked at any time since January 1, 1961, 57.8% experienced one or more accidents during the same period.

On the other hand, of the 993 drivers who had no suspensions or revocations during that period, only 27.0% experienced one or more accidents.

A suspension or revocation can, of course, arise from the same circumstance that produced the accident; however, the data do not imply a one-for-one relationship. It is possible that bad drivers experience both accidents and their license suspensions (or revocations) more or less independently of each other.

COMMENTS:

Tables 21 and 22 present the association between driver education and accidents. Since more than 90% of the Michigan drivers who have completed driver education fall in the three youngest age groups (1-under 20, 2-age 20 through 25, 3-age 26 through 35), the analyses have been limited to those groups.*

The horizontal column labeled "yes" in Table 21 indicates that of 157 drivers who have completed a driver education course, 8.9% experienced one or more accidents last year (the mean number was 0.09 per driver). The horizontal column marked "no" indicates that of 161 drivers who did not complete a driver education course, 13% experienced one or more accidents last year (the mean number was 0.14 per driver).

The figures in Table 22 show a slight reversal for accidents since January 1, 1961. Drivers who completed driver education experienced slightly more accidents than those who did not. It is

TABLE 21
Association Between Driver Education and Accidents
in Past Year (For Age Groups 1, 2, and 3)

		No. of Accidents in past year				mean no. 1 or accdnts more /driver	TOTALS
		0	1	2	1 or more		
Yes		143	14	0	14	0.089	157
		91.1%	8.9%		8.9%		
No		140	19	2	21	0.143	161
		87.0%	11.8%	1.2%	13.0%		

Driver Education

TABLE 22
Association Between Driver Education and Accidents
Since January 1, 1961

		No. of Accidents since Jan. 1, 1961						mean no. 1 or accdnts more /driver	TOTALS
		0	1	2	3	4	1 or more		
Yes		86	49	17	5	0	71	0.624	157
		54.8%	31.2%	10.8%	3.1%		45.0%		
No		93	48	12	6	2	68	0.608	161
		57.8%	29.8%	7.5%	3.7%	1.2%	42.2%		

Driver Education

difficult to draw solid inferences about driver education from these data. However, the data do indicate that more than 4 out of 10 of these young drivers--both of the group that had driver education and of the group that did not have driver education--experienced one or more accidents since January 1, 1961. This suggests there are additional factors such as exposure to accident situations, changes in the physical condition of the driver, and lack of reinforcement of skills and learning that need to be considered.

*208 drivers who had completed driver education experienced a mean of 0.457 accidents per driver since January 1, 1961; 819 drivers without driver education training experienced a mean of only 0.409. It is possible the numbers better demonstrate the difference between young and old drivers rather than that between driver education and no driver education.

TABLE 23
Association Between License Restrictions
and Accidents Since Jan 1, 1961

No. of License restrictions 1 or more	No. of accidents since Jan 1, 1961					1 or more TOTALS		
	0	1	2	3	4		5	
0	478 69.4%	158 23.0%	41 6.0%	11 1.6%	1 0.1%	0 30.6%	689	
1	254 76.3%	53 15.9%	15 4.5%	8 2.4%	1 0.3%	2 0.6%	79 23.7%	333
2	4 57.1%	3 42.8%	0	0	0	0	3 42.8%	7
3	2 100%	0	0	0	0	0	0	2
1 or more	260 76.0%	56 16.4%	15 4.4%	8 2.3%	1 0.3%	2 0.6%	82 24.0%	342

COMMENTS:

Table 23 shows that drivers with one or more license restrictions have fewer accidents (24.0%) than drivers without license restrictions (30.6%). We cannot conclude, however, that restricted drivers are better drivers, for we know (Table 15) that the majority of restricted drivers fall in the older age groups (where the amount of driving, psychological factors, and other aspects must be considered). To partial out the association between restrictions and accidents would require analyses within each age group, and we do not have enough data to do that.

TABLE 24

Association Between Driver Age and Accidents
In Past Year

No. of accidents in past year							mean no. accidents /driver	TOTALS
	0	1	2	3	1 or more			
0	0	0	0	0	0	0	0	
1	63 88.7%	8 11.3%	0	0	8 11.3%	0.113	71	
2	147 92.4%	10 6.3%	2 1.3%	0	12 7.5%	0.088	159	
3	191 91.8%	17 8.2%	0	0	17 8.2%	0.082	208	
4	204 93.1%	11 5.0%	3 1.4%	1 0.5%	15 6.8%	0.091	219	
5	178 97.8%	4 2.2%	0	0	4 2.2%	0.022	182	
6	136 94.4%	7 4.9%	1 0.7%	0	8 5.5%	0.062	144	
7	58 96.7%	2 3.3%	0	0	2 3.3%	0.033	60	
8	21 100%	0	0	0	0	0	21	
TOTALS	998 93.8%	59 5.5%	6 0.6%	1 0.1%	66 6.2%		1064	

COMMENTS:

The data in Table 15 amply support the notion that the younger drivers have worse driving records than the older. The younger age groups are not only overrepresented in the various accident categories, but are also overrepresented in almost any description of a "bad" driver one might choose. Even though the data in Tables 24 and 25 do not demonstrate the age association more ably than do the data of Table 15, nevertheless, they are provided for those readers who may be interested in a more detailed analysis of age and accidents.

To illustrate, refer to the "one or more" column of Table 24. Of 71 drivers in age group 1, 11.3% experienced one or more accidents last

year. The corresponding percentages for age groups 2 through 8 in Table 24 are lower. However, the "one or more" column of Table 25, containing the same kind of information about accidents since January 1, 1961, shows age group 1 (under 20) to have a better accident record than their elders. However, the comparison is deceiving, for their average number of driving years since January 1, 1961, would be considerably less than for the older drivers.

TABLE 25

Association Between Driver Age and Accidents
Since January 1, 1961

No. of accidents since Jan. 1, 1961							1 or more	mean no. accidents /driver	TOTAL
	0	1	2	3	4	5			
0	0	0	0	0	0	0	0	0	
1	54 76.1%	16 22.5%	1 1.4%	0	0	0	17 24.0%	0.254	71
2	96 60.4%	36 22.6%	20 12.6%	6 3.8%	1 0.6%	0	63 39.6%	0.710	159
3	142 68.3%	49 23.5%	10 4.8%	6 2.9%	1 0.5%	0	66 31.7%	0.442	208
4	160 73.0%	43 19.6%	12 5.5%	4 1.8%	0	0	59 27.0%	0.391	219
5	137 75.3%	37 20.3%	7 3.8%	1 0.5%	0	0	45 24.7%	0.297	182
6	108 75.0%	26 18.1%	5 3.5%	3 2.1%	0	2 1.4%	36 25.0%	0.380	144
7	48 80.0%	9 15.0%	3 5.0%	0	0	0	12 20.0%	0.250	60
8	14 66.7%	6 28.6%	1 4.8%	0	0	0	7 33.3%	0.381	21
1 or more	759								

