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Michigan Traffic Accident Exposure Factors

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16. Abstract

Exposure data have been aggregated and made available through the Michigan Terminal System (MTS). The data files, intended as a reference source for program planning, are described and means of access are given.

The 1977 Census of Transportation was the source of two of the datasets, the 1977 Nationwide Personal Transportation Study (NPTS) and the Truck Inventory and Use Survey (TIU). The NPTS data, applicable to the entire country, have been built into an OSIRIS IV hierarchical dataset. The Michigan Driving Experience Survey data, applicable only to Michigan, have been similarly structured. A Michigan subset of the nationwide TIU data were built into a rectangular OSIRIS file.

Several other datasets applicable to Michigan have been made available in the form of MIDAS internal files. These include, for each of Michigan's 83 counties, the following:

Population data - 1970, 1972, 1975, and 1979.
Vehicle registration data - 1977-1980.
Licensed drivers - 1% samples: 1977 and 1979.

A Michigan subset of the U.S. Bureau of the Census County and City Data Book, 1977 is also available in a MIDAS internal disk file. The entire contents are contained in a number of tape files.

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CONTENTS

TECHNICAL REPORT DOCUMENTATION PAGE i

ACKNOWLEDGEMENTS ii

1. INTRODUCTION 1

2. SURVEY DATA 5

2.1 The 1977 NPTS Structured Dataset 5
2.2 The 1977 TIU 9
2.3 The Michigan Driving Experience Survey 13

3. OTHER EXPOSURE MEASURES 17

3.1 Population Data 17
3.1 Licensed Drivers 18
3.3 Registered Vehicles 18
3.4 Data from County and City Data Book, 1977 19

REFERENCES 41

APPENDIX A - 1977 NPTS Dictionary 43

APPENDIX B - 1977 Truck Inventory and Use Survey 57

APPENDIX C - MDES Dictionary 63

BIBLIOGRAPHY 75

LIST OF TABLES

1. Michigan Population Data by County 21
2. 1% Samples of Michigan Drivers by County 23
3. 1977 Michigan Registration Data by County 25
4. 1978 Michigan Registration Data by County 27
5. 1979 Michigan Registration Data by County 29
6. 1980 Michigan Registration Data by County 31
7. Geographic Descriptor Variables - *County and City Data Book, 1977* 33
8. General Variables - *County and City Data Book, 1977* 34

1. INTRODUCTION

Exposure has been one of the most troubling and neglected topics facing highway safety analysts and policy-makers for many decades. Although its importance has been acknowledged by many workers in the field, its conceptual and practical difficulties are still with us.

In contrast to exposure, an "accident" is a discrete event occurring at a particular time at a specific location. Care is needed, of course, in specifying the vehicular/traffic events that are to be labeled as accidents--for example, whether a vehicle sliding into a ditch constitutes an accident--but the conceptual difficulties are minimal.

Exposure, on the other hand, is fundamentally more difficult to discuss. If one were to ask a dozen traffic safety experts what exposure is, it is likely that one would get at least a dozen different answers. "Risk," "hazards," "dangerous situations," "conflicts," and "potential accidents" would likely be included in the responses. Most would probably agree with Chapman [1, p.95][1], who, in his very useful summary of exposure concepts a decade ago, noted that "the concept of exposure is in fact a general one; it is a concept by which the researcher tries to take account of the amount of opportunity for accidents which the driver or the traffic system experiences."

These notions are not particularly troublesome if one is satisfied with this degree of generality. The complexities begin to surface, however, in attempting to define exposure in meaningful operational terms. Some (see, for example, Haight [2] and Wass [3]) would separate driver-related factors--often called "liability" or "proneness"--from strictly environmental factors. DeSilva [4, p.8] says that exposure "... refers to the number as well as to the comparative danger of the external hazards encountered while driving." Among his hazards are other roadway users, vehicle defects, roadway conditions, and visibility factors. Joksch [6, p.127], however, implicitly defines exposure as "... the frequency with which these coincidences [certain

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[1] Numbers in brackets [ ] refer to citations in REFERENCES section.

characteristics of driver, vehicle, and environment, including traffic] occur ... ." Similarly, Carroll [7, p.84] defines exposure as "... the frequency of traffic events which create a risk of accidents."

The conceptual problems with these definitions come into sharper focus in trying to measure exposure. All of the definitions talk about the frequency of hazards or characteristics or events. The questions are which hazards or characteristics or events are to be measured, and how are they to be measured.

The answer--at least to the which question--seems to be that the events to be measured are those that may lead to accidents. But in order to determine what events these are we set about studying accidents. And we soon find that advocates of "accident-causation research" claim that we need to know the characteristics of the exposed, at-risk population of driver-vehicle-environment combinations in order to make sense out of the accident statistics. In short, we would like to know what "causes" accidents in order to measure the exposed population correctly and efficiently, and we would like to know the anomalies of the exposed population in order to determine what "causes" accidents. There are no simple and completely satisfactory ways to circumvent the circular nature of this measurement issue.

The work with traffic "conflicts" illustrates the problem. It is reasonable to suppose that "conflicts" and "accidents" are phenomena along the same dimension and that both have a common causation lineage. Further, it is reasonable to assume that conflicts are far more common than accidents, and that identifying and correcting high-conflict situations would lead to a reduction in the accident situation. This line of thinking has led to considerable work having been done in counting "conflicts" at intersections. But subsequent analysis in correlating such conflicts with accidents has been unsatisfactory; conflicts have not proven to be good predictors of accidents. Perhaps it is not surprising, then, that the more general two-vehicle, non-intersection situation does not have a readily identifiable "event" which satisfactorily describes the exposure to this kind of accident.

The same comment can be made about single-vehicle accidents. At least some single-vehicle accidents are surely "caused" by roadway perturbations, such as hills, curves, chuck-holes, or slippery surfaces due to rain or snow. And some are caused by visibility factors, such as darkness or fog. The measurement problems in establishing the size and nature of the exposed, at-

risk population for these kinds of accidents are formidable at best. Further, it is probably the case that most single-vehicle accidents are caused by driver errors of one sort or other, operating singly or interactively with roadway, environmental, or vehicular factors. For these kinds of accidents, it is even more difficult to conceive of discrete events whose frequency can be counted as a measure of exposure.

From a practical point of view, the counting of discrete exposure events also presents problems. Exposure data are frequently desired over a reasonably large area, a county or a state, for example. It is also desirable for them to be representative for differing periods of time, since large variations in traffic patterns exist during a day, during the course of a week, and from season to season. The collection of truly representative exposure data--in time and space--can thus become prohibitive because of cost considerations alone.

These conceptual and practical problems with exposure have precluded the definition and adoption of a standard measure of exposure. Rather, a wide variety of generally broad-based measures has been employed in analytical work: miles traveled, population, numbers of registered drivers, miles of roadways, and the like. VMT--vehicle miles traveled--probably comes the closest to being a standard measure of exposure, but it has obvious shortcomings. A vehicle mile traveled on a rural, two-lane, snow-covered road at night clearly presents a fundamentally different set of hazards than does a vehicle mile traveled on a clear interstate freeway during daytime.

This report presents some of the existing exposure data now available for Michigan. VMT data are compiled by and available from the Michigan Department of Highways and Transportation. They have not been included in this first compilation, but their inclusion is planned for subsequent compilations.

Several exposure datasets obtained by surveys of drivers have recently become available for analysis. Three such datasets useful for Michigan are described in Section 2. Section 3 gives some of the more traditional exposure data for Michigan on a county-by-county basis. The report concludes with several appendixes. Appendixes A, B, and C contain dictionary listings for the survey datasets described in Section 2. Appendix D is a bibliography of materials in the HSRI library relevant to exposure data in Michigan.

2. SURVEY DATA

The exposure data base for Michigan has been extended considerably in recent years as the result of three studies undertaken in the late 1970's. Two of these--the 1977 Nationwide Personal Transportation Study (NPTS) and the Truck Inventory and Use Survey (TIU)--utilized data collected in national surveys conducted by the Bureau of the Census as part of the 1977 Census of Transportation. The third--the Michigan Driver Experience Survey (MDES)--was sponsored by the Michigan Department of State and conducted by HSRI. The data collected as part of these surveys are now accessible through MTS (Michigan Terminal System). The required documentation for subsequent analysis is presented in this section.

The NPTS currently can not be subset to individual regions or states because of confidentiality rules followed by the Bureau of the Census. Nonetheless, the data are important for Michigan because, for many analyses, these data are all that are currently available. Analysts interested only in Michigan will be better served by assuming, at least for the first level of inquiry, that Michigan is not unlike the rest of the nation in the characteristics under study than by ignoring the dataset and gaining no insight whatsoever. Perhaps more importantly, analyses utilizing these data will suggest those exposure data specific to Michigan that should be collected and made available in the future.

The TIU data do not suffer from this limitation, and a Michigan subset has been created. The MDES, of course, applies only to Michigan.

2.1 The 1977 NPTS Structured Dataset

The 1977 Nationwide Personal Transportation Study (NPTS) was an extensive study by the Bureau of the Census of trips by members of sampled households on particular sample dates. The publicly released data have been built into an OSIRIS IV hierarchical dataset which can be accessed by mounting the appropriate tape and using the desired OSIRIS IV program. Some additional

variables, beyond those on the public use tape, have been obtained, and it is hoped that in the future information on the Primary Sampling Units and sampling strata can be obtained so that variance calculations can be made.

Accessing the Dataset

A dictionary listing is included as Appendix A of this report. Further listings can be obtained by copying the file SH3Y:NPTSDICT. A listing is given of the five input dictionaries used in building the hierarchical dataset as well as of the final structured dataset dictionary. At this time, level tags have not generally been assigned to the variables nor has a codebook been produced. For information on the coding conventions it is recommended that the user obtain a copy of 1977 Nationwide Personal Transportation Study: Users' Guide for the Public Use Tapes (April 1980) from the Federal Highway Administration, Highway Statistics Division, HHP-44 (NPTS), 400 Seventh Street, SW., Washington, D.C. 20590, phone: (202) 426-0160. There is no charge for this guide.

The tape mount parameters are available in the file SP65:MOUNT. The MTS command

```
$SOURCE SP65:MOUNT
```

will mount this tape with the pseudodevice name *T*. The dictionary is in file no. 1 with the name "NPTSDIC"; the data are in file no. 2 with the name "NPTSDAT".

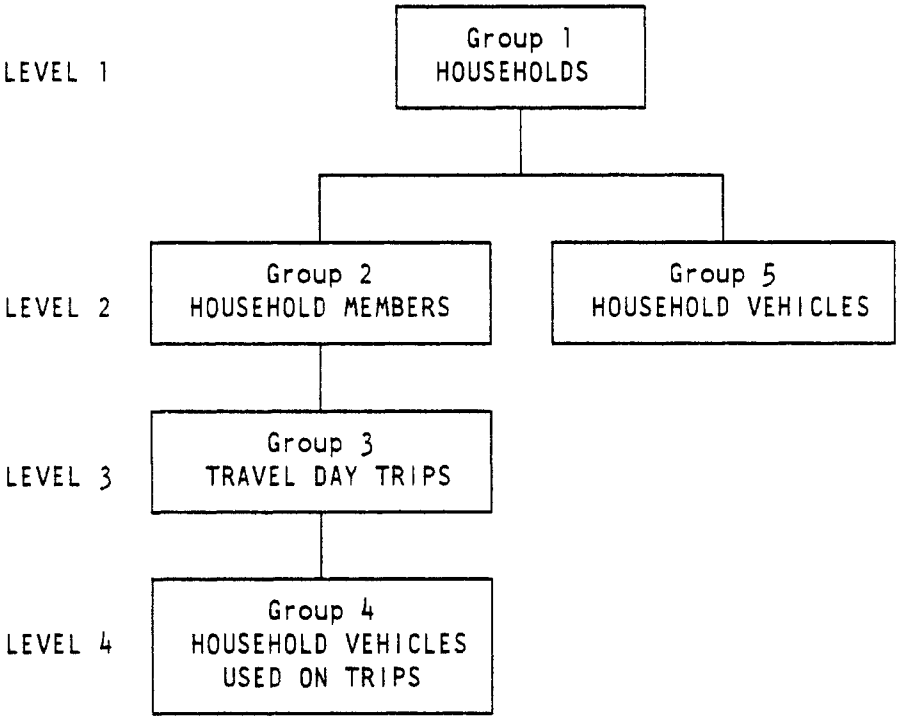
The Data Structure

The data were collected in four quarters, and each quarter's data were released separately by the DOT. However, to make the dataset more convenient, the four quarters have been combined into one dataset. The four quarters were as follows:

1. April 1977 through June 1977, households 1-6079.
2. July 1977 through September 1977, households 100001-106068.
3. October 1977 through December 1977, households 200001-206098.
4. January 1978 through March 1978, households 300001-306218.

Analysis of a single quarter can be achieved by filtering on month or household ID.

The data structure can be depicted as follows:



A brief discussion of each group follows.

Group 1: HOUSEHOLDS. One record per household.

Group 2: HOUSEHOLD MEMBERS. One record per household member. The information collected on a person's occupation and travel to work has been included here. It should be noted that miles driven while at work are recorded here.

Group 3: TRAVEL DAY TRIPS. One record per person-trip. The original data have one trip record for each trip, even if several household members went on this trip. Listed, in each trip record, are the household member to whom the trip is assigned and the other household members on the trip. The dataset as built has a separate trip record for each household member on such a trip. The original data format can be restored by including only those records with the TRIP COPY COUNTER equal to 1 (INCLUDE V2101=1).

The NEW HOUSEHOLD MEMBER ID (V2102) is taken from variables 104 and 2019 through 2026 in the original trip record which identified the various household members on a trip. The second household member was selected for the second copy of the record, the third household member for the third copy, etc. Similarly the NEW-PERSON TRIP WEIGHT (V2103) was selected from variables 2078 through 2087. A new ID variable (V2104) was created to identify each new trip record.

The structured dataset links the NEW HOUSEHOLD MEMBER ID (V2102) to the HOUSEHOLD MEMBER ID in Group 2 (V104).

Group 4: HOUSEHOLD VEHICLES USED ON TRIPS. One record per person-trip. A copy of the appropriate vehicle record was made for each person-trip, when a household vehicle was used on that trip. Variables 2102 to 2104 from Group 3 were added to the vehicle variables to permit linking the vehicles in Group 4 to the trips in Group 3. By holding VEHICLE COPY COUNTER equal to 1 (INCLUDE V1100=1), the vehicle data in Group 4 may be restricted to one record per vehicle. However, only household vehicles that were in use on the survey date are included in Group 4.

Group 5: HOUSEHOLD VEHICLES. One record per household vehicle. All household vehicles, not just those used on the survey date, are included here.

The Sampling Weights

Households in the study were sampled with different probabilities of selection, and these probabilities are reflected in the BASIC HOUSEHOLD WEIGHT (V43). The file also contains a second household weight variable, the FINAL HOUSEHOLD WEIGHT, which was assigned by the Bureau of the Census and which attempts to correct for different non-response rates for different types of households. Similarly at the household member level the BASIC HOUSEHOLD WEIGHT is reproduced (V122), but a PERSON WEIGHT (V123) has also been calculated to take into account differential non-response. Such factors as age, sex, race, and household income were used in calculating this weight, so that groups with a high non-response rate would not be under-represented in the final counts. These person weights are identical to the person-trip weights for the appropriate person and also to the NEW PERSON-TRIP WEIGHT (V2103) in Group 4. If so desired, the BASIC HOUSEHOLD WEIGHT can be used in preference to these calculated weights.

The sample design led to sampling only on the first fourteen days of each month. So that estimates of household trips, vehicle-miles, or person-miles could be made for a whole month (or quarter, or year) the Bureau of the Census calculated "travel day time inflation factors." Each survey date was assigned

a specific inflation factor designed to give each month the appropriate number of each day of the week. Thus if two Mondays in February were sampled and February had four Mondays, each of the two Mondays would be assigned an inflation factor of 2.

To facilitate use of the dataset, a product of the assigned weight and the time inflation factor has been calculated and placed in the appropriate Group. These calculated products are to be found as the INFLATED HOUSEHOLD-TRIP WEIGHT (V2105) and the INFLATED NEW PERSON-TRIP WEIGHT (V2106) in Group 3 and the INFLATED PERSON WEIGHT (V278) in Group 2. V278 is to be used in calculating miles driven while at work.

2.2 The 1977 TIU

The 1977 Truck Inventory and Use Survey is also a part of the 1977 Census of Transportation. It was based on a stratified probability sample of the nation's 28 million private and commercial trucks obtained from registration files maintained by the R.L. Polk Co. Vehicles owned by by Federal, State, and local governments were not sampled, nor were ambulances, buses, and motor homes.

The states were divided into three groups as follows:

Large States	California and Texas.
Medium States	Michigan and 9 other states.
Small States	All other states.

Each State was then stratified into "small" and "large" trucks based on body type and vehicle weight. The "small" truck stratum consisted of pickups, panel trucks, vans, multistops, and walk-ins with a GVW of 14,000 pounds or less. All other trucks were classified as "large."

Target sample sizes were established for each state size-truck size category based on statistical considerations for obtaining acceptable estimates of the measured parameters. The target sample for the nation was 116,400, with 600 of these in Michigan's small-truck stratum and 2,200 in its large-truck stratum.

Following completion of the survey, various vehicles were subsequently classified as "out-of-scope." These included trucks appearing in the registration files but apparently sold by the registrant prior to 1977, farm tractors, open utility vehicles, unpowered trailers, and trucks reported to have been junked or wrecked prior to the registration year.

The resulting national file contains 96,494 records. These records, when appropriately weighted, represent 26,212,887 private and commercial trucks, or 92.6% of the private and commercial truck registrations previously estimated by the Federal Highway Administration.[2]

The difference between the TIU data and the published FHWA statistics is proportionately larger for combination vehicles only. From Variable 70 (Vehicle Type) in the TIU dataset, the weighted frequencies for the combination-vehicle codes (code values 4-6) total 824,674. On the other hand, Table VM-1 of Highway Statistics 1977 gives the frequency of combination cargo vehicles as 1,264,091, and Table MV-9 indicates that 1,248,059 of the private and commercial trucks are "tractor trucks." Thus the TIU dataset contains about two-thirds of the FHWA-estimated combination vehicles.

This situation led FHWA to request that NHTSA's Transportation Systems Center prepare a "re-benched" dataset in which the expansion factors are increased sufficiently to reduce the disparity noted here. The re-benched dataset is not available at HSRI as of this writing. Analysts should be aware of this fact, and those concentrating on Michigan should compare TIU frequencies with those obtained directly from Michigan registration data.

Accessing the Dataset

In conjunction with HSRI's Data Operations Group and other MVMA-sponsored projects, the 1977 TIU data have been placed into ADAAS (Automated Data Access and Analysis System). ADAAS documentation and further information about the system are available from John A. Green, (313)-764-0248.

---

[2]Table MV-9 (Truck and Tractor-Truck Registrations - 1977) from Highway Statistics 1977 (U.S. Department of Transportation, Report No. FHWA-HP-HS-77, Federal Highway Administration, Washington, D.C.) shows 28,311,953 private and commercial truck registrations.

The entire TIU dataset, containing 96,494 records and 96 variables, is identified in ADAAS with DATA KEY=TIU77. A subset of 12,526 records containing combination vehicles (defined by code values 4-6 of V70, VEHICLE TYPE) is accessible with KEY=TIU77COM. Another subset of 2,457 records [defined by V1(State of Registration)=26(Michigan)] contains only Michigan cases and is accessible with KEY=TIU77MI.

It is important to keep in mind that these datasets, like the NPTS dataset, contain data obtained from a stratified probability sample. Generally each of the 102 strata (51 states and two truck-size classifications within each state) were sampled with different sampling fractions. For many comparisons, of course, the use of unweighted frequency data could thus lead to highly erroneous results.

The appropriate expansion factor for each case in the files is contained in Variable 76. The Michigan data, for example, have an expansion factor of 1577.4 for the small-truck stratum [Variable 2 (Sample Type), Code Value 1 (Sampled as Small Truck)] and an expansion factor of 78.2 for the large-truck stratum. OSIRIS IV users may use V76 as a weight variable directly. ADAAS users should keep in mind that there is one implied decimal place and that frequencies obtained by using V76 should be divided by ten to obtain the correct weighted frequencies.

Documentation

A listing of the master dictionary for the three datasets, together with code category labels where such exist, is contained in Appendix B.

Three other documents will prove useful to frequent users of these TIU77 datasets. A codebook has been prepared that is similar in structure to "official" codebooks prepared as part of ADAAS documentation. It differs in that frequencies for both the weighted and unweighted data for the complete national dataset are presented. This codebook (Census of Transportation, 1977, Truck Inventory and Use Survey, HSRI, 1980) is available at cost from Michelle Shepherd, HSRI Systems Analysis Division, (313)-764-0248.

Two Bureau of the Census publications, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from U.S. Department of Commerce district offices, are also available. They are

particularly useful for understanding details of the survey design and methodology. They also provide tabulations of many of the variables and will prove useful in guiding subsequent analyses.

U.S. Bureau of the Census, 1977 Census of Transportation: Truck Inventory and Use Survey, United States, TC77-T-52, U.S. Department of Commerce, May 1980.

Author's Introduction (Excerpts):

> The tables in this report are divided into two sections. The first section deals with various cross classifications, mostly at the National level. Within the first section are three subsections based on number of trucks (tables 3 to 9), truck miles (tables 10 to 14), and pickup and panel trucks (tables 15 to 17).
>
> The second section provides comparative data on the number of trucks, truck miles, and average miles per truck in each of the 50 States, the District of Columbia, and the Nation as a whole. Section two is further divided into three subsections based on size of truck (tables 18 to 21), major use (tables 22 to 33), and range of operation (tables 34 to 37).

U.S. Bureau of the Census, 1977 Census of Transportation: Truck Inventory and Use Survey, Michigan, TC77-T-23, U.S. Department of Commerce, June 1979.

Author's Introduction (Excerpts):

This report, providing data for Michigan's 1,001,700 estimated truck population, is similar to TC77-T-23 containing data for the Nation as a whole.

All tables in this report list items by vehicular and operational characteristics, such as major uses, body types, vehicle size, annual miles, model year, vehicle acquisition information, truck fleet size, truck type, range of operation, and fuel type.

The following seven tables are presented:

1 Trucks - Comparative Summary: 1963, 1967, 1072, and 1977.
2 Trucks, Truck Miles, and Average Annual Miles: 1977.
3 Trucks by Major Use: 1977.
4 Trucks by Size: 1977.
5 Trucks by Annual Miles: 1977.
6 Trucks by Range of Operation: 1977.
7 Trucks by Truck Type and Axle Arrangement: 1977.

Standard errors for many of the data entries are also included.

The report concludes with three useful appendixes:

A. Survey Form.
B. Estimating Unpublished Standard Errors.
C. Estimating Standard Errors for Sums, Differences, Ratios, and Percents.

2.3 The Michigan Driving Experience Survey

The Michigan Driving Experience Survey (MDES) was an extensive survey of a sample of Michigan licensed drivers conducted under the auspices of the Michigan Department of State in the calendar year 1976. The principal aim of the survey was to reveal the driving patterns of Michigan drivers, and, with this in mind, each driver interviewed was asked for information on all the trips he/she made on a particular date. A trip was defined as any journey that resulted in at least one hour being spent at the destination or that terminated at home. When a stop was less than one hour in duration and was not made at home it was treated as an intermediate stop in a single trip. 8,891 applicants for license renewal were interviewed at thirty licensing offices. Of these drivers, 1,310 refused to be interviewed, resulting in 7,581 completed interviews. The predicted number of interviews had been 10,623, resulting in an overall response rate of 71.4% (1,715 potential interviews are either presumed never to have been conducted or are incomplete). These 7,581 drivers performed a total of 13,659 trips on their respective survey dates. These drivers and trips should, with the normal risk of sampling error, be representative of the drivers in the whole Michigan population and their trips. Drivers under the age of nineteen are not represented, however, as a Michigan resident's first license renewal does not normally occur until after the nineteenth birthday.

Using the sample weights in the dataset, it is possible to calculate daily, monthly, or annual estimates of miles driven by Michigan drivers. It is also possible to describe characteristics of Michigan drivers and of the vehicles to which they have access. It is further possible to calculate sampling variances for the estimates obtained. The data have been built into an OSIRIS IV hierarchical dataset which can be accessed by mounting the appropriate tape and using the desired OSIRIS IV program.

Accessing the Dataset

A dictionary listing is given in Appendix C. Further listings can be obtained by copying the file SP65:MDESDICT. A listing is given of the four input dictionaries used in building the hierarchical dataset as well as of the final structured dataset dictionary. At this time, level tags have not generally been assigned to the variables. For information on the coding

conventions it is recommended that the user obtain a copy of Michigan Driving Experience Survey: Codebook and Coding Manual (Michigan Department of State, November 1981). Technical assistance and a limited number of codebooks are available from Oliver Carsten, Highway Safety Research Institute, The University of Michigan, Ann Arbor, Michigan 48109, phone: (313) 764-0248. Further information may be obtained from the survey's principal investigator, Martin E.H. Lee.[3]

A more detailed discussion of the methodology and the survey procedures is contained in Martin E.H. Lee, Methodology for a Disaggregate Statewide Survey of Motor Vehicle Ownership and Usage (Michigan Department of State, May 1980). This report also contains an assessment of potential bias from refusals and dubious data. The conclusion is that such bias is within acceptable limits.

To mount the tape containing the data, the MTS command

```
$SOURCE SP65:MDESMOUNT
```

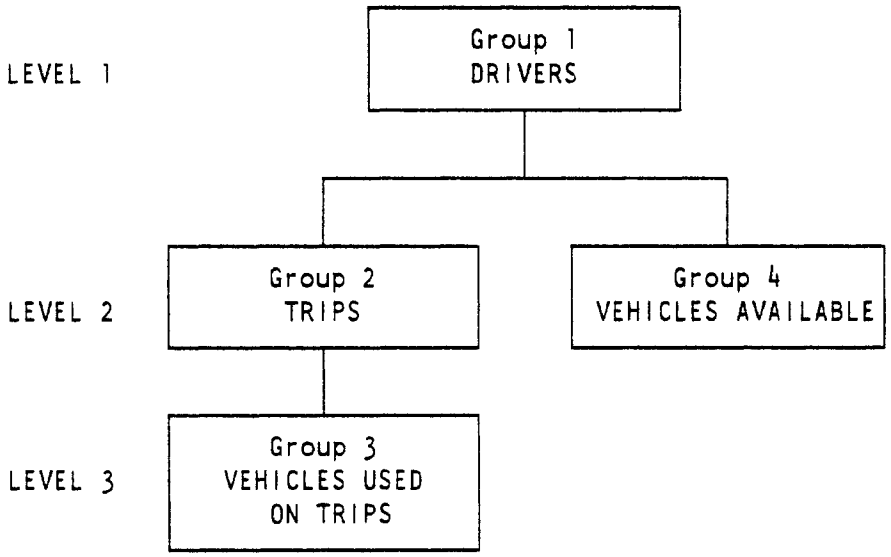
should be used. The tape will be mounted with the pseudodevice name *T*. The dictionary is in file no. 1 with the name "MDESDIC"; the data are in file no. 2 with the name "MDESDAT".

The Data Structure

The data structure can be depicted as follows:

---

[3]Dr. Lee may be reached at Lee-Gosselin Associes Ltee, 115 Chemin du Bout de l'Ile, Ste-Petronille (Ile d'Orleans), Quebec G0A 4C0, phone: (418) 828-9918. In case of difficulty contacting Martin Lee, contact Marvin Tableman, Michigan Department of State, phone: (517) 373-9083.



A brief discussion of each group follows.

Group 1: DRIVERS. 7,581 records, one record per driver. Variables 96-170 were obtained through a match between MDES driver cases and State of Michigan driver records. Variables 171-251 and 256 summarize information across the respondent's various trips. Variable 256 was computed from the respondents' replies on the driving time and distance of their trips. Because trip mileage was recorded in whole mile units, this calculated variable may contain some absurdly high numbers.

Group 2: TRIPS. 13,659 records, one record per trip. The structured dataset links the FILE SEQUENCE # (V1) to the same variable in Group 1.

Group 3: VEHICLES USED ON TRIPS. 13,515 records, one record per trip. A copy of the appropriate vehicle record was made for each trip, when a vehicle listed by the respondent was used on that trip. Only vehicles actually used on trips are included in Group 3. The structured file links the FILE SEQUENCE # (V1) and TRIP SEQUENCE NO. (V1000) to the equivalent variables in Group 2.

Group 4: VEHICLES AVAILABLE. 15,335 records, one record per vehicle. All vehicles available to the respondent, not just those used on the survey date, are included here. The structured dataset links the FILE SEQUENCE # (V1) to the same variable in Group 1.

In accessing the data for analysis, care should be taken to define the appropriate entry statement to enable rectangular records to be obtained from the hierarchical file. A discussion of entry statements is to be found in the Osiris IV User's Manual under "&ENTRY."

The Sample Weights

The survey was conducted at local license offices and the various offices in the study were sampled with different probabilities of selection. These probabilities are reflected in the SAMPLE WEIGHT (V91). However, as the offices were closed on Sundays, not all days of the week were sampled equally. A correction factor for this has been included in PSUWT*DOWWT (V255). A further correction factor, for differential non-response, has been included in PSUWT*RESRT*DOWWT (V254), and it is this weight variable that should be used for general analysis.

Variance Estimation

The OSIRIS IV data analysis package provides a variance estimation program, PSALMS, that fits the sampling procedure used in the survey. Variable 94 in the dataset indicates the stratum for the licensing office, and variable 95 indicates the primary sampling unit (PSU) within the stratum. In running PSALMS, the paired selection model should be used.

Dubious Data Flags

The dataset includes a number of variables intended to flag responses which were considered to be dubious by the survey staff, or which were altered from the original response (edited). Variables 86-89 indicate dubious data and can be used to eliminate questionable responses from analysis. For analysis of trips it is recommended that the user eliminate cases where the trip timing or distance are flagged as dubious. This would mean the exclusion of cases where any of the dubious data variables have values of 50, 52, 54, 56, 58, 60, 62, 64, 66, or 68. This can easily be accomplished with a filter statement:

```
EXCLUDE V86=50,52,54,56,58,60,62,64,66,68-
  OR V87=50,52,54,56,58,60,62,64,66,68-
  OR V88=50,52,54,56,58,60,62,64,66,68-
  OR V89=50,52,54,56,58,60,62,64,66,68
```

Full details on the dubious data codes are provided in the Codebook and Coding Manual.

3. OTHER EXPOSURE MEASURES

Population data, numbers of licensed drivers, and numbers of registered vehicles have all found use in analytical work requiring exposure information. These data for some of the recent years have been gathered together in readily accessible MTS files. Access information and documentation are provided in this section. The data are also given in the tables appearing at the end of this section.

In addition, some of the 1970 Bureau of the Census data are available in MTS files. Documentation for these files is also provided.

3.1 Population Data

Population data for 1970, 1972, 1975, and 1979 are contained in Table 1 for each of the 83 counties. The yearly totals are also given. Data for 1970, 1972, and 1975 are taken from reference [8]. The 1979 figures are from reference [9].

The population data are available though MTS in the MIDAS (Michigan Interactive Data Analysis System) internal file SMK2:MCOUNPOP. Contents of this file follow.

DISPLAY INFORMATION FROM INTERNAL FILE "SMK2:MCOUNPOP"

VARIABLE	#CASES	LEVELS	CRE DATE	COPY	RECORD
1.COUNTY#	84	83	04-22-82		1
2.FIPS	84	165	04-22-82		2
3.NAME1 | A8	84		04-22-82		3
4.NAME2 | A8	84		04-22-82		4
5.POP70	84	8881826	04-22-82		5
6.POP72EST	84	9013300	04-22-82		6
7.POP75EST	84	9116696	04-22-82		7
8.POP79EST	84	9207300	04-22-82		8
9.POP80	84	9262078	05-14-82		9

9 VARIABLES

3.2 Licensed Drivers

The Michigan Department of State maintains computer files of all drivers licensed in Michigan. As part of a joint Department of State-HSRI project, the Department drew two 1% pseudo-random samples of drivers in 1977 and 1979. HSRI's Data Operations Group created a series of MTS files from the sample, and also created a county-of-residence variable from the states's 1175 ZIP codes. Missing ZIP codes or those not corresponding to a Michigan county resulted in a missing-data code for the county of residence.

Table 2 contains the 1% sample frequency data for each county and for the entire state. Sampling variations are to be expected for these data. If these data are used extensively and the sampling variations are troublesome, then it would be worthwhile to have the Department of State create census files in the future.

The licensed drivers data are available in the MIDAS internal file SMK2:MCOUNDRVRS. Contents of the file follow. Variables 3 and 4 together contain the county names which may be written out using a (2A8) format.

DISPLAY INFORMATION FROM INTERNAL FILE "SMK2:MCOUNDRVRS"

VARIABLE	#CASES	LEVELS	CRE DATE	COPY	RECORD
1.COUNTY#	85	83	04-21-82		1
2.FIPS	85	165	04-21-82		2
3.NAME1|A8	85		04-21-82		3
4.NAME2|A8	85		04-21-82		4
5.FRQ77@1%	85	66803	04-21-82		5
6.FRQ79@1%	85	68299	04-21-82		6

6 VARIABLES

3.3 Registered Vehicles

Tables 3-6 contain Michigan registration data, by county, for 1977-1980. These are taken from the yearly publications of [10]. It should be noted that the "Municipal" category was last used as a separate classification in 1977.

MIDAS internal file SMK2:MREG is available for users who wish to use the registration figures in their own computer work. File contents are shown below.

DISPLAY INFORMATION FROM INTERNAL FILE "SMK2:MREG"

VARIABLE	#CASES	LEVELS	CRE DATE	COPY	RECORD
1.COUNTY#	85	83	04-21-82		1
2.FIPS	85	165	04-21-82		2
3.NAME1|A8	85		04-21-82		3
4.NAME2|A8	85		04-21-82		4
771.PASS77	85	4890094	04-21-82		5
772.COMML77	85	987822	04-21-82		6
773.TRLR77	85	811224	04-21-82		7
774.MCYCLE77	85	260816	04-21-82		8
775.MUNCPL77	85	9571	04-21-82		9
776.TOTAL77	85	6959527	04-21-82		10
781.PASS78	85	5126907	04-21-82		11
782.COMML78	85	1081990	04-21-82		12
783.TRLR78	85	818232	04-21-82		13
784.MCYCLE78	85	242706	04-21-82		14
785.TOTAL78	85	7269835	04-21-82		15
791.PASS79	85	5162138	04-21-82		16
792.COMML79	85	1122898	04-21-82		17
793.TRLR79	85	775261	04-21-82		18
794.MCYCLE79	85	251210	04-21-82		19
795.TOTAL79	85	7311507	04-21-82		20
801.PASS80	85	5220972	04-21-82		21
802.COMML80	85	1095634	04-21-82		22
803.TRLR80	85	760533	04-21-82		23
804.MCYCLE80	85	254129	04-21-82		24
805.TOTAL80	85	7331268	04-21-82		25

25 VARIABLES

3.4 Data from County and City Data Book, 1977

The U.S. Bureau of the Census publishes a wealth of information about all U.S. counties in its County and City Data Book series [8]. The 1977 volume contains 195 statistical items, all of which are available to the public on computer tapes.

Under National Science Foundation sponsorship, the Intergovernmental Fiscal Analysis Project, Urban and Regional Planning Ph.D. Program, obtained a number of the public file tapes and created MIDAS internal files for each of the states and a separate file for all U.S. counties and equivalents. Separate files documenting the contents of the MIDAS files were also prepared.

As part of the current project, the MIDAS internal file containing the county data and its companion documentation file were obtained. A Michigan subset of the MIDAS internal file was created and is accessible as SMK2:MMICHCOUNTY.[4]

The contents of the file are indicated in Tables 7 and 8, adaptations of the documentation file cited above. Table 7 shows the 900-series of variables that identify the state, division, region, etc. for each county. These variables are labeled, as shown, in the MIDAS internal file SMK2:MMICHCOUNTY.

The more general contents of the file are indicated in Table 8. In this 1000-series of variables, however, the variables are not labeled. Brief descriptions of each variable are given, and these are generally self explanatory. The second column [REF. ITEM(s)] contains the corresponding item numbers as used in reference [8]. More detailed descriptions of the variables are available in that source document, and users are encouraged to consult them.

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[4] The data are contained in the file COUNTY/DATA [File #55 on tape 9TP, VOLUME=CCDAATA, OWNER=CCDATA, RACK#=C3118C (as of 11/13/1980)] . The line file COUNTY/DOC, file #54, same tape, contains the documentation.

Table 1

Michigan Population Data by County

County			Population				1980
Name	#	FIPS	1970	1972 (Est.)	1975 (Est.)	1979 (Est.)	
Alcona	1	1	7113	8100	8640	9200	9740
Alger	2	3	8568	8300	8977	9900	9225
Allegan	3	5	66575	69300	71501	75800	81555
Alpena	4	7	30708	31900	33293	33300	32315
Antrim	5	9	12612	13600	15314	16700	16194
Arenac	6	11	11149	12000	13179	14000	14706
Baraga	7	13	7789	7700	8060	8700	8484
Barry	8	15	38166	39900	41430	43200	45781
Bay	9	17	117339	118700	120099	120100	119881
Benzie	10	19	8593	8800	9870	11000	11205
Berrien	11	21	163940	166500	170549	166700	171276
Branch	12	23	37906	39200	37868	38800	40188
Calhoun	13	25	141963	141000	141664	139300	141557
Cass	14	27	43312	43200	45526	45700	49499
Charlevoix	15	29	16541	17100	18467	19600	19907
Cheboygan	16	31	16573	17900	19419	20300	20649
Chippewa	17	33	32412	34300	35993	29300	29029
Clare	18	35	16695	18300	21237	23900	23822
Clinton	19	37	48492	48400	52495	55500	55893
Crawford	20	39	6482	7000	8248	9400	9465
Delta	21	41	35924	37300	39358	39600	38947
Dickinson	22	43	23753	24200	24975	25600	25341
Eaton	23	45	68892	71300	77804	83900	88337
Emmet	24	47	18331	19500	21211	22100	22992
Genesee	25	49	445589	449800	449606	451200	450449
Gladwin	26	51	13471	14700	16770	19200	19957
Gogebic	27	53	20676	20500	20810	19600	19686
Grand Traverse	28	55	39175	41900	44875	50300	54899
Gratiot	29	57	39246	39800	39953	39700	40448
Hillsdale	30	59	37171	38800	40136	40100	42071
Houghton	31	61	34652	36200	36960	36100	37872
Huron	32	63	34083	35200	35879	35800	36459
Ingham	33	65	261039	265600	267581	270700	275520
Ionia	34	67	45848	47600	47351	49700	51815
Iosco	35	69	24905	27500	28218	30100	28349
Iron	36	71	13813	13900	14345	14700	13635
Isabella	37	73	44594	48100	49299	51900	54110
Jackson	38	75	143274	143700	146542	149000	151495
Kalamazoo	39	77	201550	202000	201366	207800	212378
Kalkaska	40	79	5372	6200	10337	12900	10952
Kent	41	81	411044	414300	423601	441600	444506
Keweenaw	42	83	2264	2300	2173	2300	1963

Table 1 (continued)

Michigan Population Data by County

County			Population				1980
Name	#	FIPS	1970	1972 (Est.)	1975 (Est.)	1979 (Est.)	
Lake	43	85	5661	6400	6834	7200	7711
Lapeer	44	87	52361	55100	61610	69200	70038
Leelanau	45	89	10872	11500	12527	14100	14007
Lenawee	46	91	81951	83200	86665	86900	89948
Livingston	47	93	58967	64200	77859	99200	100289
Luce	48	95	6789	7500	7115	7000	6659
Mackinac	49	97	9660	10300	10714	10800	10178
Macomb	50	99	626204	638000	669813	706700	694600
Manistee	51	101	20393	21100	21766	22000	23019
Marquette	52	103	64686	68100	69467	75600	74101
Mason	53	105	22612	24400	24517	24900	26365
Mecosta	54	107	27992	30600	34021	35000	36961
Menominee	55	109	24587	24900	25563	27300	26201
Midland	56	111	63769	64800	67547	71100	73578
Missaukee	57	113	7126	7700	8767	10000	10009
Monroe	58	115	119215	123200	127094	131600	134659
Montcalm	59	117	39660	41500	44135	46100	47555
Montmorency	60	119	5247	5700	6990	7700	7492
Muskegon	61	121	157426	158400	156971	158800	157589
Newaygo	62	123	27992	28800	31244	33600	34917
Oakland	63	125	907871	921800	966625	1020100	1011793
Oceana	64	127	17984	19200	20663	21100	22002
Ogemaw	65	129	11903	12700	14795	16200	16436
Ontonagon	66	131	10548	10800	11357	10000	9861
Osceola	67	133	14838	16500	17338	18100	18928
Oscoda	68	135	4726	5200	6152	7200	6858
Otsego	69	137	10422	11600	13456	15100	14993
Ottawa	70	139	128181	131200	140556	154600	157174
Presque Isle	71	141	12836	13200	14000	14200	14267
Roscommon	72	143	9892	11500	14489	16200	16374
Saginaw	73	145	219743	224000	226682	226600	228059
St. Clair	74	147	119280	126200	130749	134200	138802
St. Joseph	75	149	47392	49000	50865	52100	56083
Sanilac	76	151	35181	36800	38981	39800	40789
Schoolcraft	77	153	8226	8400	8659	8700	8575
Shiawassee	78	155	63075	65600	69218	70900	71140
Tuscola	79	157	48603	50600	53776	55700	56961
Van Buren	80	159	56173	59500	61734	62500	66814
Washtenaw	81	161	234103	239300	244724	253900	264748
Wayne	82	163	2670368	2652600	2517726	2358500	2337891
Wexford	83	165	19717	20600	21953	22500	25102
STATE TOTAL	--	---	8881826	9013300	9116696	9207300	9262078

Table 2

1% Sample of Michigan Drivers by County

County			Year	
Name	#	FIPS	1977	1979
Alcona	1	1	87	82
Alger	2	3	75	67
Allegan	3	5	507	524
Alpena	4	7	243	278
Antrim	5	9	129	115
Arenac	6	11	122	145
Baraga	7	13	60	69
Barry	8	15	321	287
Bay	9	17	817	891
Benzie	10	19	83	94
Berrien	11	21	1392	1453
Branch	12	23	280	316
Calhoun	13	25	1051	1023
Cass	14	27	291	300
Charlevoix	15	29	167	174
Cheboygan	16	31	139	151
Chippewa	17	33	244	230
Clare	18	35	192	183
Clinton	19	37	521	535
Crawford	20	39	62	63
Delta	21	41	310	302
Dickinson	22	43	185	213
Eaton	23	45	734	757
Emmet	24	47	164	186
Genesee	25	49	3383	3338
Gladwin	26	51	138	157
Gogebic	27	53	120	139
Grand Traverse	28	55	462	471
Gratiot	29	57	295	299
Hillsdale	30	59	304	261
Houghton	31	61	183	179
Huron	32	63	259	267
Ingham	33	65	1733	1807
Ionia	34	67	301	352
Iosco	35	69	180	260
Iron	36	71	109	102
Isabella	37	73	256	283
Jackson	38	75	1133	1125
Kalamazoo	39	77	1477	1454
Kalkaska	40	79	65	74
Kent	41	81	3112	3318
Keweenaw	42	83	62	77
Lake	43	85	52	68
Lapeer	44	87	443	503

Table 2 (continued)

1% Sample of Michigan Drivers by County

County			Year	
Name	#	FIPS	1977	1979
Leelanau	45	89	92	77
Lenawee	46	91	652	666
Livingston	47	93	540	602
Luce	48	95	49	39
Mackinac	49	97	70	81
Macomb	50	99	5116	5169
Manistee	51	101	163	173
Marquette	52	103	492	531
Mason	53	105	183	204
Mecosta	54	107	206	203
Menominee	55	109	165	206
Midland	56	111	541	523
Missaukee	57	113	84	74
Monroe	58	115	804	926
Montcalm	59	117	365	377
Montmorency	60	119	69	71
Muskegon	61	121	1019	1173
Newaygo	62	123	262	273
Oakland	63	125	6907	6867
Oceana	64	127	148	135
Ogemaw	65	129	126	110
Ontonagon	66	131	82	69
Osceola	67	133	152	138
Oscoda	68	135	45	48
Otsego	69	137	120	126
Ottawa	70	139	1101	1225
Presque Isle	71	141	90	119
Roscommon	72	143	150	167
Saginaw	73	145	1595	1565
St. Clair	74	147	953	988
St. Joseph	75	149	435	424
Sanilac	76	151	281	276
Schoolcraft	77	153	77	80
Shiawassee	78	155	534	521
Tuscola	79	157	408	408
Van Buren	80	159	475	492
Washtenaw	81	161	2015	2015
Wayne	82	163	16011	15945
Wexford	83	165	173	198
Unknown	--	---	1810	2043
STATE TOTAL	--	---	66803	68299

Table 3

1977 Michigan Registration Data by County

County			Vehicle Type					
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	Muni-cipal	TOTAL
Alcona	1	1	4937	1762	1569	300	10	8578
Alger	2	3	4183	1825	1046	350	11	7415
Allegan	3	5	36088	12531	8025	2440	56	59140
Alpena	4	7	16539	5707	4786	1171	14	28217
Antrim	5	9	8109	2673	2398	606	14	13800
Arenac	6	11	6531	2492	1995	398	32	11448
Baraga	7	13	3826	1647	902	302	20	6697
Barry	8	15	19606	7062	5260	1811	21	33760
Bay	9	17	62728	15283	15486	3341	84	96922
Benzie	10	19	5570	1881	1542	374	14	9381
Berrien	11	21	91912	23988	15801	4681	107	136489
Branch	12	23	20120	7531	6248	1430	22	35351
Calhoun	13	25	76533	17820	14551	4823	146	113873
Cass	14	27	23494	8392	5072	2019	30	39007
Charlevoix	15	29	10076	3229	2499	823	18	16645
Cheboygan	16	31	10184	3734	3031	807	87	17843
Chippewa	17	33	15562	5297	4110	1209	39	26217
Clare	18	35	10743	4073	3155	730	38	18739
Clinton	19	37	25864	9098	7285	2398	31	44676
Crawford	20	39	4693	1503	1454	292	4	7946
Delta	21	41	18850	6836	6035	1252	106	33079
Dickinson	22	43	13475	4330	3520	997	9	22331
Eaton	23	45	37817	10818	8948	3202	81	60866
Emmet	24	47	11811	3891	2775	858	47	19382
Genesee	25	49	240136	50354	42717	13509	486	347202
Gladwin	26	51	8165	3236	2792	532	23	14748
Gogebic	27	53	9237	3332	2051	501	14	15135
Grand Traverse	28	55	30004	8368	7971	1937	47	48327
Gratiot	29	57	19480	7209	5825	1759	60	34333
Hillsdale	30	59	19710	7591	5789	1559	33	34682
Houghton	31	61	15330	4629	2584	973	14	23530
Huron	32	63	18497	7396	5851	1197	126	33067
Ingham	33	65	141102	25738	20175	8722	2109	197846
Ionia	34	67	22135	7548	5624	2299	30	37636
Iosco	35	69	14221	4189	4201	962	25	23598
Iron	36	71	7172	2906	1787	412	16	12293
Isabella	37	73	19804	6345	4796	1340	79	32364
Jackson	38	75	76248	18975	14675	5087	215	115200
Kalamazoo	39	77	111795	23195	17454	7310	126	159880
Kalkaska	40	79	5000	2404	1610	293	5	9312
Kent	41	81	242714	46528	50152	14893	427	354714
Keweenaw	42	83	1047	338	228	85	1	1699
Lake	43	85	3350	1285	916	178	5	5734

Table 3 (continued)

1977 Michigan Registration Data by County

County			Vehicle Type					TOTAL
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	Muni-cipal	
Lapeer	44	87	29409	10070	6921	2546	102	49048
Leelanau	45	89	6636	2161	1760	367	9	10933
Lenawee	46	91	44787	14143	9666	3204	113	71913
Livingston	47	93	41905	11765	7928	2941	53	64592
Luce	48	95	3041	1405	1104	191	5	5746
Mackinac	49	97	4510	1811	1332	343	5	8001
Macomb	50	99	403255	53161	49815	17802	258	524291
Manistee	51	101	11552	3450	2746	611	22	18381
Marquette	52	103	33367	10674	6034	2954	123	53152
Mason	53	105	13241	4109	3380	1017	29	21776
Mecosta	54	107	12971	4488	3328	833	47	21667
Menominee	55	109	12802	4459	3273	850	13	21397
Midland	56	111	38221	8433	9916	2430	59	59059
Missaukee	57	113	4214	2081	1245	355	9571	7895
Monroe	58	115	65444	17369	14203	4368	85	101469
Montcalm	59	117	21899	8021	6406	1899	41	38266
Montmorency	60	119	3692	1584	1252	228	12	6768
Muskegon	61	121	82392	18576	17272	5623	222	124085
Newaygo	62	123	15223	5892	4509	1414	69	27107
Oakland	63	125	592297	85553	70060	26574	611	775095
Oceana	64	127	9515	3878	2238	761	15	16407
Ogemaw	65	129	7668	3182	2563	538	6	13957
Ontonagon	66	131	5145	2033	1554	295	5	9032
Osceola	67	133	8210	3689	2343	637	18	14897
Oscoda	68	135	3256	1344	1054	242	28	5924
Otsego	69	137	7279	2778	1899	539	9	12504
Ottawa	70	139	76980	18284	18620	5305	271	119460
Presque Isle	71	141	6868	2817	1847	457	57	12046
Roscommon	72	143	8579	2807	2771	565	24	14746
Saginaw	73	145	119617	25090	25003	6106	135	175951
St. Clair	74	147	67485	16104	12309	4400	85	100383
St. Joseph	75	149	27525	9393	6195	2253	52	45418
Sanilac	76	151	18921	7494	5195	1500	35	33145
Schoolcraft	77	153	4446	1748	1288	359	4	7845
Shiawassee	78	155	33884	10980	7737	3047	86	55734
Tuscola	79	157	25506	10325	8059	2068	129	46087
Van Buren	80	159	31018	11068	5867	2105	38	50096
Washtenaw	81	161	132734	22763	14464	7207	164	177332
Wayne	82	163	1282901	155852	123901	44646	1617	1608917
Wexford	83	165	12175	3711	3529	945	21	20381
Non-resident	--	---	15126	8308	15947	129	12	39522
STATE TOTAL	--	---	4890094	987822	811224	260816	9571	6959527

Table 4

1978 Michigan Registration Data by County

County			Vehicle Type				
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	TOTAL
Alcona	1	1	5238	1975	1655	257	9125
Alger	2	3	4434	2129	1139	328	8030
Allegan	3	5	37748	14043	8396	2329	62516
Alpena	4	7	16977	6212	5011	1128	29328
Antrim	5	9	8785	3003	2660	590	15038
Arenac	6	11	6946	2866	2192	403	12407
Baraga	7	13	4086	1829	936	277	7128
Barry	8	15	20929	7787	5682	1620	36018
Bay	9	17	65141	16169	16085	3138	100533
Benzie	10	19	6119	2194	1664	360	10337
Berrien	11	21	93895	25654	16101	4405	140055
Branch	12	23	20929	8045	6417	1423	36814
Calhoun	13	25	79269	19007	14999	4833	118108
Cass	14	27	24362	9220	5370	1868	40820
Charlevoix	15	29	10675	3763	2672	799	17909
Cheboygan	16	31	11058	4045	3284	805	19192
Chippewa	17	33	14112	5519	3992	920	24543
Clare	18	35	11193	4385	3281	628	19487
Clinton	19	37	26874	9698	7376	2296	46244
Crawford	20	39	4723	1732	1410	269	8134
Delta	21	41	19385	7563	6452	1155	34555
Dickinson	22	43	13967	4875	3701	1012	23555
Eaton	23	45	40793	11872	9551	3103	65319
Emmet	24	47	12760	4171	2980	841	20752
Genesee	25	49	255405	55747	44251	12825	368228
Gladwin	26	51	8933	3710	3019	588	16250
Gogebic	27	53	9254	3614	2055	476	15399
Grand Traverse	28	55	31975	9245	8412	1863	51495
Gratiot	29	57	20019	7546	5759	1599	34923
Hillsdale	30	59	20852	8158	5915	1507	36432
Houghton	31	61	15964	4961	2668	981	24574
Huron	32	63	19553	7464	5988	1215	34220
Ingham	33	65	148181	28935	20416	8062	205594
Ionia	34	67	23229	8190	5722	2088	39229
Iosco	35	69	14905	4621	4367	926	24819
Iron	36	71	7239	3148	1891	418	12696
Isabella	37	73	21127	6926	5192	1245	34490
Jackson	38	75	79744	20783	15190	4720	120437
Kalamazoo	39	77	115427	25201	17866	6773	165267
Kalkaska	40	79	5373	2738	1748	303	10162
Kent	41	81	256033	51996	47728	13664	369421
Keweenaw	42	83	1021	358	228	66	1673
Lake	43	85	3606	1425	1047	189	6267

Table 4 (continued)

1978 Michigan Registration Data by County

County			Vehicle Type				
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	TOTAL
Lapeer	44	87	31901	11404	7372	2481	53158
Leelanau	45	89	6889	2392	1947	364	11592
Lenawee	46	91	47530	15391	9982	3006	75909
Livingston	47	93	47435	13531	8867	2816	72649
Luce	48	95	3065	1475	1137	170	5847
Mackinac	49	97	4575	1999	1467	358	8399
Macomb	50	99	428136	58859	46759	16236	549990
Manistee	51	101	12009	3873	2909	593	19384
Marquette	52	103	34760	11899	6524	2811	55994
Mason	53	105	13061	4441	3352	977	21831
Mecosta	54	107	13498	4828	3504	697	22527
Menominee	55	109	12961	4722	3363	753	21799
Midland	56	111	40528	9387	10320	2340	62575
Missaukee	57	113	4561	2327	1389	318	8595
Monroe	58	115	69381	19659	14625	4156	107821
Montcalm	59	117	22912	8679	6558	1772	39921
Montmorency	60	119	3964	1847	1333	228	7372
Muskegon	61	121	84982	20223	17411	5218	127834
Newaygo	62	123	16279	6639	4676	1256	28850
Oakland	63	125	629459	94339	66532	23795	814125
Oceana	64	127	9946	4204	2294	738	17182
Ogemaw	65	129	8153	3411	2694	541	14799
Ontonagon	66	131	5025	2207	1569	243	9044
Osceola	67	133	8343	3715	2389	626	15073
Oscoda	68	135	3554	1569	1132	246	6501
Otsego	69	137	7696	3061	2038	496	13291
Ottawa	70	139	82100	20495	19565	5139	127299
Presque Isle	71	141	7107	3087	2053	406	12653
Roscommon	72	143	9218	3334	3084	545	16181
Saginaw	73	145	124466	26594	25347	5745	182152
St. Clair	74	147	71734	18339	13090	4088	107251
St. Joseph	75	149	28956	10315	6473	2117	47861
Sanilac	76	151	19911	7754	5135	1364	34164
Schoolcraft	77	153	4620	1812	1402	319	8153
Shiawassee	78	155	36900	12222	8184	2849	60155
Tuscola	79	157	27424	11525	8333	1959	49241
Van Buren	80	159	32374	12118	6347	1917	52756
Washtenaw	81	161	141863	25102	15042	6858	188865
Wayne	82	163	1317940	166517	119635	40806	1644898
Wexford	83	165	13013	4321	3748	896	21978
Non-resident	--	---	20440	9852	16183	168	46643
STATE TOTAL	--	---	5126907	1081990	818232	242706	7269835

Table 5

1979 Michigan Registration Data by County

County			Vehicle Type				
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	TOTAL
Alcona	1	1	5376	2145	1599	319	9439
Alger	2	3	4392	2122	1081	379	7974
Allegan	3	5	39481	15032	8341	2634	65488
Alpena	4	7	17138	6585	4700	1123	29546
Antrim	5	9	9324	3198	2485	614	15621
Arenac	6	11	7136	3073	2086	480	12775
Baraga	7	13	4170	1946	872	276	7264
Barry	8	15	21750	8163	5402	1793	37108
Bay	9	17	65233	16573	14733	3292	99831
Benzie	10	19	6119	2380	1671	417	10587
Berrien	11	21	92775	25974	15318	4743	138810
Branch	12	23	20941	8013	5971	1547	36472
Calhoun	13	25	78151	19674	14080	4969	116874
Cass	14	27	24521	9520	5136	1891	41068
Charlevoix	15	29	10902	3908	2508	821	18139
Cheboygan	16	31	10874	4264	3026	906	19070
Chippewa	17	33	13357	5521	3518	898	23294
Clare	18	35	11397	4621	3077	681	19776
Clinton	19	37	27396	9849	6871	2371	46487
Crawford	20	39	4707	1854	1296	268	8125
Delta	21	41	19819	7778	6151	1192	34940
Dickinson	22	43	13795	5149	3521	986	23451
Eaton	23	45	40998	11968	8990	3205	65161
Emmet	24	47	12752	4469	2710	886	20817
Genesee	25	49	255393	57036	41196	13147	366772
Gladwin	26	51	9159	3898	2864	621	16542
Gogebic	27	53	9150	3706	2023	516	15395
Grand Traverse	28	55	32814	9827	7934	1941	52516
Gratiot	29	57	20094	7537	5376	1590	34597
Hillsdale	30	59	20960	8391	5526	1629	36506
Houghton	31	61	15459	5105	2483	935	23982
Huron	32	63	19461	7889	5629	1383	34362
Ingham	33	65	151432	31407	19620	8362	210821
Ionia	34	67	24050	8571	5412	2197	40230
Iosco	35	69	14712	4713	4085	972	24482
Iron	36	71	7100	3191	1733	381	12405
Isabella	37	73	20886	7106	4792	1423	34207
Jackson	38	75	80791	21867	14432	5121	122211
Kalamazoo	39	77	116002	25910	17169	6804	165885
Kalkaska	40	79	5410	2841	1867	362	10480
Kent	41	81	258702	54979	45065	14214	372960
Keweenaw	42	83	1023	357	190	64	1634
Lake	43	85	3583	1503	943	205	6234

Table 5 (continued)

1979 Michigan Registration Data by County

County			Vehicle Type				
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	TOTAL
Lapeer	44	87	33228	12299	7098	2605	55230
Leelanau	45	89	7167	2517	1903	425	12012
Lenawee	46	91	47241	15812	9575	3094	75722
Livingston	47	93	50564	14455	8918	3060	76997
Luce	48	95	3085	1545	1088	159	5877
Mackinac	49	97	4648	2037	1416	432	8533
Macomb	50	99	436922	61111	44606	16495	559134
Manistee	51	101	12075	4241	2709	681	19706
Marquette	52	103	34500	12197	6147	2749	55593
Mason	53	105	13496	4655	3142	1024	22317
Mecosta	54	107	13759	5061	3278	820	22918
Menominee	55	109	13056	5011	3206	844	22117
Midland	56	111	41423	9891	9561	2433	63308
Missaukee	57	113	4710	2430	1345	331	8816
Monroe	58	115	69879	20021	13914	4561	108375
Montcalm	59	117	23613	8856	5963	1792	40224
Montmorency	60	119	4057	1987	1275	243	7562
Muskegon	61	121	85947	21301	15922	5492	128662
Newaygo	62	123	16414	6893	4365	1401	29073
Oakland	63	125	641046	98220	64066	24673	828005
Oceana	64	127	10278	4484	2248	825	17835
Ogemaw	65	129	8512	3686	2539	600	15337
Ontonagon	66	131	4816	2169	1407	226	8618
Osceola	67	133	8612	3877	2300	666	15455
Oscoda	68	135	3589	1666	1107	253	6615
Otsego	69	137	7861	3187	1957	532	13537
Ottawa	70	139	84497	21763	19087	5708	131055
Presque Isle	71	141	7140	3253	1996	452	12841
Roscommon	72	143	9433	3467	2901	570	16371
Saginaw	73	145	125674	27722	23527	5831	182754
St. Clair	74	147	73329	19208	12649	4382	109568
St. Joseph	75	149	29034	10496	6317	2191	48038
Sanilac	76	151	19928	8047	4814	1530	34319
Schoolcraft	77	153	4601	1863	1297	322	8083
Shiawassee	78	155	36983	12475	7575	2912	59945
Tuscola	79	157	28055	11652	7750	2135	49592
Van Buren	80	159	32463	12562	5978	2046	53049
Washtenaw	81	161	143392	25910	15083	6939	191324
Wayne	82	163	1303685	169591	114095	40182	1627553
Wexford	83	165	12842	4639	3518	880	21879
Non-resident	--	---	21899	11028	14137	156	47220
STATE TOTAL	--	---	5162138	1122898	775261	251210	7311507

Table 6

1980 Michigan Registration Data by County

County			Vehicle Type				TOTAL
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	
Alcona	1	1	5774	2213	1600	358	9945
Alger	2	3	4511	2071	1112	384	8078
Allegan	3	5	40339	15008	8203	2784	66334
Alpena	4	7	17305	6374	4531	1227	29437
Antrim	5	9	9176	3182	2484	673	15515
Arenac	6	11	7432	3104	2194	494	13224
Baraga	7	13	4106	1843	902	282	7133
Barry	8	15	22557	8313	5363	1906	38139
Bay	9	17	65356	15921	14665	3473	99415
Benzie	10	19	6274	2284	1670	413	10641
Berrien	11	21	92562	24989	14648	4946	137145
Branch	12	23	20136	7804	5686	1651	35277
Calhoun	13	25	78913	19050	13707	5203	116873
Cass	14	27	24749	9436	4979	1881	41045
Charlevoix	15	29	11340	3896	2492	852	18580
Cheboygan	16	31	11277	4232	3022	908	19439
Chippewa	17	33	13307	5465	3544	1008	23324
Clare	18	35	11696	4747	3136	719	20298
Clinton	19	37	27614	9654	6608	2384	46260
Crawford	20	39	4890	1887	1340	319	8436
Delta	21	41	20050	7624	6108	1281	35063
Dickinson	22	43	14020	5287	3519	1073	23899
Eaton	23	45	42482	12187	8905	3365	66939
Emmet	24	47	13034	4455	2661	900	21050
Genesee	25	49	255545	53770	39960	13167	362442
Gladwin	26	51	9814	4057	3020	684	17575
Gogebic	27	53	9186	3751	2018	544	15499
Grand Traverse	28	55	34092	9725	7842	2105	53764
Gratiot	29	57	20371	7307	5174	1622	34474
Hillsdale	30	59	20859	8298	5374	1684	36215
Houghton	31	61	15418	5128	2499	1009	24054
Huron	32	63	19574	7940	5498	1473	34485
Ingham	33	65	153440	31048	19042	8476	212006
Ionia	34	67	24537	8370	5248	2232	40387
Iosco	35	69	14945	4750	4059	1020	24774
Iron	36	71	7036	3235	1768	381	12420
Isabella	37	73	21335	6996	4766	1504	34601
Jackson	38	75	81416	21313	14025	5228	121982
Kalamazoo	39	77	118086	25627	16877	6825	167415
Kalkaska	40	79	5616	2961	1814	381	10772
Kent	41	81	263709	54823	44397	14594	377523
Keweenaw	42	83	996	374	187	64	1621
Lake	43	85	3712	1567	970	225	6474

Table 6 (continued)

1980 Michigan Registration Data by County

County			Vehicle Type				
Name	#	FIPS	Pass-enger	Comm'l	Trailer	Motor-cycle	TOTAL
Lapeer	44	87	34336	12150	7236	2681	56403
Leelanau	45	89	7561	2555	1961	418	12495
Lenawee	46	91	47060	15255	9598	3234	75147
Livingston	47	93	52853	14116	9208	3213	79390
Luce	48	95	3176	1485	1165	213	6039
Mackinac	49	97	4813	2138	1360	457	8768
Macomb	50	99	445825	58993	44343	16190	565351
Manistee	51	101	12134	4156	2772	817	19879
Marquette	52	103	34009	11838	6207	2788	54842
Mason	53	105	13573	4758	3090	1084	22505
Mecosta	54	107	13904	5033	3252	906	23095
Menominee	55	109	12864	5043	3271	928	22106
Midland	56	111	42526	9581	9415	2545	64067
Missaukee	57	113	4857	2421	1416	365	9059
Monroe	58	115	70460	19282	13689	4495	107926
Montcalm	59	117	24112	8840	5890	1760	40602
Montmorency	60	119	4200	1955	1240	269	7664
Muskegon	61	121	87280	20751	15512	5532	129075
Newaygo	62	123	16834	6944	4424	1517	29719
Oakland	63	125	653389	94297	62855	23934	834475
Oceana	64	127	10602	4457	2274	830	18163
Ogemaw	65	129	8737	3928	2631	613	15909
Ontonagon	66	131	4893	2213	1389	296	8791
Osceola	67	133	8945	3913	2315	690	15863
Oscoda	68	135	3672	1665	1130	283	6750
Otsego	69	137	8133	3305	2025	501	13964
Ottawa	70	139	87643	21338	19158	5842	133981
Presque Isle	71	141	6989	3242	1958	494	12683
Roscommon	72	143	9853	3525	3000	627	17005
Saginaw	73	145	126886	26922	22880	5869	182557
St. Clair	74	147	74817	18804	12632	4458	110711
St. Joseph	75	149	29230	10449	6240	2235	48154
Sanilac	76	151	20412	8059	4712	1638	34821
Schoolcraft	77	153	4470	1850	1265	326	7911
Shiawassee	78	155	36918	11900	7412	2959	59189
Tuscola	79	157	28862	11439	7899	2262	50462
Van Buren	80	159	33023	12297	5897	2158	53375
Washtenaw	81	161	144971	25288	14614	6927	191800
Wayne	82	163	1301985	160676	106843	38995	1608499
Wexford	83	165	13093	4470	3423	931	21917
Non-resident	--	---	22485	12237	15315	147	50184
STATE TOTAL	--	---	5220972	1095634	760533	254129	7331268

Table 7

Geographic Descriptor Variables

County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

GEOGRAPHIC DESCRIPTOR VARIABLES		
VARIABLE INDEX	VARIABLE LABEL	VARIABLE DESCRIPTION
V900	STATEFIP	FIPS CODE FOR STATES AND D.C.
V901	STATE	IFAP CODE FOR STATES AND D.C.
V902-4	STATAG1-3	STATE NAME
V905	DIVISION	FIPS DIVISION CODE
V906-8	DIVTAG1-3	DIVISION NAME
V909	REGION	FIPS REGION CODE
V910-12	REGTAG1-3	REGION NAME
V925	SMSA72	FIPS CODE FOR SMSA AS DEFINED IN 1972
V946	SMSA77	FIPS CODE FOR SMSA AS DEFINED IN 1977
V960	FIPS70	FIPS CODE FOR COUNTIES AS DEFINED IN 1970
V961	FIPS71	FIPS CODE FOR COUNTIES AS DEFINED IN 1971
V962	FIPS72	FIPS CODE FOR COUNTIES AS DEFINED IN 1972
V963	FIPS73	FIPS CODE FOR COUNTIES AS DEFINED IN 1973
V964	FIPS74	FIPS CODE FOR COUNTIES AS DEFINED IN 1974
V965	FIPS75	FIPS CODE FOR COUNTIES AS DEFINED IN 1975
V966	FIPS76	FIPS CODE FOR COUNTIES AS DEFINED IN 1976
V967	FIPS77	FIPS CODE FOR COUNTIES AS DEFINED IN 1977
V968	FIPS78	FIPS CODE FOR COUNTIES AS DEFINED IN 1978
V974	COUNTY	IFAP COUNTY CODE
V975-7	KTYTAG1-3	COUNTY NAME
V980	CAPITAL	CONTAINS CAPITAL OF STATE? (1:YES, 2:NO)

Table 8

General Variables

County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		LAND AREA (1977)
V1001	001,201	LAND AREA IN SQUARE MILES
		POPULATION (JULY, 1975 ESTIMATE)
V1002	002,202	POPULATION RANK
V1003	003,203	POPULATION
V1004	004,204	POPULATION PER SQUARE MILE
V1005	005	% OF TOTAL POPULATION 65 YEARS OLD OR OVER
		POPULATION (1972 ESTIMATE)
V1006	006	POPULATION
		POPULATION (1970)
V1007	007,205	POPULATION
V1008	008	URBAN POPULATION AS % OF TOTAL
V1011	009,206	BLACK POPULATION AS % OF TOTAL
V1015	010,212	FOREIGN STOCK POPULATION AS % OF TOTAL
V1019	011,215	% CHANGE IN TOTAL POPULATION - (1970-1975)
V1020	012	% CHANGE IN TOTAL POPULATION DUE TO NATURAL INCREASE - (1970-1975)
V1021	013	% CHANGE (1970-1975) IN TOTAL POPULATION DUE TO NET MIGRATION
V1022	014,216	% CHANGE IN TOTAL POPULATION - (1960-1970)
V1023	015	% CHANGE (1960-1970) IN TOTAL POPULATION DUE TO NET MIGRATION
		BIRTHS, DEATHS, MARRIAGES AND DIVORCES (1970 & 1975)
V1024	016,217	BIRTHS (1975)
V1025	017,218	BIRTH RATE PER 1000 (1975)
V1027	018,220	BIRTH RATE PER 1000 (1970)
V1028	019,221	DEATHS (1975)
V1029	020,222	DEATH RATE PER 1000 (1975)
V1031	021,224	DEATH RATE PER 1000 (1970)
V1032	022	MARRIAGES (1975)
V1033	023	MARRIAGE RATE PER 1000 (1975)
V1034	024	MARRIAGE RATE PER 1000 (1970)
V1035	025	DIVORCES (1975)
V1036	026	DIVORCE RATE PER 1000 (1975)
V1037	027	DIVORCE RATE PER 1000 (1970)

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		HEALTH (1975)
V1038	039	PHYSICIANS
V1039	040	PHYSICIANS PER 100,000
V1040	041,225	HOSPITALS
V1041	042,226	HOSPITAL BEDS
V1042	043	HOSPITAL BEDS PER 100,000
		EDUCATION (1970)
V1053	037	PUBLIC SCHOOL ENROLLMENT (1975)
V1054	038	PUBLIC SCHOOL ENROLLMENT
		CIVILIAN LABOR FORCE (1970)
V1055	028,237	CIVILIAN LABOR FORCE 16 YEARS OLD AND OVER
V1056	029	UNEMPLOYED AS % OF TOTAL CIVILIAN LABOR FORCE
V1057	030,238	TOTAL EMPLOYED
V1058	031,239	MANUFACTURING EMPLOYMENT AS % OF TOTAL
V1059	032,240	WHOLESALE AND RETAIL TRADE EMPLOYMENT AS % OF TOTAL
		EMPLOYMENT 1975 (BASED ON THOSE COVERED UNDER SOCIAL SECURITY)
V1061	033	TOTAL EMPLOYEES FOR THE WEEK INCLUDING MARCH 12TH
V1062	034	MANUFACTURING EMPLOYMENT AS % OF TOTAL
V1063	035	WHOLESALE AND RETAIL TRADE EMPLOYMENT AS % OF TOTAL
V1064	036	PAYROLL (MIL DOL)
		MONEY INCOME (1969 & 1974)
V1065	044,242	RANK BY PER CAPITA MONEY INCOME (1974)
V1066	045,243	PER CAPITA MONEY INCOME (1974)
V1067	046,244	AVERAGE CHANGE IN PER CAPITA INCOME - (1969-1974)
V1068	047,245	RANK BY MEDIAN FAMILY INCOME (1969)
V1069	048,246	MEDIAN FAMILY INCOME (1969)
		FAMILIES (1970)
V1071	049	TOTAL FAMILIES (000's)
		INCOME - BASED ON FAMILIES WITH INCOME IN 1969
V1074	050,250	FAMILIES BELOW POVERTY LEVEL AS % OF TOTAL FAMILIES
V1076	051,252	% OF FAMILIES BELOW 125% OF THE POVERTY LEVEL

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		INCOME - BASED ON FAMILIES WITH INCOME IN 1969
V1077	052	% OF TOTAL FAMILIES WITH INCOME $15,000 AND OVER
		PUBLIC ASSISTANCE (FEB 1976)
V1081	053	TOTAL AFDC RECIPIENTS
V1082	054	TOTAL CHILDREN UNDER AFDC
V1083	055	TOTAL AFDC PAYMENTS FOR FEBRUARY ($000's)
V1084	056	AVERAGE AFDC PAYMENT PER FAMILY
		SUPPLEMENTAL SECURITY INCOME (JUNE 1976)
V1085	057	TOTAL RECIPIENTS (AGED, BLIND, AND DISABLED)
V1086	058	TOTAL AGED RECIPIENTS
V1087	059	TOTAL PAYMENTS FOR JUNE ($000's)
V1088	060	TOTAL PAYMENTS TO AGED FOR JUNE ($000's)
		SOCIAL SECURITY (JUNE 1976)
V1089	061	TOTAL RECIPIENTS (OLD-AGE, DISABILITY, AND HEALTH INSURANCE)
V1090	062	TOTAL PAYMENTS FOR JUNE ($000's)
V1091	063	TOTAL PAYMENTS TO RETIREES FOR JUNE ($000's)
V1092	064	AVERAGE BENEFIT PER RETIREE
		BANKING (1976)
V1093	065	BANK DEPOSITS AS OF JUNE (MIL DOL)
V1094	066	TIME DEPOSITS AS OF JUNE (MIL DOL)
V1095	067	SAVINGS CAPITAL IN SAVINGS AND LOAN SOCIATIONS AS OF SEPT (MIL DOL)
		HOUSING (1970)
V1096	068,256	TOTAL (YEAR-ROUND) HOUSING UNITS
V1097	069,257	% CHANGE IN TOTAL HOUSING UNITS - (1960-1970)
V1098	070,258	ONE UNIT STRUCTURES AS % OF TOTAL HOUSING UNITS
V1100	071,260	TOTAL OCCUPIED HOUSING UNITS
V1101	072,261	OWNER OCCUPIED UNITS AS % OF TOTAL OCCUPIED UNITS
V1103	073,263	% OF OCCUPIED UNITS LACKING SOME OR ALL PLUMBING FACILITIES
V1104	074,264	% OF OCCUPIED UNITS WITH 1.01 OR MORE PERSONS PER ROOM
V1105	075,265	MEDIAN VALUE OF OWNER-OCCUPIED SINGLE-FAMILY UNITS
V1106	076,266	MEDIAN GROSS RENT OF RENTER-OCCUPIED UNITS

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		NEW (PRIVATE) HOUSING OVER TWO YEAR PERIOD (1975-1976)
V1118	077	NEW (PRIVATE) UNITS AUTHORIZED BY PERMITS
V1119	078	% OF NEW UNITS THAT ARE SINGLE UNIT STRUCTURES
V1120	079	% OF NEW UNITS THAT ARE 5 OR MORE UNIT STRUCTURES
V1121	080	PERMIT VALUATION ($000's)
		LOCAL GOVERNMENT FINANCES 1971-72
V1125	081,281	TOTAL GENERAL REVENUE (MIL DOL)
V1126	082,282	TOTAL INTERGOVERNMENTAL REVENUE (MIL DOL)
V1127	083,283	% OF INTERGOVERNMENTAL REVENUE DERIVEDROM FEDERAL GOVERNMENT
V1128	084,284	TOTAL TAXES (MIL DOL)
V1130	085,286	AVERAGE PROPERTY TAX PER CAPITA
V1132	086,288	DIRECT GENERAL EXPENDITURES (MIL DOL)
V1133	087,289	GENERAL EXPENDITURES PER CAPITA (EXCLUDING CAPITAL OUTLAYS)
V1134	088,290	EDUCATION EXPENDITURES AS % OF DIRECT GENERAL
V1135	089,291	HIGHWAY EXPENDITURES AS % OF DIRECT GENERAL
V1136	090,292	PUBLIC WELFARE EXPENDITURES AS % OF DIRECT GENERAL
V1137	091	HEALTH AND HOSPITAL EXPENDITURES AS % OF DIRECT GENERAL
V1140	092,295	GENERAL DEBT OUTSTANDING (MIL DOL)
V1141	093,296	DEBT OUTSTANDING PER CAPITA
		GOVERNMENT EMPLOYMENT (1972, 1975, 1976)
V1143	094,298	GOVT EMPLOYMENT - FULL TIME EQUIVALENT (OCT 72)
V1144	095	GOVERNMENT PAYROLL FOR OCTOBER 1972 (MIL DOL)
V1146	096,300	TOTAL FEDERAL EMPLOYEES AS OF DECEMBER (1975)
		ELECTIONS (1972 & 1976)
V1147	097	TOTAL VOTE CAST FOR PRESIDENT - (1976)
V1148	098	VOTES CAST FOR LEADING PARTY AS % OF TOTAL - (1976)
V1149	098	LEADING PARTY - (1976) (1:DEM, 2:REP)
V1150	099	TOTAL VOTE CAST FOR PRESIDENT - (1972)
V1151	100	VOTES CAST FOR LEADING PARTY AS % OF TOTAL - (1972)
V1152	100	LEADING PARTY - (1972) (1:DEM, 2:REP)
V1153	101	TOTAL VOTING AGE CITIZENS - (1972) (000's)
V1154	102	TOTAL VOTING AS % OF ELIGIBLE - (1972)
		CRIME AND POLICE (1975)
V1155	103,301	TOTAL SERIOUS CRIME KNOWN TO POLICE (VIOLENT AND PROPERTY)
V1158	104,304	CRIME RATE PER 100,000 POPULATION

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		CRIME AND POLICE (1975)
V1161	105	ROBBERIES
V1163	106	AGGRAVATED ASSAULTS
V1165	107	BREAKING AND ENTERINGS
V1168	108	MOTOR VEHICLE THEFTS
V1172	109,314	TOTAL POLICE OFFICERS (FULL-TIME,SWORN IN)
		MANUFACTURING (1972)
V1173	110,315	MANUFACTURING ESTABLISHMENTS
V1174	111,316	% OF TOTAL MANUFACTURING ESTABLISHMENTS WITH 20 OR MORE EMPLOYEES
V1175	112	% OF TOTAL NANUFACTURING ESTABLISHMENTS WITH 100 OR MORE EMPLOYEES
V1176	113,317	AVERAGE ANNUAL EMPLOYMENT IN MANUFACTURING (000's) (INCLUDES PRODUCTION WORKERS AND ALL OTHERS)
V1177	114,318	TOTAL MANUFACTURING PAYROLL (MIL DOL)
V1178	115,319	TOTAL MANUFACTURING PRODUCTION WORKERS (000's)
V1179	116,320	TOTAL PRODUCTION WORKER MAN-HOURS (MIL HOURS)
V1180	117,321	TOTAL PRODUCTION WORKER WAGES (MIL DOL)
V1181	118,322	DOLLAR VALUE ADDED BY MANUFACTURE (MIL DOL)
V1182	119,323	NEW CAPITAL EXPENDITURES (MIL DOL)
V1186	120,327	% CHANGE IN TOTAL EMPLOYEES - (1967-1972)
V1187	121,328	% CHANGE IN DOLLAR VALUE ADDED - (1967-1972)
		WHOLESALE TRADE (1972)
V1189	122,378	TOTAL WHOLESALE TRADE ESTABLISHMENTS
V1190	123,379	MERCHANT WHOLESALERS AS % OF TOTAL WHOLESALE ESTABLISHMENTS
V1191	124	WHOLESALE SALES (MIL DOL)
V1193	125	% CHANGE IN WHOLESALE SALES - (1967-1972)
V1194	126,381	% TOTAL WHOLESALE SALES ACCOUNTED FOR BY MERCHANT WHOLESALERS
V1195	127,382	TOTAL PAID EMPLOYEES FOR WEEK INCLUDING MARCH 12TH
V1196	128,383	WHOLESALE PAYROLL FOR ENTIRE YEAR ($000's)
		RETAIL TRADE (1972)
V1197	129,330	TOTAL RETAIL TRADE ESTABLISHMENTS
V1198	130,331	% OF TOTAL RETAIL ESTABLISHMENTS WITH A PAYROLL
V1200	131	TOTAL UNINCORPORATED RETAIL ESTABLISHMENTS
V1201	132,340	TOTAL FOOD STORES
V1202	133,342	TOTAL AUTOMOBILE DEALERS
V1203	134,344	TOTAL GENERAL MERCHANIDISE STORES

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		RETAIL TRADE (1972)
V1204	135,346	TOTAL EATING AND DRINKING PLACES
V1205	136,348	TOTAL GASOLINE SERVICE STATIONS
V1206	137,350	TOTAL HOME FURNISHING FURNITURE STORES
		RETAIL SALES (1972)
V1211	138,334	TOTAL RETAIL SALES ($000's)
V1213	139,336	% CHANGE IN RETAIL SALES - (1967-1972)
V1214	140,337	% OF TOTAL RETAIL SALES ACCOUNTED FOR BY RETAIL ESTABLISHMENTS WITH PAYROLLS
V1215	141	% OF TOTAL RETAIL SALES BY FOOD STORES
V1217	142	% OF TOTAL RETAIL SALES BY AUTOMOTIVE DEALERS
V1219	143	% OF TOTAL RETAIL SALES BY GENERAL MERCHANDISE
V1221	144	% OF TOTAL RETAIL SALES BY EATING/DRINKING PLACES
V1223	145	% OF TOTAL RETAIL SALES BY GASOLINE SERVICE
V1225	146	% OF TOTAL RETAIL SALES BY FURNITURE STORES
V1227	147	% OF TOTAL RETAIL SALES BY HARDWARE STORES
V1229	148	% OF TOTAL RETAIL SALES BY APPAREL/ACCESSORY STORES
V1231	149	% OF TOTAL RETAIL SALES BY DRUG/PROPRIETARY STORES
V1233	150,338	TOTAL RETAIL EMPLOYEES IN ESTABLISHMENTS WITH PAYROLL FOR WEEK INCLUDING MARCH 12TH
V1234	151,339	YEARLY RETAIL PAYROLL
		SELECTED SERVICE INDUSTRIES (1972)
V1235	152,358	TOTAL SERVICE ESTABLISHMENTS
V1236	153,359	% OF ESTABLISHMENTS WITH PAYROLL
V1244	154,367	TOTAL SERVICE RECEIPTS ($000's)
V1245	155,368	% CHANGE IN TOTAL SERVICE RECEIPTS - (1967-1972)
V1247	156	% OF TOTAL SERVICE RECEIPTS BY ESTAB WITH PAYROLL
V1248	157,370	% OF TOTAL SERVICE RECEIPTS BY HOTELS, MOTELS, ETC.
V1249	158	% OF TOTAL SERVICE RECEIPTS BY AUTO REPAIR, SERVICES, AND GARAGES
V1253	159	% OF TOTAL SERVICE RECEIPTS BY AMUSEMENT SERVICES
V1256	160,376	TOTAL SERVICE EMPLOYEES IN ESTABLISHMENTS WITH PAYROLL FOR WEEK INCLUDING MARCH 12TH
V1257	161,377	YEARLY SERVICE PAYROLL ($000's)
		MINERAL INDUSTRIES (1972)
V1258	162	TOTAL MINERAL INDUSTRIES ESTABLISHMENTS
V1259	163	TOTAL MINERALS INDUSTRIES EMPLOYEES (000's)

Table 8 (continued)

General Variables - County and City Data Book, 1977
(MIDAS Internal File=SMK2:MMICHCOUNTY)

VAR. INDEX	REF. ITEM(S)	VARIABLE DESCRIPTION
		MINERAL INDUSTRIES (1972)
V1260	164	TOTAL MINERAL INDUSTRIES PAYROLL (MIL DOL)
V1261	165	VALUE OF SHIPMENTS AND RECEIPTS (MIL DOL)
V1262	166	DOLLAR VALUE ADDED IN MINING (MIL DOL)
V1263	167	% CHANGE IN EMPLOYMENT - (1967-1972)
V1264	168	% CHANGE IN VALUE OF SHIPMENTS/RECEIPTS - (1967-1972)
		AGRICULTURE (1974)
V1265	169	RURAL FARM POPULATION 1970
V1266	170	TOTAL FARMS
V1267	171	% CHANGE IN TOTAL FARMS - (1969-1974)
V1268	172	% OF FARM OPERATORS LIVING ON FARM THEY OPERATE
V1269	173	% OF FARM OPERATORS WORKING OFF FARM FOR 100 OR MORE DAYS
V1270	174	TOTAL FARM ACERAGE (000'S)
V1271	175	% CHANGE IN TOTAL FARM ACREAGE - (1969-1974)
V1272	176	% OF TOTAL LAND AREA IN FARMS
V1273	177	TOTAL CROPLAND ACERAGE (000's)
V1274	178	% OF TOTAL CROPLAND THAT IS HARVESTED
V1275	179	AVERAGE DOLLAR VALUE OF FARM ($000'S)
V1276	180	AVERAGE VALUE OF FARM PER ACRE
V1277	181	TOTAL AVERAGE ACREAGE PER FARM
V1278	182	FARMS UNDER 10 ACRES
V1279	183	TOTAL FARMS UNDER 180 ACRES
V1280	184	TOTAL FARMS WITH 1000 ACRES OR MORE
V1281	185	TOTAL FARMS WITH SALES OF $2,500 OR MORE
		FARMS - BASED ON FARMS WITH SALES OF $2,500 OR MORE (1974)
V1282	186	% OF FARMS THAT ARE OPERATED BY CORPORATIONS
V1283	187	% OF FARMS THAT HAVE SALES FROM $10,000- $13,999
V1284	188	% OF FARMS THAT HAVE SALES OF $40,000 OR MORE
V1285	189	DOLLAR VALUE OF FARM PRODUCTS (MIL DOL)
V1286	190	% OF PRODUCTS DOLLAR VALUE FROM CROPS
V1287	191	% OF PRODUCTS DOLLAR VALUE FROM DAIRY
V1288	192	% OF PRODUCTS DOLLAR VALUE FROM LIVESTOCK
V1289	193	% OF PRODUCTS DOLLAR VALUE FROM POULTRY
V1290	194	TOTAL FARM PRODUCTION EXPENSES (MIL DOL)
V1291	195	TOTAL FARM WAGES PAID (HIRED LABOR) (MIL DOL)

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APPENDIX A

Listing of OSIRIS IV Dictionary
1977 Census of Transportation
Nationwide Personal Transportation Study

SORTING SCHEMA (GROUP IDENTIFICATION VARIABLES AND CONSTANTS):

GROUP	LEVO1	LEVO2			LEVO3			LEVO4
	VAR	VAR	VAR	CON	VAR	VAR	VAR	VAR
001	V1							
002	V1	V1	V104	01				
003	V1	V1	V2102	01	V1	V2102	V2104	
004	V1	V1	V2102	01	V1	V2102	V2104	V1004
005	V1	V1004		02				

***DICTIONARY FOR GROUP # 1

VAR#	VARIABLE NAME	GROUP	LOC	WIDTH	NDEC	TYPE	RESP	MDCODE1	MDCODE2
V1	HOUSEHOLD ID	0	1	4	0	I	1		
V2	ADDITIONAL UNIT	0	5	1	0	I	1	0	
V3	INTERVIEW MONTH	0	6	1	0	I	1		
V4	BATCH NUMBER	0	7	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	0	9	2	0	I	1		
V6	SEGMENT NO.	0	11	1	0	I	1		
V7	TRAVEL DAY MONTH	0	12	1	0	I	1		
V8	TRAVEL DAY DAY OF MONTH	0	13	1	0	I	1		
V9	TRAVEL DAY DAY OF WEEK	0	14	1	0	I	1		
V10	URBAN/RURAL	0	15	1	0	I	1		
V11	SMSA TYPE	0	16	1	0	I	1		
V12	SMSA CODE	0	17	2	0	I	1	9999	
V13	SMSA POPULATION GROUP	0	19	1	0	I	1	9	
V14	TYPE OF STRUCTURE	0	20	1	0	I	1	99	
V15	RESPONDENTS LINE NO.	0	21	1	0	I	1		
V16	TYPE Z--PERSON 1	0	22	1	0	I	1	99	
V17	TYPE Z--PERSON 2	0	23	1	0	I	1	99	
V18	TYPE Z--PERSON 3	0	24	1	0	I	1	99	
V19	TYPE Z--PERSON 4	0	25	1	0	I	1	99	
V20	TYPE Z--PERSON 5	0	26	1	0	I	1	99	
V21	TYPE Z--PERSON 6	0	27	1	0	I	1	99	
V22	TYPE Z--PERSON 7	0	28	1	0	I	1	99	
V23	TYPE Z--PERSON 8	0	29	1	0	I	1	99	
V24	TYPE Z--PERSON 9	0	30	1	0	I	1	99	
V25	FAMILY INCOME GROUP	0	31	1	0	I	1		
V26	V24 ALLOCATED?	0	32	1	0	I	1		
V27	# HOUSEHOLD TRIPS (DAY)	0	33	1	0	I	1		
V28	# HOUSEHOLD TRIPS (14D)	0	34	1	0	I	1		
V29	# HOUSEHOLD VEHICLES	0	35	1	0	I	1		
V30	MONTHLY GASOLINE EXPENSE	0	37	4	0	I	1	99998	99999
V31	PUBLIC TRANSP AVAILABLE?	0	41	1	0	I	1		99
V32	HOW FAR TO NEAREST P.T.	0	42	1	0	I	1	98	99
V33	TYPE OF NEAREST P.T.	0	43	1	0	I	1	98	99
V34	HOW FAR TO FREEWAY	0	44	1	0	I	1	99	89
V35	HOW FAR TO INTERCITY BUS	0	45	2	0	I	1	9999	999
V36	HOW FAR TO TRAIN STATION	0	47	2	0	I	1	9999	999
V37	HOW FAR TO AIRPORT	0	49	2	0	I	1	9999	999
V38	NO. OF SEGMENT 2 RECORDS	0	51	1	0	I	1		
V39	NO. OF SEGMENT 3 RECORDS	0	52	1	0	I	1		
V40	NO. OF SEGMENT 4 RECORDS	0	53	1	0	I	1		
V41	NO. OF SEGMENT 5 RECORDS	0	54	1	0	I	1		
V42	NO. OF SEGMENT 6 RECORDS	0	55	1	0	I	1		
V43	NO. OF SEGMENT 7 RECORDS	0	56	1	0	I	1		
V44	BASIC HSEHLD WT--BW(PSU)	0	57	8	0	F	1		
V45	FINAL HSEHLD WEIGHT--WO	0	65	8	0	F	1		
V50	STRATUM CODE	0	73	2	0	I	1		
V51	PSU CODE	0	75	1	0	I	1		

*** THE NUMBER OF VARIABLES IN GROUP 1 IS 47

*** THE NUMBER OF RECORDS IN GROUP 1 IS 17948

***DICTIONARY FOR GROUP # 2

VAR#	VARIABLE NAME	GROUP	LOC	WIDTH	NDEC	TYPE	RESP	MDCODE1	MDCODE2
V1	HOUSEHOLD ID	0	1	4	0	I	1		
V2	ADDITIONAL UNIT	0	5	1	0	I	1	0	
V3	INTERVIEW MONTH	0	6	1	0	I	1		
V4	BATCH NUMBER	0	7	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	0	9	2	0	I	1		
V101	SEGMENT NO.	0	11	1	0	I	1		
V102	NO. OF SEGMENT 2 RECORDS	0	12	1	0	I	1		
V103	SEGMENT SEQUENCE NO.	0	13	1	0	I	1		
V104	HOUSEHOLD MEMBER ID	0	14	1	0	I	1		
V105	RELATIONSHIP TO HEAD	0	15	1	0	I	1		
V106	AGE	0	16	1	0	I	1		
V107	V106 ALLOCATED?	0	17	1	0	I	1		
V108	MARITAL STATUS	0	18	1	0	I	1	9	
V109	V108 ALLOCATED?	0	19	1	0	I	1	9	
V110	SEX	0	20	1	0	I	1		
V111	V110 ALLOCATED?	0	21	1	0	I	1		
V112	RACE	0	22	1	0	I	1		
V113	V112 ALLOCATED?	0	23	1	0	I	1		
V114	ORIGIN OR DESCENT	0	24	1	0	I	1		31
V115	V114 ALLOCATED?	0	25	1	0	I	1		
V116	HIGHEST GRADE ATTENDED	0	26	1	0	I	1	99	
V117	V116 ALLOCATED?	0	27	1	0	I	1	9	
V118	GRADE COMPLETED?	0	28	1	0	I	1	9	
V119	V118 ALLOCATED?	0	29	1	0	I	1	9	
V120	ARMED FORCES	0	30	1	0	I	1	9	
V121	V120 ALLOCATED?	0	31	1	0	I	1	9	
V122	BASIC HSEHLD WT--BW(PSU)	0	32	8	0	F	1		
V123	PERSON WEIGHT	0	40	8	0	F	1		
V201	SEGMENT NO.	0	48	1	0	I	1	9	
V202	NO. OF SEGMENT 4 RECORDS	0	49	1	0	I	1	0	
V203	SEGMENT SEQUENCE NO.	0	50	1	0	I	1	0	
V204	DOING MOST OF LAST WEEK?	0	51	1	0	I	1	9	
V205	WORK AT ALL LAST WEEK?	0	52	1	0	I	1	8	9
V206	EMPLOYED BUT ABSENT?	0	53	1	0	I	1	8	9
V207	BUSINESS/INDUSTRY TYPE	0	55	2	0	I	1	9998	9999
V208	EDIT CODE FOR V207	0	57	1	0	I	1	9	
V209	OCCUPATION	0	59	2	0	I	1	9998	9999
V210	EDIT CODE FOR V209	0	61	1	0	I	1	9	
V211	EMPLOYER TYPE	0	62	1	0	I	1	98	8
V212	EDIT CODE FOR V211	0	63	1	0	I	1	9	
V213	MEANS OF TRANSP TO WORK	0	65	2	0	I	1	998	99
V214	# OF PERSONS IN CARPOOL	0	67	1	0	I	1	98	99
V215	EDIT CODE FOR V214	0	68	1	0	I	1	9	
V216	# FROM HSEHLD IN POOL	0	69	1	0	I	1	98	99
V217	EDIT CODE FOR V216	0	70	1	0	I	1	9	
V218	DRIVING/RIDING ARRANGEMT	0	71	1	0	I	1	98	99
V219	REASON FOR NOT POOLING	0	72	1	0	I	1	98	99
V220	CHANGED TRANSP LAST YEAR	0	73	1	0	I	1	8	9
V221	REASON(S) FOR CHANGE?	0	74	1	0	I	1	8	9
V222	1ST REASON FOR CHANGE	0	75	1	0	I	1	9	
V223	2ND REASON FOR CHANGE	0	76	1	0	I	1	9	
V224	3RD REASON FOR CHANGE	0	77	1	0	I	1	9	
V225	4TH REASON FOR CHANGE	0	78	1	0	I	1	9	
V226	5TH REASON FOR CHANGE	0	79	1	0	I	1	9	
V227	6TH REASON FOR CHANGE	0	80	1	0	I	1	9	
V228	PREVIOUS MEANS OF TRANSP	0	81	2	0	I	1	998	99
V229	NO. IN PREVIOUS CARPOOL	0	83	1	0	I	1	98	99
V230	EDIT CODE FOR V229	0	84	1	0	I	1	9	
V231	# FROM HSHLD IN OLD POOL	0	85	1	0	I	1	98	99
V232	EDIT CODE FOR V231	0	86	1	0	I	1	9	
V233	ARRANGEMENT IN OLD POOL	0	87	1	0	I	1	98	99
V234	DISTANCE HOME TO WORK	0	89	2	0	I	1	9998	9999
V235	TIME HOME TO WORK (MINS)	0	91	2	0	I	1	9998	9999
V236	LICENSED DRIVER?	0	93	1	0	I	1	9	
V237	V236 ALLOCATED?	0	94	1	0	I	1	9	
V238	ANNUAL MILEAGE (1000S)	0	97	4	0	I	1	9999998	9999999
V239	VEHICLE USED AT WORK	0	101	1	0	I	1	0	99
V240	WORK MILES ON TRAVEL DAY	0	103	2	0	I	1	9998	9999
V241	EDIT CODE FOR V240	0	105	1	0	I	1	9	

V242	WORK MILES ON AV. DAY	O	107	2	O	I	1	9998	9999
V243	EDIT CODE FOR V242	O	109	1	O	I	1	9	
V244	# OF DAYS DRIVE FOR WORK	O	110	1	O	I	1	8	9
V245	# OF WORK-RELATED STOPS	O	111	2	O	I	1	998	999
V246	FURTHEST BETWEEN 2 STOPS	O	113	4	O	I	1	99998	99999
V247	TRAVEL WITHIN MAP AREA?	O	117	1	O	I	1	8	9
V248	TRAVEL IN URBAN BOUNDS?	O	118	1	O	I	1	8	9
V249	URBAN MILEAGE DRIVEN	O	119	2	O	I	1	9998	9999
V250	OTHER TRAVEL DAY TRIPS?	O	121	1	O	I	1	8	9
V251	STATUS OF TRAV DAY INFO	O	122	1	O	I	1	98	99
V252	REASON(S) USE PUB TRANS?	O	123	1	O	I	1	8	9
V253	1ST REASON USE PUB TRANS	O	124	1	O	I	1	9	
V254	2ND REASON USE PUB TRANS	O	125	1	O	I	1	9	
V255	3RD REASON USE PUB TRANS	O	126	1	O	I	1	9	
V256	4TH REASON USE PUB TRANS	O	127	1	O	I	1	9	
V257	5TH REASON USE PUB TRANS	O	128	1	O	I	1	9	
V258	6TH REASON USE PUB TRANS	O	129	1	O	I	1	9	
V259	7TH REASON USE PUB TRANS	O	130	1	O	I	1	9	
V260	P.T. TRIPS POSS W/O P.T.	O	131	1	O	I	1	8	9
V261	REASON(S) NOT USE P.T.?	O	132	1	O	I	1	8	9
V262	1ST REASON NOT USE P.T.	O	133	1	O	I	1	99	
V263	2ND REASON NOT USE P.T.	O	134	1	O	I	1	99	
V264	3RD REASON NOT USE P.T.	O	135	1	O	I	1	99	
V265	4TH REASON NOT USE P.T.	O	136	1	O	I	1	99	
V266	5TH REASON NOT USE P.T.	O	137	1	O	I	1	99	
V267	6TH REASON NOT USE P.T.	O	138	1	O	I	1	99	
V268	7TH REASON NOT USE P.T.	O	139	1	O	I	1	99	
V269	8TH REASON NOT USE P.T.	O	140	1	O	I	1	99	
V270	9TH REASON NOT USE P.T.	O	141	1	O	I	1	99	
V271	10TH REASON NOT USE P.T.	O	142	1	O	I	1	99	
V272	11TH REASON NOT USE P.T.	O	143	1	O	I	1	99	
V273	12TH REASON NOT USE P.T.	O	144	1	O	I	1	99	
V274	13TH REASON NOT USE P.T.	O	145	1	O	I	1	99	
V275	TOTAL NO. TRAV DAY TRIPS	O	146	1	O	I	1	99	
V276	TRAVEL DAY DAY OF MONTH	O	147	1	O	I	1		
V277	TRAVEL DAY DAY OF WEEK	O	148	1	O	I	1		
V278	INFLATED PERSON WEIGHT	O	149	8	2	F	1	0	

*** THE NUMBER OF VARIABLES IN GROUP 2 IS 106

*** THE NUMBER OF RECORDS IN GROUP 2 IS 51194

***DICTIONARY FOR GROUP # 3

VAR#	VARIABLE NAME	GROUP	LOC	WIDTH	NDEC	TYPE	RESP	MDCODE1	MDCODE2
V1	HOUSEHOLD ID	0	1	4	0	I	1		
V2	ADDITIONAL UNIT	0	5	1	0	I	1	0	
V3	MONTH	0	6	1	0	I	1		
V4	BATCH NUMBER	0	7	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	0	9	2	0	I	1		
V104	HOUSEHOLD MEMBER ID	0	11	1	0	I	1		
V2001	SEGMENT NO.	0	12	1	0	I	1		
V2002	NO. OF SEGMENT 5 RECORDS	0	13	1	0	I	1		
V2003	SEGMENT SEQUENCE NO.	0	14	1	0	I	1		
V2004	TRIP ID	0	15	1	0	I	1		
V2005	DAY OF MONTH	0	16	1	0	I	1		
V2006	DAY OF WEEK	0	17	1	0	I	1		
V2007	BEGIN AT HOME?	0	18	1	0	I	1		
V2008	WHY AWAY FROM HOME?	0	19	1	0	I	1	98	99
V2009	SMSA TYPE FOR START	0	21	2	0	I	1	8	9
V2010	SMSA POP. SIZE GROUP	0	23	2	0	I	1	8	9
V2011	TIME TRIP STARTED (A.M.)	0	25	2	0	I	1	9998	9999
V2012	EDIT CODE FOR V2011	0	27	1	0	I	1	9	
V2013	TIME TRIP STARTED (P.M.)	0	29	2	0	I	1	9998	9999
V2014	EDIT CODE FOR V2013	0	31	1	0	I	1	9	
V2015	TIME TRIP STARTED (24HR)	0	33	2	0	I	1	9999	
V2016	EDIT CODE FOR V2015	0	35	1	0	I	1	9	
V2017	TRIP PURPOSE	0	36	1	0	I	1	99	
V2018	OTHER HOUSEHOLD MEMBERS?	0	37	1	0	I	1		
V2019	2ND HOUSEHOLD MEMBER ID	0	38	1	0	I	1	99	
V2020	3RD HOUSEHOLD MEMBER ID	0	39	1	0	I	1	99	
V2021	4TH HOUSEHOLD MEMBER ID	0	40	1	0	I	1	99	
V2022	5TH HOUSEHOLD MEMBER ID	0	41	1	0	I	1	99	
V2023	6TH HOUSEHOLD MEMBER ID	0	42	1	0	I	1	99	
V2024	7TH HOUSEHOLD MEMBER ID	0	43	1	0	I	1	99	
V2025	8TH HOUSEHOLD MEMBER ID	0	44	1	0	I	1	99	
V2026	9TH HOUSEHOLD MEMBER ID	0	45	1	0	I	1	99	
V2027	10TH HOUSEHOLD MEMBER ID	0	46	1	0	I	1	99	
V2028	TRIP DISTANCE	0	49	4	0	I	1	99999	
V2029	TRIP LENGTH OF TIME	0	53	2	0	I	1	9999	
V2030	MAIN MEANS OF TRANSP.	0	55	1	0	I	1	99	
V2031	HOUSEHOLD VEHICLE USED?	0	56	1	0	I	1	8	9
V2032	VEHICLE ID	0	57	1	0	I	1	98	99
V2033	# OF NON-HSEHLD MEMBERS	0	58	1	0	I	1	98	99
V2034	EDIT CODE FOR V2033	0	59	1	0	I	1	9	
V2035	# OF PERSONS IN VEHICLE	0	60	1	0	I	1	98	99
V2036	EDIT CODE FOR V2035	0	61	1	0	I	1	9	
V2037	HSEHLD MEMB ID OF DRIVER	0	62	1	0	I	1	98	99
V2038	SHARE DRIVING?	0	63	1	0	I	1	9	
V2039	ID OF 1ST SHARER	0	64	1	0	I	1	99	
V2040	% DRIVEN BY 1ST SHARER	0	65	1	0	I	1	0	
V2041	ID OF 2ND SHARER	0	66	1	0	I	1	99	
V2042	% DRIVEN BY 2ND SHARER	0	67	1	0	I	1	0	
V2043	ID OF 3RD SHARER	0	68	1	0	I	1	99	
V2044	% DRIVEN BY 3RD SHARER	0	69	1	0	I	1	0	
V2045	ID OF 4TH SHARER	0	70	1	0	I	1	99	
V2046	% DRIVEN BY 4TH SHARER	0	71	1	0	I	1	0	
V2047	ID OF 5TH SHARER	0	72	1	0	I	1	99	
V2048	% DRIVEN BY 5TH SHARER	0	73	1	0	I	1	0	
V2049	NON-HSEHLD MEMBS SHARE?	0	74	1	0	I	1	9	
V2050	% DRIVEN BY NON-HSEHLD	0	75	1	0	I	1	0	
V2051	WHERE DID YOU PARK?	0	76	1	0	I	1	98	99
V2052	SPEC REASON ABLE TO PARK	0	77	1	0	I	1	8	9
V2053	PARKING FREE?	0	78	1	0	I	1	8	9
V2054	AMOUNT IN CENTS TO PARK	0	81	4	0	I	1	999998	999999
V2055	WHY COST INFO MISSED	0	85	1	0	I	1	98	99
V2056	MINS. PARKING PAID FOR	0	87	2	0	I	1	999	
V2057	HOURS PARKING PAID FOR	0	89	2	0	I	1	999	
V2058	DAYS PARKING PAID FOR	0	91	2	0	I	1	999	
V2059	WEEKS PARKING PAID FOR	0	93	2	0	I	1	999	
V2060	MONTHS PARKING PAID FOR	0	95	2	0	I	1	999	
V2061	WHY TIME INFO MISSED	0	97	1	0	I	1	98	99
V2062	PUBLIC TRANS. AVAILABLE?	0	98	1	0	I	1	98	99
V2063	BUS TRANS. AVAILABLE?	0	99	1	0	I	1	8	9

V2064	KNOW BUS SCHEDULE?	0	100	1	0	I	1	8	9
V2065	PARK FREE IF HAD DRIVEN?	0	101	1	0	I	1	98	99
V2066	PART OF TRIP IN CBD?	0	102	1	0	I	1	98	99
V2067	MAPPING CODE	0	103	1	0	I	1	99	89
V2068	RURAL VMT	0	105	4	1	F	1	999990	899990
V2069	URBAN (5000-49999) VMT	0	109	4	1	F	1	99990	89990
V2070	URBAN (50000-199999) VMT	0	113	4	1	F	1	99990	89990
V2071	URBAN (0.2M-1.0M) VMT	0	117	4	1	F	1	99990	89990
V2072	URBAN (1M+) VMT	0	121	4	1	F	1	99990	89990
V2073	HOME-URBAN VMT	0	125	4	1	F	1	99990	89990
V2074	HOME URBAN SIZE CODE	0	129	1	0	I	1	9	
V2075	ORIGIN-DESTINATION CODE	0	130	1	0	I	1	8	9
V2076	BORDER CROSSING CODE	0	131	1	0	I	1	9	
V2077	BASIC HSEHLD WT--BW(PSU)	0	132	8	0	F	1		
V2078	1ST PERSON-TRIP WEIGHT	0	140	8	0	F	1		
V2079	2ND PERSON-TRIP WEIGHT	0	148	8	0	F	1	0	
V2080	3RD PERSON-TRIP WEIGHT	0	156	8	0	F	1	0	
V2081	4TH PERSON-TRIP WEIGHT	0	164	8	0	F	1	0	
V2082	5TH PERSON-TRIP WEIGHT	0	172	8	0	F	1	0	
V2083	6TH PERSON-TRIP WEIGHT	0	180	8	0	F	1	0	
V2084	7TH PERSON-TRIP WEIGHT	0	188	8	0	F	1	0	
V2085	8TH PERSON-TRIP WEIGHT	0	196	8	0	F	1	0	
V2086	9TH PERSON-TRIP WEIGHT	0	204	8	0	F	1	0	
V2087	10TH PERSON-TRIP WEIGHT	0	212	8	0	F	1	0	
V2088	HOUSEHOLD-TRIP WEIGHT	0	220	8	0	F	1		
V2089	NPTS 69-70 TRIP PURPOSE	0	228	1	0	I	1	99	
V2090	TRIP LINKING CODE	0	229	1	0	I	1	0	
V2101	TRIP COPY COUNTER	0	230	1	0	I	1		
V2102	NEW HOUSEHOLD MEMBER ID	0	231	1	0	I	1	99	
V2103	NEW PERSON-TRIP WEIGHT	0	232	8	0	F	1		
V2104	NEW TRIP ID	0	241	2	0	I	1		
V2105	INFLATED HOUS-TRIP WT	0	243	8	2	F	1	0	
V2106	INFLTED NEW PERS-TRIP WT	0	251	8	2	F	1	0	

*** THE NUMBER OF VARIABLES IN GROUP 3 IS 102

*** THE NUMBER OF RECORDS IN GROUP 3 IS 136136

***DICTIONARY FOR GROUP # 4

VAR#	VARIABLE NAME	GROUP	LOC	WIDTH	NDEC	TYPE	RESP	MDCODE1	MDCODE2
V1	HOUSEHOLD ID	0	1	4	0	I	1		
V2	ADDITIONAL UNIT	0	5	1	0	I	1	0	
V3	INTERVIEW MONTH	0	6	1	0	I	1		
V4	BATCH NUMBER	0	7	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	0	9	2	0	I	1		
V1001	SEGMENT NO.	0	11	1	0	I	1		
V1002	NO. OF SEGMENT 3 RECORDS	0	12	1	0	I	1		
V1003	SEGMENT SEQUENCE NO.	0	13	1	0	I	1		
V1004	VEHICLE ID	0	14	1	0	I	1	99	
V1005	TYPE OF VEHICLE	0	15	1	0	I	1	99	
V1006	MODEL YEAR	0	16	1	0	I	1	98	99
V1007	EDIT CODE FOR V1006	0	17	1	0	I	1	9	
V1008	AUTO TRANSMISSION?	0	18	1	0	I	1	8	9
V1009	NUMBER OF CYLINDERS	0	19	1	0	I	1	98	99
V1010	AIR CONDITIONED?	0	20	1	0	I	1	8	9
V1011	VEHICLE OWNERSHIP	0	21	1	0	I	1	9	
V1012	PURCHASED NEW OR USED	0	22	1	0	I	1	8	9
V1013	MONTH PURCHASED	0	23	1	0	I	1	98	99
V1014	YEAR PURCHASED	0	24	1	0	I	1	98	99
V1015	EDIT CODE FOR V1014	0	25	1	0	I	1	9	
V1016	DRIVEN TO WORK 4+ TIMES?	0	26	1	0	I	1	9	
V1017	ALL OR PART WAY TO WORK?	0	27	1	0	I	1	8	9
V1018	MILES IN LAST 12 MONTHS	0	29	4	0	I	1	9999999	
V1019	CURB WEIGHT	0	33	2	0	I	1	0	
V1020	SHIPPING WEIGHT	0	35	2	0	I	1	0	
V1021	INERTIA WEIGHT	0	37	2	0	I	1	0	
V1022	IMPORT OR DOMESTIC?	0	39	1	0	I	1	0	
V1023	CITY M.P.G	0	40	1	0	I	1	0	
V1024	HIGHWAY M.P.G.	0	41	1	0	I	1	0	
V1025	COMBINED M.P.G.	0	42	1	0	I	1	0	
V1026	VEHICLE MAKE	0	43	1	0	I	1	98	99
V1027	VEHICLE MODEL	0	44	1	0	I	1	98	99
V1100	VEHICLE COPY COUNTER	0	45	1	0	I	1		
V2102	NEW HOUSEHOLD MEMBER ID	0	46	1	0	I	1	99	
V2103	NEW PERSON-TRIP WEIGHT	0	47	8	0	F	1		
V2104	NEW TRIP ID	0	55	2	0	I	1		

*** THE NUMBER OF VARIABLES IN GROUP 4 IS 36

*** THE NUMBER OF RECORDS IN GROUP 4 IS 99352

***DICTIONARY FOR GROUP # 5

V1	HOUSEHOLD ID	O	1	4	O	I	1		
V2	ADDITIONAL UNIT	O	5	1	O	I	1	O	
V3	INTERVIEW MONTH	O	6	1	O	I	1		
V4	BATCH NUMBER	O	7	2	O	I	1		
V5	WORK UNIT SEQUENCE NO.	O	9	2	O	I	1		
V1001	SEGMENT NO.	O	11	1	O	I	1		
V1002	NO. OF SEGMENT 3 RECORDS	O	12	1	O	I	1		
V1003	SEGMENT SEQUENCE NO.	O	13	1	O	I	1		
V1004	VEHICLE ID	O	14	1	O	I	1	99	
V1005	TYPE OF VEHICLE	O	15	1	O	I	1	99	
V1006	MODEL YEAR	O	16	1	O	I	1	98	99
V1007	EDIT CODE FOR V1006	O	17	1	O	I	1	9	
V1008	AUTO TRANSMISSION?	O	18	1	O	I	1	8	9
V1009	NUMBER OF CYLINDERS	O	19	1	O	I	1	98	99
V1010	AIR CONDITIONED?	O	20	1	O	I	1	8	9
V1011	VEHICLE OWNERSHIP	O	21	1	O	I	1	9	
V1012	PURCHASED NEW OR USED	O	22	1	O	I	1	8	9
V1013	MONTH PURCHASED	O	23	1	O	I	1	98	99
V1014	YEAR PURCHASED	O	24	1	O	I	1	98	99
V1015	EDIT CODE FOR V1014	O	25	1	O	I	1	9	
V1016	DRIVEN TO WORK 4+ TIMES?	O	26	1	O	I	1	9	
V1017	ALL OR PART WAY TO WORK?	O	27	1	O	I	1	8	9
V1018	MILES IN LAST 12 MONTHS	O	29	4	O	I	1	9999999	
V1019	CURB WEIGHT	O	33	2	O	I	1	O	
V1020	SHIPPING WEIGHT	O	35	2	O	I	1	O	
V1021	INERTIA WEIGHT	O	37	2	O	I	1	O	
V1022	IMPORT OR DOMESTIC?	O	39	1	O	I	1	O	
V1023	CITY M.P.G	O	40	1	O	I	1	O	
V1024	HIGHWAY M.P.G.	O	41	1	O	I	1	O	
V1025	COMBINED M.P.G.	O	42	1	O	I	1	O	
V1026	VEHICLE MAKE	O	43	1	O	I	1	98	99
V1027	VEHICLE MODEL	O	44	1	O	I	1	98	99

*** THE NUMBER OF VARIABLES IN GROUP 5 IS 32
*** THE NUMBER OF RECORDS IN GROUP 5 IS 29142

***NEW OUTPUT DICTIONARY:

VAR#	VARIABLE NAME	GROUP	LOC	WIDTH	NDEC	TYPE	RESP	MDCODE1	MDCODE2
V1	HOUSEHOLD ID	1	49	4	0	I	1		
V2	ADDITIONAL UNIT	1	53	1	0	I	1	0	
V3	INTERVIEW MONTH	1	54	1	0	I	1		
V4	BATCH NUMBER	1	55	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	1	57	2	0	I	1		
V6	SEGMENT NO.	1	59	1	0	I	1		
V7	TRAVEL DAY MONTH	1	60	1	0	I	1		
V8	TRAVEL DAY DAY OF MONTH	1	61	1	0	I	1		
V9	TRAVEL DAY DAY OF WEEK	1	62	1	0	I	1		
V10	URBAN/RURAL	1	63	1	0	I	1		
V11	SMSA TYPE	1	64	1	0	I	1		
V12	SMSA CODE	1	65	2	0	I	1	9999	
V13	SMSA POPULATION GROUP	1	67	1	0	I	1	9	
V14	TYPE OF STRUCTURE	1	68	1	0	I	1	99	
V15	RESPONDENTS LINE NO.	1	69	1	0	I	1		
V16	TYPE Z--PERSON 1	1	70	1	0	I	1	99	
V17	TYPE Z--PERSON 2	1	71	1	0	I	1	99	
V18	TYPE Z--PERSON 3	1	72	1	0	I	1	99	
V19	TYPE Z--PERSON 4	1	73	1	0	I	1	99	
V20	TYPE Z--PERSON 5	1	74	1	0	I	1	99	
V21	TYPE Z--PERSON 6	1	75	1	0	I	1	99	
V22	TYPE Z--PERSON 7	1	76	1	0	I	1	99	
V23	TYPE Z--PERSON 8	1	77	1	0	I	1	99	
V24	TYPE Z--PERSON 9	1	78	1	0	I	1	99	
V25	FAMILY INCOME GROUP	1	79	1	0	I	1		
V26	V24 ALLOCATED?	1	80	1	0	I	1		
V27	# HOUSEHOLD TRIPS (DAY)	1	81	1	0	I	1		
V28	# HOUSEHOLD TRIPS (14D)	1	82	1	0	I	1		
V29	# HOUSEHOLD VEHICLES	1	83	1	0	I	1		
V30	MONTHLY GASOLINE EXPENSE	1	85	4	0	I	1	99998	99999
V31	PUBLIC TRANSP AVAILABLE?	1	89	1	0	I	1		99
V32	HOW FAR TO NEAREST P.T.	1	90	1	0	I	1	98	99
V33	TYPE OF NEAREST P.T.	1	91	1	0	I	1	98	99
V34	HOW FAR TO FREEWAY	1	92	1	0	I	1	99	89
V35	HOW FAR TO INTERCITY BUS	1	93	2	0	I	1	9999	999
V36	HOW FAR TO TRAIN STATION	1	95	2	0	I	1	9999	999
V37	HOW FAR TO AIRPORT	1	97	2	0	I	1	9999	999
V38	NO. OF SEGMENT 2 RECORDS	1	99	1	0	I	1		
V39	NO. OF SEGMENT 3 RECORDS	1	100	1	0	I	1		
V40	NO. OF SEGMENT 4 RECORDS	1	101	1	0	I	1		
V41	NO. OF SEGMENT 5 RECORDS	1	102	1	0	I	1		
V42	NO. OF SEGMENT 6 RECORDS	1	103	1	0	I	1		
V43	NO. OF SEGMENT 7 RECORDS	1	104	1	0	I	1		
V44	BASIC HSEHLD WT--BW(PSU)	1	105	8	0	F	1		
V45	FINAL HSEHLD WEIGHT--WO	1	113	8	0	F	1		
V50	STRATUM CODE	1	121	2	0	I	1		
V51	PSU CODE	1	123	1	0	I	1		
V1	HOUSEHOLD ID	2	49	4	0	I	1		
V2	ADDITIONAL UNIT	2	53	1	0	I	1	0	
V3	INTERVIEW MONTH	2	54	1	0	I	1		
V4	BATCH NUMBER	2	55	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	2	57	2	0	I	1		
V101	SEGMENT NO.	2	59	1	0	I	1		
V102	NO. OF SEGMENT 2 RECORDS	2	60	1	0	I	1		
V103	SEGMENT SEQUENCE NO.	2	61	1	0	I	1		
V104	HOUSEHOLD MEMBER ID	2	62	1	0	I	1		
V105	RELATIONSHIP TO HEAD	2	63	1	0	I	1		
V106	AGE	2	64	1	0	I	1		
V107	V106 ALLOCATED?	2	65	1	0	I	1		
V108	MARITAL STATUS	2	66	1	0	I	1	9	
V109	V108 ALLOCATED?	2	67	1	0	I	1	9	
V110	SEX	2	68	1	0	I	1		
V111	V110 ALLOCATED?	2	69	1	0	I	1		
V112	RACE	2	70	1	0	I	1		
V113	V112 ALLOCATED?	2	71	1	0	I	1		
V114	ORIGIN OR DESCENT	2	72	1	0	I	1		31
V115	V114 ALLOCATED?	2	73	1	0	I	1		
V116	HIGHEST GRADE ATTENDED	2	74	1	0	I	1	99	
V117	V116 ALLOCATED?	2	75	1	0	I	1	9	
V118	GRADE COMPLETED?	2	76	1	0	I	1	9	

V119	V118 ALLOCATED?	2	77	1	O	I	1	9	
V120	ARMED FORCES	2	78	1	O	I	1	9	
V121	V120 ALLOCATED?	2	79	1	O	I	1	9	
V122	BASIC HSEHLD WT--BW(PSU)	2	81	8	O	F	1		
V123	PERSON WEIGHT	2	89	8	O	F	1		
V201	SEGMENT NO.	2	97	1	O	I	1	9	
V202	NO. OF SEGMENT 4 RECORDS	2	98	1	O	I	1	O	
V203	SEGMENT SEQUENCE NO.	2	99	1	O	I	1	O	
V204	DOING MOST OF LAST WEEK?	2	100	1	O	I	1	9	
V205	WORK AT ALL LAST WEEK?	2	101	1	O	I	1	8	9
V206	EMPLOYED BUT ABSENT?	2	102	1	O	I	1	8	9
V207	BUSINESS/INDUSTRY TYPE	2	103	2	O	I	1	9998	9999
V208	EDIT CODE FOR V207	2	105	1	O	I	1	9	
V209	OCCUPATION	2	107	2	O	I	1	9998	9999
V210	EDIT CODE FOR V209	2	109	1	O	I	1	9	
V211	EMPLOYER TYPE	2	110	1	O	I	1	98	8
V212	EDIT CODE FOR V211	2	111	1	O	I	1	9	
V213	MEANS OF TRANSP TO WORK	2	113	2	O	I	1	998	99
V214	# OF PERSONS IN CARPOOL	2	115	1	O	I	1	98	99
V215	EDIT CODE FOR V214	2	116	1	O	I	1	9	
V216	# FROM HSEHLD IN POOL	2	117	1	O	I	1	98	99
V217	EDIT CODE FOR V216	2	118	1	O	I	1	9	
V218	DRIVING/RIDING ARRANGEMT	2	119	1	O	I	1	98	99
V219	REASON FOR NOT POOLING	2	120	1	O	I	1	98	99
V220	CHANGED TRANSP LAST YEAR	2	121	1	O	I	1	8	9
V221	REASON(S) FOR CHANGE?	2	122	1	O	I	1	8	9
V222	1ST REASON FOR CHANGE	2	123	1	O	I	1	9	
V223	2ND REASON FOR CHANGE	2	124	1	O	I	1	9	
V224	3RD REASON FOR CHANGE	2	125	1	O	I	1	9	
V225	4TH REASON FOR CHANGE	2	126	1	O	I	1	9	
V226	5TH REASON FOR CHANGE	2	127	1	O	I	1	9	
V227	6TH REASON FOR CHANGE	2	128	1	O	I	1	9	
V228	PREVIOUS MEANS OF TRANSP	2	129	2	O	I	1	998	99
V229	NO. IN PREVIOUS CARPOOL	2	131	1	O	I	1	98	99
V230	EDIT CODE FOR V229	2	132	1	O	I	1	9	
V231	# FROM HSHLD IN OLD POOL	2	133	1	O	I	1	98	99
V232	EDIT CODE FOR V231	2	134	1	O	I	1	9	
V233	ARRANGEMENT IN OLD POOL	2	135	1	O	I	1	98	99
V234	DISTANCE HOME TO WORK	2	137	2	O	I	1	9998	999
V235	TIME HOME TO WORK (MINS)	2	139	2	O	I	1	9998	9999
V236	LICENSED DRIVER?	2	141	1	O	I	1	9	
V237	V236 ALLOCATED?	2	142	1	O	I	1	9	
V238	ANNUAL MILEAGE (1000S)	2	145	4	O	I	1	9999998	9999999
V239	VEHICLE USED AT WORK	2	149	1	O	I	1	O	99
V240	WORK MILES ON TRAVEL DAY	2	151	2	O	I	1	9998	9999
V241	EDIT CODE FOR V240	2	153	1	O	I	1	9	
V242	WORK MILES ON AV. DAY	2	155	2	O	I	1	9998	9999
V243	EDIT CODE FOR V242	2	157	1	O	I	1	9	
V244	# OF DAYS DRIVE FOR WORK	2	158	1	O	I	1	8	9
V245	# OF WORK-RELATED STOPS	2	159	2	O	I	1	998	999
V246	FURTHEST BETWEEN 2 STOPS	2	161	4	O	I	1	99998	99999
V247	TRAVEL WITHIN MAP AREA?	2	165	1	O	I	1	8	9
V248	TRAVEL IN URBAN BOUNDS?	2	166	1	O	I	1	8	9
V249	URBAN MILEAGE DRIVEN	2	167	2	O	I	1	9998	9999
V250	OTHER TRAVEL DAY TRIPS?	2	169	1	O	I	1	8	9
V251	STATUS OF TRAV DAY INFO	2	170	1	O	I	1	98	99
V252	REASON(S) USE PUB TRANS?	2	171	1	O	I	1	8	9
V253	1ST REASON USE PUB TRANS	2	172	1	O	I	1	9	
V254	2ND REASON USE PUB TRANS	2	173	1	O	I	1	9	
V255	3RD REASON USE PUB TRANS	2	174	1	O	I	1	9	
V256	4TH REASON USE PUB TRANS	2	175	1	O	I	1	9	
V257	5TH REASON USE PUB TRANS	2	176	1	O	I	1	9	
V258	6TH REASON USE PUB TRANS	2	177	1	O	I	1	9	
V259	7TH REASON USE PUB TRANS	2	178	1	O	I	1	9	
V260	P.T. TRIPS POSS W/O P.T.	2	179	1	O	I	1	8	9
V261	REASON(S) NOT USE P.T.?	2	180	1	O	I	1	8	9
V262	1ST REASON NOT USE P.T.	2	181	1	O	I	1	99	
V263	2ND REASON NOT USE P.T.	2	182	1	O	I	1	99	
V264	3RD REASON NOT USE P.T.	2	183	1	O	I	1	99	
V265	4TH REASON NOT USE P.T.	2	184	1	O	I	1	99	
V266	5TH REASON NOT USE P.T.	2	185	1	O	I	1	99	
V267	6TH REASON NOT USE P.T.	2	186	1	O	I	1	99	
V268	7TH REASON NOT USE P.T.	2	187	1	O	I	1	99	

V269	8TH REASON NOT USE P.T.	2	188	1	0	I	1	99	
V270	9TH REASON NOT USE P.T.	2	189	1	0	I	1	99	
V271	10TH REASON NOT USE P.T.	2	190	1	0	I	1	99	
V272	11TH REASON NOT USE P.T.	2	191	1	0	I	1	99	
V273	12TH REASON NOT USE P.T.	2	192	1	0	I	1	99	
V274	13TH REASON NOT USE P.T.	2	193	1	0	I	1	99	
V275	TOTAL NO. TRAV DAY TRIPS	2	194	1	0	I	1	99	
V276	TRAVEL DAY DAY OF MONTH	2	195	1	0	I	1		
V277	TRAVEL DAY DAY OF WEEK	2	196	1	0	I	1		
V278	INFLATED PERSON WEIGHT	2	201	8	2	F	1	0	
V1	HOUSEHOLD ID	3	49	4	0	I	1		
V2	ADDITIONAL UNIT	3	53	1	0	I	1	0	
V3	MONTH	3	54	1	0	I	1		
V4	BATCH NUMBER	3	55	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	3	57	2	0	I	1		
V104	HOUSEHOLD MEMBER ID	3	59	1	0	I	1		
V2001	SEGMENT NO.	3	60	1	0	I	1		
V2002	NO. OF SEGMENT 5 RECORDS	3	61	1	0	I	1		
V2003	SEGMENT SEQUENCE NO.	3	62	1	0	I	1		
V2004	TRIP ID	3	63	1	0	I	1		
V2005	DAY OF MONTH	3	64	1	0	I	1		
V2006	DAY OF WEEK	3	65	1	0	I	1		
V2007	BEGIN AT HOME?	3	66	1	0	I	1		
V2008	WHY AWAY FROM HOME?	3	67	1	0	I	1	98	99
V2009	SMSA TYPE FOR START	3	69	2	0	I	1	8	9
V2010	SMSA POP. SIZE GROUP	3	71	2	0	I	1	8	9
V2011	TIME TRIP STARTED (A.M.)	3	73	2	0	I	1	9998	9999
V2012	EDIT CODE FOR V2011	3	75	1	0	I	1	9	
V2013	TIME TRIP STARTED (P.M.)	3	77	2	0	I	1	9998	9999
V2014	EDIT CODE FOR V2013	3	79	1	0	I	1	9	
V2015	TIME TRIP STARTED (24HR)	3	81	2	0	I	1	9999	
V2016	EDIT CODE FOR V2015	3	83	1	0	I	1	9	
V2017	TRIP PURPOSE	3	84	1	0	I	1	99	
V2018	OTHER HOUSEHOLD MEMBERS?	3	85	1	0	I	1		
V2019	2ND HOUSEHOLD MEMBER ID	3	86	1	0	I	1	99	
V2020	3RD HOUSEHOLD MEMBER ID	3	87	1	0	I	1	99	
V2021	4TH HOUSEHOLD MEMBER ID	3	88	1	0	I	1	99	
V2022	5TH HOUSEHOLD MEMBER ID	3	89	1	0	I	1	99	
V2023	6TH HOUSEHOLD MEMBER ID	3	90	1	0	I	1	99	
V2024	7TH HOUSEHOLD MEMBER ID	3	91	1	0	I	1	99	
V2025	8TH HOUSEHOLD MEMBER ID	3	92	1	0	I	1	99	
V2026	9TH HOUSEHOLD MEMBER ID	3	93	1	0	I	1	99	
V2027	10TH HOUSEHOLD MEMBER ID	3	94	1	0	I	1	99	
V2028	TRIP DISTANCE	3	97	4	0	I	1	99999	
V2029	TRIP LENGTH OF TIME	3	101	2	0	I	1	9999	
V2030	MAIN MEANS OF TRANSP.	3	103	1	0	I	1	99	
V2031	HOUSEHOLD VEHICLE USED?	3	104	1	0	I	1	8	9
V2032	VEHICLE ID	3	105	1	0	I	1	98	99
V2033	# OF NON-HSEHLD MEMBERS	3	106	1	0	I	1	98	99
V2034	EDIT CODE FOR V2033	3	107	1	0	I	1	9	
V2035	# OF PERSONS IN VEHICLE	3	108	1	0	I	1	98	99
V2036	EDIT CODE FOR V2035	3	109	1	0	I	1	9	
V2037	HSEHLD MEMB ID OF DRIVER	3	110	1	0	I	1	98	99
V2038	SHARE DRIVING?	3	111	1	0	I	1	9	
V2039	ID OF 1ST SHARER	3	112	1	0	I	1	99	
V2040	% DRIVEN BY 1ST SHARER	3	113	1	0	I	1	0	
V2041	ID OF 2ND SHARER	3	114	1	0	I	1	99	
V2042	% DRIVEN BY 2ND SHARER	3	115	1	0	I	1	0	
V2043	ID OF 3RD SHARER	3	116	1	0	I	1	99	
V2044	% DRIVEN BY 3RD SHARER	3	117	1	0	I	1	0	
V2045	ID OF 4TH SHARER	3	118	1	0	I	1	99	
V2046	% DRIVEN BY 4TH SHARER	3	119	1	0	I	1	0	
V2047	ID OF 5TH SHARER	3	120	1	0	I	1	99	
V2048	% DRIVEN BY 5TH SHARER	3	121	1	0	I	1	0	
V2049	NON-HSEHLD MEMBS SHARE?	3	122	1	0	I	1	9	
V2050	% DRIVEN BY NON-HSEHLD	3	123	1	0	I	1	0	
V2051	WHERE DID YOU PARK?	3	124	1	0	I	1	98	99
V2052	SPEC REASON ABLE TO PARK	3	125	1	0	I	1	8	9
V2053	PARKING FREE?	3	126	1	0	I	1	8	9
V2054	AMOUNT IN CENTS TO PARK	3	129	4	0	I	1	999998	999999
V2055	WHY COST INFO MISSED	3	133	1	0	I	1	98	99
V2056	MINS. PARKING PAID FOR	3	135	2	0	I	1	999	
V2057	HOURS PARKING PAID FOR	3	137	2	0	I	1	999	

V2058	DAYS PARKING PAID FOR	3	139	2	0	I	1	999	
V2059	WEEKS PARKING PAID FOR	3	141	2	0	I	1	999	
V2060	MONTHS PARKING PAID FOR	3	143	2	0	I	1	999	
V2061	WHY TIME INFO MISSED	3	145	1	0	I	1	98	99
V2062	PUBLIC TRANS. AVAILABLE?	3	146	1	0	I	1	98	99
V2063	BUS TRANS. AVAILABLE?	3	147	1	0	I	1	8	9
V2064	KNOW BUS SCHEDULE?	3	148	1	0	I	1	8	9
V2065	PARK FREE IF HAD DRIVEN?	3	149	1	0	I	1	98	99
V2066	PART OF TRIP IN CBD?	3	150	1	0	I	1	98	99
V2067	MAPPING CODE	3	151	1	0	I	1	99	89
V2068	RURAL VMT	3	153	4	1	F	1	999990	899990
V2069	URBAN (5000-49999) VMT	3	157	4	1	F	1	99990	89990
V2070	URBAN (50000-199999) VMT	3	161	4	1	F	1	99990	89990
V2071	URBAN (0.2M-1.0M) VMT	3	165	4	1	F	1	99990	89990
V2072	URBAN (1M+) VMT	3	169	4	1	F	1	99990	89990
V2073	HOME-URBAN VMT	3	173	4	1	F	1	99990	89990
V2074	HOME URBAN SIZE CODE	3	177	1	0	I	1	9	
V2075	ORIGIN-DESTINATION CODE	3	178	1	0	I	1	8	9
V2076	BORDER CROSSING CODE	3	179	1	0	I	1	9	
V2077	BASIC HSEHLD WT--BW(PSU)	3	185	8	0	F	1		
V2078	1ST PERSON-TRIP WEIGHT	3	193	8	0	F	1		
V2079	2ND PERSON-TRIP WEIGHT	3	201	8	0	F	1	0	
V2080	3RD PERSON-TRIP WEIGHT	3	209	8	0	F	1	0	
V2081	4TH PERSON-TRIP WEIGHT	3	217	8	0	F	1	0	
V2082	5TH PERSON-TRIP WEIGHT	3	225	8	0	F	1	0	
V2083	6TH PERSON-TRIP WEIGHT	3	233	8	0	F	1	0	
V2084	7TH PERSON-TRIP WEIGHT	3	241	8	0	F	1	0	
V2085	8TH PERSON-TRIP WEIGHT	3	249	8	0	F	1	0	
V2086	9TH PERSON-TRIP WEIGHT	3	257	8	0	F	1	0	
V2087	10TH PERSON-TRIP WEIGHT	3	265	8	0	F	1	0	
V2088	HOUSEHOLD-TRIP WEIGHT	3	273	8	0	F	1		
V2089	NPTS 69-70 TRIP PURPOSE	3	281	1	0	I	1	99	
V2090	TRIP LINKING CODE	3	282	1	0	I	1	0	
V2101	TRIP COPY COUNTER	3	283	1	0	I	1		
V2102	NEW HOUSEHOLD MEMBER ID	3	284	1	0	I	1	99	
V2103	NEW PERSON-TRIP WEIGHT	3	289	8	0	F	1		
V2104	NEW TRIP ID	3	297	2	0	I	1		
V2105	INFLATED HOUS-TRIP WT	3	305	8	2	F	1	0	
V2106	INFLTED NEW PERS-TRIP WT	3	313	8	2	F	1	0	
V1	HOUSEHOLD ID	4	49	4	0	I	1		
V2	ADDITIONAL UNIT	4	53	1	0	I	1	0	
V3	INTERVIEW MONTH	4	54	1	0	I	1		
V4	BATCH NUMBER	4	55	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	4	57	2	0	I	1		
V1001	SEGMENT NO.	4	59	1	0	I	1		
V1002	NO. OF SEGMENT 3 RECORDS	4	60	1	0	I	1		
V1003	SEGMENT SEQUENCE NO.	4	61	1	0	I	1		
V1004	VEHICLE ID	4	62	1	0	I	1	99	
V1005	TYPE OF VEHICLE	4	63	1	0	I	1	99	
V1006	MODEL YEAR	4	64	1	0	I	1	98	99
V1007	EDIT CODE FOR V1006	4	65	1	0	I	1	9	
V1008	AUTO TRANSMISSION?	4	66	1	0	I	1	8	9
V1009	NUMBER OF CYLINDERS	4	67	1	0	I	1	98	99
V1010	AIR CONDITIONED?	4	68	1	0	I	1	8	9
V1011	VEHICLE OWNERSHIP	4	69	1	0	I	1	9	
V1012	PURCHASED NEW OR USED	4	70	1	0	I	1	8	9
V1013	MONTH PURCHASED	4	71	1	0	I	1	98	99
V1014	YEAR PURCHASED	4	72	1	0	I	1	98	99
V1015	EDIT CODE FOR V1014	4	73	1	0	I	1	9	
V1016	DRIVEN TO WORK 4+ TIMES?	4	74	1	0	I	1	9	
V1017	ALL OR PART WAY TO WORK?	4	75	1	0	I	1	8	9
V1018	MILES IN LAST 12 MONTHS	4	77	4	0	I	1	9999999	
V1019	CURB WEIGHT	4	81	2	0	I	1	0	
V1020	SHIPPING WEIGHT	4	83	2	0	I	1	0	
V1021	INERTIA WEIGHT	4	85	2	0	I	1	0	
V1022	IMPORT OR DOMESTIC?	4	87	1	0	I	1	0	
V1023	CITY M.P.G	4	88	1	0	I	1	0	
V1024	HIGHWAY M.P.G.	4	89	1	0	I	1	0	
V1025	COMBINED M.P.G.	4	90	1	0	I	1	0	
V1026	VEHICLE MAKE	4	91	1	0	I	1	98	99
V1027	VEHICLE MODEL	4	92	1	0	I	1	98	99
V1100	VEHICLE COPY COUNTER	4	93	1	0	I	1		
V2102	NEW HOUSEHOLD MEMBER ID	4	94	1	0	I	1	99	

V2103	NEW PERSON-TRIP WEIGHT	4	97	8	0	F	1		
V2104	NEW TRIP ID	4	105	2	0	I	1		
V1	HOUSEHOLD ID	5	49	4	0	I	1		
V2	ADDITIONAL UNIT	5	53	1	0	I	1	0	
V3	INTERVIEW MONTH	5	54	1	0	I	1		
V4	BATCH NUMBER	5	55	2	0	I	1		
V5	WORK UNIT SEQUENCE NO.	5	57	2	0	I	1		
V1001	SEGMENT NO.	5	59	1	0	I	1		
V1002	NO. OF SEGMENT 3 RECORDS	5	60	1	0	I	1		
V1003	SEGMENT SEQUENCE NO.	5	61	1	0	I	1		
V1004	VEHICLE ID	5	62	1	0	I	1	99	
V1005	TYPE OF VEHICLE	5	63	1	0	I	1	99	
V1006	MODEL YEAR	5	64	1	0	I	1	98	99
V1007	EDIT CODE FOR V1006	5	65	1	0	I	1	9	
V1008	AUTO TRANSMISSION?	5	66	1	0	I	1	8	9
V1009	NUMBER OF CYLINDERS	5	67	1	0	I	1	98	99
V1010	AIR CONDITIONED?	5	68	1	0	I	1	8	9
V1011	VEHICLE OWNERSHIP	5	69	1	0	I	1	9	
V1012	PURCHASED NEW OR USED	5	70	1	0	I	1	8	9
V1013	MONTH PURCHASED	5	71	1	0	I	1	98	99
V1014	YEAR PURCHASED	5	72	1	0	I	1	98	99
V1015	EDIT CODE FOR V1014	5	73	1	0	I	1	9	
V1016	DRIVEN TO WORK 4+ TIMES?	5	74	1	0	I	1	9	
V1017	ALL OR PART WAY TO WORK?	5	75	1	0	I	1	8	9
V1018	MILES IN LAST 12 MONTHS	5	77	4	0	I	1	9999999	
V1019	CURB WEIGHT	5	81	2	0	I	1	0	
V1020	SHIPPING WEIGHT	5	83	2	0	I	1	0	
V1021	INERTIA WEIGHT	5	85	2	0	I	1	0	
V1022	IMPORT OR DOMESTIC?	5	87	1	0	I	1	0	
V1023	CITY M.P.G	5	88	1	0	I	1	0	
V1024	HIGHWAY M.P.G.	5	89	1	0	I	1	0	
V1025	COMBINED M.P.G.	5	90	1	0	I	1	0	
V1026	VEHICLE MAKE	5	91	1	0	I	1	98	99
V1027	VEHICLE MODEL	5	92	1	0	I	1	98	99

THE STRUCTURED DATASET HAS 333772 OUTPUT RECORDS.

APPENDIX B

Listing of ADAAS Master Dictionary
1977 Census of Transportation
Truck Inventory and Use Survey

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	STATE OF REGISTRATION	O	1	2	O	C			1
	1 ALABAMA 2 ALASKA 4 ARIZONA 5 ARK.								
	6 CALIF. 8 COLOR. 9 CONN. 10 DEL.								
	11 D.C. 12 FLORIDA 13 GEORGIA 15 HAWAII								
	16 IDAHO 17 ILL. 18 IND. 19 IOWA								
	20 KANSAS 21 KY. 22 LA. 23 MAINE								
	24 MD. 25 MASS. 26 MICH. 27 MINN.								
	28 MISS. 29 MISSOURI 30 MONTANA 31 NEBRASKA								
	32 NEVADA 33 N.H. 34 N.J. 35 N.M.								
	36 N.Y. 37 N.C. 38 N.D. 39 OHIO								
	40 OK. 41 OREGON 42 PENN. 44 R.I.								
	45 S.C. 46 S.D. 47 TENN. 48 TEXAS								
	49 UTAH 50 VERMONT 51 VIRGINA 53 WASH.								
	54 W.V. 55 WIS. 56 WYOMING								
V2	SAMPLE TYPE	O	3	1	O	C			1
	1 SM.TRK 2 LG.TRK								
V3	CENSUS NUMBER	O	4	4	O	C			1
V4	CASEID	O	8	7	O	C			1
V5	YEAR OF MODEL	O	15	2	O	C	0000099		1
V6	REGISTERED WEIGHT	O	17	6	O	C	0999999		1
V7	VEHICLE ID. NUMBER	O	23	7	O	A			1
V8	VEHICLE OWNERSHIP	O	30	1	O	C	0000009		1
	1 YES 2 NO 9 UNKNOWN								
V9	MONTH VEHICLE SOLD	O	31	2	O	C	0000099		1
V10	YEAR VEHICLE SOLD	O	33	2	O	C	0000099		1
V11	HOW VEHICLE WAS ACQUIRED	O	35	1	O	C	0000009		1
	1 NEW 2 USED 3 LEASED 9 UNKNOWN								
V12	MONTH VEHICLE PURCHASED	O	36	2	O	C	0000099		1
V13	YEAR VEHICLE PURCHASED	O	38	2	O	C	0000099		1
V14	LEASED TO OTHERS	O	40	1	O	C	0000009		1
	1 YES 2 NO 9 UNKNOWN								
V15	HOW LEASED	O	41	1	O	C	0000009		1
	1 WO/DR. 2 W/DR 9 UNKNOWN								
V16	TYPE OF LESSEE	O	42	1	O	C	0000009		1
	1 PRIVATE 2 GOVER. 9 UNKNOWN								
V17	LENGTH OF LEASE	O	43	1	O	C	0000009		1
	1 <30DAYS 2 30D-1YR 3 1-3YEARS 4 >3YEARS 9 UNKNOWN								
V18	FINANCE LEASE AGREE. OP.	O	44	1	O	C	0000009		1
	1 YES 9 UNKNOWN								
V19	MAINTEN LEASE AGREE. OP.	O	45	1	O	C	0000009		1
	1 YES 9 UNKNOWN								
V20	PROCURE SALE LEASE AG.	O	46	1	O	C	0000009		1
	1 YES 9 UNKNOWN								

V21	OPERATOR CLASSIFICATION	O	47	1	O	C	0000009	1
	1 PRIVATE	2 FOR HIRE		3 INTERCON		4 INTERCOM		
	5 INTRA	7 DYRENTAL		9 UNKNOWN				
V22	MAJOR USE OF VEHICLE	O	48	2	O	C	0000098	1
	1 AGRICULT	2 FORESTRY		3 MINING		4 CONSTRUC		
	5 MANUFACT	6 WHOLETRD		7 RETAILTR		8 FOR HIRE		
	9 UTILITIE	10 SERVICE		11 DYRENTAL		12 PERSONAL		
	13 OTHER	99 NOT USED		98 UNKNOWN				
V23	PRIN. PRODUCT CARRIED	O	50	2	C	C	0000099	1
	1 FARMPROD	2 LIVEANIM		3 MINEPROD		4 FOREST		
	5 PROCFOOD	6 TEXTILES		7 BUILDPRO		8 HOUSEGDS		
	9 FUR/HARD	10 PAPERPRO		11 CHEMICAL		12 PETRO		
	13 PRIMETAL	14 FABMETAL		15 MACHINER		16 ELECTRIC		
	17 TRANS.EQ	18 GARBAGE		19 MIXCARGO		20 CRAFTVEH		
	21 SPEC.EQ	22 NO.PROD		23 OTHER		99 UNKNOWN		
V24	SECOND. PRODUCT CARRIED	O	52	2	O	C	0000099	1
	1 FARMPROD	2 LIVEANIM		3 MINEPROD		4 FOREST		
	5 PROCFOOD	6 TEXTILES		7 BUILDPRO		8 HOUSEGDS		
	9 FUR/HARD	10 PAPERPRO		11 CHEMICAL		12 PETRO		
	13 PRIMETAL	14 FABMETAL		15 MACHINER		16 ELECTRIC		
	17 TRANS.EQ	18 GARBAGE		19 MIXCARGO		20 CRAFTVEH		
	21 SPEC.EQ	22 NO.PROD		23 OTHER		99 UNKNOWN		
V25	HAZARDOUS MATERIALS	O	54	1	O	C	0000009	1
	1 YES	2 NO		9 UNKNOWN				
V26	PERCENT OF TIME CARRIED	O	55	1	O	C	0000009	1
	1 <25%	2 25-49%		3 50-74%		4 75-100%		
	9 UNKNOWN							
V27	STATE BASE OF OPERATION	O	56	2	O	A		1
V28	% OF MILES TRAV. IN BASE	O	58	1	O	C	0000009	1
	1 <25%	2 25-49%		3 50-74%		4 75-100%		
	9 UNKNOWN							
V29	NUM. PICKUPS AT BASE	O	59	4	O	C		1
V30	NUM. STR.TRKS AT BASE	O	63	4	O	C		1
V31	NUM. TRU-TRAC AT BASE	O	67	4	O	C		1
V32	NUM. TRAILERS AT BASE	O	71	4	O	C		1
V33	AREA OF OPERATION	O	75	1	O	C	0000009	1
	1 LOCAL	2 <200MI		3 >200MI		4 OFFROAD		
	9 UNKNOWN							
V34	ANNUAL MILES	O	76	6	O	C		1
V35	LIFETIME MILES	O	82	7	O	C	0000000	1
V36	MILES PER GALLON	O	89	3	1	C	0000999	1
V37	MILES GAL. MEASURE/EST.	O	92	1	O	C	0000009	1
	1 MEASURED	2 ESTIMATE		9 UNKNOWN				
V38	ENGINE MAINTENANCE	O	93	1	O	C	0000009	1
	1 YES	9 UNKNOWN						
V39	TRANSMISSION MAINTENANCE	O	94	1	O	C	0000009	1
	2 YES	9 UNKNOWN						
V40	BRAKE MAINTENANCE	O	95	1	O	C	0000009	1
	3 YES	9 UNKNOWN						
V41	MAIN. OF REAR AXLE DIF	O	96	1	O	C	0000009	1
	4 YES	9 UNKNOWN						
V42	MAIN. DIFF FROM ANY LIST	O	97	1	O	C	0000009	1

	5 YES 9 UNKNOWN							
V43	MAIN. PERFORM BY SELF	O	98	1	O	C	0000009	1
	1 YES 9 UNKNOWN							
V44	MAIN. PERFORM BY DEALER	O	99	1	O	C	0000009	1
	2 YES 9 UNKNOWN							
V45	MAIN. PERFORM BY FACTORY	O	100	1	O	C	0000009	1
	3 YES 9 UNKNOWN							
V46	MAIN. PERFORM BY LEASEOR	O	101	1	O	C	0000009	1
	4 YES 9 UNKNOWN							
V47	MAIN. PERFORM BY INDEPEN	O	102	1	O	C	0000009	1
	5 YES 9 UNKNOWN							
V48	MAIN. PERFORM BY OTHER	O	103	1	O	C	0000009	1
	6 YES 9 UNKNOWN							
V49	GROSS VEH. WEIGHT CODE	O	104	2	O	C	0000099	1
	1 <6001 2 6001-10 3 10001-14 4 14001-16							
	5 16-19500 6 19501-26 7 26001-33 8 33001-40							
	9 40001-50 10 50001-60 11 60001-80 12 81-100							
	13 100-130 14 130000> 99 UNKNOWN							
V50	ENGINE TYPE	O	106	1	O	C	0000009	1
	1 GASOLINE 2 DIESEL 3 OTHER 9 UNKNOWN							
V51	ENGINE SIZE (CYLINDERS)	O	107	1	O	C	0000009	1
	1 FOUR 2 SIX 3 EIGHT 4 OTHER							
	9 UNKNOWN							
V52	DISPLACEMENT (CUBIC IN.)	O	108	4	O	C	0009999	1
V53	HORSEPOWER	O	112	3	O	C	0000999	1
V54	TRANSMISSION TYPE	O	115	1	O	C	0000009	1
	1 MANUAL 2 AUTOMAT 3 SEMIAUTO 9 UNKNOWN							
V55	BRAKE TYPE	O	116	1	O	C	0000009	1
	1 HYDRAULI 2 AIR 3 OTHER 9 UNKNOWN							
V56	ANTI-WHEEL LOCK DEVICE	O	117	1	O	C	0000009	1
	1 YES 2 NO 9 UNKNOWN							
V57	POWER STEERING	O	118	1	O	C	0000009	1
	1 YES 2 NO 9 UNKNOWN							
V58	FUEL CON. EQUIP-RADIAL	O	119	1	O	C	0000009	1
	1 YES 9 UNKNOWN							
V59	FUEL CON. EQUIP-DRAG RED	O	120	1	O	C	0000009	1
	2 YES 9 UNKNOWN							
V60	FUEL CON. EQUIP-VAR FAN	O	121	1	O	C	0000009	1
	3 YES 9 UNKNOWN							
V61	FUEL CON. EQUIP-EFF ENG	O	122	1	O	C	0000009	1
	4 YES 9 UNKNOWN							
V62	FUEL CON. EQUIP-AXLE	O	123	1	O	C	0000009	1
	5 YES 9 UNKNOWN							
V63	VEHICLE AIR CONDITIONED	O	124	1	O	C	0000009	1
	1 YES 2 NO 9 UNKNOWN							
V64	BODY TYPE	O	125	2	O	C	0000098	1
	1 PICKUP 2 PANEL 3 WALK-IN 4 PLATFORM							
	5 LOW BOY 6 D/PLAT 7 CAT.RACK 8 NOREFVAN							
	9 REFIGVAN 10 FURNVAN 11 OPENVAN 12 OTHERVAN							
	13 BEVERAGE 14 UTILITY 15 CRANE 16 WRECKER							
	17 LOGGING 18 AUTOTRAN 19 BOATTRAN 20 MOB.HOME							

	30 GARBAGE	31 FRONTLOD	32 REARLOAD	33 ROLL.OFF						
	40 DUMP	50 TANKLIQ	60 TANKDRY	70 CONCRETE						
	71 FRONTMIX	72 REARMIX	99 OTHER	98 UNKNOWN						
V65	4-WHEEL DRIVE		0	127	1	0	C	0000009		1
	1 YES	2 NO	9 UNKNOWN							
V66	NUM. AXLES PICKUPS/PANS		0	128	1	0	C	0000009		1
	1 ONE AXLE	2 TWO AXLE	9 UNKNOWN							
V67	CAMP.EQUIP PICKUPS/PANS		0	129	1	0	C	0000009		1
	1 SLIDECAM	2 SHELLCOV	3 CAMPBODY	4 OTHER						
	9 UNKNOWN									
V68	BODY SIZE CODE		0	130	2	0	C	0000099		1
	1 B1-20/7	2 B1-20/10	3 B1-20/13	4 B1-20/16						
	5 B1-20/20	6 B1-20/28	7 B1-20/36	8 B1-20/41						
	9 B1-20/45	10 B1-20/73	11 B1-20>73	31 30-33/20						
	32 30-33/25	33 30-33>25	41 B40/5YD	42 B40/7YD						
	43 B40/10YD	44 B40/12YD	45 B40/15YD	46 B40/18YD						
	47 B40/20YD	48 B40/30YD	49 B40>30YD	51 B50<1000						
	52 B50/1-2	53 B50/2-3	54 B50/3-4	55 B50/4-6						
	56 B50/6-8	57 B50/8-12	58 B50>12	61 B60/300F						
	62 B60/3-6	63 B60/6-9	64 B69/9-12	65 B60/1215						
	66 B60>15	71 7072/6YD	72 7072/6-7	73 7072/7-8						
	74 7072/8-9	75 7072/910	76 70721011	77 70721112						
	78 7072>12	99 UNKNOWN								
V69	NUMBER OF POWERED AXLES		0	132	1	0	C	0000009		1
	1 ONE	2 TWO	3 THREE	4 FOUR OR>						
	9 UNKNOWN									
V70	VEHICLE TYPE		0	133	1	0	C	0000009		1
	1 1UN/2AX	2 1UN/3AX	3 1UN/OTHR	4 TRAC/2AX						
	5 TRAC/3AX	6 TRAC/OTH	9 UNKNOWN							
V71	AXLE ARRAN. OF TRAILER		0	134	1	0	C	0000000		1
	1 1TL/1AX	2 1TL/2AX	3 1TL/2AXR	4 1TL/3AX						
	5 1TL/4AX	6 2TL/3AX	7 2TL/4AX	8 3TL/5AX						
	9 OTHER	0 UNKNOWN								
V72	CAB TYPE		0	135	1	0	C	0000009		1
	1 CABFORWD	2 CABOVER	3 SHORTCON	4 MEDCON						
	5 LONGCON	6 OTHER	9 UNKNOWN							
V73	SLEEPER CAB		0	136	1	0	C	0000009		1
	1 YES	2 NO	9 UNKNOWN							
V74	AXLE RECODE		0	137	2	0	C	0000099		1
	1 1UNTR2AX	2 1UNTR3AX	3 1UNTROAX	4 2XTR1TL1						
	5 2XTR1TL2	6 2XTR1TL2	7 2XTR1TL3	8 2XTR1TL4						
	9 3XTR1TL1	10 3XTR1TL2	11 3XTR1TL2	12 3XTR1TL3						
	13 3XTR1TL4	14 OXTR1TL1	15 OXTR1TL2	16 OXTR1TL2						
	17 OXTR1TL3	18 OXTR1TL4	19 2XTR2TL3	20 2XTR2TL4						
	21 3XTR2TL3	22 3XTR2TL4	23 OXTR2TL3	24 OXTR2TL4						
	25 2XTR3TL5	26 3XTR3TL5	27 OXTR3TL5	28 2XTROTLO						
	29 3XTROTLO	30 OXTROTLO	31 UNDEFINE	99 UNKNOWN						
V75	VEHICLE SIZE CLASS		0	139	1	0	C	0000009		1
	1 LIGHT	2 MEDIUM	3 LT-HEAVY	4 HEV-HEV						
	9 UNKNOWN									
V76	EXPANSION FACTOR		C	140	6	1	C			1
V77	FIPS STATE/COUNTY CODE		C	146	5	0	C			1
V78	FIPS STATE CODE		C	151	2	0	C			1
V79	FIPS COUNTY CODE		C	153	3	0	C			1
V80	VEHICLE MAKE ALPHA		C	156	3	0	A			1
V81	VEHICLE MAKE CODE		C	159	2	0	C	0000099		1

1	CHEVY	2	FORD	5	PLYMOUTH	7	DODGE
8	VOLKSWAG	14	OPEL	15	DATSUN	16	TOYOTA
17	MAZDA	19	VOLVO	26	MERCEDES	30	DIAMOND
31	DIVCO	32	STUDEBAK	33	WILLYS	34	REO(WHI)
35	OSHKOSH	36	AUTOCAR	38	WINNEBAG	39	PACEARRO
40	AVCO	41	CHAMPION	42	CHINOOK	43	KAYOT
44	OPENROAD	45	SHASTA	46	FABCO	47	CRANECAR
48	MARMON	49	WALTER	50	AUTOUDKW	51	GOLIATH
52	HILL.COM	53	LANDROVE	54	MORRIS	55	THAMES
56	ENGLFORD	57	ALFAROME	58	AUSTIN	59	GOGGOMOB
70	BORGWARD	71	TAUNUS	72	PRINZ	73	CITROEN
74	LLOYD	75	TEMPO	80	BROCKWAY	81	DIAM.REO
82	WHFREIGT	83	FOURWHDR	84	GMC	85	INTERNAT
86	KENWORTH	87	MACK	88	PETEBILT	89	WHITE
99	UNKNOWN						

V100	IMPUTE FLAGS	O	161	14	O	A		1
V101	IMPUTED VALUE FOR V21	O	175	1	O	C	0000009	1
V102	IMPUTED VALUE FOR V5	O	176	1	O	C	0000009	1
V103	IMPUTED VALUE FOR V51	O	177	1	O	C	0000009	1
V104	IMPUTED VALUE FOR V52	O	178	1	O	C	0000009	1
V105	CENSUS USE ONLY	O	179	1	O	C	0000009	1
V106	IMPUTED VALUE FOR V4	O	180	1	O	C	0000009	1
V107	IMPUTED VALUE FOR V35	O	181	1	O	C	0000009	1
V108	IMPUTED VALUE FOR V34	O	182	1	O	C	0000009	1
V109	IMPUTED VALUE FOR V2	O	183	1	O	C	0000009	1
V110	IMPUTED VALUE FOR V3	O	184	1	O	C	0000009	1
V111	IMPUTED VALUE FOR V31	O	185	1	O	C	0000009	1
V112	IMPUTED VALUE FOR V28	O	186	1	O	C	0000009	1
V113	IMPUTED VALUE FOR V6	O	187	1	O	C	0000009	1
V114	IMPUTED VALUE FOR V7	O	188	1	O	C	0000009	1

APPENDIX C

Listing of OSIRIS IV Dictionary
Michigan Driving Experience Survey

SORTING SCHEMA (GROUP IDENTIFICATION VARIABLES AND CONSTANTS):

GROUP	LEVO1 VAR	LEVO2 VAR	CON	LEVO3 VAR
001	V1			
002	V1	V1000	01	
003	V1	V1000	01	V2000
004	V1	V2000	02	

***DICTIONARY FOR GROUP # 1

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	FILE SEQUENCE #	0	1	5	0	C			1
V2	OFFICE #	0	6	3	0	C	999		1
V3	LOCAL SEQUENCE #	0	9	3	0	C	999		1
V4	FORM TYPE #	0	12	1	0	C	9		1
V5	HOUR INTERVIEW (24H)	0	13	2	0	C	99		1
V6	JDATE INTERVIEW (JULIAN)	0	15	5	0	C	99999		1
V7	MONTH INTERVIEW	0	20	2	0	C	99		1
V8	DAY INTERVIEW	0	22	2	0	C	99		1
V9	TYPE APPLICATION	0	24	1	0	C	9		1
V10	APPLICATION #	0	25	8	0	C	9999999		1
V11	MANUAL APP USED REASON	0	33	1	0	C	9		1
V12	RENEWAL TEST WAIVED?	0	34	1	0	C	9		1
V13	POSTAL CITY	0	35	19	0	A			1
V14	POSTAL MDSHT ZONE	0	54	4	0	C	9999		1
V15	ZIP CODE	0	58	5	0	C	99999		1
V16	SEX	0	63	1	0	C	9		1
V17	JD CLOSEST BDAY (JULIAN)	0	64	5	0	C	99999		1
V18	AGE	0	69	2	0	C	99		1
V19	LICENCE TYPE	0	71	1	0	C	9		1
V20	LATE INTERVIEW FLAG	0	72	1	0	C	9		1
V21	REFUSAL REASON	0	73	2	0	C	99		1
V22	YEARS DRIVEN	0	75	2	0	C	99		1
V23	TOTAL MILES 12 MONTHS	0	77	6	0	C	999999		1
V24	VACN MILES 12 MONTHS	0	83	6	0	C	999999		1
V25	ON JOB MILES 12 MONTHS	0	89	6	0	C	999999		1
V26	7 DAY MILES	0	95	5	0	C	99999		1
V27	NORMALCY OF 7 DAY MILES	0	100	1	0	C	9		1
V28	#VEHS DRIVEN PAST 7 DAYS	0	101	2	0	C	99		1
V29	VEH1 YEAR	0	103	2	0	C	99		1
V30	VEH1 MAKE	0	105	2	0	C	99		1
V31	VEH1 MODEL/TYPE	0	107	2	0	C	99		1
V32	VEH1 REGISTERED TO	0	109	1	0	C	9		1
V33	VEH2 YEAR	0	110	2	0	C	99		1
V34	VEH2 MAKE	0	112	2	0	C	99		1
V35	VEH2 MODEL/TYPE	0	114	2	0	C	99		1
V36	VEH2 REGISTERED TO	0	116	1	0	C	9		1
V37	VEH3 YEAR	0	117	2	0	C	99		1
V38	VEH3 MAKE	0	119	2	0	C	99		1
V39	VEH3 MODEL/TYPE	0	121	2	0	C	99		1
V40	VEH3 REGISTERED TO	0	123	1	0	C	9		1
V41	VEH4 YEAR	0	124	2	0	C	99		1
V42	VEH4 MAKE	0	126	2	0	C	99		1
V43	VEH4 MODEL/TYPE	0	128	2	0	C	99		1
V44	VEH4 REGISTERED TO	0	130	1	0	C	9		1
V45	VEH5 YEAR	0	131	2	0	C	99		1
V46	VEH5 MAKE	0	133	2	0	C	99		1
V47	VEH5 MODEL/TYPE	0	135	2	0	C	99		1
V48	VEH5 REGISTERED TO	0	137	1	0	C	9		1
V49	1ST VEH MOST USED	0	138	1	0	C	9		1
V50	2ND VEH MOST USED	0	139	1	0	C	9		1
V51	#VEHS USED TOTAL	0	140	2	0	C	99		1
V52	#OTHER VEHS(NOT DRIVEN)	0	142	2	0	C	99		1

V53	HOW MUCH OWN MAINTENANCE	O	144	1	O	C	9	1
V54	1ST NON-RD VEH IN HSHLD	O	145	1	O	C	9	1
V55	2ND NON-RD VEH IN HSHLD	O	146	1	O	C	9	1
V56	3RD NON-RD VEH IN HSHLD	O	147	1	O	C	9	1
V57	1ST TRAILER IN HOUSEHOLD	O	148	1	O	C	9	1
V58	2ND TRAILER IN HOUSEHOLD	O	149	1	O	C	9	1
V59	3RD TRAILER IN HOUSEHOLD	O	150	1	O	C	9	1
V60	1ST NRV USED PAST 7 DAYS	O	151	1	O	C	9	1
V61	2ND NRV USED PAST 7 DAYS	O	152	1	O	C	9	1
V62	3RD NRV USED PAST 7 DAYS	O	153	1	O	C	9	1
V63	1ST TLR USED PAST 7 DAYS	O	154	1	O	C	9	1
V64	2ND TLR USED PAST 7 DAYS	O	155	1	O	C	9	1
V65	3RD TLR USED PAST 7 DAYS	O	156	1	O	C	9	1
V66	# BICYCLES IN HOUSEHOLD	O	157	2	O	C	99	1
V67	MILES BICYC PAST 7 DAYS	O	159	3	O	C	999	1
V68	BICYC PURPOSE	O	162	1	O	C	9	1
V69	AT RN LIC EXPIRED?	O	163	1	O	C	9	1
V70	NOT DRIVEN FLAG	O	164	1	O	C	9	1
V71	DAY OF WEEK ASKED ABOUT	O	165	1	O	C	9	1
V72	# TRIPS TOTAL	O	166	2	O	C	99	1
V73	TOTAL BTW DURATION	O	168	4	O	C	9999	1
V74	TOTAL MILES	O	172	4	O	C	9999	1
V75	MARITAL STATUS	O	176	1	O	C	9	1
V76	# OTH DRIVERS IN H.H.	O	177	2	O	C	99	1
V77	# NON-DRIVERS IN H.H.	O	179	2	O	C	99	1
V78	# 6-15 YR OLDS IN H.H.	O	181	2	O	C	99	1
V79	# 0-5 YR OLDS IN H.H.	O	183	2	O	C	99	1
V80	EMPLOYMENT STATUS	O	185	1	O	C	9	1
V81	OCCUPATION	O	186	3	O	C	999	1
V82	EDUCATIONAL LEVEL	O	189	1	O	C	9	1
V83	INCOME GROUP	O	190	1	O	C	9	1
V84	LENGTH RESIDENCE	O	191	1	O	C	9	1
V85	TYPE RESIDENCE	O	192	1	O	C	9	1
V86	1ST DUBIOUS DATA	O	193	2	O	C	99	1
V87	2ND DUBIOUS DATA	O	195	2	O	C	99	1
V88	3RD DUBIOUS DATA	O	197	2	O	C	99	1
V89	4TH DUBIOUS DATA	O	199	2	O	C	99	1
V90	RLZ RESIDENCE LOC ZONE	O	201	4	O	C	9999	1
V91	SAMPLE WEIGHT	O	205	5	4	C	99999	1
V92	RENEWAL MONTH	O	210	2	O	C	99	1
V93	RESPONSE RATE WEIGHT	O	212	7	4	C	9999999	1
V94	STRATUM	O	219	2	O	C		1
V95	PSU	O	221	1	O	C		1
V96	LICENSE TYPE	O	222	1	O	C	9	1
V97	ISSUE CATEGORY	O	223	1	O	C	9	1
V98	PROBATIONARY	O	224	1	O	C	9	1
V99	ORIGINAL YEAR	O	225	2	O	C	99	1
V100	SEX (FROM LIC. RECORD)	O	227	1	O	C	9	1
V101	AGE (FROM LIC. RECORD)	O	228	2	O	C	99	1
V102	JULIAN LAST CONV. DATE	O	230	5	O	C	99999	1
V103	NUM. CONVICTION RECORDS	O	235	2	O	C	99	1
V104	NUM. ACCIDENT RECORDS	O	237	2	O	C	99	1
V105	Y72 DEMERIT POINTS	O	239	2	O	C	99	1
V106	Y73 DEMERIT POINTS	O	241	2	O	C	99	1
V107	Y74 DEMERIT POINTS	O	243	2	O	C	99	1
V108	Y75 DEMERIT POINTS	O	245	2	O	C	99	1
V109	Y76 DEMERIT POINTS	O	247	2	O	C	99	1
V110	Y77 DEMERIT POINTS	O	249	2	O	C	99	1
V111	TOT DEMERIT POINTS	O	251	2	O	C	99	1
V112	TOT 1-10 SPEED	O	253	2	O	C	99	1
V113	TOT 11-15 SPEED	O	255	2	O	C	99	1
V114	TOT OVER 15 SPEED	O	257	2	O	C	99	1
V115	TOT RAN (RED) TR SIG(2)	O	259	2	O	C	99	1
V116	TOT PROHIBITED TURN	O	261	2	O	C	99	1
V117	TOT STOP SIGN DISOBEYED	O	263	2	O	C	99	1
V118	TOT BASIC SPEED VIOL (2)	O	265	2	O	C	99	1
V119	TOT FTY(FAIL TO YLD)(2)	O	267	2	O	C	99	1
V120	TOT TURN IMPROPER	O	269	2	O	C	99	1
V121	TOT LIC/FR REQU VIOL(6)	O	271	2	O	C	99	1
V122	TOT NO LIC POSS/EXPD(2)	O	273	2	O	C	99	1
V123	TOT CARELESS DRIVING	O	275	2	O	C	99	1
V124	TOT LANE USE IMPROPER	O	277	2	O	C	99	1
V125	TOT TCD(DIS T C DEV)(5)	O	279	2	O	C	99	1

V126	TOT WRONG WAY-1 WAY ST	O	281	2	O	C	99		1
V127	TOT DUIL (LIQUOR)(2)	O	283	2	O	C	99		1
V128	TOT PASS IMPROPER/LOC(2)	O	285	2	O	C	99		1
V129	TOT DW IMPAIRED	O	287	2	O	C	99		1
V130	TOT DUID (DRUGS)(2)	O	289	2	O	C	99		1
V131	TOT OTHER 6 PT CONV (7)	O	291	2	O	C	99		1
V132	TOT RECKLESS DRIVING	O	293	2	O	C	99		1
V133	TOT ENERGY SPEED	O	295	2	O	C	99		1
V134	TOT DWLS(LIC SUSP/REV)	O	297	2	O	C	99		1
V135	TOT MCYC ONLY OFFNCS(4)	O	299	2	O	C	99		1
V136	TOT DRAG R/FLEE OFCR(2)	O	301	2	O	C	99		1
V137	TOT F REP ACC/ANS CIT(3)	O	303	2	O	C	99		1
V138	TOT MISC INCONSID DR(5)	O	305	2	O	C	99		1
V139	TOT SVPD(SGL VEH PROP D)	O	307	2	O	C	99		1
V140	TOT SVPI(SGL VEH INJURY)	O	309	2	O	C	99		1
V141	TOT SVFA(SGL VEH FATAL)	O	311	2	O	C	99		1
V142	TOT MVPD(MUL VEH PROP D)	O	313	2	O	C	99		1
V143	TOT MVPI(MUL VEH INJURY)	O	315	2	O	C	99		1
V144	TOT MVFA(MUL VEH FATAL)	O	317	2	O	C	99		1
V145	TOT SPEED #HA	O	319	2	O	C	99		1
V146	TOT FYRW #HA	O	321	2	O	C	99		1
V147	TOT LEFT OF CENTER #HA	O	323	2	O	C	99		1
V148	TOT OVERTAKING IMP #HA	O	325	2	O	C	99		1
V149	TOT STOP SIGN DISOB #HA	O	327	2	O	C	99		1
V150	TOT TRAF SIG DISREG #HA	O	329	2	O	C	99		1
V151	TOT FOLLOW TOO CLOSE #HA	O	331	2	O	C	99		1
V152	TOT TURN IMPROPER #HA	O	333	2	O	C	99		1
V153	TOT SIGNAL IMP/NONE #HA	O	335	2	O	C	99		1
V154	TOT OTH IMP DRIVING #HA	O	337	2	O	C	99		1
V155	TOT #HBD (#HAD BN DRNKG)	O	339	2	O	C	99		1
V156	Y72 TC (TOTAL CONVICTNS)	O	341	1	O	C	9		1
V157	Y73 TC (TOTAL CONVICTNS)	O	342	1	O	C	9		1
V158	Y74 TC (TOTAL CONVICTNS)	O	343	1	O	C	9		1
V159	Y75 TC (TOTAL CONVICTNS)	O	344	1	O	C	9		1
V160	Y76 TC (TOTAL CONVICTNS)	O	345	1	O	C	9		1
V161	Y77 TC (TOTAL CONVICTNS)	O	346	1	O	C	9		1
V162	TOT TC (TOTAL CONVICTNS)	O	347	2	O	C	99		1
V163	Y72 TA(TOTAL ACCIDENTS)	O	349	1	O	C	9		1
V164	Y73 TA(TOTAL ACCIDENTS)	O	350	1	O	C	9		1
V165	Y74 TA(TOTAL ACCIDENTS)	O	351	1	O	C	9		1
V166	Y75 TA(TOTAL ACCIDENTS)	O	352	1	O	C	9		1
V167	Y76 TA(TOTAL ACCIDENTS)	O	353	1	O	C	9		1
V168	Y77 TA(TOTAL ACCIDENTS)	O	354	1	O	C	9		1
V169	TOT TA(TOTAL ACCIDENTS)	O	355	2	O	C	99		1
V170	COUNTY	O	357	2	O	C	99		1
V171	MILES LGHT	O	359	5	2	C	99999	99999	1
V172	MILES LIDK	O	364	5	2	C	99999	99999	1
V173	MILES DARK	O	369	5	2	C	99999	99999	1
V174	MINS LGHT	O	374	5	2	C	99999	99999	1
V175	MINS LIDK	O	379	5	2	C	99999	99999	1
V176	MINS DARK	O	384	5	2	C	99999	99999	1
V177	MI RESID STREETS	O	389	5	2	C	99999	99999	1
V178	MI MAJ URBAN RDS	O	394	5	2	C	99999	99999	1
V179	MI FREEWAYS	O	399	5	2	C	99999	99999	1
V180	MI MAJ RURAL RDS	O	404	5	2	C	99999	99999	1
V181	MI MIN RURAL RDS	O	409	5	2	C	99999	99999	1
V182	MINS RESID STREETS	O	414	5	2	C	99999	99999	1
V183	MINS MAJ URBAN RDS	O	419	5	2	C	99999	99999	1
V184	MINS FREEWAYS	O	424	5	2	C	99999	99999	1
V185	MINS MAJ RURAL RDS	O	429	5	2	C	99999	99999	1
V186	MINS RURAL RDS	O	434	5	2	C	99999	99999	1
V187	MINS/SUB COMPACT	O	439	5	2	C	99999	99999	1
V188	MINS/COMPACT	O	444	5	2	C	99999	99999	1
V189	MINS/INTERMEDIATE	O	449	5	2	C	99999	99999	1
V190	MINS/FULL SIZE	O	454	5	2	C	99999	99999	1
V191	MINS/LUXURY	O	459	5	2	C	99999	99999	1
V192	MINS/SPORTS	O	464	5	2	C	99999	99999	1
V193	MINS/MOTORCYCLE	O	469	5	2	C	99999	99999	1
V194	MINS/RV OR VAN	O	474	5	2	C	99999	99999	1
V195	MINS/PICKUP	O	479	5	2	C	99999	99999	1
V196	MINS/TRUCK/BUS	O	484	5	2	C	99999	99999	1
V197	MINS/UNKNOW	O	489	5	2	C	99999	99999	1
V198	MILS/SUB COMPACT	O	494	5	2	C	99999	99999	1

V199	MILS/COMPACT	0	499	5	2	C	99999	99999	1
V200	MILS/INTERMEDIATE	0	504	5	2	C	99999	99999	1
V201	MILS/FULL SIZE	0	509	5	2	C	99999	99999	1
V202	MILS/LUXURY	0	514	5	2	C	99999	99999	1
V203	MILS/SPORTS	0	519	5	2	C	99999	99999	1
V204	MILS/MOTORCYCLE	0	524	5	2	C	99999	99999	1
V205	MILS/RV OR VAN	0	529	5	2	C	99999	99999	1
V206	MILS/PICKUP	0	534	5	2	C	99999	99999	1
V207	MILS/TRUCK/BUS	0	539	5	2	C	99999	99999	1
V208	MILS/UNKNOW	0	544	5	2	C	99999	99999	1
V209	MILES W/O PASSENGERS	0	549	5	2	C	99999	99999	1
V210	MILES W/1 PASSENGER	0	554	5	2	C	99999	99999	1
V211	MILES W/2+ PASSENGERS	0	559	5	2	C	99999	99999	1
V212	MINS W/O PASSENGERS	0	564	5	2	C	99999	99999	1
V213	MINS W/1 PASSENGER	0	569	5	2	C	99999	99999	1
V214	MINS W/2+ PASSENGERS	0	574	5	2	C	99999	99999	1
V215	MINS/TRANSIT/ALL	0	579	5	2	C	99999	99999	1
V216	MINS/TRANSIT/PART	0	584	5	2	C	99999	99999	1
V217	MINS/TRANSIT/NONE ID	0	589	5	2	C	99999	99999	1
V218	MILES/TRANSIT/ALL	0	594	5	2	C	99999	99999	1
V219	MILES/TRANSIT/PART	0	599	5	2	C	99999	99999	1
V220	MILES/TRANSIT/NONE ID	0	604	5	2	C	99999	99999	1
V221	MILS/COMMUTING	0	609	5	2	C	99999	99999	1
V222	MILS/ON THE JOB	0	614	5	2	C	99999	99999	1
V223	MILS TO&FROM SCHOOL	0	619	5	2	C	99999	99999	1
V224	MILS/PERS BUSINESS	0	624	5	2	C	99999	99999	1
V225	MILS SHOPPING	0	629	5	2	C	99999	99999	1
V226	MILS/SOCIAL	0	634	5	2	C	99999	99999	1
V227	MILS/RECREATIONAL	0	639	5	2	C	99999	99999	1
V228	MILS/INTERCHANGE MODES	0	644	5	2	C	99999	99999	1
V229	MILS/OTHER	0	649	5	2	C	99999	99999	1
V230	MINS/COMMUTING	0	654	5	2	C	99999	99999	1
V231	MINS/ON THE JOB	0	659	5	2	C	99999	99999	1
V232	MINS TO&FROM SCHOOL	0	664	5	2	C	99999	99999	1
V233	MINS/PERS BUSINESS	0	669	5	2	C	99999	99999	1
V234	MINS SHOPPING	0	674	5	2	C	99999	99999	1
V235	MINS/SOCIAL	0	679	5	2	C	99999	99999	1
V236	MINS/RECREATIONAL	0	684	5	2	C	99999	99999	1
V237	MINS/INTERCHANGE MODES	0	689	5	2	C	99999	99999	1
V238	MINS/OTHER	0	694	5	2	C	99999	99999	1
V239	GAS/DAY SUBCOMPACT	0	699	5	2	C	99999	99999	1
V240	GAS/DAY COMPACT	0	704	5	2	C	99999	99999	1
V241	GAS/DAY INTERMEDIATE	0	709	5	2	C	99999	99999	1
V242	GAS/DAY FULL SIZE	0	714	5	2	C	99999	99999	1
V243	GAS/DAY LUXURY	0	719	5	2	C	99999	99999	1
V244	GAS/DAY SPORTS	0	724	5	2	C	99999	99999	1
V245	GAS/DAY MOTORCYCLE	0	729	5	2	C	99999	99999	1
V246	GAS/DAY RV OR VAN	0	734	5	2	C	99999	99999	1
V247	GAS/DAY PICKUP	0	739	5	2	C	99999	99999	1
V248	GAS/DAY TRUCK/BUS	0	744	5	2	C	99999	99999	1
V249	GAS/DAY UNKNOWN	0	749	5	2	C	99999	99999	1
V250	GAS/DAY TOTAL	0	754	5	2	C	99999	99999	1
V251	PURPOSES/TRIP	0	759	5	2	C	99999	99999	1
V252	SES SCALE	0	764	5	2	C	99999	99999	1
V253	LIFE STAGE	0	769	5	2	C	99999	99999	1
V254	PSUWT*RESRT*DOWWT	0	774	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	0	779	5	2	C	99999	99999	1
V256	MI/HR	0	784	5	2	C	99999	99999	1

*** THE NUMBER OF VARIABLES IN GROUP 1 IS 256
*** THE NUMBER OF RECORDS IN GROUP 1 IS 7581

***DICTIONARY FOR GROUP # 2

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	FILE SEQUENCE #	0	1	5	0	C			1
V2	OFFICE #	0	6	3	0	C	999		1
V3	LOCAL SEQUENCE #	0	9	3	0	C	999		1
V7	MONTH INTERVIEW	0	12	2	0	C	99		1
V8	DAY INTERVIEW	0	14	2	0	C	99		1
V66	DAY OF WEEK ASKED ABOUT	0	16	1	0	C	9		1
V86	1ST DUBIOUS DATA	0	17	2	0	C	99		1
V87	2ND DUBIOUS DATA	0	19	2	0	C	99		1
V88	3RD DUBIOUS DATA	0	21	2	0	C	99		1
V89	4TH DUBIOUS DATA	0	23	2	0	C	99		1
V91	SAMPLE WEIGHT	0	25	5	4	C	99999		1
V94	STRATUM	0	30	2	0	C			1
V95	PSU	0	32	1	0	C			1
V254	PSUWT*RESRT*DOWWT	0	33	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	0	38	5	2	C	99999	99999	1
V1000	TRIP SEQUENCE NO.	0	43	1	0	C			1
V1001	ORIGIN TYPE	0	44	1	0	C	9		1
V1002	DESTINATION TYPE	0	45	1	0	C	9		1
V1003	1ST TRIP PURPOSE	0	46	2	0	C	9		1
V1004	2ND TRIP PURPOSE	0	48	2	0	C	9		1
V1005	3RD TRIP PURPOSE	0	50	2	0	C	9		1
V1006	HOUR TRIP STARTED (24HR)	0	52	2	0	C	9		1
V1007	TRIP IN DARK?	0	54	1	0	C	9		1
V1008	TOTAL TRIP TIME IN MINS.	0	55	4	0	C	9		1
V1009	NUMBER OF STOPS	0	59	2	0	C	9		1
V1010	STOP TIME IN MINS.	0	61	4	0	C	9		1
V1011	BTW TIME IN MINS.	0	65	4	0	C	9		1
V1012	MILES DRIVEN	0	69	4	0	C	9		1
V1013	1ST ROAD TYPE	0	73	1	0	C	9		1
V1014	2ND ROAD TYPE	0	74	1	0	C	9		1
V1015	VEH SEQUENCE NO.	0	75	1	0	C			1
V1016	NUMBER OF PASSENGERS	0	76	1	0	C	9		1
V1017	RELATIVE AGE PASSENGERS	0	77	1	0	C	9		1
V1018	PUB TRANSPORTATION POSS	0	78	2	0	C	9		1
V1019	GAS CONSUMPT--CALCULATED	0	80	5	2	F	99900		1

*** THE NUMBER OF VARIABLES IN GROUP 2 IS 35
*** THE NUMBER OF RECORDS IN GROUP 2 IS 13659

***DICTIONARY FOR GROUP # 3

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	FILE SEQUENCE #	0	1	5	0	C			1
V2	OFFICE #	0	6	3	0	C	999		1
V3	LOCAL SEQUENCE #	0	9	3	0	C	999		1
V7	MONTH INTERVIEW	0	12	2	0	C	99		1
V8	DAY INTERVIEW	0	14	2	0	C	99		1
V28	#VEHS DRIVEN PAST 7 DAYS	0	16	2	0	C	99		1
V49	1ST VEH MOST USED	0	18	1	0	C	9		1
V50	2ND VEH MOST USED	0	19	1	0	C	9		1
V51	#VEHS USED TOTAL	0	20	2	0	C	99		1
V86	1ST DUBIOUS DATA	0	22	2	0	C	99		1
V87	2ND DUBIOUS DATA	0	24	2	0	C	99		1
V88	3RD DUBIOUS DATA	0	26	2	0	C	99		1
V89	4TH DUBIOUS DATA	0	28	2	0	C	99		1
V91	SAMPLE WEIGHT	0	30	5	4	C	99999		1
V94	STRATUM	0	35	2	0	C			1
V95	PSU	0	37	1	0	C			1
V254	PSUWT*RESRT*DOWWT	0	38	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	0	43	5	2	C	99999	99999	1
V1000	TRIP SEQUENCE NO.	0	48	1	0	C			1
V2000	VEH SEQUENCE NO.	0	49	1	0	C			1
V2001	VEH YEAR	0	50	2	0	C	9		1
V2002	VEH MAKE	0	52	2	0	C	9		1
V2003	VEH MODEL/TYPE	0	54	2	0	C	9		1
V2004	VEH REGISTERED TO	0	56	1	0	C	9		1

*** THE NUMBER OF VARIABLES IN GROUP 3 IS 24
*** THE NUMBER OF RECORDS IN GROUP 3 IS 13515

***DICTIONARY FOR GROUP # 4

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	FILE SEQUENCE #	0	1	5	0	C			1
V2	OFFICE #	0	6	3	0	C	999		1
V3	LOCAL SEQUENCE #	0	9	3	0	C	999		1
V7	MONTH INTERVIEW	0	12	2	0	C	99		1
V8	DAY INTERVIEW	0	14	2	0	C	99		1
V28	#VEHS DRIVEN PAST 7 DAYS	0	16	2	0	C	99		1
V49	1ST VEH MOST USED	0	18	1	0	C	9		1
V50	2ND VEH MOST USED	0	19	1	0	C	9		1
V51	#VEHS USED TOTAL	0	20	2	0	C	99		1
V86	1ST DUBIOUS DATA	0	22	2	0	C	99		1
V87	2ND DUBIOUS DATA	0	24	2	0	C	99		1
V88	3RD DUBIOUS DATA	0	26	2	0	C	99		1
V89	4TH DUBIOUS DATA	0	28	2	0	C	99		1
V91	SAMPLE WEIGHT	0	30	5	4	C	99999		1
V94	STRATUM	0	35	2	0	C			1
V95	PSU	0	37	1	0	C			1
V254	PSUWT*RESRT*DOWWT	0	38	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	0	43	5	2	C	99999	99999	1
V2000	VEH SEQUENCE NO.	0	48	1	0	C			1
V2001	VEH YEAR	0	49	2	0	C	9		1
V2002	VEH MAKE	0	51	2	0	C	9		1
V2003	VEH MODEL/TYPE	0	53	2	0	C	9		1
V2004	VEH REGISTERED TO	0	55	1	0	C	9		1

*** THE NUMBER OF VARIABLES IN GROUP 4 IS 23
*** THE NUMBER OF RECORDS IN GROUP 4 IS 15335

***NEW OUTPUT DICTIONARY:

VAR#	VARIABLE NAME	GROUP	COL	WIDTH	NDEC	TYPE	MDCODE1	MDCODE2	RESP
V1	FILE SEQUENCE #	1	17	5	0	C			1
V2	OFFICE #	1	22	3	0	C	999		1
V3	LOCAL SEQUENCE #	1	25	3	0	C	999		1
V4	FORM TYPE #	1	28	1	0	C	9		1
V5	HOUR INTERVIEW (24H)	1	29	2	0	C	99		1
V6	JDATE INTERVIEW (JULIAN)	1	31	5	0	C	99999		1
V7	MONTH INTERVIEW	1	36	2	0	C	99		1
V8	DAY INTERVIEW	1	38	2	0	C	99		1
V9	TYPE APPLICATION	1	40	1	0	C	9		1
V10	APPLICATION #	1	41	8	0	C	9999999		1
V11	MANUAL APP USED REASON	1	49	1	0	C	9		1
V12	RENEWAL TEST WAIVED?	1	50	1	0	C	9		1
V13	POSTAL CITY	1	51	19	0	A			1
V14	POSTAL MDSHT ZONE	1	70	4	0	C	9999		1
V15	ZIP CODE	1	74	5	0	C	99999		1
V16	SEX	1	79	1	0	C	9		1
V17	JD CLOSEST BDAY (JULIAN)	1	80	5	0	C	99999		1
V18	AGE	1	85	2	0	C	99		1
V19	LICENCE TYPE	1	87	1	0	C	9		1
V20	LATE INTERVIEW FLAG	1	88	1	0	C	9		1
V21	REFUSAL REASON	1	89	2	0	C	99		1
V22	YEARS DRIVEN	1	91	2	0	C	99		1
V23	TOTAL MILES 12 MONTHS	1	93	6	0	C	999999		1
V24	VACN MILES 12 MONTHS	1	99	6	0	C	999999		1
V25	ON JOB MILES 12 MONTHS	1	105	6	0	C	999999		1
V26	7 DAY MILES	1	111	5	0	C	99999		1
V27	NORMALCY OF 7 DAY MILES	1	116	1	0	C	9		1
V28	#VEHS DRIVEN PAST 7 DAYS	1	117	2	0	C	99		1
V29	VEH1 YEAR	1	119	2	0	C	99		1
V30	VEH1 MAKE	1	121	2	0	C	99		1
V31	VEH1 MODEL/TYPE	1	123	2	0	C	99		1
V32	VEH1 REGISTERED TO	1	125	1	0	C	9		1
V33	VEH2 YEAR	1	126	2	0	C	99		1
V34	VEH2 MAKE	1	128	2	0	C	99		1
V35	VEH2 MODEL/TYPE	1	130	2	0	C	99		1
V36	VEH2 REGISTERED TO	1	132	1	0	C	9		1
V37	VEH3 YEAR	1	133	2	0	C	99		1
V38	VEH3 MAKE	1	135	2	0	C	99		1
V39	VEH3 MODEL/TYPE	1	137	2	0	C	99		1
V40	VEH3 REGISTERED TO	1	139	1	0	C	9		1
V41	VEH4 YEAR	1	140	2	0	C	99		1
V42	VEH4 MAKE	1	142	2	0	C	99		1
V43	VEH4 MODEL/TYPE	1	144	2	0	C	99		1
V44	VEH4 REGISTERED TO	1	146	1	0	C	9		1
V45	VEH5 YEAR	1	147	2	0	C	99		1
V46	VEH5 MAKE	1	149	2	0	C	99		1
V47	VEH5 MODEL/TYPE	1	151	2	0	C	99		1
V48	VEH5 REGISTERED TO	1	153	1	0	C	9		1
V49	1ST VEH MOST USED	1	154	1	0	C	9		1
V50	2ND VEH MOST USED	1	155	1	0	C	9		1
V51	#VEHS USED TOTAL	1	156	2	0	C	99		1
V52	#OTHER VEHS(NOT DRIVEN)	1	158	2	0	C	99		1
V53	HOW MUCH OWN MAINTENANCE	1	160	1	0	C	9		1
V54	1ST NON-RD VEH IN HSHLD	1	161	1	0	C	9		1
V55	2ND NON-RD VEH IN HSHLD	1	162	1	0	C	9		1
V56	3RD NON-RD VEH IN HSHLD	1	163	1	0	C	9		1
V57	1ST TRAILER IN HOUSEHOLD	1	164	1	0	C	9		1
V58	2ND TRAILER IN HOUSEHOLD	1	165	1	0	C	9		1
V59	3RD TRAILER IN HOUSEHOLD	1	166	1	0	C	9		1
V60	1ST NRV USED PAST 7 DAYS	1	167	1	0	C	9		1
V61	2ND NRV USED PAST 7 DAYS	1	168	1	0	C	9		1
V62	3RD NRV USED PAST 7 DAYS	1	169	1	0	C	9		1
V63	1ST TLR USED PAST 7 DAYS	1	170	1	0	C	9		1
V64	2ND TLR USED PAST 7 DAYS	1	171	1	0	C	9		1
V65	3RD TLR USED PAST 7 DAYS	1	172	1	0	C	9		1
V66	# BICYCLES IN HOUSEHOLD	1	173	2	0	C	99		1
V67	MILES BICYC PAST 7 DAYS	1	175	3	0	C	999		1
V68	BICYC PURPOSE	1	178	1	0	C	9		1
V69	AT RN LIC EXPIRED?	1	179	1	0	C	9		1
V70	NOT DRIVEN FLAG	1	180	1	0	C	9		1
V71	DAY OF WEEK ASKED ABOUT	1	181	1	0	C	9		1

V72	# TRIPS TOTAL	1	182	2	0	C	99	1
V73	TOTAL BTW DURATION	1	184	4	0	C	9999	1
V74	TOTAL MILES	1	188	4	0	C	9999	1
V75	MARITAL STATUS	1	192	1	0	C	9	1
V76	# OTH DRIVERS IN H.H.	1	193	2	0	C	99	1
V77	# NON-DRIVERS IN H.H.	1	195	2	0	C	99	1
V78	# 6-15 YR OLDS IN H.H.	1	197	2	0	C	99	1
V79	# 0-5 YR OLDS IN H.H.	1	199	2	0	C	99	1
V80	EMPLOYMENT STATUS	1	201	1	0	C	9	1
V81	OCCUPATION	1	202	3	0	C	999	1
V82	EDUCATIONAL LEVEL	1	205	1	0	C	9	1
V83	INCOME GROUP	1	206	1	0	C	9	1
V84	LENGTH RESIDENCE	1	207	1	0	C	9	1
V85	TYPE RESIDENCE	1	208	1	0	C	9	1
V86	1ST DUBIOUS DATA	1	209	2	0	C	99	1
V87	2ND DUBIOUS DATA	1	211	2	0	C	99	1
V88	3RD DUBIOUS DATA	1	213	2	0	C	99	1
V89	4TH DUBIOUS DATA	1	215	2	0	C	99	1
V90	RLZ RESIDENCE LOC ZONE	1	217	4	0	C	9999	1
V91	SAMPLE WEIGHT	1	221	5	4	C	99999	1
V92	RENEWAL MONTH	1	226	2	0	C	99	1
V93	RESPONSE RATE WEIGHT	1	228	7	4	C	9999999	1
V94	STRATUM	1	235	2	0	C		1
V95	PSU	1	237	1	0	C		1
V96	LICENSE TYPE	1	238	1	0	C	9	1
V97	ISSUE CATEGORY	1	239	1	0	C	9	1
V98	PROBATIONARY	1	240	1	0	C	9	1
V99	ORIGINAL YEAR	1	241	2	0	C	99	1
V100	SEX (FROM LIC. RECORD)	1	243	1	0	C	9	1
V101	AGE (FROM LIC. RECORD)	1	244	2	0	C	99	1
V102	JULIAN LAST CONV. DATE	1	246	5	0	C	99999	1
V103	NUM. CONVICTION RECORDS	1	251	2	0	C	99	1
V104	NUM. ACCIDENT RECORDS	1	253	2	0	C	99	1
V105	Y72 DEMERIT POINTS	1	255	2	0	C	99	1
V106	Y73 DEMERIT POINTS	1	257	2	0	C	99	1
V107	Y74 DEMERIT POINTS	1	259	2	0	C	99	1
V108	Y75 DEMERIT POINTS	1	261	2	0	C	99	1
V109	Y76 DEMERIT POINTS	1	263	2	0	C	99	1
V110	Y77 DEMERIT POINTS	1	265	2	0	C	99	1
V111	TOT DEMERIT POINTS	1	267	2	0	C	99	1
V112	TOT 1-10 SPEED	1	269	2	0	C	99	1
V113	TOT 11-15 SPEED	1	271	2	0	C	99	1
V114	TOT OVER 15 SPEED	1	273	2	0	C	99	1
V115	TOT RAN (RED) TR SIG(2)	1	275	2	0	C	99	1
V116	TOT PROHIBITED TURN	1	277	2	0	C	99	1
V117	TOT STOP SIGN DISOBEYED	1	279	2	0	C	99	1
V118	TOT BASIC SPEED VIOL (2)	1	281	2	0	C	99	1
V119	TOT FTY(FAIL TO YLD)(2)	1	283	2	0	C	99	1
V120	TOT TURN IMPROPER	1	285	2	0	C	99	1
V121	TOT LIC/FR REQU VIOL(6)	1	287	2	0	C	99	1
V122	TOT NO LIC POSS/EXPD(2)	1	289	2	0	C	99	1
V123	TOT CARELESS DRIVING	1	291	2	0	C	99	1
V124	TOT LANE USE IMPROPER	1	293	2	0	C	99	1
V125	TOT TCD(DIS T C DEV)(5)	1	295	2	0	C	99	1
V126	TOT WRONG WAY-1 WAY ST	1	297	2	0	C	99	1
V127	TOT DUIL (LIQUOR)(2)	1	299	2	0	C	99	1
V128	TOT PASS IMPROPER/LOC(2)	1	301	2	0	C	99	1
V129	TOT DW IMPAIRED	1	303	2	0	C	99	1
V130	TOT DUID (DRUGS)(2)	1	305	2	0	C	99	1
V131	TOT OTHER 6 PT CONV (7)	1	307	2	0	C	99	1
V132	TOT RECKLESS DRIVING	1	309	2	0	C	99	1
V133	TOT ENERGY SPEED	1	311	2	0	C	99	1
V134	TOT DWLS(LIC SUSP/REV)	1	313	2	0	C	99	1
V135	TOT MCYC ONLY OFFNCS(4)	1	315	2	0	C	99	1
V136	TOT DRAG R/FLEE OFCR(2)	1	317	2	0	C	99	1
V137	TOT F REP ACC/ANS CIT(3)	1	319	2	0	C	99	1
V138	TOT MISC INCONSID DR(5)	1	321	2	0	C	99	1
V139	TOT SVPD(SGL VEH PROP D)	1	323	2	0	C	99	1
V140	TOT SVPI(SGL VEH INJURY)	1	325	2	0	C	99	1
V141	TOT SVFA(SGL VEH FATAL)	1	327	2	0	C	99	1
V142	TOT MVPD(MUL VEH PROP D)	1	329	2	0	C	99	1
V143	TOT MVPI(MUL VEH INJURY)	1	331	2	0	C	99	1
V144	TOT MVFA(MUL VEH FATAL)	1	333	2	0	C	99	1

V145	TOT SPEED #HA	1	335	2	0	C	99		1
V146	TOT FYRW #HA	1	337	2	0	C	99		1
V147	TOT LEFT OF CENTER #HA	1	339	2	0	C	99		1
V148	TOT OVERTAKING IMP #HA	1	341	2	0	C	99		1
V149	TOT STOP SIGN DISOB #HA	1	343	2	0	C	99		1
V150	TOT TRAF SIG DISREG #HA	1	345	2	0	C	99		1
V151	TOT FOLLOW TOO CLOSE #HA	1	347	2	0	C	99		1
V152	TOT TURN IMPROPER #HA	1	349	2	0	C	99		1
V153	TOT SIGNAL IMP/NONE #HA	1	351	2	0	C	99		1
V154	TOT OTH IMP DRIVING #HA	1	353	2	0	C	99		1
V155	TOT #HBD (#HAD BN DRNKG)	1	355	2	0	C	99		1
V156	Y72 TC (TOTAL CONVICTNS)	1	357	1	0	C	9		1
V157	Y73 TC (TOTAL CONVICTNS)	1	358	1	0	C	9		1
V158	Y74 TC (TOTAL CONVICTNS)	1	359	1	0	C	9		1
V159	Y75 TC (TOTAL CONVICTNS)	1	360	1	0	C	9		1
V160	Y76 TC (TOTAL CONVICTNS)	1	361	1	0	C	9		1
V161	Y77 TC (TOTAL CONVICTNS)	1	362	1	0	C	9		1
V162	TOT TC (TOTAL CONVICTNS)	1	363	2	0	C	99		1
V163	Y72 TA(TOTAL ACCIDENTS)	1	365	1	0	C	9		1
V164	Y73 TA(TOTAL ACCIDENTS)	1	366	1	0	C	9		1
V165	Y74 TA(TOTAL ACCIDENTS)	1	367	1	0	C	9		1
V166	Y75 TA(TOTAL ACCIDENTS)	1	368	1	0	C	9		1
V167	Y76 TA(TOTAL ACCIDENTS)	1	369	1	0	C	9		1
V168	Y77 TA(TOTAL ACCIDENTS)	1	370	1	0	C	9		1
V169	TOT TA(TOTAL ACCIDENTS)	1	371	2	0	C	99		1
V170	COUNTY	1	373	2	0	C	99		1
V171	MILES LGHT	1	375	5	2	C	99999	99999	1
V172	MILES LIDK	1	380	5	2	C	99999	99999	1
V173	MILES DARK	1	385	5	2	C	99999	99999	1
V174	MINS LGHT	1	390	5	2	C	99999	99999	1
V175	MINS LIDK	1	395	5	2	C	99999	99999	1
V176	MINS DARK	1	400	5	2	C	99999	99999	1
V177	MI RESID STREETS	1	405	5	2	C	99999	99999	1
V178	MI MAJ URBAN RDS	1	410	5	2	C	99999	99999	1
V179	MI FREEWAYS	1	415	5	2	C	99999	99999	1
V180	MI MAJ RURAL RDS	1	420	5	2	C	99999	99999	1
V181	MI MIN RURAL RDS	1	425	5	2	C	99999	99999	1
V182	MINS RESID STREETS	1	430	5	2	C	99999	99999	1
V183	MINS MAJ URBAN RDS	1	435	5	2	C	99999	99999	1
V184	MINS FREEWAYS	1	440	5	2	C	99999	99999	1
V185	MINS MAJ RURAL RDS	1	445	5	2	C	99999	99999	1
V186	MINS RURAL RDS	1	450	5	2	C	99999	99999	1
V187	MINS/SUB COMPACT	1	455	5	2	C	99999	99999	1
V188	MINS/COMPACT	1	460	5	2	C	99999	99999	1
V189	MINS/INTERMEDIATE	1	465	5	2	C	99999	99999	1
V190	MINS/FULL SIZE	1	470	5	2	C	99999	99999	1
V191	MINS/LUXURY	1	475	5	2	C	99999	99999	1
V192	MINS/SPORTS	1	480	5	2	C	99999	99999	1
V193	MINS/MOTORCYCLE	1	485	5	2	C	99999	99999	1
V194	MINS/RV OR VAN	1	490	5	2	C	99999	99999	1
V195	MINS/PICKUP	1	495	5	2	C	99999	99999	1
V196	MINS/TRUCK/BUS	1	500	5	2	C	99999	99999	1
V197	MINS/UNKNOW	1	505	5	2	C	99999	99999	1
V198	MILS/SUB COMPACT	1	510	5	2	C	99999	99999	1
V199	MILS/COMPACT	1	515	5	2	C	99999	99999	1
V200	MILS/INTERMEDIATE	1	520	5	2	C	99999	99999	1
V201	MILS/FULL SIZE	1	525	5	2	C	99999	99999	1
V202	MILS/LUXURY	1	530	5	2	C	99999	99999	1
V203	MILS/SPORTS	1	535	5	2	C	99999	99999	1
V204	MILS/MOTORCYCLE	1	540	5	2	C	99999	99999	1
V205	MILS/RV OR VAN	1	545	5	2	C	99999	99999	1
V206	MILS/PICKUP	1	550	5	2	C	99999	99999	1
V207	MILS/TRUCK/BUS	1	555	5	2	C	99999	99999	1
V208	MILS/UNKNOW	1	560	5	2	C	99999	99999	1
V209	MILES W/O PASSENGERS	1	565	5	2	C	99999	99999	1
V210	MILES W/1 PASSENGER	1	570	5	2	C	99999	99999	1
V211	MILES W/2+ PASSENGERS	1	575	5	2	C	99999	99999	1
V212	MINS W/O PASSENGERS	1	580	5	2	C	99999	99999	1
V213	MINS W/1 PASSENGER	1	585	5	2	C	99999	99999	1
V214	MINS W/2+ PASSENGERS	1	590	5	2	C	99999	99999	1
V215	MINS/TRANSIT/ALL	1	595	5	2	C	99999	99999	1
V216	MINS/TRANSIT/PART	1	600	5	2	C	99999	99999	1
V217	MINS/TRANSIT/NONE ID	1	605	5	2	C	99999	99999	1

V218	MILES/TRANSIT/ALL	1	610	5	2	C	99999	99999	1
V219	MILES/TRANSIT/PART	1	615	5	2	C	99999	99999	1
V220	MILES/TRANSIT/NONE ID	1	620	5	2	C	99999	99999	1
V221	MILS/COMMUTING	1	625	5	2	C	99999	99999	1
V222	MILS/ON THE JOB	1	630	5	2	C	99999	99999	1
V223	MILS TO&FROM SCHOOL	1	635	5	2	C	99999	99999	1
V224	MILS/PERS BUSINESS	1	640	5	2	C	99999	99999	1
V225	MILS SHOPPING	1	645	5	2	C	99999	99999	1
V226	MILS/SOCIAL	1	650	5	2	C	99999	99999	1
V227	MILS/RECREATIONAL	1	655	5	2	C	99999	99999	1
V228	MILS/INTERCHANGE MODES	1	660	5	2	C	99999	99999	1
V229	MILS/OTHER	1	665	5	2	C	99999	99999	1
V230	MINS/COMMUTING	1	670	5	2	C	99999	99999	1
V231	MINS/ON THE JOB	1	675	5	2	C	99999	99999	1
V232	MINS TO&FROM SCHOOL	1	680	5	2	C	99999	99999	1
V233	MINS/PERS BUSINESS	1	685	5	2	C	99999	99999	1
V234	MINS SHOPPING	1	690	5	2	C	99999	99999	1
V235	MINS/SOCIAL	1	695	5	2	C	99999	99999	1
V236	MINS/RECREATIONAL	1	700	5	2	C	99999	99999	1
V237	MINS/INTERCHANGE MODES	1	705	5	2	C	99999	99999	1
V238	MINS/OTHER	1	710	5	2	C	99999	99999	1
V239	GAS/DAY SUBCOMPACT	1	715	5	2	C	99999	99999	1
V240	GAS/DAY COMPACT	1	720	5	2	C	99999	99999	1
V241	GAS/DAY INTERMEDIATE	1	725	5	2	C	99999	99999	1
V242	GAS/DAY FULL SIZE	1	730	5	2	C	99999	99999	1
V243	GAS/DAY LUXURY	1	735	5	2	C	99999	99999	1
V244	GAS/DAY SPORTS	1	740	5	2	C	99999	99999	1
V245	GAS/DAY MOTORCYCLE	1	745	5	2	C	99999	99999	1
V246	GAS/DAY RV OR VAN	1	750	5	2	C	99999	99999	1
V247	GAS/DAY PICKUP	1	755	5	2	C	99999	99999	1
V248	GAS/DAY TRUCK/BUS	1	760	5	2	C	99999	99999	1
V249	GAS/DAY UNKNOWN	1	765	5	2	C	99999	99999	1
V250	GAS/DAY TOTAL	1	770	5	2	C	99999	99999	1
V251	PURPOSES/TRIP	1	775	5	2	C	99999	99999	1
V252	SES SCALE	1	780	5	2	C	99999	99999	1
V253	LIFE STAGE	1	785	5	2	C	99999	99999	1
V254	PSUWT*RESRT*DOWWT	1	790	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	1	795	5	2	C	99999	99999	1
V256	MI/HR	1	800	5	2	C	99999	99999	1
V1	FILE SEQUENCE #	2	17	5	0	C			1
V2	OFFICE #	2	22	3	0	C	999		1
V3	LOCAL SEQUENCE #	2	25	3	0	C	999		1
V7	MONTH INTERVIEW	2	28	2	0	C	99		1
V8	DAY INTERVIEW	2	30	2	0	C	99		1
V66	DAY OF WEEK ASKED ABOUT	2	32	1	0	C	9		1
V86	1ST DUBIOUS DATA	2	33	2	0	C	99		1
V87	2ND DUBIOUS DATA	2	35	2	0	C	99		1
V88	3RD DUBIOUS DATA	2	37	2	0	C	99		1
V89	4TH DUBIOUS DATA	2	39	2	0	C	99		1
V91	SAMPLE WEIGHT	2	41	5	4	C	99999		1
V94	STRATUM	2	46	2	0	C			1
V95	PSU	2	48	1	0	C			1
V254	PSUWT*RESRT*DOWWT	2	49	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	2	54	5	2	C	99999	99999	1
V1000	TRIP SEQUENCE NO.	2	59	1	0	C			1
V1001	ORIGIN TYPE	2	60	1	0	C	9		1
V1002	DESTINATION TYPE	2	61	1	0	C	9		1
V1003	1ST TRIP PURPOSE	2	62	2	0	C	9		1
V1004	2ND TRIP PURPOSE	2	64	2	0	C	9		1
V1005	3RD TRIP PURPOSE	2	66	2	0	C	9		1
V1006	HOUR TRIP STARTED (24HR)	2	68	2	0	C	9		1
V1007	TRIP IN DARK?	2	70	1	0	C	9		1
V1008	TOTAL TRIP TIME IN MINS.	2	71	4	0	C	9		1
V1009	NUMBER OF STOPS	2	75	2	0	C	9		1
V1010	STOP TIME IN MINS.	2	77	4	0	C	9		1
V1011	BTW TIME IN MINS.	2	81	4	0	C	9		1
V1012	MILES DRIVEN	2	85	4	0	C	9		1
V1013	1ST ROAD TYPE	2	89	1	0	C	9		1
V1014	2ND ROAD TYPE	2	90	1	0	C	9		1
V1015	VEH SEQUENCE NO.	2	91	1	0	C			1
V1016	NUMBER OF PASSENGERS	2	92	1	0	C	9		1
V1017	RELATIVE AGE PASSENGERS	2	93	1	0	C	9		1
V1018	PUB TRANSPORTATION POSS	2	94	2	0	C	9		1

V1019	GAS CONSUMPT--CALCULATED	2	97	5	2	F	99900		1
V1	FILE SEQUENCE #	3	17	5	0	C			1
V2	OFFICE #	3	22	3	0	C	999		1
V3	LOCAL SEQUENCE #	3	25	3	0	C	999		1
V7	MONTH INTERVIEW	3	28	2	0	C	99		1
V8	DAY INTERVIEW	3	30	2	0	C	99		1
V28	#VEHS DRIVEN PAST 7 DAYS	3	32	2	0	C	99		1
V49	1ST VEH MOST USED	3	34	1	0	C	9		1
V50	2ND VEH MOST USED	3	35	1	0	C	9		1
V51	#VEHS USED TOTAL	3	36	2	0	C	99		1
V86	1ST DUBIOUS DATA	3	38	2	0	C	99		1
V87	2ND DUBIOUS DATA	3	40	2	0	C	99		1
V88	3RD DUBIOUS DATA	3	42	2	0	C	99		1
V89	4TH DUBIOUS DATA	3	44	2	0	C	99		1
V91	SAMPLE WEIGHT	3	46	5	4	C	99999		1
V94	STRATUM	3	51	2	0	C			1
V95	PSU	3	53	1	0	C			1
V254	PSUWT*RESRT*DOWWT	3	54	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	3	59	5	2	C	99999	99999	1
V1000	TRIP SEQUENCE NO.	3	64	1	0	C			1
V2000	VEH SEQUENCE NO.	3	65	1	0	C			1
V2001	VEH YEAR	3	66	2	0	C	9		1
V2002	VEH MAKE	3	68	2	0	C	9		1
V2003	VEH MODEL/TYPE	3	70	2	0	C	9		1
V2004	VEH REGISTERED TO	3	72	1	0	C	9		1
V1	FILE SEQUENCE #	4	17	5	0	C			1
V2	OFFICE #	4	22	3	0	C	999		1
V3	LOCAL SEQUENCE #	4	25	3	0	C	999		1
V7	MONTH INTERVIEW	4	28	2	0	C	99		1
V8	DAY INTERVIEW	4	30	2	0	C	99		1
V28	#VEHS DRIVEN PAST 7 DAYS	4	32	2	0	C	99		1
V49	1ST VEH MOST USED	4	34	1	0	C	9		1
V50	2ND VEH MOST USED	4	35	1	0	C	9		1
V51	#VEHS USED TOTAL	4	36	2	0	C	99		1
V86	1ST DUBIOUS DATA	4	38	2	0	C	99		1
V87	2ND DUBIOUS DATA	4	40	2	0	C	99		1
V88	3RD DUBIOUS DATA	4	42	2	0	C	99		1
V89	4TH DUBIOUS DATA	4	44	2	0	C	99		1
V91	SAMPLE WEIGHT	4	46	5	4	C	99999		1
V94	STRATUM	4	51	2	0	C			1
V95	PSU	4	53	1	0	C			1
V254	PSUWT*RESRT*DOWWT	4	54	5	2	C	99999	99999	1
V255	PSUWT*DOWWT	4	59	5	2	C	99999	99999	1
V2000	VEH SEQUENCE NO.	4	64	1	0	C			1
V2001	VEH YEAR	4	65	2	0	C	9		1
V2002	VEH MAKE	4	67	2	0	C	9		1
V2003	VEH MODEL/TYPE	4	69	2	0	C	9		1
V2004	VEH REGISTERED TO	4	71	1	0	C	9		1

THE STRUCTURED DATASET HAS 50090 OUTPUT RECORDS.

BIBLIOGRAPHY

32495 American Association of State Highway and Transportation Officials, Effects of the 55MPH Speed Limit, November 1974.

Author's Summary (Partial):

> This study was conducted by an AASHTO (American Association of State Highway and Transportation Officials) "ad hoc" committee appointed by the Chairman of the Subcommittee on Traffic Engineering at the request of the Standing Committee on Engineering and Operations. The purposes of the study were to: 1) determine the effects of the 55-mph maximum speed limit enacted by the Federal Government as an energy-conservation measure, and 2) make recommendations for AASHTO'S position on future speed limits.
>
> Data on speeds, vehicle miles of travel and accidents were collected from the 48 contiguous states and the District of Columbia, and analyzed by the committee. In addition, a wide variety of other information and research was utilized.

29466 Bushnell, Keith, "Telemetering Systems for Automatic Traffic Records," Proceedings of the American Association of State Highway Officials Committee on Computer Technology: National Conference, Lansing, Michigan, May 1972.

This paper describes Michigan's telemetering system for automatic traffic recorders, which replaces the original permanent traffic recorders (P.T.R.'s) equipment. (The author was with the Transportation Planning Division, MDSHT). The system consists of a remote terminal unit at each P.T.R. site and a central office terminal to obtain data via telephone lines.

The paper explains the original system compared to the data telemetering system, a data telemetering pilot study, the adopted data telemetering system for rural location, the processing of the data, and a data telemetering system for urban locations.

51553 Carlson, William L., "Age, Exposure, and Alcohol Involvement in Night Crashes," Journal of Safety Research, Volume 5, Number 4, December 1973.

Author's Abstract:

> This study compared driving and crash patterns of young (age 16 to 25) drivers. The use of random samples of the driving population is presented as an alternative exposure method technique. The high occurrence of young drivers in night, single-vehicle crashes was found to be related to exposure, with two exceptions; drivers aged 16 to 18 are overinvolved in nonalcohol-related crashes and drivers aged 18 to 21 are overinvolved in alcohol-related crashes. These overinvolvements are consistent with the assumption of a learning-to-drive and a a learning-to-drink-and-drive model of crash occurrence. Once these learning periods have passed, the high percentage of crash involvement for drivers aged 19 to 25 corresponds to high driving exposure. The use of relative exposure is presented as a useful device for determining overinvolvement in crashes.

32311 Carpenter, J.F., Traffic Fatalities and the Energy Crisis: Four Month Analysis, Jan.-Apr. 1974, General Motors Technical Center, Environmental Activities Staff, Warren, Michigan, November 1974.

Author's Abstract:

> This report explores possible causes for the nationwide drop in traffic fatalities that was experienced along with the energy crisis. Among the factors at work were gross reduction in traffic volume, shift from night to daytime driving, and the reduced speed limit. It is concluded that approximately one third of the fatality reduction can be attributed to speed reduction.

From the Author's Introduction:

> This report contains three sections. The first section looks at the recent fatality decrease in relation to past trends. The second section considers a list of factors other than speed reduction which may explain the decrease. The third section concentrates on the effect of speed reduction itself.

The last two sections may be viewed as a general technique for predicting fatality reduction. Data prior to 1974 are used to establish the relative risk of different types of driving and then shifts in exposure are applied to estimate the amount of fatality reduction related to the various factors. For some factors, appropriate data were not available, so assumptions were made. Furthermore, not all factors could be considered. Nevertheless, the technique does indicate the relative effect of the factors considered and serves as a prototype for analysis of other factors when data become available.

35535 Cheavey, E. S., J. A. Hoess, R. E. Thompson, and R. L. Svehla, Safety In Urban Mass Transportation: Research Report, Report No. UMTA-RI-06-0005-75-3, Battelle, Columbus Laboratories, Ohio, March 31, 1976.

Author's Abstract:

This report describes the work and findings of a systematic study of safety in urban mass transportation. Its purpose was to provide data, information, and analyses as support for preparing a safety guidelines manual. The contract's scope includes this safety study and the preparation of the manual. The manual is a separate document from this report.

The study covers three major topics: (1) an analysis of the current state of safety, (2) determination of acceptable safety levels, and (3) development of The Safety Guidelines Manual. Safety performance in several modes of transportation are compared as a basis for assessing the safety situation. Methods of establishing acceptable safety levels and setting safety goals are analyzed. A safety program is formulated for the urban mass transportation establishment wherein system safety principles are applied in this industry's technical and institutional environment.

Conclusions are drawn that serious safety management problems will confront urban mass transportation industry as it moves into use of new, high-performance technology where traditional approaches to safety will not suffice. Also, less severe but real problems with occupant injuries and nonoccupant fatalities and injuries disturb the industry today and merit remedial action. Management and methodological approaches are recommended for meeting these safety problem areas.

54287 Cleveland, Donald E. and Ryuichi Kitamura, "Macroscopic Modeling of Two-Lane Rural Roadside Accidents," Transportation Research Record 681, 1978.

Author's Abstract:

A macroscopic study of off-road accident, road, and traffic flow characteristics on the rural two-lane state trunkline system was made to assist the Michigan Department of State Highways and Transportation (MDSHT) in developing priority programs for roadside hazard improvement. Statewide accident data for the period between 1971 and 1974 were analyzed, and, based on these data, a macroscopic modeling effort was undertaken for two-hundred and seventy 3.2 km (2-mile) sections of homogeneous two-lane road that had widely varying road and traffic conditions. Road data came primarily from analysis of MDSHT photolog files. Multiplicative models for different groups of average daily traffic were developed in which restriction on passing-sight distance, number and length of curves, and length of road with exposure to roadside obstacles within given distances from the road were found to be the main explanatory variables. These models, which were evolved dynamically with the aid of statistical computer programs, were tested for the validity of underlying assumptions and were a Poisson process of accident frequency. The models were validated by using additional data for two cases of low average daily traffic, and satisfactory results were obtained. Several immediate uses for the modes are presented.

16280 Federal Highway Administration, Total Road and Street Mileage, U.S. Department of Transportation, Washington, D.C.

The Federal Highway Administration annually lists the mileage, by state, of interstate highway systems (urban, rural, and total), federal-aid highway systems classified as federal aid primary 1 (rural, urban, and total), federal aid urban, federal aid secondary rural, and total federal aid systems. It also classifies total mileage by rural miles and municipal miles under state or local control.

Five tables are presented in the most recent release in this series:

FM-1 TRAVELED WAY OF THE FEDERAL-AID HIGHWAY SYSTEMS - Mileage Classified by System

M-1 TOTAL ROAD AND STREET MILEAGE - Classified by System

M-2 TOTAL ROAD AND STREET MILEAGE IN THE UNITED STATES - Classified by System and Type of Surface

M-3 TOTAL ROAD AND STREET MILEAGE - Classified by Type of Surface

M-21 TOTAL ROAD AND STREET MILEAGE - Classified by Federal-Aid and Nonfederal-Aid Systems

11997 Federal Highway Administration, Estimated Motor-Vehicle Travel in The United States and Related Data, Federal Highway Administration, U.S. Department of Transportation, Washington D.C.

This series of reports presents Table VM-1 Estimated Motor-Vehicle Travel in the United States and Related Data and Table VM-2 Vehicle-Miles, By State and Highway Class. The series of tables currently includes 1970-1977. Table VM-1 provides millions of vehicle miles by road class vs. vehicle type. It also gives, by vehicle type, the following: number of motorized vehicles registered, average miles of travel per vehicle, fuel consumed, average fuel consumption per vehicle, and average miles traveled per gallon of fuel consumed.

Vehicle-miles, by state and highway class, are given in Table VM-2. The highways are classified into two categories, federal-aid and non-federal-aid highways. Federal-aid highway classifications are interstate arterial, primary arterial, urban system, and secondary collector. The non-federal-aid highways are classified as arterial, collector, and local. Also listed are total highway classes by urban, rural, and total number of vehicle-miles of travel. The statistics are listed individually by states and by region.

17800 Gay, William F.(Task Manager), National Transportation Statistics, Report No. DOT-TSC-RSPA-79-19, U.S. Department of Transportation, Cambridge, Massachusets, August 1979.

Author's Abstract:

This report is a summary of selected national transportation statistics from a wide variety of government and private sources. Included are cost, inventory, and performance data describing the passenger and cargo operations of the following modes: air carrier, general aviation, automobile, bus, truck, local transit, rail, water, oil pipeline, and gas pipeline. The report includes basic descriptions of U.S. transportation, such as operating revenues and expenses, number of vehicles and employees, vehicle miles and passenger miles, etc. A supplementary section includes Transportation and the Economy and Energy in Transportation. Energy in Transportation is divided into four parts: Energy Consumption, Energy Transport, Energy Intensiveness, and Energy Supply and Demand. Also included are the operating costs of automobiles of different sizes. In this edition, the selected data cover the period 1966 through 1976/1977.

33245 Goss, W.P. and J.G. McGowan, Energy Requirements For Passenger Ground Transportation Systems, The American Society of Mechanical Engineers, New York, May 1973.

Author's Abstract:

A study is made of the amount of energy expended by an individual traveling by different ground transportation modes. Three typical trips are examined, namely: the Intraurban Commute, the Suburban/Urban Commute, and the Intercity Trip. The study begins with a look into the current and potential transportation energy resource situation, followed by a presentation of the transportation/energy efficiencies of a wide variety of ground transportation systems. Finally, a breakdown of the energy consumed by an individual making the three typical trips is presented. A variety of multimodal trips are compared with single modal trips from the basis of energy consumed. It is concluded that information of this type should be made available to the general public to illustrate an individual's impact upon our limited petroleum based energy resources.

41134 Greene, D.L., T.P. O'Connor, P.D. Patterson, A.B. Rose, and D. B. Shonka, Regional Transportation Energy Conservation Data Book: Edition 1, ORNL-5435, Oak Ridge National Laboratory, Oak Ridge, Tennessee, September 1978.

Author's Abstract:

This document seeks to highlight regional differences in characteristics affecting transportation energy conservation in the U.S. The basic energy use data are presented in five modal chapters: highway, air, rail, marine, and pipeline. Each chapter contains information on stock of vehicles, transport networks, vehicle use, fuel use, and related data. Within modal chapters, data are presented at three levels of spatial disaggregation: selected metropolitan areas, states, and the 10 federal regions. A sixth chapter considers socioeconomic factors relevant to transportation demand, focusing on the household as the basic consuming unit. Chapter 7 considers energy supply and aggregate energy use for states. In the final chapter (Chapter 8), United States energy use in transportation is placed in a world regional perspective.

The Regional Data Book is a companion to Transportation Energy Conservation Data Book which provides data at the national level.

This data book was compiled by the Oak Ridge National Laboratory, which is operated by Union Carbide Corporation for the U.S. Department of Energy. A sizeable amount of the data has been estimated by ORNL. These data are labeled as estimated data and detailed descriptions provide the estimating procedures in the Appendices. For data on a national level, refer to the Transportation Energy Conservation Data Book, researched by ORNL and published by the Union Carbide Corporation.

It was noted that highway transportation accounted for over three-quarters of all transportation energy use in 1976. The first chapter gives the regional characteristics of highway transportation for selected transportation factors. These factors are motor vehicle stock, road network, motor vehicle use, motor fuel use, and travel characteristics.

Motor vehicle stock gives statistics on fleet sizes and composition by vehicle type, data on ownership rates, and the variability of truck ownership in the U.S. Road network gives data on road miles in urban and rural areas, mileage of interstate highways, measures of intensity of road use, and flow maps of daily traffic on non-urban interstate highways. Motor vehicle use has vehicle miles traveled broken down by vehicle type and personal use versus business use. The motor fuel use data are based on fuel sales data that are reported to the Federal Highway Administration. These data are based on gallons of motor fuel taxed within the state, but do not necessarily represent data on actual fuel use within that state. Measures of gasoline uses rates are gasoline per gasoline-powered vehicle, estimated personal gasoline per personal vehicle, gasoline per licensed driver, gasoline per capital, gasoline per household, and gasoline per automobile. The travel characteristics are given at state, regional, and metropolitan level on travel behavior and travel characteristics.

35987 Highway Safety Research Institute, Michigan Transportation Research Program Annual Report for Fiscal Year, 1977-1978, Report No. UM-HSRI-78-45, University of Michigan, September, 1978.

Author's Abstract:

This annual report of the second year (FY1978) of the Michigan Transportation Research Program describes committee and staff activities and Michigan Transportation Research Program projects. Michigan Transportation Research Program is an inter-university, inter-industry organization designed to support the research and demonstration program formulations and evaluations of the Michigan Department of State Highways and Transportation and other elements of state government.

53451 Holbrook, L.F., "Prediction of Wet Surface Intersection Accidents from Weather Skid Test Data," Transportation Research Record 623, 1976.

Author's Abstract:

Both urban and rural state trunkline intersections are examined with regard to their wet accident percentages. The examination first takes account of the estimated percentage of highway surface wet time for each month. Because precipitation data are available only for designated time intervals, a method is developed to convert these data into percent wet time - a factor necessary in assessing wet surface exposure at intersections. Using this conversion method the precipitation data from 120 of Michigan's weather stations are transformed to give a month by month wetness profile for the entire state for the years 1963 to 1974. The range in monthly wetness for this period is from less than 1 percent to more than 25 percent. This potential 25 to 1 ratio is very influential in wet accident incidence and should be taken into account before other variables are examined. Nearly 40,000 accidents occurring at over 2,000 intersection locations for which a skid coefficient value was available were tabulated to provide wet accident percentages. These data

together with location's wet time percentage, as estimated from the nearest weather station, provide an opportunity to statistically fit a wet accident model for the variables included. The fit is satisfactory and suggests an accelerating increase in wet accident percentages; although the actual shape of the curve depends on wet time. The model appears useful in designing cost-effective intersection resurfacing plans which minimize wet accident occurrence.

42091 Kulp,G., D.B. Shonka, M.J. Collins, B.J. Murphy, and K.J. Reed, Transportation Energy Conservation Data Book, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Author's Abstract:

This document is a statistical compendium compiled and published by Oak Ridge National Laboratory (ORNL) under contract with the Office of Transportation Programs in the Department of Energy (DOE). Designed for use as a desk top reference, the data book represents an assembly and display of statistics that characterize transportation activity and presents data on other factors that influence transportation energy use. The purpose of this publication is to present a large amount of relevant data in an easily retrievable and usable format with the statistical data shown in the form of tables, graphs, and charts.

Each of the major transportation modes (highway, air, marine, rail, and pipeline) are treated in separate chapters or sections, although aggregate energy use data for all modes are provided in Chap. 1. The highway mode, accounting for nearly 74% of total transportation energy consumption, is dealt with in Chap. 2. Topics in this chapter include vehicle stock characteristics, fuel efficiency, household vehicle ownership and use, fleet automobiles, buses, and trucks. Chap. 3 presents data on each of the nonhighway modes: air, marine, pipeline, and rail, respectively. Relevant energy supply statistics are provided in Chap. 4, and the final chapter, Chap. 5, summarizes historical trends in transportation activity.

The Transportation Energy Conservation Data Book is compiled by the Union Carbide Corporation for the U. S. Department of Energy. The first edition was published in October 1976, the second in October 1977, the third in February 1979, and the Fourth edition in September 1980. For regional data, refer to the Regional Transportation Energy Conservation Data Book, researched by the ORNL and published by the Union Carbide Corporation.

42748 Maleck, Thomas L., The Michigan Dimensional Accident Surveillance Model(MIDAS): A Report of Progress, Michigan Department of State Highways and Transportation, Lansing, December 1977.

Author's Abstract:

The Michigan Dimensional Accident Surveillance Model (MIDAS) is being developed by the Michigan Department of State Highways and Transportation. The principal intent of the model is to objectively analyze the entire roadway system (not just locations with the worst accident histories) and select candidate locations for upgrading that are the most sensitive to correction and select sets of corrective measures most likely to be cost-effective.

The purpose of this paper is to introduce the procedures; report on progress to date, accomplishments and shortcomings; and stimulate related interest and development elsewhere.

MIDAS may be visualized as grouping all roadway segments with identical predetermined physical and accident characteristics into one cell of a multi-cell array. Subsequent statistical analysis, cost estimating and accident predictions assess probable impacts on transforming all sites from one cell type to another. Data sources are several master tapes of accident reports, road features inventory files, and a traffic volume file.

The identification of segments having a statistically significant number of accidents and the determination of logical countermeasures work well. The prediction of expected accidents for each corrective action at present lacks precision and requires additional work.

32497 Maring, Gary, Highway Travel Forecast, U.S. Department of Transportation, Federal Highway Administration, Office of Highway Planning, November 1974.

Author's Abstract (Partial):

This report "Highway Travel Forecasts" is the result of a Federal Highway Administration study to reevaluate national highway travel forecasts in light of such factors as declining birth rates, possible saturation of vehicle ownership, and fuel constraints.

From the Author's Introduction (Excerpts):

. . . . This paper describes a Federal Highway Administration analysis of major factors which influence travel, projections of these factors, and the resultant travel forecasts. Comparisions are made with the travel forecasts historically prepared by the States in cooperation with the FHWA.

Section I includes a discussion of results and conclusions. Section II discusses the development of highway travel, including both historical change and recent trends. Section III identifies and presents projections of the major socio-economic factors effecting highway travel. Section IV is the major section of the report and presents an analysis of highway travel forecasts based on alternative assumptions regarding the influencing factors.

31993 Mascy, Alfred C. and Robert L. Paullin, Transportation Vehicle Energy Intensities, (A Joint DOT/NASA reference paper), DOT-TST-13-74-1, NASA Ames Research Center and U.S. Department of Transportation, June 1974.

Author's Abstract:

This reference paper represents a compilation of data on the energy consumption of air and ground vehicles. The ratio BTU/ASM, British Thermal Units/Available Seat Mile, is used in this paper to express vehicle energy intensiveness, and relates to the energy consumed directly in producing seat-mile or ton-mile productivity.

Data are presented in passenger and freight vehicles which are in current use or which are about to enter service, and advanced vehicles which may be operational in the 1980's and beyond. For the advanced vehicles, an estimate is given of the date of initial operational services, and the performance characteristics.

Although the data is predominantly technical, other key considerations in interpreting energy intensiveness for a give mode are discussed, such as: load factors, operations, overhead energy consumption, and energy investments in new structure and equipment.

The data presented in this paper was provided by the primary federal agency responsible for research on specific transportation modes. It is expected that this paper will be updated in the future as better data becomes available.

Table 1 contains a summary of passenger cars and buses for the time period of 1974-1980, and table 2 is for the time period after 1980. Listed in these tables is the vehicle type (subcompact, compact, standard, or luxury) and whether it was used for urban or intercity driving. Also listed were the vehicle's gross weight, trip length (statute miles), average trip hours at MPH, fuel type, vehicle statute miles/gallon, number of seats available for full load and the 1972 actual average operation, and specific energy (stop/start) in seat-miles/gallon and BTU's seat-miles for available full load and 1972 actual average operational load.

33077 McChesney, Don and Alan M. Voorhees, "Energy Efficiencies of Urban Passenger Transportation," AMV tech notes, V1, N15, Alan M. Voorheis &Associates, Inc., McClean, Virginia, June 1974.

This study was done for the Highway Users Federation for Safety and Mobility. It reports on the magnitude of likely shortages and the energy consumption associated with various modes of urban transportation. This is shown in this report through figures and tables.

The article begins from the "Perspective of the Transportation Energy Problem." It discusses energy sources through a twenty year outlook, uses of energy, transport energy trends, energy efficiencies of alternative passenger transportation modes, vehicle fuel efficiency, vehicle occupancy, comparison of urban modes, and efficiencies compared for worktrips. Factors effecting transportation energy demand are also discussed by way of automobile fuel economy. Included are auto weight, engine design, emission control devices, air conditioning, automobile transmissions, other vehicle factors, speed, roadway, and traffic conditions.

01459 Michigan Department of State Highways and Transportation, Average 24-Hour Traffic Flow Map On The Trunkline System By All Vehicle Types, Report No. 223, Lansing.

This traffic flow map for Michigan provides vehicle miles of travel on state trunklines. The major interchanges are enlarged, and colors are used to show the traffic flow bands. The map is available for 1958, 1960, 1962, 1964, 1965, 1969, 1971, and 1975 in the HSRI library at the present time, A01-A08.

38406 Michigan Department of State Highways and Transportation, Average 24-Hour Trunkline Commercial Traffic, Lansing, 1975.

This map indicates the average 24-hour traffic counts of commercial trunkline traffic. Included are interstate routes, U.S. routes, Michigan routes, freeway or divided routes, city streets, and interchanges. The map shows the entire state, and it shows the major interchanges separately.

There is no further breakdown of the commercial traffic counts by classes, e.g. by weight, or cargo, or configuration.

36966 Michigan Department of State Highways and Transportation, Michigan's Highway Needs, 1974-1994, Report No. 355, Lansing, 1975.

Author's Summary (Partial):

The purpose of this 1974 Highway Needs Study is to determine the deficiencies of Michigan's highways, roads, and streets for the 20-year period from 1974 to 1994, and estimate the cost of improvements necessary to bring these highways, roads, and streets up to acceptable standards. Legal basis for the study lies within a provision of Michigan's "Highway Law," Act 51, Public Acts of 1951, Sec. 9a. which states that the Department of State Highways and Transportation, in cooperation with the various county road commissions, cities and villages shall maintain a continuing study of the transportation needs of the State at established two-year intervals.

This Highways Needs Study is the fifth in a succession of studies dating back to 1948. It differs from the four previous independently-done studies due to the extent that this study is an "update" of one done in 1970. Because it is an update, we have, throughout this report, compared results of this study with those of the 1970 study.

The 1970 highway Needs Study inventory data, used as a basis for this 1974 Needs Study Update, was obtained in 1968 and included data on all State Trunklines, all County Roads, and 231 of the 528 incorporated Cities and Villages in Michigan. Because all cities and villages did not participate in the 1970 Study, it was necessary to factor the Needs Study totals of those that did participate, to arrive at total needs for all cities and villages.

Since the 1970 Study, however, highway department personnel have obtained inventory data on all but 29 of the previous non-participating cities and villages. This improved data base has provided a more accurate analysis of total highway needs for Michigan.

28875 Michigan Department of State Highways, Michigan Manual of Uniform Traffic Control Devices, Revision 3, 1973 Edition, Lansing, 1974.

From the INTRODUCTION:

Traffic control devices are all signs, signals, markings, and devices placed on or adjacent to a street or highway by authority of a public body or official having jurisdiction to regulate, warn, or guide traffic.

From PART I. GENERAL PROVISIONS:

This Manual sets forth the basic principles that govern the design and usage of traffic control devices. These principles appear throughout the text in discussions of the devices to which they apply, and it is important that they be given primary consideration in the selection and application of each device.

The Manual presents traffic control device standards for all streets and highways regardless of type or class or the government agency having jurisdiction. Where a device is intended for limited application only, or for a specific system, the text specifies the restrictions on its use.

This manual was prepared by the Michigan Department of State Highways, in conjunction with the Michigan Department of State Police. The contents are divided into the following: Part I - General Provisions, Part II - Signs, Part III - Markings, Part

IV - Signals, Part V - Islands, Part VI - Traffic Controls For Street and Highway Construction and Maintenance Operations, Part VII - Traffic Controls For School Areas, and Part VII - Definitions.

15141 Michigan Department of State Highways and Transportation, Truck Operator's Map, Lansing, Michigan, 1974.

This map is "For use in accordance with the Provisions of Michigan Highway Laws governing vehicle size, weight, and load." The map shows the "ALL SEASON ROUTES" (No seasonal load limitations) and "SEASONAL ROUTES" (Spring load limitations). It also gives tables of bridges with special load limits, maximum allowable gross axle loadings, and structures with overhead clearances of less than fourteen feet in height.

28277 Michigan Department of State Highways and Transportation, Study of the Operational Aspects of One-Way and Two-Way Streets: Final Detailed Report, Report TSD-RD-219-72, Lansing, October 1972.

The purpose of the study was to obtain quantitative data on the quality of traffic operation when state trunk lines through urban areas are converted to one-way operation because of need for extra capacity. Four Michigan cities (Lansing, Kalamazoo, Pontiac, and Port Huron) were selected for a before-and-after evaluation of a definite segment of their one-way system as each was prepared for and converted to one-way traffic. The report is 182 pages long, contains 41 figures, 62 tables, 27 appendices and 16 photographs, and provides a complete documentation of the project.

28855 Michigan Department of State Highways and Transportation, Impact of 50, 55, or 60 M.P.H. Statewide Speed Limit, Lansing, November, 1973.

Author's Introduction:

> This analysis was completed in order to determine the probable impact that a statewide speed limit might have on gasoline consumption in the state of Michigan. For the purposes of this study it was assumed that the most likely speed limit would be 50 M.P.H. Additional analyses were also completed for both a 55 M.P.H. speed limit and also a 60 M.P.H. speed limit.
>
> Three basic data sources were used to complete this analysis. They were:
>
> 1. 1972 U.S. Department of Transportation, Table T.A. 1 for Michigan.
> 2. Text book by Robley Winfrey entitled Economic Analysis for Highways.
> 3. Michigan Department of State Highways and Transportation Report #66 entitled Speed Report, April 1972.
>
> Analysis completed in this document is intended solely as an initial inquiry. The results obtained are based upon several judgemental assumptions and use of this information must be based upon full knowledge of these assumptions.

34422 Michigan Department of State Highways and Transportation, Annual Report of Activities of the Michigan Department of State Highways and Transportation Research Laboratory, Research Laboratory Section, Testing and Research Division, Research Report No. R-986, Lansing, January, 1976.

From the Author's Introduction:

> The purpose of this report is to illustrate the scope of the activities of the Research Laboratory during the 1975 calendar year. ... .
>
> The report is divided into five sections. The first section outlines some of the highlights of the past year's research. Section two consists of an index to projects as well as a listing of the title, purpose, scope, progress past year, and projected activities for the coming year, for all active Departmental and Highway Planning and Research projects (H.P.& R. projects are denoted by an asterisk). The third section contains abstracts of all Research Reports published during 1975. Section four consists of a list of New Materials projects completed during the year, and the fifth section is a listing of Technical Investigations completed during the year.

09431 Michigan Department of State Highways, 1969 City Average Daily Traffic On State Trunkline Routes, M.D.S.H. Report No. 221, Transportation Planning Division.

This report was written in cooperation with the U.S. Department of Transportation and the Federal Highway Administration. It presents area maps of the state trunkline routes of the following cities: Ann Arbor, Battle Creek, Bay City, Benton Harbor-St. Joseph, Detroit, East Lansing, Flint, Grand Rapids, Jackson, Kalamazoo, Lansing, Midland, Monroe, Muskegon, Niles, Pontiac, Port Huron, Saginaw, and Ypsilanti. The legend provides a key to information such as divided trunklines, trunkline, major street, interchange, and total traffic. (The same report for 1965 is A01.)

41290 Michigan Department of Transportation, Twenty-Eighth Annual Progress Report, MDOT Report No. 162, 1978.

This annual report, for the calendar year 1978, contains information for the county road commissions and the incorporated cities and villages in the state of Michigan. The report concerns the mileage and condition of the highways, roads, and streets, the expenditures for maintenance and construction, and the source of funding. The mileage and condition of the highways, roads, and streets in Michigan are listed in three tables in this report: conditions of all highways, roads, and streets by jurisdiction, condition of county roads by surface type, and the condition of city and village streets by surface type. Presented in these tables are the number of miles, as well as the number and percentage of those miles, which are in inadequate condition. These data are listed by jurisdiction or surface type. Also the mileage of county roads and rural trunk lines, and the street mileage within the cities and villages, as of July 1, 1979, are listed in separate tables. The mileage of county roads and rural trunk lines tables lists rural population (according to Act 51, P.A. 1951), urban area figures (for primary, local, and total miles), rural trunk line mileage, and the total mileage by county. A table of the mileage of streets within cities and villages lists individually the following data: the population (according to Act 51 P.A. 1951), miles of state trunk line, the county primary and local mileage, the number of miles of city and village streets (major, local, and total mileage). The main purpose of this report is to present the revenues and expenditures for each calendar year at a local government level.

(The 17th, 18th, 19th, 20th, 24th, and 25th Annual Reports of Report No. 162, covering calendar years 1967-1970 and 1974-1975, are available in HSRI-08013, A01-A06. The reports for 1971-1973 are not in the HSRI library and are reported to be unavailable. The 26th-29th Annual Reports, for calendar 1976-1979, are cataloged as HSRI-41290, A01-A04.)

32613 Michigan Department of Transportation, Michigan Traffic Data, MDOT Report No. 65, Bureau of Transportation, Transportation Planning Services Division, Transportation Surveys Section, Lansing.

The Michigan Traffic Data report is published each month. (The HSRI collection currently includes A01-A99, January 1973-March 1981). The data collection program is conducted in cooperation with the Federal Highway Administration, U.S. Department of Transportation. Other agencies that contribute count data are the County Road Commissions, the Mackinac Bridge Authority, the International Bridge Authority, and the Blue Water Bridge Authority, Ontario.

Traffic Count Data obtained by High Frequency Sound, Magnetic or Loop Vehicle Detectors. These units register and record lane volume, directional volume or total volumes. Hourly counts are telemetered to Lansing via switched WATS telephones lines. Fifteen minute urban counts are stored locally in mini-computers and telemetered to Lansing over state leased lines.

The "Permanent Traffic Recorder Station List" shows 105 map station numbers, their route name and vicinity, county and area, trunkline system designation, and station location description. These are distributed as follows:

Western Upper Peninsula	11
Eastern Upper Peninsula	7
Northern Lower Peninsula	20
South Central Lower Peninsula and Thumb	26
Southwestern Lower Peninsula	7
Southeastern Lower Peninsula	13
Urban	21

Summaries for the regions given above are prepared monthly. These show, for each region, the number of stations with increases and the minimum and maximum increases for those stations. Similarly, the number of stations showing decreases and the minimum and maximum decreases for those stations are given. The percentage change from the corresponding month of the previous year and the annual trend are also given, both on a regional basis.

More detailed data are also included on a station-by-station basis. For each station, grouped by region, the following are given: location; route; average 24-hour volumes, for the current month and the same month of the previous year; relationship of current year to last year, given by percentage changes for the current month, last 3 months, and annual trends; counts for the maximum day this month, with volume, day, and date; and maximum hour this month, with volume, hour, day, and date.

Twenty-six (26) pages contain even more detailed total 24-hour traffic data for 302 counters. The first three of the 4-digit counter number gives its location; odd numbers indicate north or east bound counts, and even numbers in the 3-digit series indicate south or west bound traffic. The fourth digit--either a "0" or a "9"--indicates what lanes are being counted; the "0" indicates that either 1, 2, 3, or 4 lanes are being counted in the given direction, while a "9" indicates that all lanes in both directions are being counted. A further convention is that when total volume is used, only the even 3-digit numbers (the first three) are used.

15572 Michigan Department of Transportation, Bureau of Transportation Planning, Speed Report, MDOT Report No. 66, Lansing.

This report is presented by the Michigan Department of Transportation's Bureau of Transportation Planning on the monitoring of speeds in the second quarter of 1980. Monitoring took place at thirty different locations along Michigan highways, where the posted speed was 55MPH. These locations were divided into five classifications of highways: interstate urban, interstate rural, multi-lane divided, multi-lane undivided, and two-lane rural. In a statistical summary table, the following information has been recorded on these five classifications as well as a state total: the number of miles monitored, the number of monitor locations, the number of vehicles measured, the duration of the measurement session (in hours), the average speed (MPH), the median speed (MPH), the 85th percentile speed (MPH), and the percentage of motorists exceeding the speed limit. Individually listed in each classification are: the station number; the route being monitored; the vicinity, county, and a description of the place being monitored; and speed percentages for passengers, commercial, and all vehicles. (The HSRI collection is current through the 1980 Annual report, A42).

13520 Michigan Secretary of State, Michigan Driver Statistics, Report No. 12, July 1, 1979.

This statistical report covers Michigan's 1979 population of vehicles and drivers of record and the 1978 records of Michigan's drivers. It contains overall Michigan driver data that are expanded upon in detailed tables. Annual trends in population by crashes and violation convictions of all drivers, male and female drivers as well as the age group percentage of drivers, are listed in statistical form. Annual trends in studied drivers, driver records, and vehicle statistics are also listed and include data on driving records, chauffeur licenses, probation or suspended drivers, alcohol related convictions, violation convictions, and vehicle plate sales. Other statistical information includes the distribution of convictions and crashes by year of birth, sex, and age group.

31946 Michigan State Police, Michigan Motorcycle and Motor Scooter Data, 1969-1973, April 1974.

This is a summary of detailed data of motorcycle and motor scooter accidents in Michigan. The data were compiled and provided by the Michigan Department of State Police. A comparative data table is provided for the years 1969-1973, so that the necessary information needed to establish trends is provided. This table provides information on registrations, deaths, death rate, and estimated mileage.

Detailed data are provided in numerous tables for the year 1973. Factors included in these tables are number of accidents, number of persons injured or killed, the severity of the injury, type of accident (overturned, non-collision, or collision), total accidents off-roadway and on-roadway, road surface, light condition, demographics (such as age, sex, and residence), municipalities, class of trafficway, pedestrian accidents, pedestrian actions by age, two motor-vehicle accidents at intersection and not at intersection, all other accidents, manner of two motor-vehicle collision, type of vehicle, drinking condition of driver and pedestrian, drinking in accident, hazardous action, and contributing circumstance.

30832 Miller, David R., Urban Transportation Factbook: Parts 1 and 2, March 1974.

This factbook is sponsored by the American Institute of Planners and the Motor Vehicle Manufacturer's Association of the U.S., Inc. The data used are statistics from 1950, 1960, and 1970 and are divided into two separate books, Part 1 and Part 2. The first book is set up in two sections, the first being a national overview of

transportation and it's growth trends. It focuses primarily on the 33 largest Standard Metropolitan Statistical Areas (SMSA). Comparative figures are given for each of the 33 along with regional and national summaries. The second section in part 1 provides detailed comparisions among the cites in four basic categories. The categories are characteristics of the city (such as population, demographic variables, residence and work location, and land-use patterns), demand for urban transportation, (such as concentration on work trips statistics of SMSA residents and selected low income residents), the supply of urban transportation (statistics on auto availability and highway/transit facilities), and transport costs (statistics on highway and transit investments and expenditures).

Part 2 is a listing of detailed tables for each of the 33 SMSA's. Data for each city of finer geographic resolution include statistics on a county-by-county basis and distinguish between central-city and outside-central-city residents. The tables focus on population density and growth, population decentralization, auto availability, work trip mode, work trip distribution, where workers live, and where residents work.

39583 Motorcycle Industry Council, Inc., 1980 Motorcycle Statistical Annual, Research and Statistics Department, Newport, California, 1980.

This annual gives a general overview of the motorcycle industry and is updated each year. The annual is divided into five sections, which are the motorcycle market, manufacturers and distributors, the retail marketplace, motorcycle usage, and the motorcycle owner.

The first section, motorcycle market, deals with the U.S. motorcycle population, motorcycle registration by state and by year, motorcycle sales, and new motorcycle registrations by state and by leading brands. Manufacturers and distributors section gives a profile of the major U.S. motorcycle manufacturers and distributors as well as other manufacturers and distributors. The section on retail marketplace of motorcycles provides data on motorcycle retail outlets by state, motorcycle dealer profile and estimated dollar volume, and the distribution of dealer sales.

The section on motorcycle usage provides data on U.S. motorcycle usage on and off highway by state, motorcycle miles traveled, average annual motorcycle mileage, on and off highway energy use, and motorcycle accident statistics by state. The last section covers the motorcycle owner and provides demographics such as number of owners/riders, sex, marital status, age, education, owner occupation, income, and motorcycle ownership.

41950 Seiferlein, Katherine E., Motor Gasoline Supply and Demand 1967 - 1978, U.S. Department of Energy, August 1978.

This report explains the motor gasoline demand and consumption patterns for 1967 to 1977 and provides figures and tables on these patterns. It includes tables on the supply and demand of gasoline for 1972-1977, the motor gasoline supply for 1967-1977 (production, imports, and stocks), and the motor gasoline supply and demand for 1978-1979. Also given are preliminary first quarter data for 1978 and the Department of Energy forecasts for 1978 and 1979.

29536 Transportation Association of America, Transportation: Facts And Trends, Sixteenth edition, Washington, D.C., July, 1980.

Part of Author's Introduction:

> This booklet is compiled as a part of the research and educational program of the Transportation Association of America. Its purpose is to illustrate the importance of transportation to the United States and to point out trends in this field. Information given is limited to general and across-the-board data, in order to prevent repetition of single-modal data published by other transportation associations.

It can be used as a quick reference booklet with quarterly updates distributed for insertion into the booklet.

17595 U.S. Bureau of the Census, Census of Population: 1970, General Population Characteristics, Final Report PC(1)-B24 Michigan.

This report presents statistics from the 1970 Census of Population on basic demographic characteristics, such as relationship to head of household, sex, race, age, and marital status of the inhabitants of the state of Michigan. The statistics are listed by state, counties (by urban and rural residency), SMSA's, urbanized areas, county subdivisions, and places of 1,000 inhabitants or more. The tables give general

characteristics by county subdivisions: race by sex, age by race and sex, household relationships, type of family, marital status and household relationships by race, and general characteristics of rural population.

02561 U.S. Bureau of the Census, County and City Data Book, 1977, (A Statistical Abstract Supplement), U.S. Government Printing Office, Washington, D.C., 20402, 1978.

From the Author's Introduction (Excerpts):

> This volume is the ninth in the County and City Data Book series. It presents a variety of statistical information for counties, standard metropolitan statistical areas, and cities. For each county or county equivalent, 195 statistical items are presented. Comparable totals are shown for States, census divisions and regions, standard Federal administrative regions, and the United States. For each standard metropolitan statistical area (SMSA), a corresponding selection of items is given, except that items for mineral industries and agriculture are omitted. For each incorporated city with 25,000 inhabitants or more in 1975, 190 items are presented.

Potentially useful data for exposure work, listed by county, include the following: land area, (by square miles), populations of 1970, 1972, and 1975, the number of births and deaths, the number of unemployed workers, and the per capita income for 1974.

44777 U.S. Bureau of the Census, 1977 Census of Transportation: Truck Inventory and Use Survey, United States, TC77-T-52, U.S. Department of Commerce, May 1980.

Author's Introduction (Excerpts):

> The Truck Inventory and Use Survey provides data on the physical and operational characteristics of the Nations's truck population. It is based on a probability sample of private and commercial trucks registered (or licensed) in each State during 1977.
>
> The tables in this report are divided into two sections. The first section deals with various cross classifications, mostly at the National level. Within the first section are three subsections based on number of trucks (tables 3 to 9), truck miles (tables 10 to 14), and pickup and panel trucks (tables 15 to 17).
>
> The second section provides comparative data on the number of trucks, truck miles, and average miles per truck in each of the 50 States, the District of Columbia, and the Nation as a whole. Section two is further divided into three subsections based on size of truck (tables 18 to 21), major use (tables 22 to 33), and range of operation (tables 34 to 37).

30274 U.S. Bureau of the Census, 1977 Census of Transportation: National Travel Survey.

From the Author's Introduction (Excerpts):

> The 1977 National Travel Survey (NTS) was taken to provide statistical data on the volume and characteristics of nonlocal travel by the civilian noninstitutional population in 1977. For the survey, nonlocal travel was defined as any trip extending 100 miles or more from origin to destination. ... . Specifically excluded from the survey was (1) travel taken as part of an operating crew on a train, plane, bus, truck or ship, (2) commuting to a place of work, (3) travel by students between home and school, and (4) travel by the Armed Forces while on active duty.
>
> The survey was based on a national probability sample of households selected from each of the 50 State and District of Columbia. Interviews were conducted with the sample households to obtain information on the number of trips taken by members of the household and on certain trip-related characteristics. Selected social and economic characteristics were also collected. The survey was planned and sponsored jointly by the U.S. Department of Transportation, the U.S. Travel Service, and the Bureau of the Census.

These statistical data include major means of transportation, duration of the trip, the main purpose of the trip, the number of persons on the trip, trip distances by state, and the demographics of the people surveyed, such as age, sex, race, family income, and the education of the traveller.

43490 U.S. Bureau of the Census, 1977 Census of Transportation: Truck Inventory and Use Survey, Michigan, TC77-T-23, U.S. Department of Commerce, June 1979.

Author's Introduction (Excerpts):

The Truck Inventory and Use Survey provides data on the physical and operational characteristics of the Nations's truck population. It is based on a probability sample of private and commercial trucks registered (or licensed) in each State during 1977.

This report, providing data for Michigan's 1,001,700 estimated truck population, is similar to TC77-T-23 which contains data for the Nation as a whole.

All tables in this report list items by vehicular and operational characteristics, such as major uses, body types, vehicle size, annual miles, model year, vehicle acquisition information, truck fleet size, truck type, range of operation, and fuel type.

The following seven tables are given:
1 Trucks - Comparative Summary: 1963, 1967, 1072, and 1977.
2 Trucks, Truck Miles, and Average Annual Miles: 1977.
3 Trucks by Major Use: 1977.
4 Trucks by Size: 1977.
5 Trucks by Annual Miles: 1977.
6 Trucks by Range of Operation: 1977.
7 Trucks by Truck Type and Axle Arrrangement: 1977.

Standard errors for many of the data entries are also included.

Three useful appendixes are also included:
A. Survey Form.
B. Estimating Unpublished Standard Errors.
C. Estimating Standard Errors for Sums, Differences, Ratios, and Percents.

17888 U.S. Bureau of Census, Census of Population: 1970 General Social and Economic Characteristics, Final Report, PC(1)-C24, Michigan.

This report contains statistics from the Census of Population for 1970 on social and economic characteristics. The characteristics given are as follows: nativity and parentage, state or country of birth, Spanish origin, mother tongue, residence five years ago, year moved into present house, school enrollment (private or public), years of school completed, vocational training, number of children ever born, family composition, disability, veteran status, employment status, place of work, means of transportation, occupational group, industry group, class worker, and income by type in 1969 for farm and industry. The characteristics are shown in some or all of the following areas: states, counties (by urban, rural-nonfarm, and rural farm), SMSA's, urbanized area, and places of 2,500 inhabitants or more.

45308 U.S. Bureau of Census, State and Metropolitan Area Data Book, 1979, U.S. Department of Commerce, Washington, D.C., December 1979.

From the Author's Introduction (Excerpt):

This volume is the first in the State and Metropolitan Area Data Book series. It presents a variety of statistical information for States and for metropolitan areas in the United States. For each state, 2,008 statistical items are presented. Comparable totals are shown for census divisions and regions and for the United States as a whole. For Metropolitan areas, 440 items are given.

37192 U.S. Department of Transportation, 55MPH Fact Book, National Highway Traffic Safety Administration, Washington, D.C., December 1976.

This fact book gives information on different aspects of the 55 MPH limit. It provides legislative background, authority, and regulation on the nation's speed limit. Under a Federal Highway Administration regulation, each state must submit information on enforcement of the 55 mph speed limit. The information covers a 12-month period prior to September 30, including copies of administrative orders and policies, the number of citations issued for the violation of the 55 mph speed limit, and other information on speed compliance, including a description of the state's speed monitoring program, and summary speed statistics derived from the data collected in their monitoring programs.

It presents tables and figures as well as other information from the 1976 "Traffic Speed Trends" report. This report is based on data collected during 1975, from 29 states, one of which was Michigan. The tables and figures compare average speeds or speed trends, percentages of vehicles exceeding various speeds, and the type or types of highway travelled. Also speed related data from 1973, 1974, and 1975 are given in this section of the fact book.

Statistical summaries and speed trends in the U.S. are given in the final section of the book. The following data are given in this section compared by state: registered vehicles and licensed drivers, road and street mileage (urban and rural), vehicle miles traveled (urban and rural), fatalities (urban and rural) and state enforcement agency's annual arrest data. Also given are graphs on percent change in traffic fatalities (1973, 1974, and 1975), travel on main rural roads by speed bands percent reductions, and a graph depicting the percent change in 1974 and 1975 National Highway Traffic Statistics based on 1973.

27702 U.S. Department of Transportation, Nationwide Personal Transportation Survey: Household Travel in the United States, Report No. 7, December 1972.

This report presents data compiled by the Nationwide Personal Transportation Survey relating to household travel in the United States. National household travel data are displayed by purpose of travel and household income. Purposes of travel were defined in this report as earning a living, family business, and social and recreational travel. Tables are included on each of the purposes, including trip rate and vehicle-miles per household, both annual and daily data, and average trip length. Household income data are related by the three purposes of travel defined earlier in this report. Income levels of each of the purposes of travel are shown in tables. Data on household travel in incorporated places give passenger car trip rates and vehicle-miles of travel by household in incorporated places by population size.

36646 U.S. Department of Transportation, National Transportation Report: Urban Data Supplement, Washington, D.C., May 1976.

Author's Foreword (Excerpt):

> Chapter V of the 1974 National Transportation Report (NTR) is devoted to an analysis of urban transportation plans, programs, and alternatives submitted by State and urbanized areas in response to the 1974 National Transportation Study (NTS). Included in the Chapter are numerous statistical tables which summarize the reported urbanized area data according to population classifications. The purpose of this Supplement is to present the detailed urbanized area data from which these summaries were determined. In addition, some new material is presented which was not available for the NTR.
>
> The supplement is organized into the following sections:
> Section A: Capital Costs.
> Section B: Annual Operating Costs.
> Section C: Physical Facilities and Equipment.
> Section D: Demand and Supply.
> Section E: Performance Indicators.
> Section F: Social and Environmental Impacts.
> Section G: Urbanized Area Population.
>
> Each section is divided into subsections. The first subsections contain a summary table for urbanized areas population classes and the second presents the detailed figures of each urbanized area.

31903 U.S. Department of Transportation, Nationwide Personal Transportation Study: Automobile Ownership, Report No. 11, December 1974.

Author's Introduction:

> Knowledge of factors underlying automobile ownership are useful in evaluating current transportation facilities, estimating future needs for highway services and forecasting future trends in highway transportation modes. This report presents data compiled from the Nationwide Personal Transportation Survey concerning the variables affecting household automobile ownership, and represents the most complete national overview to date.
>
> Data collected in this survey were used to study the effect of selected variables on car ownership. The first part of the report relates car ownership to such household characteristics as place of residence of principal driver by incorporated places and unincorporated areas and size of the standard metropolitan statistical areas (SMSA's), income and household composition including number of occupants and number of licensed drivers. The second part of the report relates car ownership to characteristics of the automobile including age of the automobile and automobile ownership rates by place of residence and household income. The third part of the report relates car ownership to characteristics of vehicle trips and vehicle-miles of travel and person trips and person-miles of travel. Daily trips generation rates and miles of travel per household are included.

19562 U.S. Department of Transportation, Nationwide Personal Transportation Study: Automobile Occupancy, Report No. 1, Federal Highway Administration, April 1972.

Author's Introduction:

> The following report presents data concerning current automobile occupancy rates and relates these figures to the major purpose of the trip and to several other selected variables. These data, compiled from the Nationwide Personal Transportation Survey, represents the most complete national review of automobile occupancy to date.
>
> Automobile occupancies taken from these data, while not only giving new perspective to urban problems, may also be useful as a basis for the computation of estimated passenger miles of travel. Furthermore, estimates of generated automobile traffic may be derived from these figures as, for example, the effect of a new office building or factory may be calculated when the number of workers is known.

Author's Description of the Data:

> Data collected in this survey included automobile trips, number of occupants on each trip, passenger-miles, and vehicle-miles, all from which average occupancy rates were computed and primarily grouped according to the major purpose of the trip. There were four primary groupings from which more specific secondary groupings were taken. The four primary categories for purpose were: (1) earning a living; (2) family business; (3) educational, civic, and religious; and (4) social and recreational.
>
> In addition to the classifications of trips, etc., by purpose, further analyses were made for five selected variables. The variables examined were residence of principal operator of the vehicle, both for incorporated places and unincorporated places; population groupings of the standard metropolitan statistical areas; day of the week; the length of the trip; and, finally, time of day by hour that the trip was started.

19563 U.S. Department of Transportation, Nationwide Personal Transportation Study: Annual Miles of Automobile Travel, Report No. ?, April, 1972.

This report presents data on annual miles of automobile travel. These data were collected in the Nationwide Personal Transportation Study, which was conducted by the Bureau of the Census. (Note that this particular report is not available in the Highway Safety Research Institute library).

28465 U.S. Department of Transportation, Nationwide Personal Transportation Study: Home-To-Work Trips and Travel, Federal Highway Administration, Report No. 8, August 1973.

Author's Introduction:

> This report details the characteristics of home-to-work travel, the factors underlying the choice of transportation modes by workers in the home-to-work trip, and the discussion of the automobile as the predominant mode of home-to-work travel. Home-to-work travel makes up a major portion of total travel and knowledge of this travel is important for the planning of highway facilities and services.

Author's Description of Data:

> This report presents characteristics of home-to-work travel (in both directions) by various modes of transportation and by population size-group of the workers' place of residence.
>
> The first part of the report presents characteristics of workers, including the distribution of workers by place of residence and by place of employment, the characteristics of travel such as distance, time and daily home-to-work person trips, miles of travel and trip lengths by mode, by place of residence and by SMSA (Standard Metropolitan Statistical Areas) population groups. The second part of the report discusses the mode of transportation used by workers for their home-to-work journey and how income, occupation and age of the worker affect choice of mode of transportation. The third part of the report stresses the role of the automobile (defined as passenger cars, station wagons and similar-type vehicles) as the predominant mode of transportation used by more than three-fourths of the workers. Automobile trips, vehicle-miles of travel and average trip length by day of week, hour of day, and place of residence are discussed. In addition, car ownership and automobile occupancy for home-to-work purposes are discussed.

19564 U.S. Department of Transportation, Nationwide Personal Transportation Survey: Seasonal Variation of Automobile Trips and Travel, Federal Highway Administration, Report No. 3, April 1972.

Author's Introduction:

In the past, the studies of seasonal variations of vehicle trips and travel have been done largely on main rural roads. These studies have dealt generally with total vehicle-miles or total number of vehicles on a section of road. Little has been done to compare seasonal patterns of travel with other parameters such as length of trip, purpose of trip, etc.

Author's Description of Data:

The following report presents data relating seasonal patterns of automobile trips and travel with several selected factors. The degree of possible relationship among the factors is not evaluated. These data compiled from the Nationwide Personal Transportation Survey represent the most complete national overview of seasonal variations of vehicle trips and travel to date.

Seasonal patterns of automobile trips and vehicle-miles of travel were examined within four selected parameters. These parameters were: (1) place of residence by unincorporated areas and incorporated places; (2) purpose of the trip; (3) length of the trip; and (4) day of the week that the trip was started.

Four points concerning the data should be noted. First, except for the summer season, the data which represent a season of the year were collected during nine days of one month (hereafter referred to as one week) of that season. On the tables of the report the data months are shown in parentheses. Secondly, only the data for the summer season were collected during one week in July and one week in August, then factored and averaged for tabulation. Significantly, the data for these two summer weeks were quite consistent. Thirdly, as explained above, the data were collected from the same households for four of the five data months. Only the August data were collected from a separate, independent national sample of households. Finally, the tabulations actually present estimates of national values for the average day in each data week. Because the data weeks were distributed among the four seasons, the resulting distributions are considered to provide reliable indications of seasonal patterns and are so treated in this analysis.

27701 U.S. Department of Transportation, Nationwide Personal Transportation Study: Characteristics of Licensed Drivers, Federal Highway Administration, Report No. 6, April 1973.

Author's Introduction:

Data relating to the characteristics of the Nation's drivers are important to the analyses of accident exposures and rates, and to the development and direction of highway safety programs. Data on drivers are also useful in social and economic analyses and to business in market studies and forecasts.

This report represents data compiled from the "Nationwide Personal Transportation Study" concerning the characteristics of licensed motor-vehicle drivers.

Author's Description of Data:

Data collected in this study for motor-vehicle drivers are examined within three parameters. These parameters are (1) geographic distribution of the resident non-institutionalized driving-age population 16 years of age and older with driver licenses in unincorporated areas, and by population size-group of place of residence in incorporated places and Standard Metropolitan Statistical Areas (SMSA's); (2) population distribution of licensed drivers by age-groups and sex; and (3) travel distribution of licensed drivers by age-groups, sex and estimated annual miles of driving.

19566 U.S. Department of Transportation, Nationwide Personal Transportation Study: Availability of Public Transportation and Shopping Characteristics of SMSA Households, Federal Highway Administration, Report No. 5, July 1972.

Author's Introduction:

This report presents data on the availability of public transportation to the main business district of the central city for households located in Standard Metropolitan Statistical Areas (SMSA's) and information on shopping characteristics

of SMSA residents. These data were collected in the Nationwide Personal Transportation Study, conducted by the Bureau of Census for the Federal Highway Administration in 1969-1970.

The first part of this report relates size of the SMSA and income of the households by race of household head and by the nearness of the households to public transportation to the main business district of the central city. The second part of the report discusses the frequency with which the heads of SMSA households shop in the main business district of the central city, including reasons for not shopping downtown. No attempts, however, have been made to relate the two parts of this report.

28913 U.S. Department of Transportation, Nationwide Personal Travel Study: Mode of Transportation and Personal Characteristics of Tripmakers, Federal Highway Administration, Report No. 9, November 1973.

Author's Introduction:

This report of the 1969-1970 Nationwide Personal Transportation Study presents personal characteristics of all individuals 5 years old and over who reported making a one-way trip ("person trip") by a motorized vehicle. The survey data were expanded to represent travel habits on an annual basis for the entire U.S. population. The percentage distributions of these trips by mode are related to age, sex, race, and place of residence (shown in tables 1 through 14, Appendix C). Trips are aggregated to show personal travel for all purposes.

The age-groupings have been selected to provide data for a variety of transportation planning needs; for example, to furnish information about school children (5-13), teenagers (14-20), young adults (21-25), persons normally included in the work force (21-59), and several usual break points for classifying older persons: 60-64, 65-69, and 70 and over.

30162 U.S. Department of Transportation, Nationwide Personal Transportation Study : Purposes of Automobile Trips and Travel, Federal Highway Administration, Report No. 10, May 1974.

Author's Introduction:

This report presents data relating to the four major purposes of automobile trips and travel in the United States. These data were compiled from the Nationwide Personal Transportation Survey and represent the most complete national overview to date. Knowledge of automobile trips and travel by trip purpose is important for planning highways facilities and services and was most useful recently in evaluating the effects of the energy crisis.

Author's Description of Data:

This report presents data on automobile trips (one-way) and travel according to the purpose for which the trip was made. The distribution of automobile trips and associated travel is related to four major trip purposes: earning a living, family business, educational, civic and religious, and social and recreational.

The first part of the report discusses distribution of automobile trips and vehicle-miles of travel by trip purpose as related to population size-groups in incorporated places and unincorporated areas, as well as Standard Metropolitan Statistical Areas (SMSA's); trip length, age of driver, occupation, household income, hour of the day trip started, day of the week, season of the year, and the number of occupants per trip.

The second part of the report examines the relationship of the number of cars owned per household to the distribution of automobile trips and vehicle-miles of travel by trip purpose and trip length. In addition, daily and annual tripmaking rates are included.

33557 United States Travel Data Center, 1974 National Travel Survey: Full Year Report, Washington, D.C., 1975.

This is a full year report of travel activity of U.S. residents in 1974. In addition to this full year report, there are reports published for each quarter of 1974. The data are obtained by the United States Travel Data Center, which receives indicators of current U. S. travel activity on a continuing basis between the National Travel Survey years. The report's format follows the U.S. Census Bureau's format for the National Travel Survey by measuring the nation's travel in trips, person-trips, person-

miles, and person-nights. Data are given in reference to such characteristics of the trip or traveller as major means of transportation, the main purpose of the trip, the number of trips, the duration of the trips, number of weekend trips, vacations, the number of round-trip miles, demographics of the traveller, and other characteristics of the trips. The demographics include family income, occupation, household size, residential area, and age. Other characteristics of the trip include destination area, destination origin, and region of origin.

04320 Verway, David I. (Editor), Michigan Statistical Abstract, Graduate School of Business Administration, Division of Research, Michigan State University, Thirteenth edition 1978.

This is a compilation of data on social and economic conditions of the state and it's subdivisions. The data were derived from many sources, which include the Bureau of Census, the Bureau of Economic Analysis, Michigan's Employment Security Council, and Michigan's Department of Management. Population data include tables on the population of Michigan's counties (I-5), the population density of Michigan's counties from the 1960 census and the 1970 census (I-6), urban and rural population in Michigan counties from the 1960 census to 1 July 1977 (I-7), intercensal estimates of Michigan's population by age, sex, and county for 1975 (I-16), percentage of the population 65 years of age or older, by county, for 1975 and projected to 1990 (I-17), components of population change in Michigan by county from the 1960 census to 1 July 1977 (I-8), population projection for Michigan's counties by region for 1970 - 2000, (I-34). Data from the section on employment presents a table on the civilian labor force, unemployment and employment in Michigan's counties (V-11). The section on income and cost of living includes tables on the following: total personal income in Michigan, by county, for the years 1969-1976 (VI-6), per capita personal income for the years 1969-1976 (VI-7), and per capita money income (VI-8). Listed in transportation is a table on motor vehicle registrations in Michigan, by type and county for the fiscal year ending June 30,1977 (XVI-14).

42189 Wolfe, Arthur C., Design For A National Exposure Data Systems (NEDS), DOT-HS-7-01685, Highway Safety Research Institute, Ann Arbor, Michigan, November 1978.

Author's Abstract:

In conjunction with the National Accident Sampling System (NASS) which is being established by NHTSA to collect data on a nationally representative sample of accidents there is a need for corresponding data on exposure to the risk of accident so that reliable accident rates can be determined. The Highway Safety Research Institute was awarded a contract to design a National Exposure Data System (NEDS) and to plan a pilot test of this design.

After extensive review of previous exposure research studies and evaluation of the various design alternatives available, a number of features of the recommended design were established. It should be a household interview survey in which selected drivers are asked to provide information about all driving trips made on one or more predesignated days, and it should take place in the same primary sampling areas used for NASS. Not enough information was found in past studies to permit recommending the single most cost-effective household data collection procedures, and it is proposed that a pilot methodological study be carried out over 12 months to provide essential data base for this decision.