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# DRAFT

## CARDFILE DATA BASE REPRESENTATIVENESS

**Phase I: General Characteristics including  
Populations, Vehicles, Roads, and Fatal Accidents**

by

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## EXECUTIVE SUMMARY

This report details the results of an analysis performed to evaluate the representativeness of the Crash Avoidance Research accident data base (CARDfile). The accident records for 1983 and 1984 from six states (Indiana, Maryland, Michigan, Pennsylvania, Texas, and Washington) were combined into one data base that now contains 3.2 million accidents that involved 5.6 million vehicles. NHTSA's Office of Crash Avoidance (NRD-50) has been using CARDfile to evaluate crash avoidance concepts and to assist in program development. In order to make the best use of CARDfile, it is important to understand how well the accident experience derived from the six CARDfile states represents that of the nation as a whole.

As the first effort in an evaluation of representativeness, TSC, in support of NRD-50, examined general characteristics of the population, the vehicles, the roads, and the fatal accidents in these states and compared them to the same characteristics for the nation as a whole. For this comparison, the data from the six states was aggregated. (The results for each state can be found in Appendix 1.) The characteristics that were compared included the age and sex of both the populations and of licensed drivers, the number of vehicle registrations, the vehicle makes and models, annual vehicle miles of travel by road class, and the milage by various road classes. Similar characteristics were compared using NHTSA's Fatal Accident Reporting System (FARS). A complete list of the characteristics can be found in Section 2. The data sources used for the comparison included Population Characteristics and Statistical Abstracts from the U.S. Department of Commerce, Highway Statistics, and the Fatal Accident Reporting System from U.S. DOT and the National Vehicle Population Profiles from R.L. Polk and Company. This comparison was based on 1984 because that year was the most recent year for which all the data was available. The results are presented in both tabular and graphic forms in Attachments 1 and 2. We found that the six CARDfile states agree well with the nation. A summary of the results are shown in Figure S-1. This figure is based on the ratio of the percentage of a particular category in the CARDfile state to that same category in the nation. The ideal value is 1.000. A value of 1.05, for example, would indicate an over-representation in the CARDfile states of five percent.

The CARDfile states contain 21.7 percent of the general population and when this population is separated by age and sex, the CARDfile states are generally within two

percent of the national results. The exception to this is the over 65 population where the six combined states are under-represented by five percent. The same trend was noted in licensed drivers where the CARDfile states represent a younger population. The six states have two percent less automobiles, but six percent more trucks than the nation. They also register more domestic vehicles and less imports when compared to the nation by four percent and nineteen percent, respectively.

When we compared the most popular specific makes and models of vehicles registered in the CARDfile states to those in the nation, we found that they were generally over-represented in the states by a few percent. We can attribute this trend to the fact that these popular vehicles are domestics and more domestics are bought in the CARDfile states.

There is very good agreement (less than two percent) between states and the nation on urban and rural vehicle miles of travel by road functional class. However, some discrepancies, up to ten percent, are evident within the rural and urban categories for different road classes. The six states have less rural road milage by seven percent and more urban milage by thirty-two percent. The motor vehicle fatalities by sex and age mirrored, to some degree, the results obtained from the general population. That is, the fatalities in the CARDfile states are slightly younger than the nation.

When we examined the most popular makes and models of vehicles involved in fatal accidents, we found many of the same vehicles that were on the list of the most popular registered vehicles. In general, pickup trucks were more often involved (by up to ten percent) in fatal accidents in the six states than the nation (there are more pickup trucks in these states) and vans were less involved (by up to ten percent). Eleven percent more fatal accidents occur on interstates in the six states than in the nation as a whole and 14 percent more occurred on concrete roads.

At the individual state level, we found that, in some instances, particular states were responsible for the trends that were noted at the state aggregated level. The following examples demonstrate this effect:

1. For the population as a whole, the over-representation of younger people and under-representation of older people in the CARDfile states is driven by Texas. Texas has fewer people over 65 (0.80) and more people under 14 (1.14).

2. The over-representativeness of younger licensed drivers in the CARDfile states is due to Michigan and Maryland which have ratios of 1.57 and 1.31 respectively for drivers 19 years or younger.
3. The imbalance of registered trucks over registered cars is driven by Texas and Washington. Texas (1.33) and Washington (1.27) have more trucks and fewer cars (0.90 and 0.92 respectively).
4. The favoring of domestic cars in the CARDfile states is because of fewer imports in Michigan (0.46) and Indiana (0.54).
5. The over- and under-representation of make/models in the top 20 is driven by Texas and Washington. Over-representation of truck-type vehicles is strong in Texas for the Dodge Mini-Ram (1.91), Chevrolet C-10 (1.53), Chevrolet K-10 (1.43), and the Chevrolet Blazer (1.41).

Under-representation is shown in Washington for the Chevrolet Monte Carlo (0.62), Chevrolet Impala (0.49), Ford Granada (0.63), Cadillac Deville (0.54), Fort LTD (0.56), Chevrolet Blazer (0.58), Chevrolet Chevette (0.63), Chevrolet Malibu (0.69), and Oldsmobile Delta Royal (0.35).

6. Maryland drives the CARDfile states' over-representativeness on urban roads. Maryland has more local urban roads (2.18), urban collectors (1.95), urban interstate (2.49), and urban principal arteries (2.41). Maryland also has less rural local roads (0.72) and rural major collectors (0.67).

Figure S-1

# Ratio of CARDfile% to National% Population

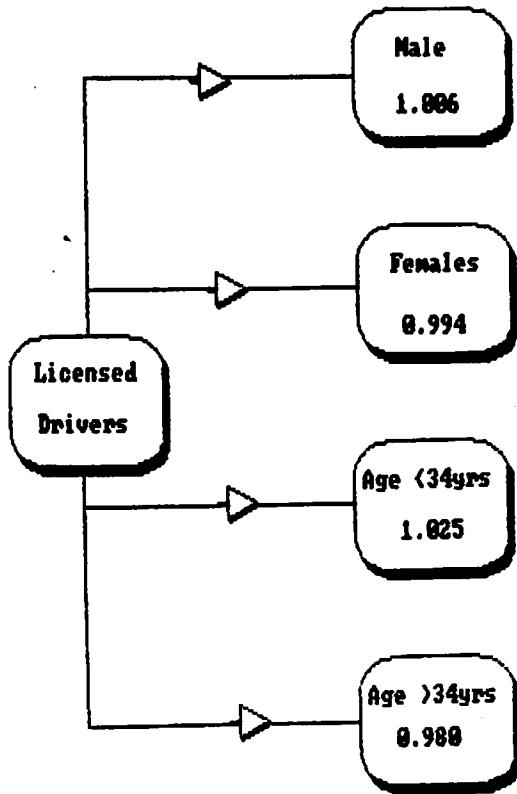
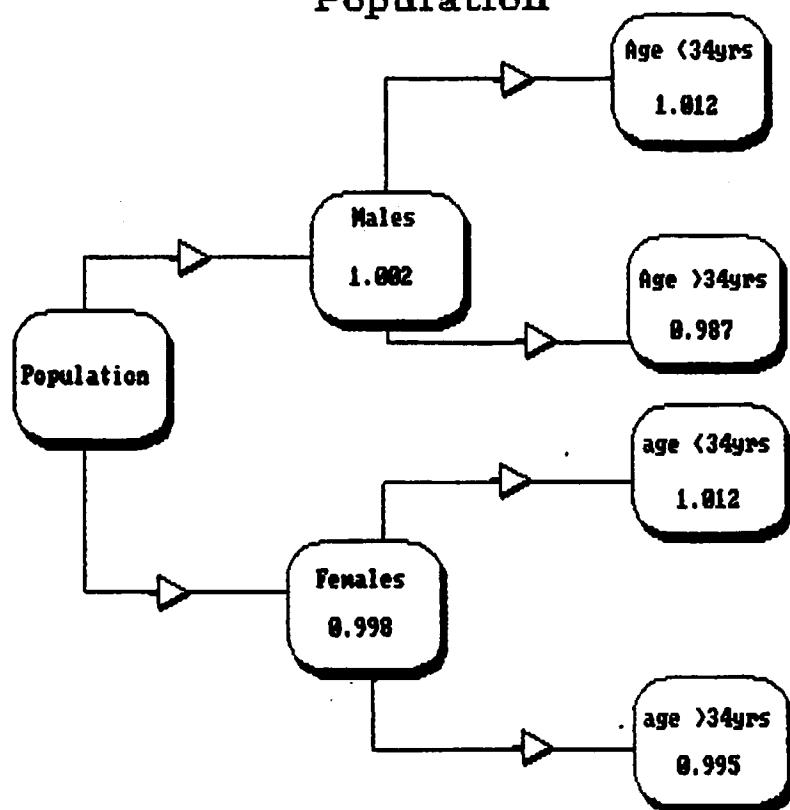


Figure S-1 (cont.)

# Ratio of CARDfilez to Nationalz

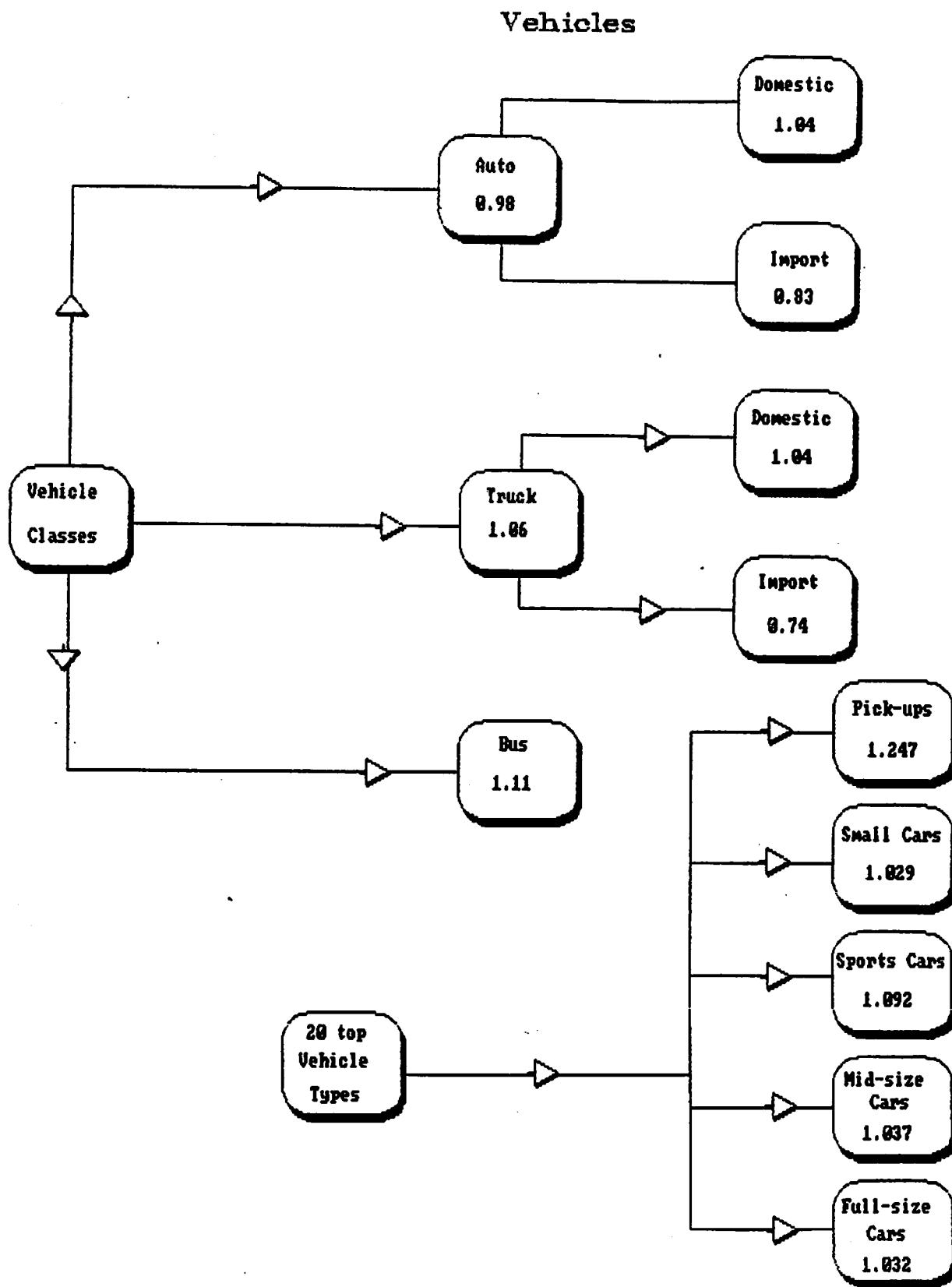


Figure S-1 (cont.)

## Ratio of CARDfile% to Nation%

Roads

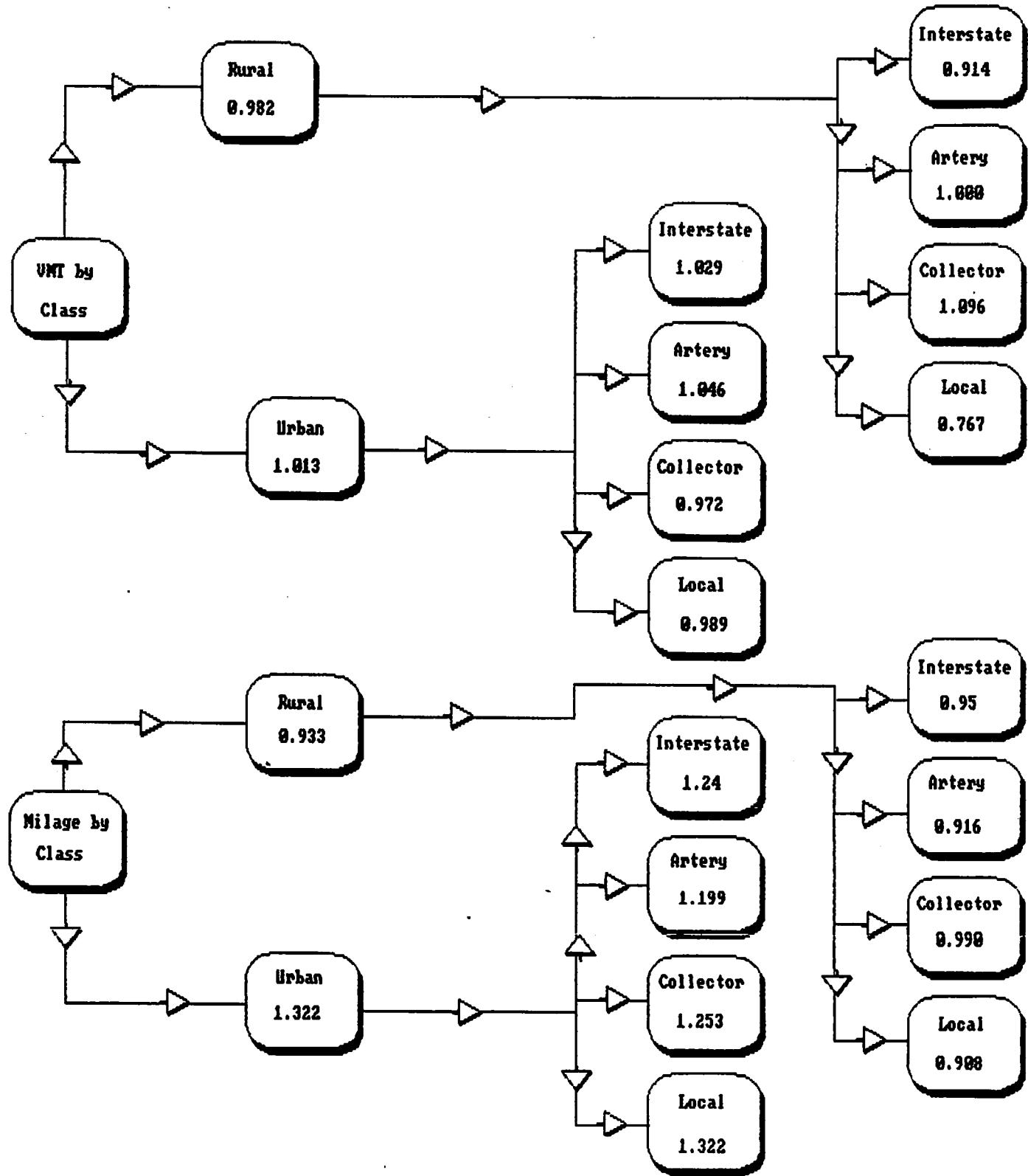
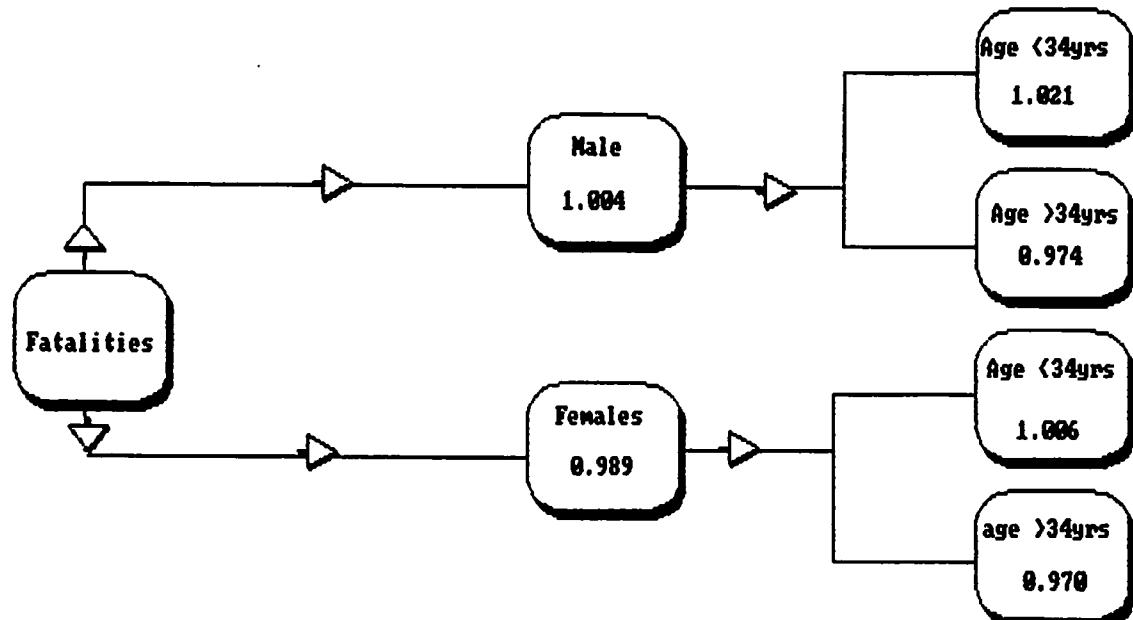


Figure S-1 (cont.)

## Ratio of CARDfile% to National%

sex



Road Class

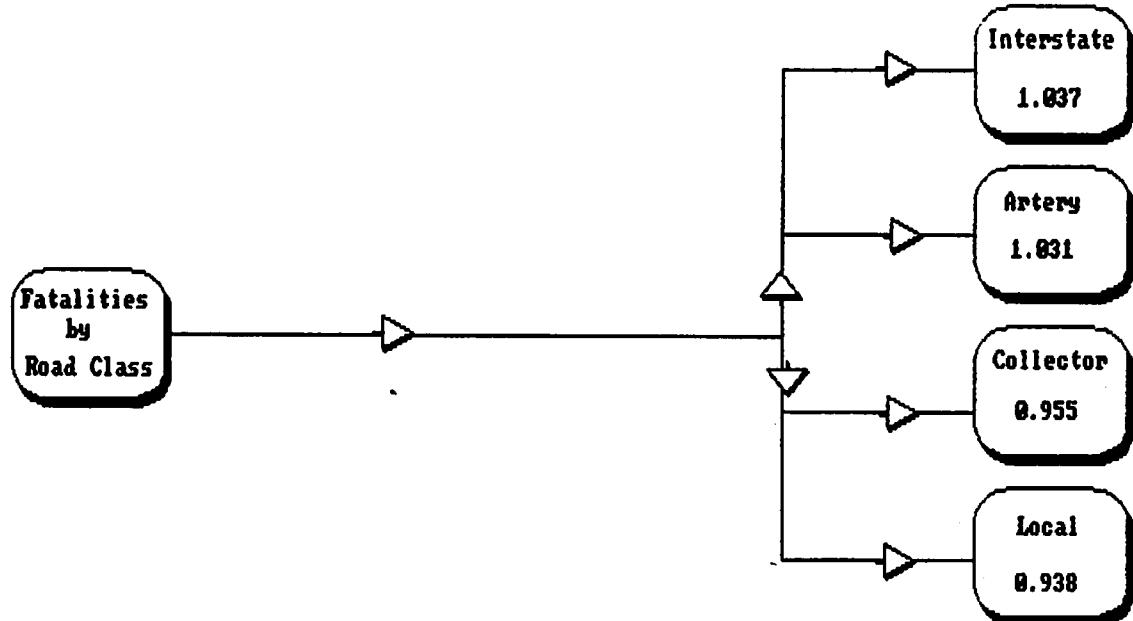
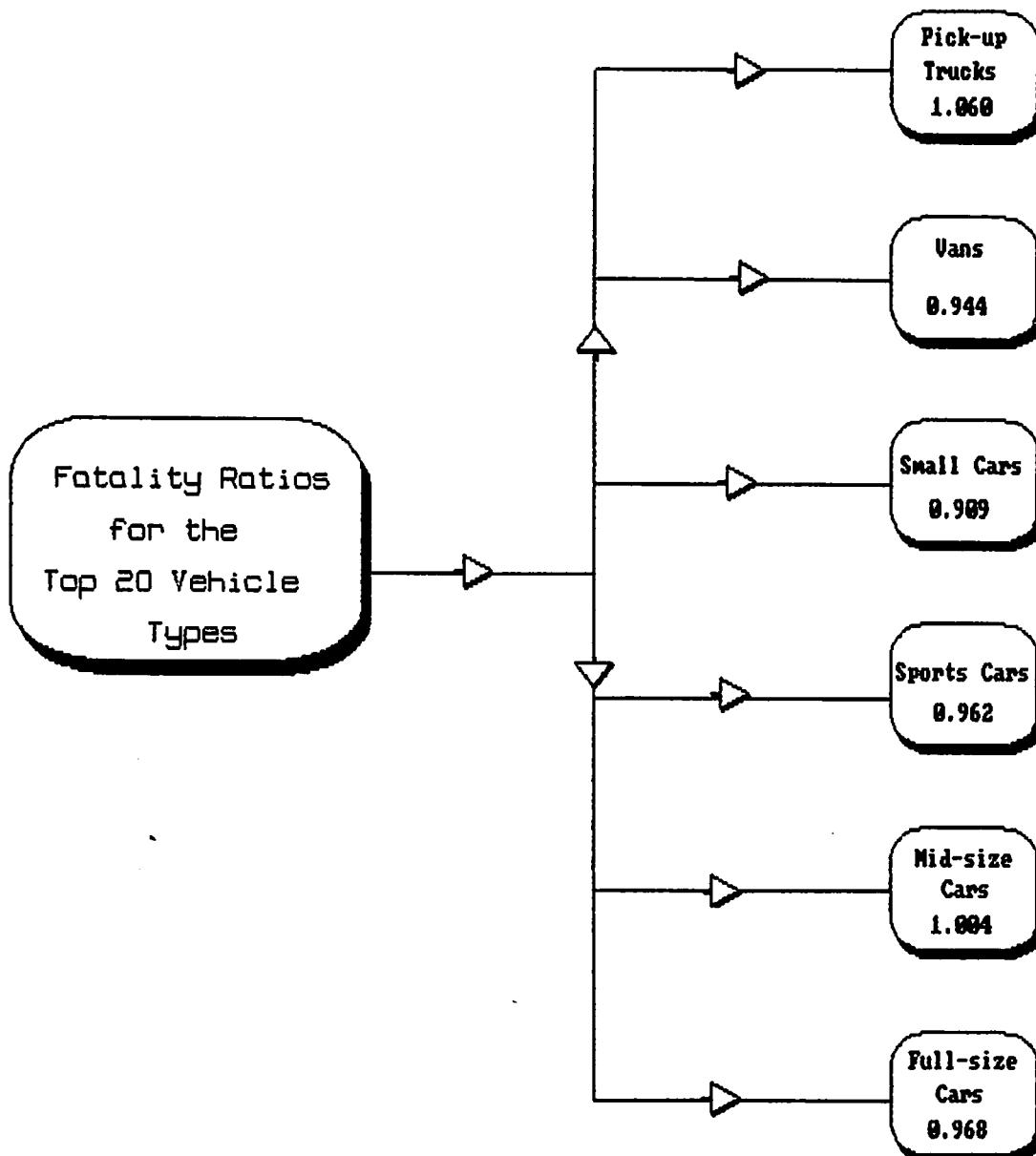


Figure S-1 (cont.)

# Ratio of CARDfile<sup>®</sup> to National<sup>®</sup>

Fatality by vehicle type



## **1.0 INTRODUCTION**

The Crash Avoidance Research Data file (CARDfile) consists of crash data extracted from the automated police accident reports of selected states. CARDfile has been designed both to provide the information needed to examine the relationship between selected crash avoidance vehicle design characteristics and their crash propensity and to support problem identification activities in crash avoidance research.

The CARDfile data base now contains in excess of 3.2 million accidents involving 5.6 million vehicles. States were selected for inclusion in CARDfile on the basis of data availability in machine-readable form and commonality of data fields. The data has been obtained from the following six states:

- o Indiana;
- o Maryland;
- o Michigan;
- o Pennsylvania;
- o Texas; and
- o Washington.

NHTSA requested TSC's support in examining how representative these states are when compared to the nation. The first phase of this effort was to examine some general characteristics relating to people, vehicles, highways, and fatal accidents in these six states and compare them to the nation. The next phase will examine the accident experience representativeness of CARDfile. Other phases will address the adequacy of the pre-crash manuevers coded in CARDfile, and, if required, the development of factors to extrapolate CARDfile data to the national experience. The representativeness of the CARDfile sample provides a degree of confidence in its utility as the basal predictor for the nation.

The purpose of this report is to present the results of Phase I on testing of the representativeness of NHTSA's CARDfile data base.

Phase I of this project called for an analysis that compared the populations of people, vehicles, and highways, aggregated over the six CARDfile states, with the aggregate of the nation as a whole. A second part of Phase I examined the subsets

of the populations involved in fatal accidents. For this fatally-involved subset, similar analyses were conducted. The aggregated populations of people, vehicles, and roads of the six CARDfile states were compared with the nation for those involved in fatal accidents. The data for the individual states that were aggregated are given in Appendix 1.

The data sources utilized in the performance of this analysis are:

- o Highway Statistics 1984. U.S. Department of Transportation, Federal Highway Administration;
- o Statistical Abstract of the United States 1984. U.S. Department of Commerce;
- o 1980 General Population Characteristics. U.S. Department of Commerce, Census Bureau;
- o NHTSA's Fatal Accident Reporting System (FARS) Data Base; and
- o Polk National Vehicle Population Profiles (NVPP) Data Base.

## **2.0 DATA PRESENTATION FRAMEWORK**

The following format was adopted as a framework for the presentation of the data collected.

### **FORMAT FOR DATA PRESENTATION**

#### **POPULATIONS**

**People**      Age  
                  Age and Sex  
                  Licensed Drivers - Age  
                  Licensed Drivers - Sex  
                  Ratio of Licensed Drivers to Population

**Vehicles**      Motor Vehicle Registration by Class  
                  Imports versus Domestic  
                  20 Top Make/Models  
                  Annual Vehicle Miles of Travel by Road Functional Class

**Roadways**      Milage by Functional Class  
                  Milage by Surface Type by Functional Class

#### **FATAL ACCIDENT (FARS) SUBSETS**

**People**      All Fatalities by Sex and Age  
                  Driver Fatalities by Sex and Age  
                  Ratio of Population to Fatal Accidents

**Vehicles**      20 Top Make/Models

**Roadways**      Accidents by Functional Class  
                  Accidents by Surface Type

**Accidents**      Accidents by Manner of Collision

The body of this report refers to the tabular data given in Attachment 1 aggregated for the CARDfile states and the nation. Corresponding data for the six individual states are included in the Appendix. Attachment 2 provides graphics of the percentages of the CARDfile states to the percentages of the nation for each category that was analyzed (Column 3 and 6 from the tables in Attachment 1).

Each table consists of seven columns (see Table 1). Column 1 lists subclasses of the characteristics under consideration; this may be age brackets, automobile classes, types of road, etc.

Columns 2 and 3 provide information on the six aggregated CARDfile states. Column 2 gives the number of people units or number of vehicle units or miles of road in the subclass for the six states. Column 3 is the percentage of people or vehicles or miles of road in that subclass for the six states. Columns 4 and 5 provide corresponding information for the nation.

Columns 6 and 7 provide index numbers which may be used for comparative purposes. Column 6 is the percentage of people, vehicles, or miles of road in the national subcategory accounted for by the CARDfile states i.e., Column 2 divided by Column 4 x 100 percent. This percentage is also given for the total at the bottom of the table. This index number for the total will generally be in the order of 20-25 percent since the CARDfile states represent approximately 1/5 to 1/4 of the nation. Column 7 is the ratio CARDSTATES/NATION in terms of percentage of people, vehicles, or miles of road for the subclasses, i.e., Column 3 divided by Column 5.<sup>1</sup> This index number for the total is always equal to 1.000. How closely the percentages of the subclasses cluster around the percentage of the total or the ratio around 1.000 provides an index of representativeness. These two indices co-vary. Subclasses in Column 6 having a percentage greater than the percentage of the total will have an index greater than 1 in Column 7.

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<sup>1</sup>When speaking of differences between the percentages in Columns 3 and 5, we refer to them as percentage point differences. When referring to the difference between the CARDSTATES/NATION ratio and its ideal value, 1.0, we refer to a percent (i.e., 1.05 would indicate an over-representation in the category by 5 percent.)

TABLE 1. PEOPLE BY AGE (MILLIONS)

(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)
	CARDFILE STATES		NATION			
<u>Age</u>	<u>People</u>	% of States' <u>People</u>	<u>People</u>	% of Nations' <u>People</u>	% of National <u>Class</u>	Ratio of State % to <u>National %</u>
-13	10.62	20.76	47.98	20.32	22.13	1.022
14-17	3.25	6.35	14.71	6.23	22.09	1.020
18-24	6.33	12.37	29.12	12.33	21.74	1.004
25-34	8.99	17.58	40.91	17.32	21.98	1.015
35-44	6.60	12.90	30.65	12.98	21.53	0.994
45-64	9.59	18.75	44.75	18.95	21.43	0.989
65+	5.77	11.28	28.04	11.87	20.58	0.950
TOTAL	51.15	100.0	236.16	100.0	21.66	1.00

SOURCE: Statistical Abstract of U.S., p. 27.

Since our collected data is of the entire population, the standard error of the proportion with which we are dealing will be extremely small.<sup>2</sup> This being the case, a statistical test of the deviations of obtained proportions of the subclasses in the CARDfile states from the proportion of the subclasses in the nation is inappropriate. Almost any deviation will be statistically significant because the standard error is minuscule.

All tabulated data is for the calendar year 1984, with the exception of Table 2 on the breakdown of people by age and sex for which the latest data available is 1980.

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<sup>2</sup>Except when we are considering categories that are a very small proportion of the total, as may be the case in some the fatal accident data.

### **3.0 DATA ANALYSIS**

In this section, we will review, using the tables in Attachment 1, each characteristic and its subclasses that were given in the data presentation format, Section 2.

#### **3.1 POPULATIONS**

##### **PEOPLE**

**Table 1. People by Age**

The CARDfile states contain 51.15 million people, which is 21.66 percent of the national population. The CARDSTATES/NATION ratio shows the age brackets to be within  $\pm$  two percent except for the over 65 group for which the ratio shows five percent fewer people in the CARDfile states. When we compare Columns 3 and 5, the percentage of people over 65 in the CARDfile states is 0.5 percentage points smaller than that of the nation as a whole. The remainder of the age brackets are within one half of one percentage point. Table A-1 shows that Texas has a much younger population than the rest of the CARDfile states. The ratios for Texas are 1.14 for the under 14 population, and 0.80 for the over 65 population. Pennsylvania is the only CARDfile state in which the older population is over-represented (ratio of over 65 is 1.19). Maryland has more of a middle-aged population.

**Table 2. People by Sex by Age**

The breakdown by age and sex shows that the ratios of the CARDfile age brackets are within two percent of the national age brackets (Column 7), except for the oldest age group for both sexes where the ratio difference is between five and eight percent. However, in terms of the percentage discrepancy between the CARDfile states (Column 3) and the nation (Column 5), the differences are quite small, being 0.20 percentage points for the over 70 males and 0.28 percentage points for the over 70 females.

The sex summary at the bottom of the table shows that the CARDfile states' population consists of 48.70 percent males and 51.30 percent females. The ratio shows that in the CARDfile states, males are over-represented by two-tenths of one percent and the females are under-represented by two-tenths of one percent. Again,

Texas has the younger population and Pennsylvania the older for both sexes (Table A-2).

Table 3. Licensed Drivers by Age (Millions of Drivers)

The CARDfile states have 21.99 percent of the nation's licensed drivers. The CARDSTATES/NATION ratio shows that the largest discrepancies are in both the older and younger age brackets. The under 19 drivers are over-represented by five percent in the CARDfile states. This may be caused, in part, by the licensing laws in these states and the population. (see Table 2) whereas the five percent to eight percent under-representation in the older ages (over 60) may be determined primarily by the population statistics.

The sex summary at the bottom of the table shows that in the CARDfile states, 52.43 percent of the licensed drivers are males and 47.57 percent are females. These numbers are within one half of one percent of the national figures (Column 7).

Table 3B. Ratio of Licensed Drivers to People

The CARDfile states have nine more drivers per thousand, all residents considered, than the nation as a whole. Restricting the population to people of driving age shows that the CARDfile states have 16 more drivers per thousand than the nation. The CARDSTATES/NATION ratio is approximately the same for both residents and residents over 15 (1.014 and 1.019, respectively). There are more licensed drivers in Michigan, Washington, and Texas and less in Maryland and Pennsylvania when compared to the nation (Table A-3B).

VEHICLES

Table 4. Motor Vehicle Registration (Millions)

The CARDfile states registered 36.20 million, or 21.74 percent, of the nation's vehicles. (They have 21.66 percent of the population.) The CARDfile states have less registered automobiles--75.47 percent versus 76.80 percent for the nation--and more registered trucks and buses--24.14 percent versus 22.85 percent for the nation and 0.39 percent versus 0.35 percent for the nation, respectively. This may be accounted for, in part, by the higher use of trucks in the rural/farming states of Indiana, Texas, and Washington (Table A-4).

Table 5. Registered Vehicles: Domestic versus Imports

The CARDfile states have more registered domestic vehicles of all classes (84.94 percent) than the nation (81.36 percent). The CARDSTATES/NATION ratio here clearly reflects that the same percentage difference between Column 3 and Column 5 will result in a smaller or larger variation in Column 7 that depends on the base percentage in Column 3. Thus, a difference of 3.45 percentage points in domestic cars yields a 4 percent difference in Column 7 whereas it yields a difference of 17 percent for the imported cars.

The difference of registered vehicles for domestics versus imports holds true for both automobiles and light trucks. In the CARDfile states, 83.07 percent of the automobiles and 91.14 percent of the light trucks are of domestic origin. The corresponding percentages for the nation are 79.52 percent for automobiles and 87.95 percent for light trucks, again yielding ratios that are four percent higher for automobiles, but under-representation of imported trucks in the CARDfile states by 26 percent. This large disparity is caused by two states, Michigan and Indiana, where domestic vehicles are highly favored (Table A-5). In the coastal states of Maryland and Washington, the imports are over-represented.

Table 6. 20 Top Make/Models

The list of the 20 top make/models are those which are most numerous in the U.S. as a whole. They may not be the 20 most numerous in the CARDfile states. The differences, however, would be minor.

The 20 most popular make/models in the U.S. account for 25.89 percent of CARDfile states' registered vehicles and 24.89 percent of the nation's registered vehicles. As is clearly pointed out by the CARDSTATES/NATION ratio, 16 of the top 20 vehicles are over-represented (have ratios greater than 1.000). The over-representation in the CARDfile states are strong for the Chevrolet C-10 and the Ford F-150, which are both trucks. Also over-represented in the CARDfile states are the Oldsmobile Delta Royal, the Chevrolet Caprice Classic, the Chevrolet Citation, the Ford Thunderbird, and the Chevrolet Monte Carlo. Overall, there is rather good agreement.

Table 7. Annual Vehicle Miles of Travel by Road Functional Class (Millions of Miles)

The vehicle miles traveled on rural and urban roads in the CARDfile states matches closely those of the nation as shown by the ratios of total rural and total urban in Column 7. However, within the major urban and rural classes there are noteworthy differences.

In the rural class, the CARDSTATES/NATION ratio indicates that within the CARDfile states, there are fewer vehicle miles traveled on local roads, interstate roads, and minor arteries than the nation. On the other hand, still in the rural class, more vehicles miles are traveled on principal arteries and major collectors in the CARDfile states than the nation. The biggest discrepancy is with local roads which have 3.85 percent of the vehicle miles in the CARDfile states compared with 5.01 percent nationally.

In the urban class, the CARDSTATES/NATION ratio shows the differences are not as large as those found in the rural class, but the CARDfile states again have fewer vehicle miles of travel on minor arteries than the nation.

Table A-7 indicates which states are responsible for these trends. For instance, both Maryland and Michigan have very low rural interstate travel (ratios of 0.75 and 0.72) when compared to the nation. The low rural and urban local travel is caused by Maryland, Michigan, and especially Washington. However, the aggregated comparison of urban local travel is balanced by the very high travel in Texas (ratio of 1.65).

ROADWAYS

Table 8. Road Milage by Functional Class

The CARDfile states have a smaller percentage (77.11 percent) of rural roads than the nation (82.69 percent). Conversely, the CARDfile states have a greater percentage (22.89 percent) of urban roads than the nation (17.31 percent). The overall ratios are 0.93 and 1.32 for rural and urban.

Within the rural class, the CARDSTATES/NATION ratio shows the CARDfile states to have less local roads and minor arteries and to a lesser extent less interstate roads than the nation.

Within the urban class, the CARDSTATES/NATION ratio (1.322) shows the CARDfile states to have a greater percentage of all functional classes than the nation. The over-representation of urban roads for the CARDfile states is particularly strong for local roads, principal arteries, other freeways, and collectors. The total rural and urban road milage for the CARDfile states are 18.27 percent of the national milage.

Again, observation of the individual state data in Table A-8 indicates the reasons for some of the aggregated trends. For instance, Maryland has significantly less local rural roads (ratio of 0.72) and Michigan and Texas have significantly less rural minor arteries (0.51 and 0.66, respectively). All states have more local urban roads than the nation, lead by Maryland with a ratio of 2.18. Maryland also has a much higher ratio of urban principal arteries than the nation (2.41). Urban collector road milage is also much higher in Maryland and Michigan (1.95 and 1.75).

Table 9. Road Milage by Surface Type Federal Aid Only<sup>3</sup>

The CARDfile states contain 18.72 percent of the nation's roads that are federally-aided. Proportionate to the nation, the CARDfile states have more urban milage and less rural milage as we also observed in Table 8. Within the rural class, the CARDfile states have considerably more intermediate type and low type milage than the nation with CARDSTATES/NATION ratios of 1.36 and 1.62, respectively. The CARDfile ratios of 0.78 and 0.26, respectively. The CARDfile states have less high-flexible type and unpaved roads than the nation with CARDSTATES/NATION ratios of 0.78 and 0.26, respectively. Within the urban class of roads the CARDfile states have considerably more milage of the high-rigid and intermediate types of roads than the nation--ratios of CARDSTATES/NATION of 1.45 and 1.61, respectively.

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<sup>3</sup>This data was abstracted from "Highway Statistics 1984" which does not break down all of the nation's roads by surface type. That reference gives the total of road mileage as 3,891,781 miles. Pages 142-146 of that publication gives the break down by surface type for 1,202,991 miles of road.

### **3.2 FATAL ACCIDENTS (FARS SUBSETS)**

#### **PEOPLE**

##### **Table 10. Motor Vehicle Fatalities by Sex by Age**

The summary at the bottom of the table shows that 71.58 percent of the motor vehicle fatalities in the CARDfile states are incurred by males and 28.42 percent by females. These numbers are within 0.30 percentage points of the national figures.

For both sexes, the over 70 age bracket incurs a smaller percentage of fatalities than the same age bracket for the nation as a whole. This, in part, can be attributed to the under-representation of the population group (Tables 1 and 2). The CARDSTATES/NATION ratio show other age brackets with greater discrepancy than the over 70 group, but the discrepancy is not consistent over sexes. For example, the males in the CARDfile states in the 35-39 age group have a smaller percentage of fatalities than the same national age bracket and the females in the CARDfile states in the 25-29 and 50-54 age brackets have a smaller percentage of fatalities than the same age bracket in the nation.

In the case of the 35-39 year old males, Maryland (Table A-10) has many less fatalities than the nation as a whole (ratio of 0.79). This result is surprising as Maryland has a larger male population (ratio of 1.11) in this age bracket (Table A-2). In the case of the females in the 25-29 and 50-54 age brackets, the same trend is evident. They are over-represented in the general population, but under-represented in the fatalities. Obviously, some other factors are in effect here, such as vehicle miles traveled by sex and age and the inherent noisiness of the rather small counts in these subcategories.

##### **Table 11. Driver Motor Vehicle Fatalities by Age by Sex**

The summary at the bottom of the table shows that male drivers in the CARDfile states incur 78.69 percent of the driver fatalities and the female drivers incur 21.31 percent of the driver fatalities. These numbers are within 0.18 percentage points of the national figures.

Contrary to expectations set up in the previous table, the over 70 age group of driver fatalities in the CARDfile states is not under-represented when compared to the nation.

Many of the age brackets in the CARDfile states, particularly for the female drivers, show under and over-representation. This is pointed out by the large number of ratios in the CARDSTATES/NATION ratio in Column 7 which deviate more than  $\pm$  five percent. This is probably, in part, due to the small populations we have in FARS compared to the total populations.

Table 12. Fatalities Per Million Licensed Drivers Per Year by Sex

The CARDfile states have seven less fatalities per million drivers than the nation (out of 285 fatalities per million). Though both sexes have lower rates than their counterparts in the nation, the absolute difference is greater for the males, but the ratios are the same.

VEHICLES

Table 13. 20 Top Make/Models Involved in Fatal Accidents

Differences show-up when we analyzed the vehicles involved in fatal accidents. The CARDfile states have more Chevrolet pickups and Buick Regals (over-represented by more than ten percent in the CARDSTATES/NATION ratio) in this listing. On the other side, the CARDfile states are strongly under-represented with Cadillac Deville, Ford Pinto, and Pontiac Firebird. Many of these same vehicles are on the table of 20 top registrations (Table 6). However, other considerations, such as VMT by vehicle type, and what vehicles are more likely to be driven by certain ages and sexes, also affect the ranking of the fatality ratios.

ROADWAYS

Table 14. Fatal Accident by Road Functional Class

The CARDfile states account for 21.44 percent of the nation's fatal accidents and 21.43 percent of the fatalities (Table 10). The CARDfile states incur more of their fatal accidents on the interstate and fewer on other urban freeways. However, since

these two classes of roads may be functionally equal, it may be a difference that is of no consequence.

The CARDfile states have fewer fatal accidents on local roads, minor rural collectors and major urban collectors. These results reflect, to some degree, both the milage by functional class (Table 8) and the VMT by functional class (Table 7).

Table 15. Fatal Accidents by Surface Type

More of the CARDfile states' fatal accidents occur on concrete (14.11 percent) than the nation as a whole (10.25 percent), (ratio of 1.38). Fewer of the CARDfile states' fatal accidents occur on blacktop (79.82 percent) than the nation as a whole (83.41 percent).

ACCIDENTS

Table 16. Fatal Accidents by Manner of Collision

Over 60 percent of the fatal accidents classified as "not applicable" reduces the impact of this table. The only CARDSTATES/NATION ratio of note is for same direction sideswipes (1.148) which indicates that the CARDfile states may have more of these type of accidents than the nation.

#### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

We have concluded that, at the aggregate level, the CARDfile states are a good representation of the nation as a whole when considering the characteristics of the populations, vehicles, roads, and fatal accidents. Some exceptions to this agreement were found with the older population, road characteristics, and domestic versus imported vehicles. The importance of these exceptions is difficult to evaluate outside the context of how the data is utilized. In general, as most of the CARDfile comparisons are made within CARDfile, the effect of these exceptions would be minimized.

We also found that any individual state could seriously impact the aggregate agreement. This result is important when NHTSA considers additional states or removing existing states. In fact, before such action is contemplated, we would recommend that a study be performed to evaluate its impact on the representativeness of CARDfile. It is even possible that one or more of the CARDfile states may be more representative than the existing six states. After the Phase II effort that compares accident experiences is completed, NHTSA may want to collect less data and should consider such a study to see if a better representation is possible with fewer states.

**ATTACHMENT 1**

**TABLES OF AGGREGATED CARDFILE STATES VS. NATION**

TABLE I. PEOPLE BY AGE (MILLIONS)

AGE	NUMBER OF STATES		% OF NATION'S PEOPLE		% OF NATIONAL CLASS		RATIO OF STATE % TO NATIONAL %
	(COL 1)	(2)	(3)	(4)	(5)	(6)	
<b>1. CARDFILE STATES</b>							
-13	10.62	20.76	47.98	20.32	22.13	1.022	
14-17	3.25	6.35	14.71	6.23	22.09	1.020	
18-24	6.33	12.37	29.12	12.33	21.74	1.004	
25-34	8.99	17.58	40.91	17.32	21.98	1.015	
35-44	6.60	12.90	30.65	12.98	21.53	0.994	
45-64	9.59	18.75	44.75	18.95	21.43	0.989	
65+	5.77	11.28	28.04	11.87	20.58	0.950	
<b>TOTAL</b>	<b>51.15</b>	<b>100.00</b>	<b>236.16</b>	<b>100.00</b>	<b>21.66</b>	<b>1.000</b>	

SOURCE: STATISTICAL ABSTRACT OF U.S.P.27

TABLE 2. PEOPLE BY SEI IN AGE (MILLIONS)

(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)
AGE	PEOPLE	% OF STATES	NATION	% OF NATION'S	% OF NATION'S	RATIO OF STATE 2
TOTAL	23.95	48.70	110.04	48.58	21.76	1.002

AGE	PEOPLE	% OF STATES	NATION	% OF NATION'S	% OF NATION'S	RATIO OF STATE 2
-19	6.17	16.61	36.97	16.32	22.10	1.018
20-24	2.34	4.76	10.66	4.71	21.75	1.011
25-29	2.13	4.33	9.71	4.29	21.94	1.010
30-34	1.89	3.82	8.48	3.83	21.46	0.998
35-39	1.49	3.03	6.86	3.03	21.72	1.000
40-44	1.23	2.50	5.71	2.52	21.56	0.992
45-49	1.17	2.38	5.38	2.37	21.75	1.002
50-54	1.24	2.52	5.52	2.48	22.96	1.015
55-59	1.20	2.44	5.48	2.42	21.90	1.009
60-64	1.00	2.03	4.67	2.06	21.41	0.986
65-69	0.81	1.65	3.90	1.72	20.77	0.957
70+	1.29	2.62	6.46	2.82	20.16	0.928
TOTAL	23.95	48.70	110.04	48.58	21.76	1.002

## FEMALE

AGE	PEOPLE	% OF STATES	NATION	% OF NATION'S	% OF NATION'S	RATIO OF STATE 2
-19	7.84	15.94	35.49	15.67	22.09	1.018
20-24	2.34	4.76	10.66	4.71	21.95	1.011
25-29	2.15	4.37	9.82	4.33	21.89	1.008
30-34	1.92	3.90	6.88	3.92	21.62	0.996
35-39	1.53	3.11	7.19	3.13	21.55	0.993
40-44	1.28	2.69	5.96	2.63	21.48	0.989
45-49	1.24	2.52	5.79	2.52	21.75	1.002
50-54	1.33	2.70	6.09	2.69	21.84	1.006
55-59	1.33	2.70	6.13	2.71	21.70	0.999
60-64	1.15	2.34	5.42	2.39	21.22	0.977
65-69	1.01	2.05	4.88	2.15	20.70	0.953
70+	2.11	4.29	10.36	4.57	20.37	0.938
TOTAL	25.35	51.30	116.49	51.42	21.66	0.998

## SEI SUMMARY

AGE	PEOPLE	% OF STATES	NATION	% OF NATION'S	RATIO OF STATE 2
MALE	23.95	48.70	110.04	48.58	21.76
FEMALE	25.35	51.30	116.49	51.42	21.66
TOTAL	49.18	100.00	226.53	100.00	21.71

TABLE 3. LICENCED DRIVER'S BY AGE (MILLIONS)

(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)
AGE	DRIVERS CARDFILE STATES	% OF STATES DRIVERS	% OF NATION'S DRIVERS	% OF NATION'S NATIONAL CLASS	% OF STATE % TO NATIONAL %	
-19	2.4	7.02	10.37	6.67	23.14	1.052
20-24	4.35	12.73	19.17	12.34	22.69	1.032
25-29	4.57	13.37	20.30	13.06	22.51	1.024
30-34	4.16	12.17	18.77	12.08	22.16	1.008
35-39	3.54	10.36	16.45	10.59	21.52	0.979
40-44	2.78	8.14	12.91	8.31	21.53	0.979
45-49	2.29	6.70	10.52	6.77	21.77	0.990
50-54	2.19	6.41	9.81	6.31	22.32	1.015
55-59	2.24	6.55	9.87	6.35	22.69	1.032
60-64	1.90	5.56	9.07	5.84	20.95	0.953
65-69	1.51	4.42	7.27	4.68	20.77	0.944
70+	2.24	6.55	10.88	7.00	20.59	0.936
TOTAL	34.17	100.00	155.39	100.00	21.99	1.000

## SEX SUMMARY

	MALE	FEMALE	TOTAL
	17.90	52.43	34.14
	16.24	47.57	100.00
	81.01	74.38	155.39
	47.87		100.00
	52.13		21.97
	21.83		21.97
	22.10		1.000
	0.994		1.000

SOURCE: HIGHWAY STATISTICS 1984 PG.33  
U.S DEPT. TRANSPORTATION FHWA

TABLE 3B. RATIO OF LICENCED DRIVERS TO PEOPLE (PEOPLE IN THOUSANDS)

	CARFILE STATES RESIDENTS	% OF STATES RESIDENTS	DRIVERS PER 1000 THOUSAND RESIDENTS	% OF NATION'S RESIDENTS	DRIVERS PER 1000 THOUSAND RESIDENTS	% OF NATIONAL DRIVERS THOUSAND CLASS	RATIO OF DRIVERS PER THOUSAND STATE TO NATION
ALL RESIDENTS	51161.00	100.00	667.03	236158.00	100.00	658.00	21.66
RESIDENTS OVER AGE 15	39710.00	77.62	659.38	18424.00	78.09	843.00	21.53

SOURCE: HIGHWAY STATISTICS 1984  
HE 5623.A1 U5X 1984  
P.31 AND FARS 1984

TABLE 4. MOTOR-VEHICLE REGISTRATIONS BY CLASS-MILLIONS

(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)
CAR/FILE STATES		NATION				
VEHICLES IN STATE	% OF ALL VEHICLES:	VEHICLES IN NATION	% OF ALL VEHICLES:	% NATIONAL CLASS	RATIO	STATE/NATION
AUTOMOBILE	27.32	75.47	127.87	76.80	21.37	0.98
BUS	0.14	0.39	0.58	0.35	24.14	1.11
TRUCK	8.74	24.14	38.05	22.85	22.97	1.06
TOTAL	36.20	100.00	166.50	100.00	21.74	1.00

SOURCE: HIGHWAY STATISTICS 1984  
 U.S. DEPT. OF TRANSPORTATION FHWA  
 PG. 17

TABLE 5. REGISTERED VEHICLES: DOMESTIC VS. IMPORTS

(COL. 1)	(2)	(3)	(4)	(5)	(6)	(7)
CARDFILE STATES	% OF ALL VEHICLES: VEHICLES IN STATE	% OF ALL VEHICLES: VEHICLES IN NATION	AUTOMOBILES	% OF ALL VEHICLES: % OF NATIONAL CLASS	RATIO	STATE/NATION
DOMESTIC	20151893.00	83.07	87945030.00	79.52	22.91	1.04
IMPORT	4106064.00	16.93	22652056.00	20.48	18.13	0.83
TOTAL	24257957.00	76.91	110597086.00	78.22	21.93	0.98

LIGHT TRUCKS						
CARDFILE STATES	% OF ALL VEHICLES: VEHICLES IN STATE	% OF ALL VEHICLES: VEHICLES IN NATION	AUTOMOBILES	% OF ALL VEHICLES: % OF NATIONAL CLASS	RATIO	STATE/NATION
DOMESTIC	6658191.00	91.14	27088837.00	87.95	24.51	1.04
IMPORT	645434.00	8.86	3709967.00	12.05	17.40	0.74
TOTAL	7283625.00	23.09	30798804.00	21.78	23.65	1.06

AUTOMOBILES AND LIGHT TRUCKS						
CARDFILE STATES	% OF ALL VEHICLES: VEHICLES IN STATE	% OF ALL VEHICLES: VEHICLES IN NATION	AUTOMOBILES	% OF ALL VEHICLES: % OF NATIONAL CLASS	RATIO	STATE/NATION
DOMESTIC	26790084.00	84.94	115033861.00	81.36	23.29	1.04
IMPORT	4751498.00	15.06	26362023.00	18.64	18.02	0.81
TOTAL	31541582.00	100.00	141395890.00	100.00	22.31	1.00

TABLE 6. TOP 20 MAKE MODELS

(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)
MAKE MODEL	VEHICLES	% OF STATES' VEHICLES	NATION'S VEHICLES	% OF NATION'S VEHICLES	NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
CHEVROLET MONTE CARLO	603405.00	1.91	2521803.00	1.78	23.93	1.073
CHEVROLET IMPALA	559572.00	1.77	2505991.00	1.77	22.33	1.001
FORD GRANADA	515775.00	1.63	2238681.00	1.58	23.04	1.033
OLDSMOBILE CUTLASS SUPREME	499054.00	1.58	2210989.00	1.56	22.57	1.012
CHEVROLET C-30	492728.00	1.56	1957919.00	1.38	25.17	1.128
CHEVROLET CAPRICE CLASSIC	444403.00	1.41	1906519.00	1.35	23.31	1.045
CADILLAC DEVILLE	385535.00	1.22	1780737.00	1.26	21.65	0.971
FORD LTD	402524.00	1.28	1752633.00	1.24	22.97	1.030
CHEVROLET CHEVETTE	440644.00	1.40	1740864.00	1.23	25.31	1.135
FORD F-150	472882.00	1.50	1723852.00	1.22	27.43	1.230
CHEVROLET C-10	517131.00	1.64	1654825.00	1.17	31.25	1.401
FORD PINTO	336974.00	1.07	1652295.00	1.17	20.39	0.914
CHEVROLET NOVA	329488.00	1.04	1491525.00	1.05	22.09	0.990
CHEVROLET MALIBU CLASSIC	342719.00	1.09	1463077.00	1.03	23.42	1.050
CHEVROLET CAMARO	336494.00	1.07	1393268.00	0.98	24.15	1.083
FORD THUNDERBIRD	334099.00	1.06	1374313.00	0.97	24.31	1.090
CHEVROLET MALIBU	292491.00	0.93	1290325.00	0.91	22.67	1.016
OLDSMOBILE DELTA ROYAL	325251.00	1.03	1241642.00	0.88	26.19	1.174
BUICK REGAL	252910.00	0.80	1160341.00	0.82	21.80	0.977
CHEVROLET CITATION	282712.00	0.90	1125997.00	0.80	25.11	1.125
TOTAL TOP 20	8166793.00	100.00	34187598.00	100.00	23.89	1.000

SOURCE: POLK NVPP DATA BASE

TABLE 7. ANNUAL VEHICLE MILES OF TRAVEL BY ROAD FUNCTION CLASS (MILLIONS)

(COL 1) (2) (3) (4) (5) (6) (7)

CARDFILE STATES		NATION		RURAL		
VEHICLE MILES	% OF STATES'	VEHICLE MILES	% OF NATION'S	% OF NATIONAL MILES	NATIONAL CLASS	ratio states/nation
INTERSTATE	30238.00	7.90	148542.00	8.65	20.36	0.914
PRINCIPAL ARTERY	35323.00	9.23	143786.00	8.38	24.57	1.103
MINOR ARTERY	27228.00	7.12	136885.00	7.97	19.90	0.893
MAJOR COLLECTOR	39655.00	10.38	159908.00	9.31	24.82	1.114
MINOR COLLECTOR	10022.00	2.62	43694.00	2.55	22.94	1.029
LOCAL	14710.00	3.85	96034.00	5.01	17.10	0.767
TOTAL RURAL	157226.00	41.10	718849.00	41.87	21.87	0.982

## URBAN

CARDFILE STATES		NATION		URBAN		
VEHICLE MILES	% OF STATES'	VEHICLE MILES	% OF NATION'S	% OF NATIONAL MILES	NATIONAL CLASS	ratio states/nation
INTERSTATE	46662.00	12.20	203572.00	11.86	22.92	1.029
OTHER FREEWAY	20035.00	5.24	93645.00	5.45	21.39	0.960
PRINCIPAL ARTERY	64974.00	16.98	270916.00	15.78	23.98	1.076
MINOR ARTERY	40266.00	10.53	195329.00	11.38	20.61	0.925
COLLECTOR	21050.00	5.50	87788.00	5.11	23.98	1.076
LOCAL	32315.00	8.45	146669.00	8.54	22.03	0.989
TOTAL URBAN	225302.00	58.90	997919.00	58.13	22.58	1.013
GRAND TOTAL	382528	100.00	1716768	100.00	22.28	1.000

SOURCE: HIGHWAY STATISTICS 1984, PG 176

TABLE 8. ROAD MILEAGE BY FUNCTIONAL CLASS  
(CDL 1) (2) (3) (4) (5) (6) (7)

:CARDFILE STATES		NATION				
ROAD CLASS	MILEAGE	% OF STATES' HIGHWAYS	MILEAGE	% OF NATION'S HIGHWAYS	% OF NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
INTERSTATE	5688.00	0.80	32676.00	0.84	17.41	0.95
PRINCIPAL ARTERY	15645.00	2.20	80397.00	2.07	19.41	1.063
MINOR ARTERY	22438.00	3.16	147007.00	3.78	15.26	0.836
MAJOR COLLECTOR	80886.00	11.38	43303.00	11.13	18.68	1.023
MINOR COLLECTOR	54094.00	7.61	29825.00	7.67	18.11	0.992
LOCAL	369462.00	51.97	222698.00	57.20	16.60	0.908
TOTAL RURAL	548213.00	77.11	3218096.00	82.69	17.03	0.933

URBAN

:CARDFILE STATES		NATION				
ROAD CLASS	MILEAGE	% OF STATES' HIGHWAYS	MILEAGE	% OF NATION'S HIGHWAYS	% OF NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
INTERSTATE	2306.00	0.32	10615.00	0.27	21.72	1.189
OTHER FREEWAY	1672.00	0.24	7116.00	0.18	23.50	1.286
PRINCIPAL ARTERY	11613.00	1.63	48584.00	1.25	23.90	1.308
MINOR ARTERY	14609.00	2.05	70710.00	1.82	20.66	1.131
COLLECTOR	16953.00	2.38	74059.00	1.90	22.89	1.253
LOCAL	115570.00	16.26	462601.00	11.89	24.98	1.368
TOTAL URBAN	162723.00	22.89	673685.00	17.31	24.15	1.322

TOTAL RURAL + URBAN

TOTAL	710736	100.00	3891781	100.00	18.27	1.000
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TABLE 9. ROAD MILEAGE BY SURFACE TYPE (FEDERAL AID ONLY)

RURAL						
ROAD CLASS	CARDFILE STATES		NATION		RATIO OF STATE % TO NATIONAL %	
	MILEAGE	% OF STATES HIGHWAYS	MILEAGE	% OF NATION'S HIGHWAYS	NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
HIGH-FLEXIBLE	60804.00	26.99	412258.00	34.68	14.57	0.78
HIGH-RIGID	7661.00	3.40	43145.00	3.59	17.76	0.95
INTERMEDIATE	48330.00	21.50	189743.00	15.77	25.52	1.36
LOW	52990.00	23.52	174470.00	14.50	30.37	1.62
UNPAVED	8215.00	3.65	167291.00	13.91	4.91	0.26
TOTAL	178100.00	79.07	991907.00	82.45	17.95	0.96

URBAN						
ROAD CLASS	CARDFILE STATES		NATION		RATIO OF STATE % TO NATIONAL %	
	MILEAGE	% OF STATES HIGHWAYS	MILEAGE	% OF NATION'S HIGHWAYS	NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
HIGH-FLEXIBLE	26429.00	11.73	135095.00	11.23	19.56	1.04
HIGH-RIGID	7465.00	3.31	27517.00	2.29	27.13	1.45
INTERMEDIATE	10532.00	4.68	34961.00	2.91	30.12	1.61
LOW	2338.00	1.04	11612.00	0.96	20.13	1.07
UNPAVED	392.00	0.17	1899.00	0.16	20.64	1.10
TOTAL	47156.00	20.93	211084.00	17.55	22.34	1.19

TOTAL RURAL+URBAN						
ROAD CLASS	CARDFILE STATES		NATION		RATIO OF STATE % TO NATIONAL %	
	MILEAGE	% OF STATES HIGHWAYS	MILEAGE	% OF NATION'S HIGHWAYS	NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
HIGH-FLEXIBLE	87233.00	38.73	552353.00	45.91	15.79	0.84
HIGH-RIGID	15126.00	6.71	70662.00	5.87	21.41	1.14
INTERMEDIATE	58962.00	26.18	224104.00	18.68	26.24	1.40
LOW	55328.00	24.56	186082.00	15.47	29.73	1.59
UNPAVED	8607.00	3.82	169190.00	14.06	5.09	0.27
TOTAL	225256.00	100.00	126291.00	100.00	18.72	1.00

TABLE 10. MOTOR VEHICLE FATALITIES BY SEX BY AGE (ALL)

(COL 1) (2) (3) (4) (5) (6) (7)

MALE

ICARDFILE STATES		NATION		RATIO OF STATE Z TO NATIONAL Z		
AGE	FATALITIES	% OF STATES FATALITIES	% OF NATION'S FATALITIES	% OF NATION'S FATALITIES	% OF NATION CLASS	
-19	1403.00	14.79	6431.00	14.53	21.82	1.018
20-24	1363.00	14.37	6299.00	14.23	21.64	1.010
25-29	944.00	9.95	4317.00	9.76	21.87	1.020
30-34	688.00	7.25	3041.00	6.87	22.62	1.056
35-39	406.00	4.28	2088.00	4.72	19.44	0.907
40-44	350.00	3.69	1549.00	3.50	22.60	1.054
45-49	252.00	2.66	1193.00	2.70	21.12	0.986
50-54	241.00	2.54	1122.00	2.54	21.48	1.002
55-59	225.00	2.37	1061.00	2.40	21.21	0.990
60-64	226.00	2.38	1046.00	2.36	21.61	1.008
65-69	201.00	2.12	918.00	2.07	21.90	1.022
70+	489.00	5.16	2476.00	5.60	19.75	0.922
TOTAL	6788.00	71.58	31591.00	71.28	21.52	1.004

FEMALE

ICARDFILE STATES		NATION		RATIO OF STATE Z TO NATIONAL Z		
AGE	FATALITIES	% OF STATES FATALITIES	% OF NATION'S FATALITIES	% OF NATION'S FATALITIES	% OF NATION CLASS	
-19	644.00	6.79	2942.00	6.65	21.89	1.021
20-24	390.00	4.11	1772.00	4.00	22.01	1.027
25-29	243.00	2.56	1193.00	2.70	20.37	0.950
30-34	203.00	2.14	956.00	2.16	21.23	0.991
35-39	179.00	1.89	783.00	1.77	22.86	1.067
40-44	116.00	1.22	610.00	1.38	19.02	0.887
45-49	103.00	1.09	500.00	1.13	20.60	0.961
50-54	98.00	1.03	496.00	1.12	19.76	0.922
55-59	118.00	1.24	537.00	1.21	21.97	1.025
60-64	121.00	1.28	568.00	1.29	21.30	0.994
65-69	122.00	1.29	535.00	1.21	22.80	1.064
70+	358.00	3.78	1817.00	4.11	19.70	0.919
TOTAL	2695.00	28.42	12709.00	28.72	21.21	0.989

TABLE 11. MOTOR VEHICLE FATALITIES BY SEX BY AGE (DRIVERS ONLY)

(COL 1) (2) (3) (4) (5) (6) (7)

## MALE

AGE	CARDFILE STATES		NATION		% OF NATION'S FATALITIES	% OF NATION'S FATALITIES	NATIONAL CLASS	RATIO OF STATE TO NATIONAL %
	% FATALITIES	FATALITIES	% FATALITIES	FATALITIES				
-19	611.00	10.99	2826.00	11.04	21.62	0.995		
20-24	965.00	17.35	4400.00	17.20	21.93	1.009		
25-29	680.00	12.23	3159.00	12.35	21.53	0.990		
30-34	505.00	9.08	2239.00	8.75	22.55	1.038		
35-39	304.00	5.47	1550.00	6.06	19.61	0.902		
40-44	245.00	4.41	1084.00	4.24	22.60	1.040		
45-49	179.00	3.22	817.00	3.19	21.91	1.008		
50-54	155.00	2.79	755.00	2.95	20.53	0.945		
55-59	149.00	2.68	693.00	2.71	21.50	0.989		
60-64	150.00	2.70	655.00	2.56	22.90	1.054		
65-69	194.00	2.59	598.00	2.34	24.08	1.108		
70+	289.00	5.20	1312.00	5.13	22.03	1.014		
TOTAL	4376.00	78.69	20088.00	78.51	21.78	1.002		

## FEMALE

AGE	CARDFILE STATES		NATION		% OF NATION'S FATALITIES	% OF NATION'S FATALITIES	NATIONAL CLASS	RATIO OF STATE TO NATIONAL %
	% FATALITIES	FATALITIES	% FATALITIES	FATALITIES				
-19	145.00	2.61	741.00	2.90	19.57	0.900		
20-24	219.00	3.94	955.00	3.73	22.93	1.055		
25-29	134.00	2.41	665.00	2.60	20.15	0.927		
30-34	109.00	1.96	549.00	2.15	19.85	0.914		
35-39	118.00	2.12	475.00	1.86	24.84	1.143		
40-44	69.00	1.24	357.00	1.39	19.33	0.889		
45-49	54.00	0.97	274.00	1.07	19.71	0.907		
50-54	50.00	0.90	234.00	0.91	21.37	0.983		
55-59	60.00	1.08	260.00	1.02	23.08	1.062		
60-64	56.00	1.01	242.00	0.95	23.14	1.065		
65-69	59.00	1.06	222.00	0.87	26.58	1.223		
70+	112.00	2.01	526.00	2.06	21.29	0.980		
TOTAL	1185.00	21.31	5500.00	21.49	21.35	0.991		

TABLE 12. FATALITIES PER MILLION LICENCED DRIVERS PER YEAR BY SEX

CARDFILE STATES		NATION		FATALITIES PER MILLION DRIVERS	
		MILLIONS OF DRIVERS	NUMBER OF FATALITIES	STATES	NATION
		MILLIONS OF DRIVERS		NUMBER OF FATALITIES	
MALE	17.90	6788.00	81.01	3541.00	379.22
FEMALE	16.24	2695.00	74.38	1209.00	165.95
TOTAL	34.14	9483.00	155.39	44250.00	277.77
					284.77

SOURCE: FARS

TABLE 13. TOP 20 VEHICLES INVOLVED IN FATAL ACCIDENTS

MAKE MODEL	VEHICLES	CARDFILE STATES		NATION		NATION'S TOP-20 VEHICLES		TOP-20 VEHICLES		NATIONAL CLASS		NATIONAL % TO NATIONAL %	
		(COL 1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CHEVROLET PICK-UP	696.00	15.60	2838.00	14.08	24.52	1.108							
FORD PICK-UP	568.00	12.73	2546.00	12.63	22.31	1.008							
CHEVROLET CAPRICE	357.00	8.00	1527.00	7.58	23.38	1.056							
OLDSMOBILE CUTLASS	307.00	6.98	1368.00	6.79	22.44	1.014							
FORD LTD	242.00	5.42	1217.00	6.04	19.88	0.998							
CHEVROLET MALIBU	220.00	4.93	997.00	4.95	22.07	0.997							
CHEVROLET CAMERO	233.00	5.22	985.00	4.89	23.65	1.069							
FORD MUSTANG	186.00	4.17	909.00	4.51	20.46	0.924							
BUICK REGAL	211.00	4.73	852.00	4.23	24.77	1.119							
CHEVROLET MONTE CARLO	174.00	3.90	838.00	4.16	20.76	0.938							
CHEVROLET NOVA	146.00	3.27	714.00	3.54	20.45	0.924							
GMC PICK-UP	161.00	3.61	680.00	3.37	23.68	1.070							
CHEVROLET CHEVETTE	148.00	3.32	673.00	3.34	21.99	0.993							
PONTIAC FIREBIRD	114.00	2.56	608.00	3.02	18.75	0.947							
FORD VAN	132.00	2.96	603.00	2.99	21.89	0.989							
FORD PINTO	107.00	2.40	595.00	2.95	17.98	0.912							
CADILLAC DEVILLE	98.00	2.20	573.00	2.84	17.10	0.773							
PONTIAC GRAND PRIX	124.00	2.78	547.00	2.71	22.67	1.024							
CHEVROLET VAN	108.00	2.42	547.00	2.71	19.74	0.892							
PONTIAC BONNEVILLE	129.00	2.89	537.00	2.66	24.02	1.085							
TOTAL TOP 20	4661.00	100.00	20154.00	100.00	100.00	1.000							

SOURCE: FARS

TABLE 14. FATAL ACCIDENTS BY ROAD FUNCTION CLASS  
(COL 1)

FUNCTION CLASS	CARFILE STATES		NATION		(6)	(7)
	ACCIDENTS	% OF STATES' ACCIDENTS	% OF NATION'S ACCIDENTS	% OF NATIONAL CLASS		
INTERSTATE	873.00	10.51	3750.00	9.46	23.81	1.111
OTHER URBAN FREEWAY	277.00	3.26	1516.00	3.82	18.27	0.852
PRINCIPAL ARTERY	2192.00	25.80	9982.00	25.19	21.96	1.024
MINOR ARTERY	1805.00	21.25	8095.00	20.43	22.30	1.040
URBAN COLLECTOR	256.00	3.01	1720.00	4.34	14.88	0.694
MAJOR RURAL COLLECTOR	1364.00	16.06	6181.00	15.60	22.07	1.029
MINOR RURAL COLLECTOR	275.00	3.24	1351.00	3.41	20.36	0.950
LOCAL ROAD	1380.00	16.24	6862.00	17.31	20.11	0.938
UNKNOWN	53.00	0.62	174.00	0.44	30.46	1.421
TOTAL	8495.00	100.00	39631.00	100.00	21.44	1.000

SOURCE: FARS

TABLE 15. FATAL ACCIDENTS BY SURFACE TYPE

(COL. 1)	(2)	(3)	(4)	(5)	(6)	(7)
			MALE			
SURFACE TYPE	ACCIDENTS	% OF STATES' ACCIDENTS	% OF NATION'S ACCIDENTS	% OF NATIONAL CLASS	% OF NATIONAL CLASS	RATIO OF STATE TO NATIONAL %
CONCRETE	1199.00	14.11	4064.00	10.25	29.50	1.376
BLACKTOP	6781.00	79.82	33057.00	83.41	20.51	0.957
SLAG/GRAVEL/STONE	126.00	1.48	657.00	1.66	19.18	0.895
OTHER	389.00	4.58	1853.00	4.68	20.99	0.979
TOTAL	8495.00	100.00	39631.00	100.00	21.44	1.000

SOURCE: FARIS

TABLE 16. FATAL ACCIDENTS BY MANNER OF COLLISION  
 (COL 1) (2) (3) (4) (5) (6) (7)

MANOR OF COLLISION	CARDFILE STATES		NATION		% OF NATION'S ACCIDENTS	% OF NATION'S ACCIDENTS	NATIONAL CLASS	RATIO OF STATE % TO NATIONAL %
	ACCIDENTS	% OF STATES'	ACCIDENTS	% OF STATES'				
NOT APPLICABLE	5209.00	61.32	24579.00	62.02			21.19	0.989
REAR END	418.00	4.92	1838.00	4.64			22.74	1.061
HEAD ON	1293.00	15.22	5858.00	14.78			22.07	1.030
REAR TO REAR	1	0.01	4	0.01			25.00	1.166
ANGLE	1403	16.52	6594	16.64			21.28	0.993
SIDE SWIPE S.D.	94	1.11	382	0.96			24.61	1.148
SIDE SWIPE D.D.	75	0.88	348	0.88			21.55	1.005
UNKNOWN	2.00	0.02	28.00	0.07			7.14	0.333
TOTAL	8495.00	100.00	39631.00	100.00			21.44	1.000

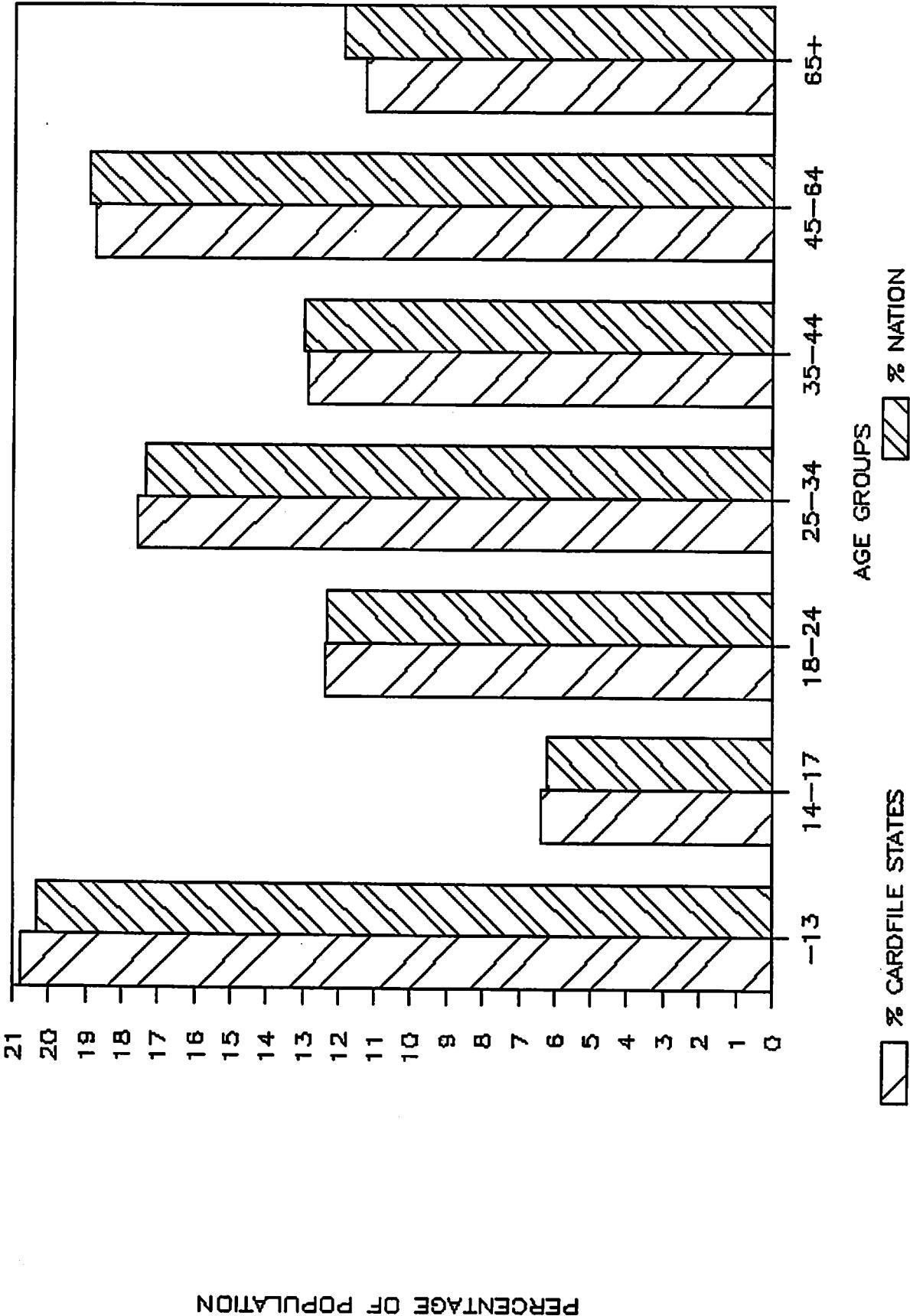
SOURCE: FARS

**ATTACHMENT 2**

**GRAPHS OF CARDFILE STATES VS. NATION -  
PERCENTAGE CHARACTERISTICS**

# COMPARISON OF PEOPLE BY AGE

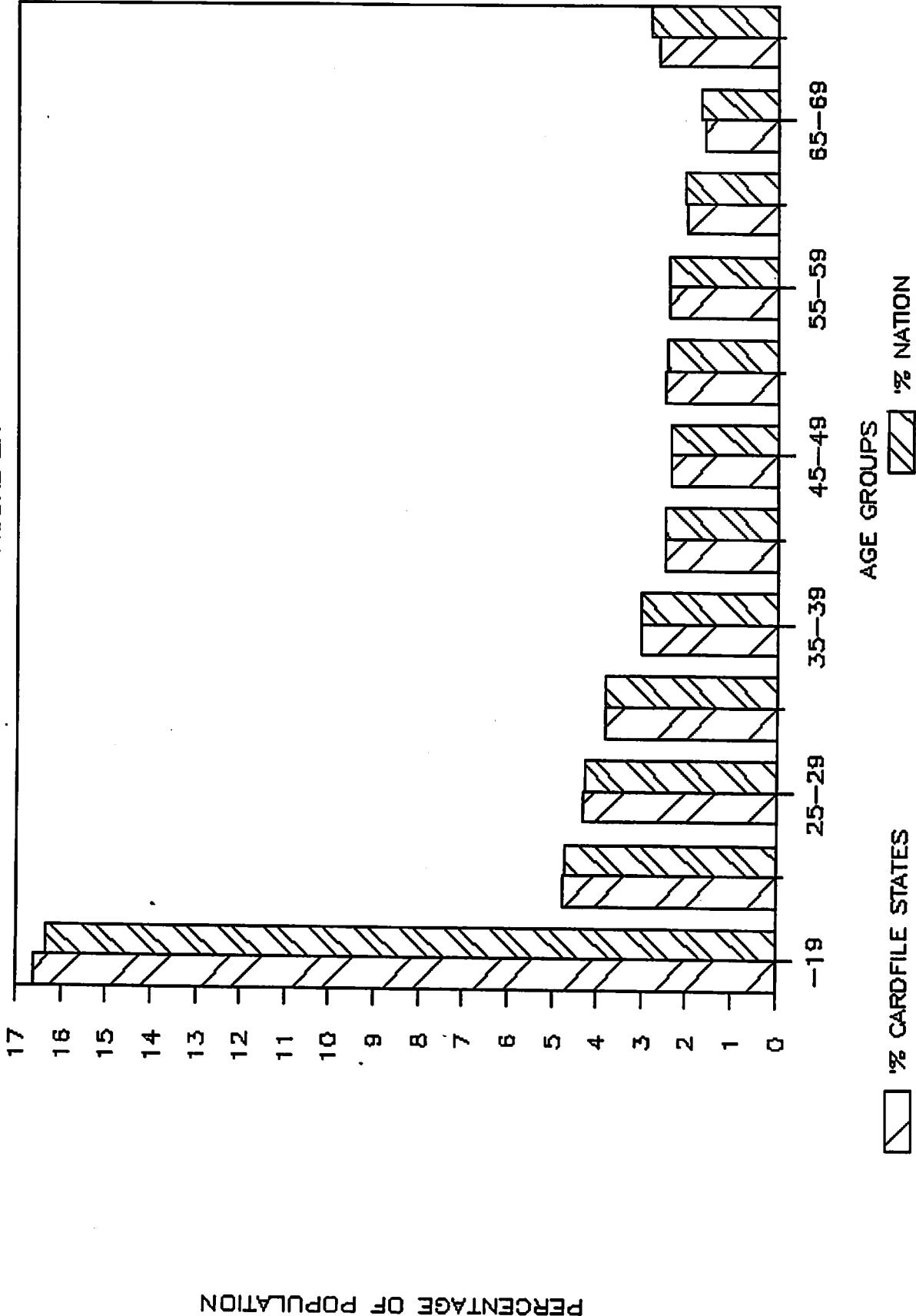
FIGURE 1



SOURCE: STATISTICAL ABSTRACT OF U.S., p. 27.

# COMPARISON OF MALE POPULATION BY AGE

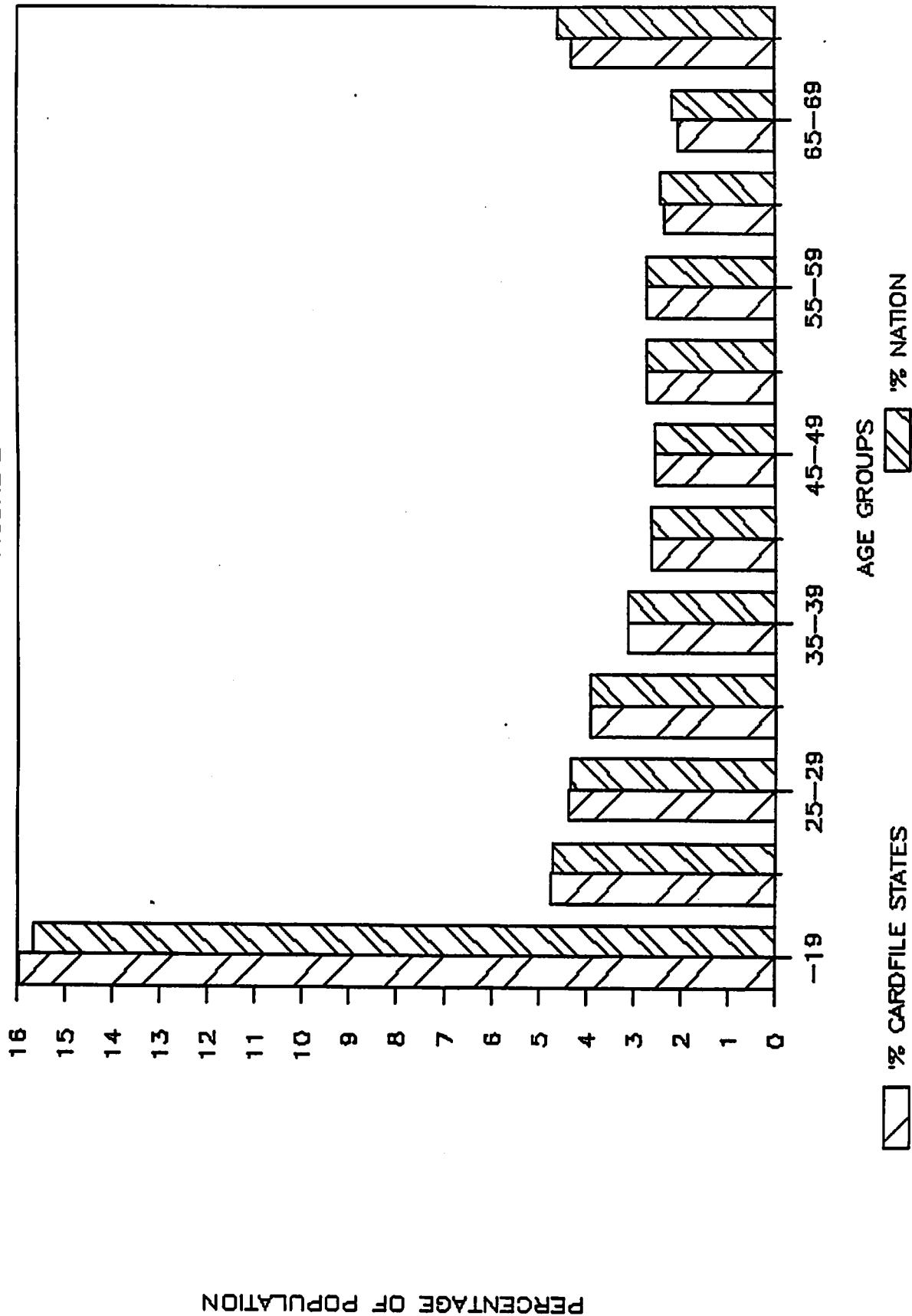
FIGURE 2A



SOURCE: 1980 GENERAL POPULATION CHARACTERISTICS, U.S. DEPARTMENT OF COMMERCE, CENSUS BUREAU.

# COMPARISON OF FEMALE POPULATION BY AGE

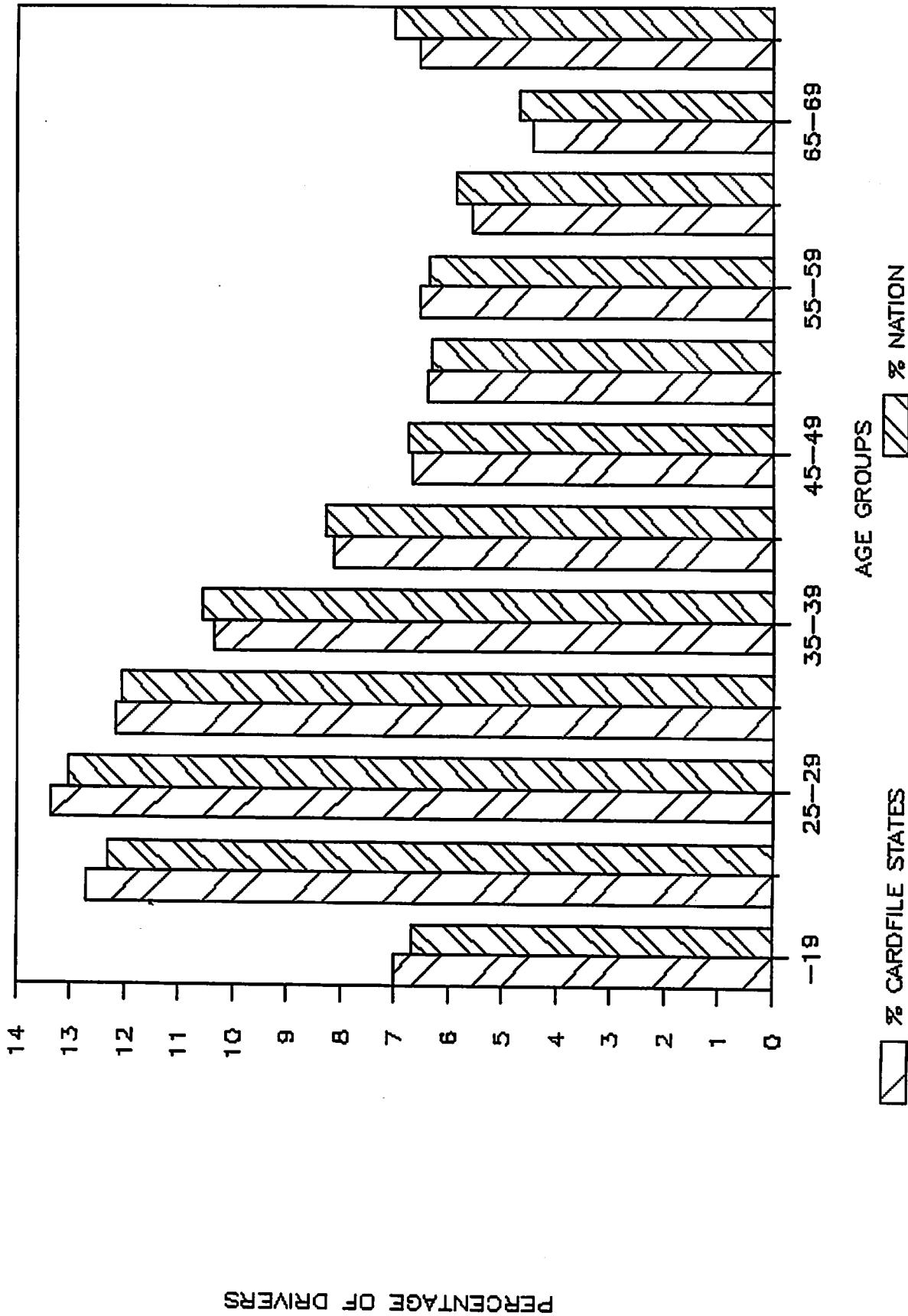
FIGURE 2B



SOURCE: 1980 GENERAL POPULATION CHARACTERISTICS. U.S. DEPT. OF COMMERCE, CENSUS BUREAU

# COMPARISON OF LICENCED DRIVERS BY AGE

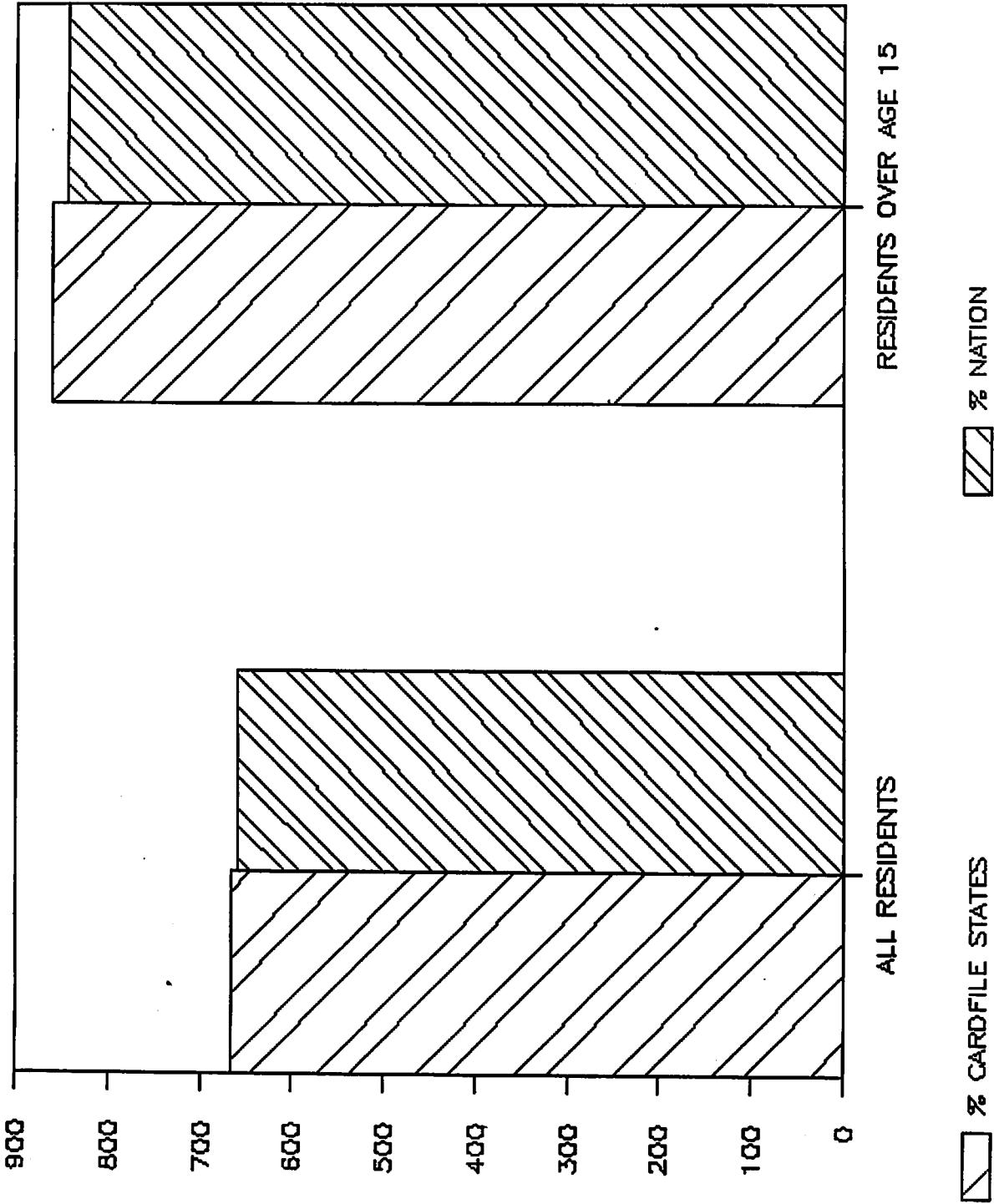
FIGURE 3A



SOURCE: HIGHWAY STATISTICS 1984, p. 33 U.S. DEPT. OF TRANSPORTATION, FHWA

RATIO OF LICENCED DRIVERS TO PEOPLE

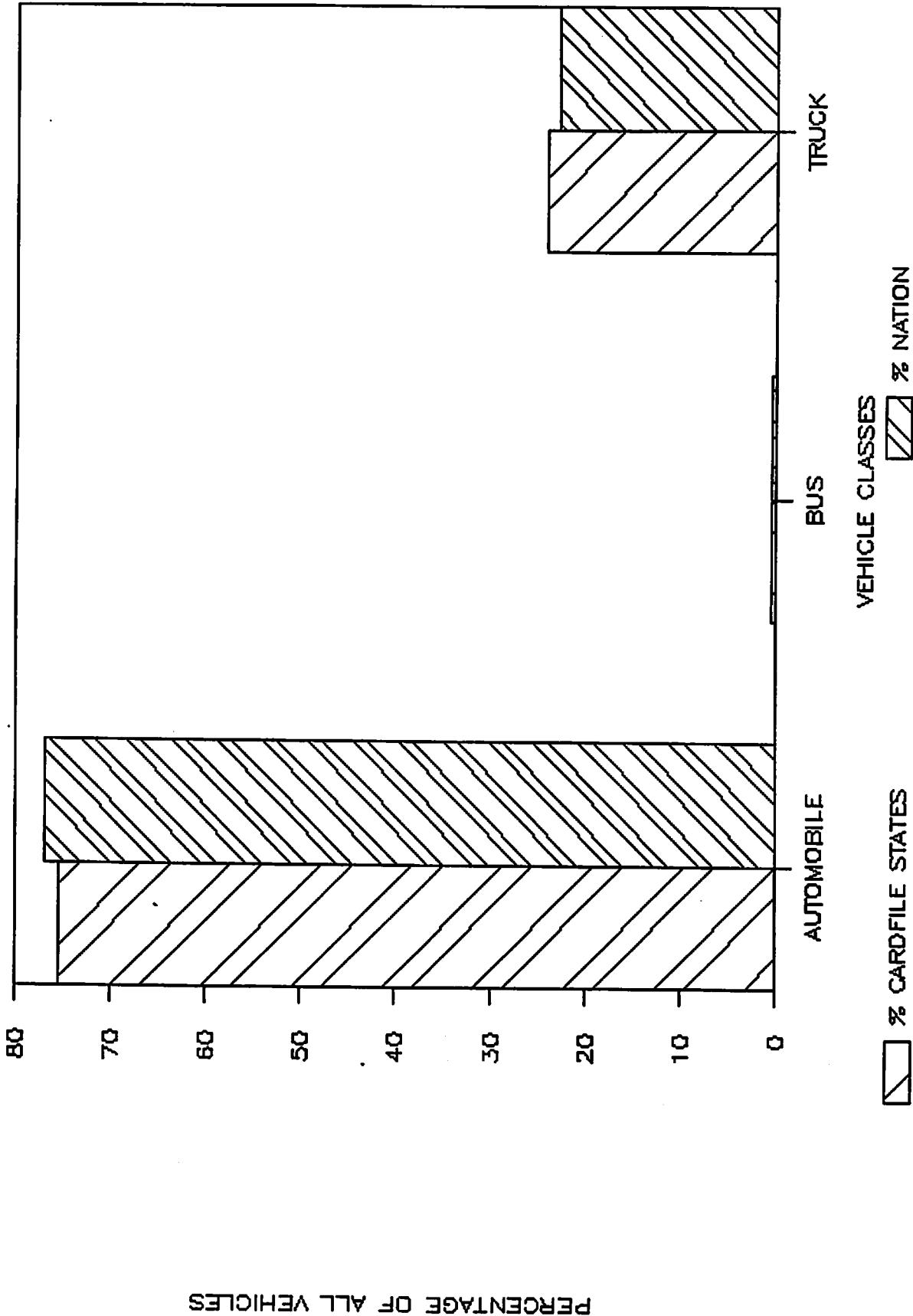
IN THOUSANDS—FIGURE 3B



SOURCE: HIGHWAY STATISTICS 1984, p. 31 U.S. DEPT. OF TRANSPORTATION, FHWA

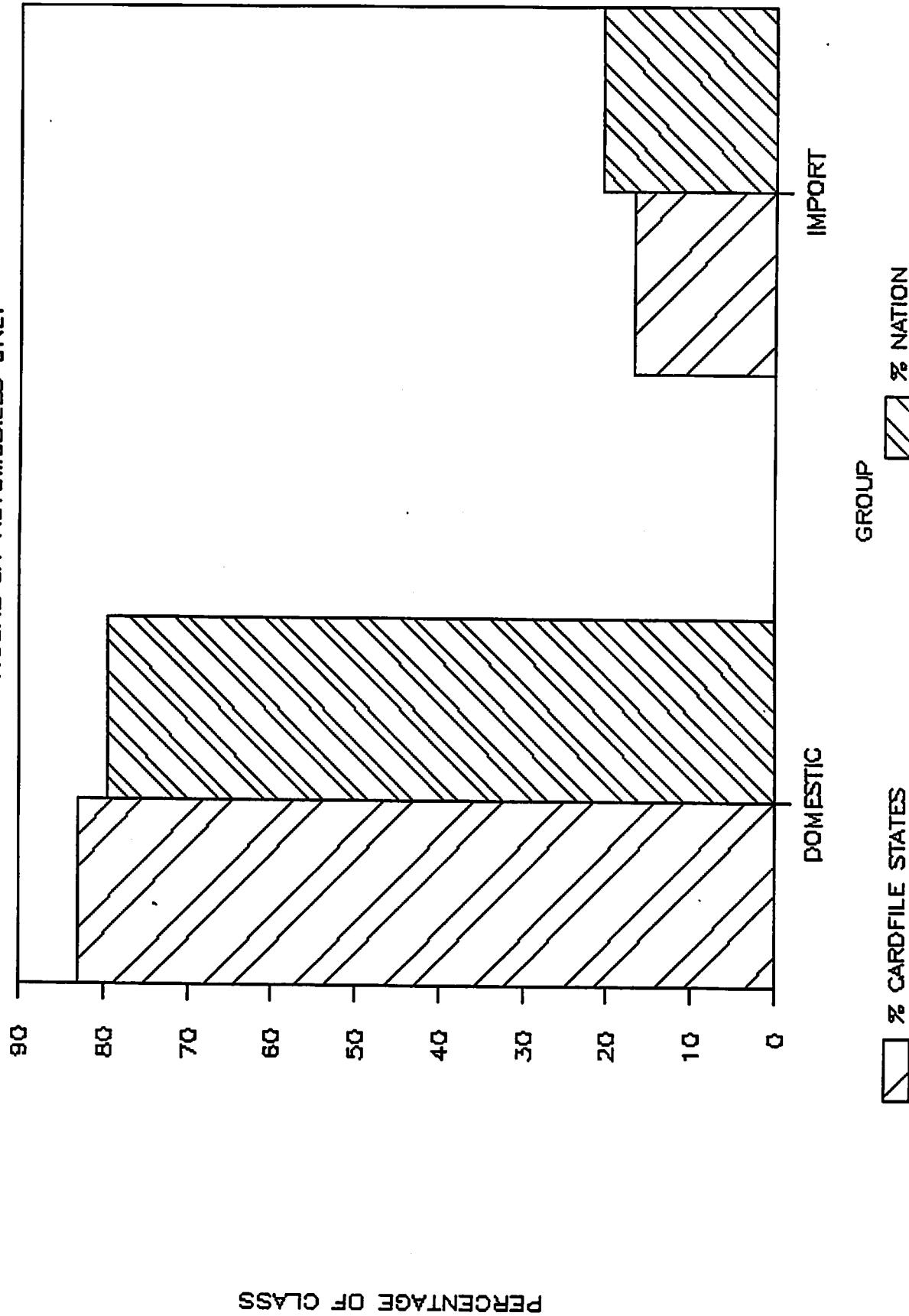
# MOTOR VEHICLE REGISTRATIONS BY CLASS

FIGURE 4



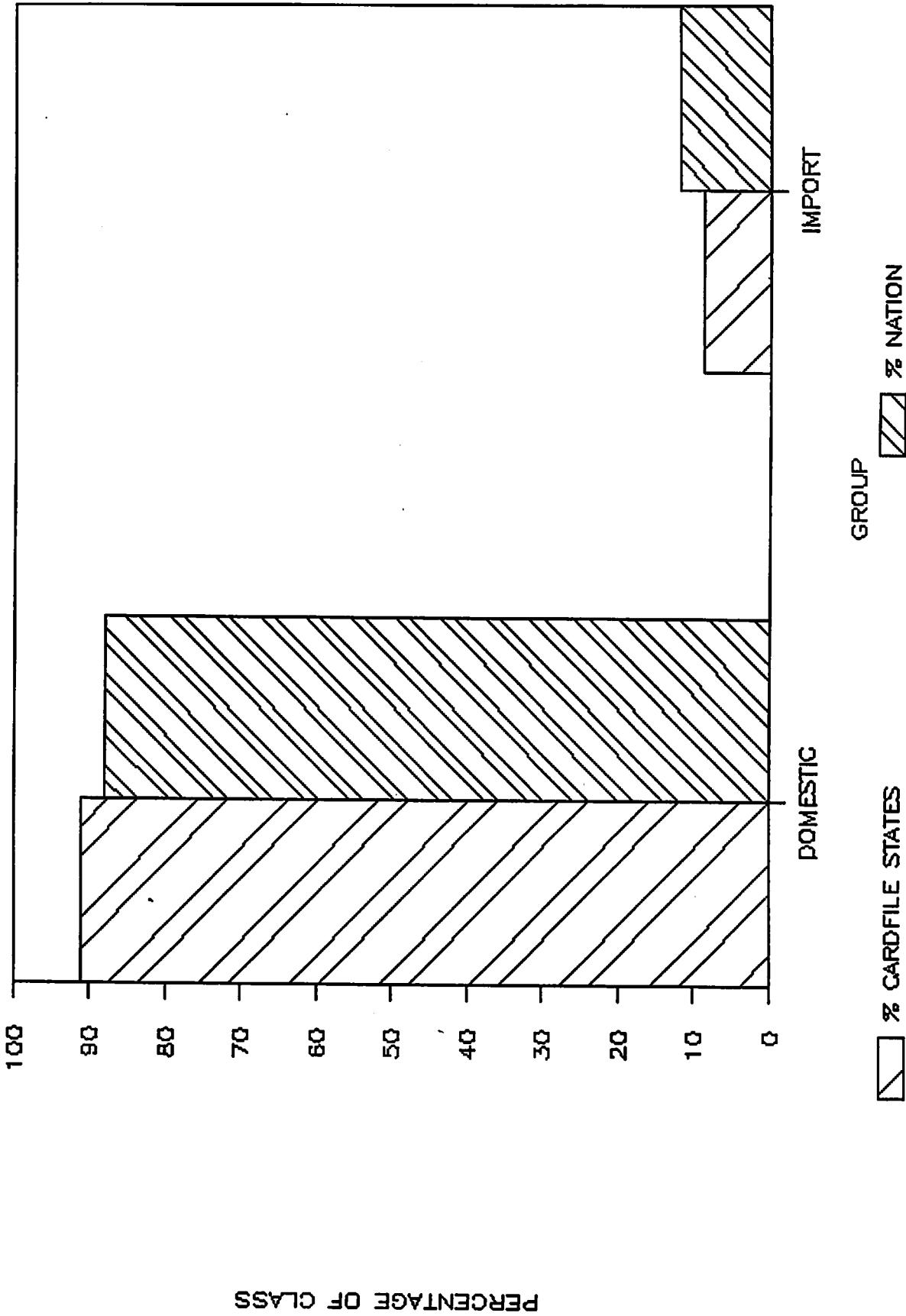
## REGISTERED VEHICLES:DOMESTIC VS IMPORTS

FIGURE 5A—AUTOMOBILES ONLY



## REGISTERED VEHICLES:DOMESTIC VS IMPORTS

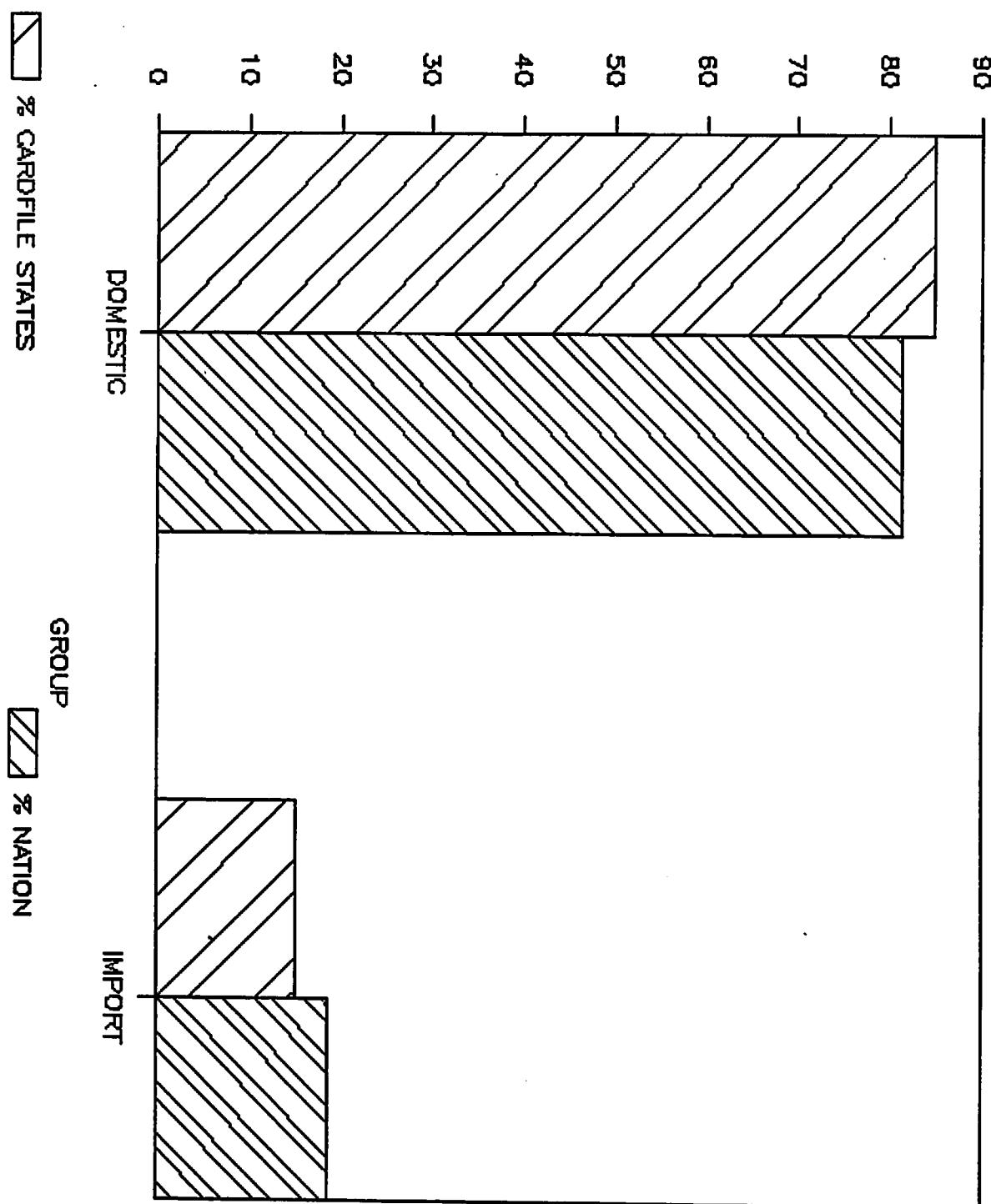
FIGURE 5B-LIGHT TRUCKS ONLY



SOURCE: POLK NVPP 1984 DATA BASE

# REGISTERED VEHICLES:DOMESTIC VS IMPORTS

FIGURE 5C—AUTOMOBILES AND LIGHT TRUCKS



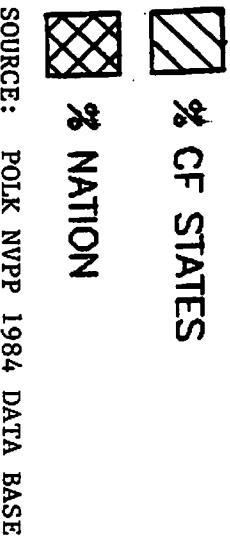
■ % CARDFILE STATES

SOURCE: POLK NVPP 1984 DATA BASE

GROUP

■ % NATION

FIGURE 6. TOP 20 MAKE MODELS



SOURCE: POLK NVPP 1984 DATA BASE

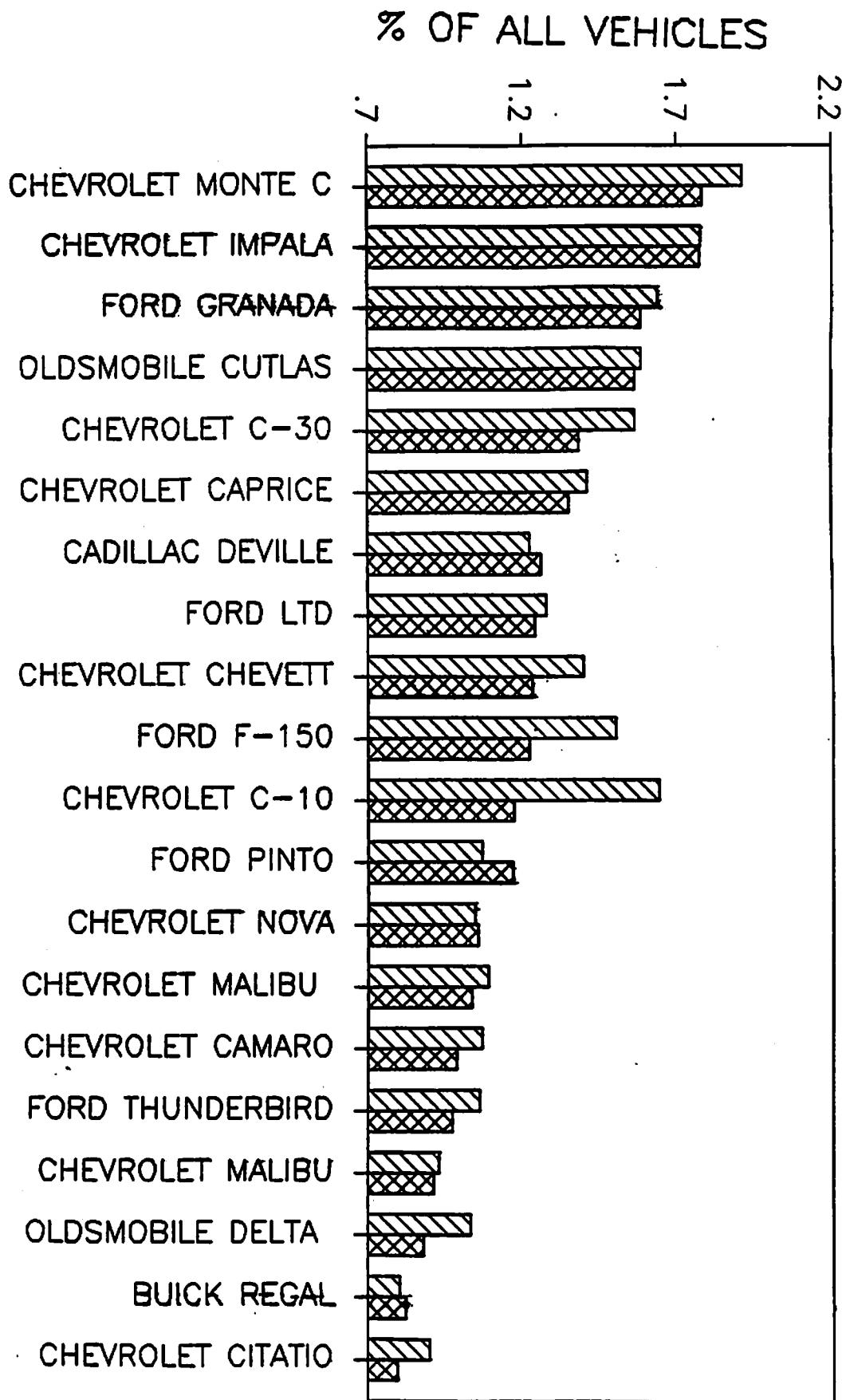


FIGURE 7A. ANNUAL VEH. MILES BY ROAD FUNC. CLASS (MILL.)—RURAL

15

% VEHICLE MILES

10

5

0

INTERSTATE

PRINCIPAL ARTER

MINOR ARTERY

MAJOR COLLECTOR

MINOR COLLECTOR

LOCAL



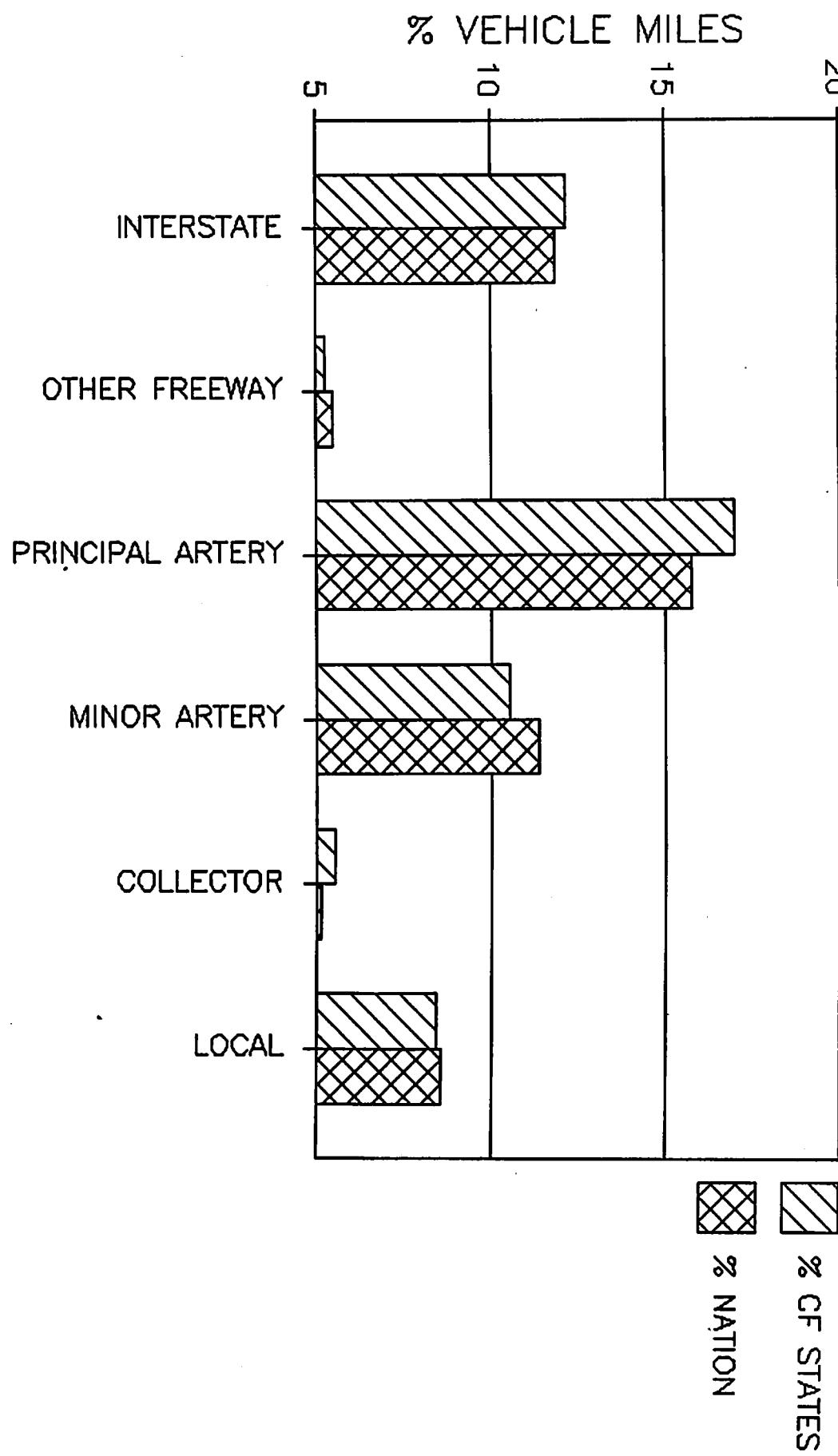
% NATION



% CF STATES

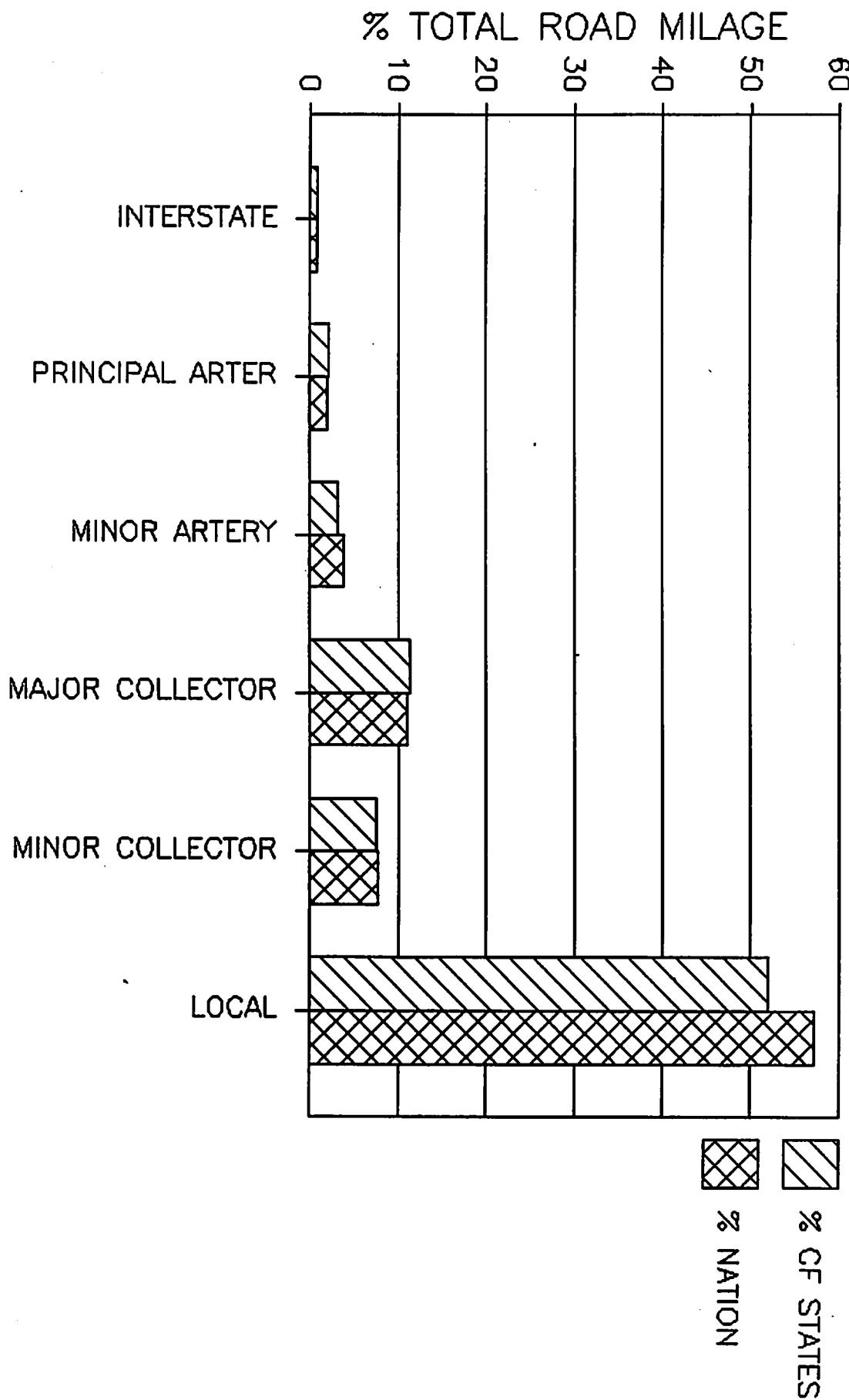
SOURCE: HIGHWAY STATISTICS 1984, p.176

FIGURE 7B. ANNUAL VEH. MILES BY ROAD FUNC. CLASS (MILL.)—URBAN



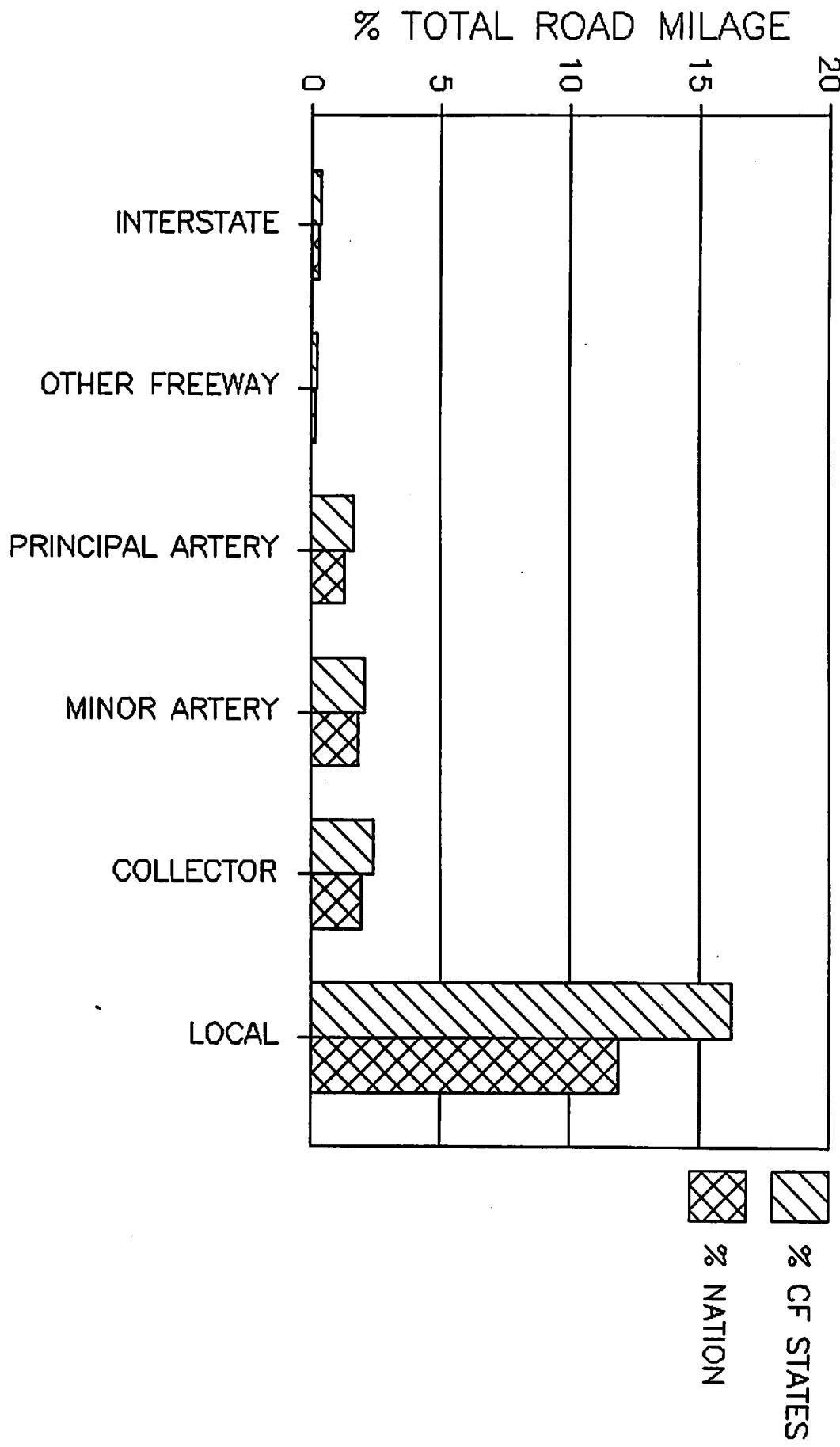
SOURCE: HIGHWAY STATISTICS 1984, P. 176

FIGURE 8A. ROAD MILAGE BY FUNCTIONAL CLASS—RURAL



SOURCE: HIGHWAY STATISTICS 1984, p. 121

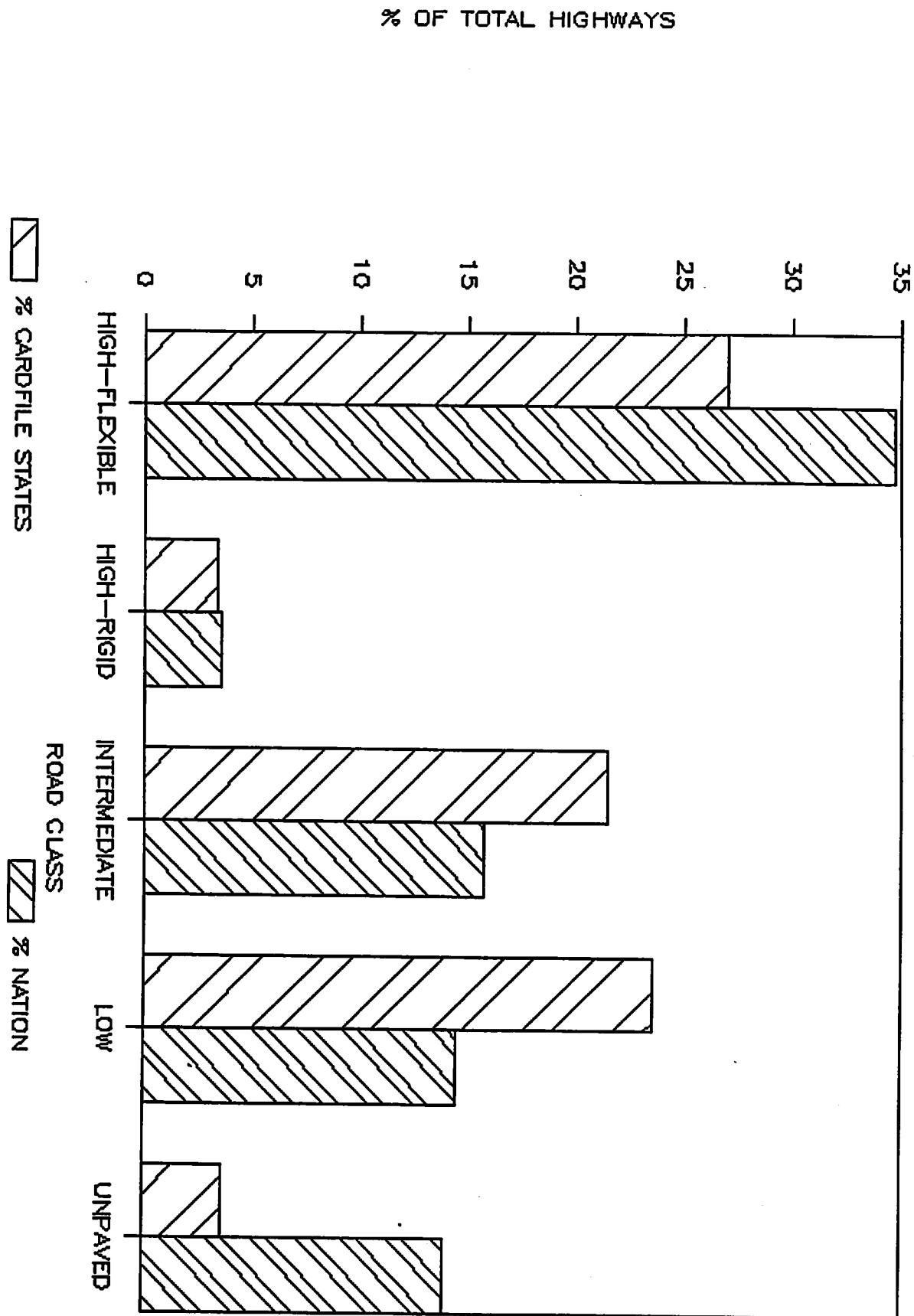
FIGURE 8B ROAD MILAGE BY FUNCTIONAL CLASS—URBAN



SOURCE: HIGHWAY STATISTICS 1984, P. 121

# ROAD MILEAGE BY SURFACE TYPE

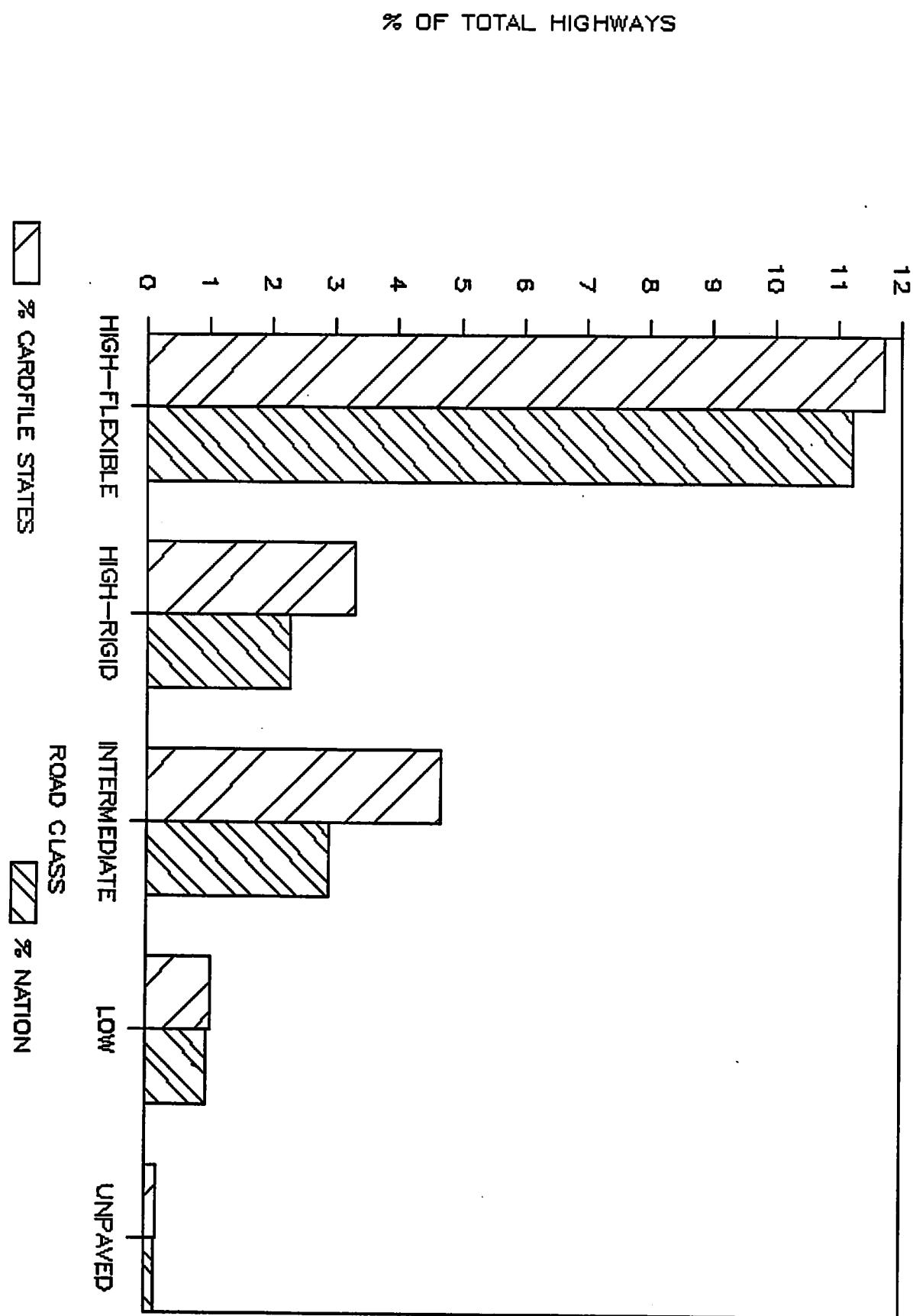
RURAL—FIGURE 9A



SOURCE: HIGHWAY STATISTICS 1984, pp. 142-145

## ROAD MILAGE BY SURFACE TYPE

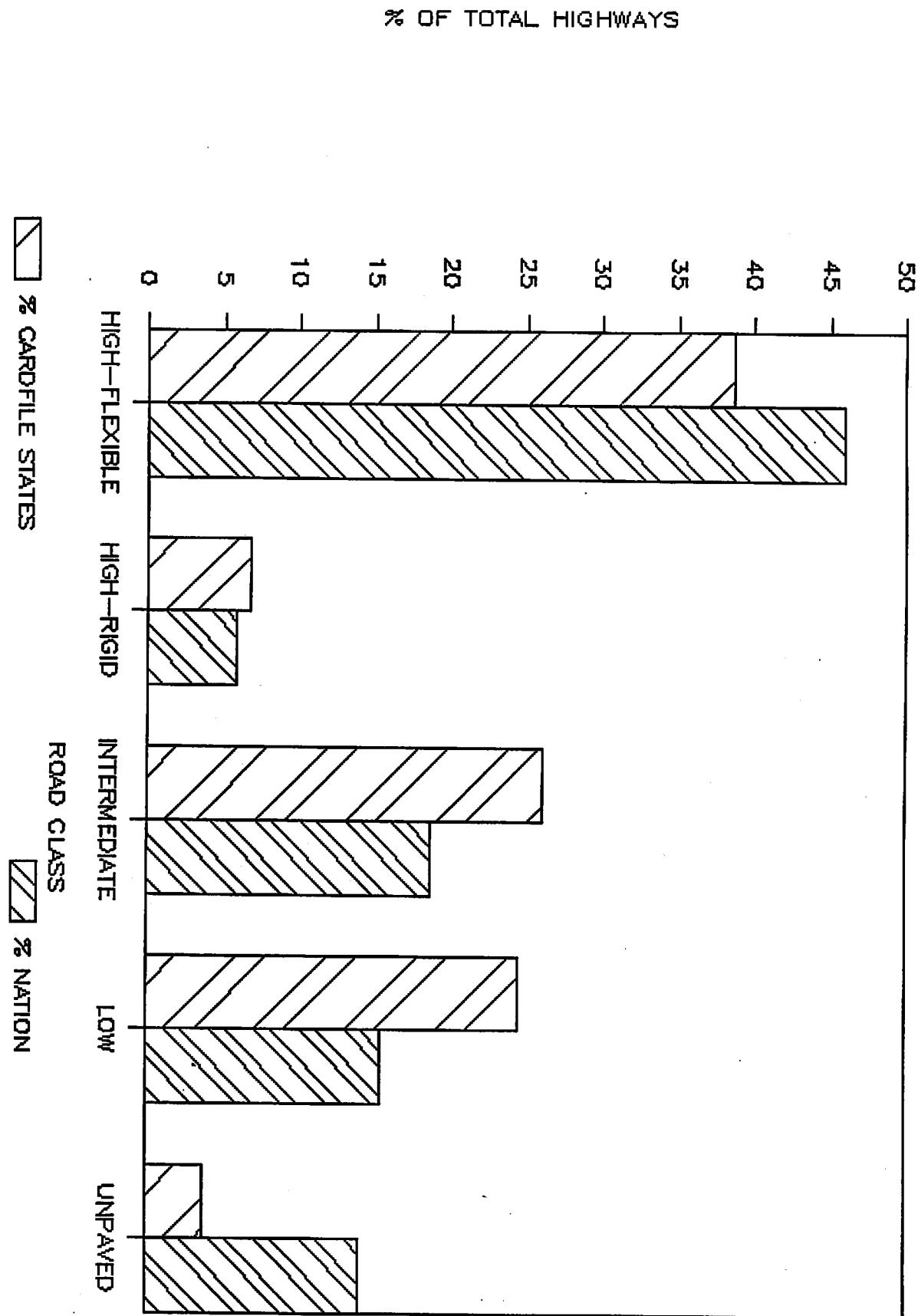
URBAN—FIGURE 9B



SOURCE: HIGHWAY STATISTICS 1984, PP. 142-145

## ROAD MILAGE BY SURFACE TYPE

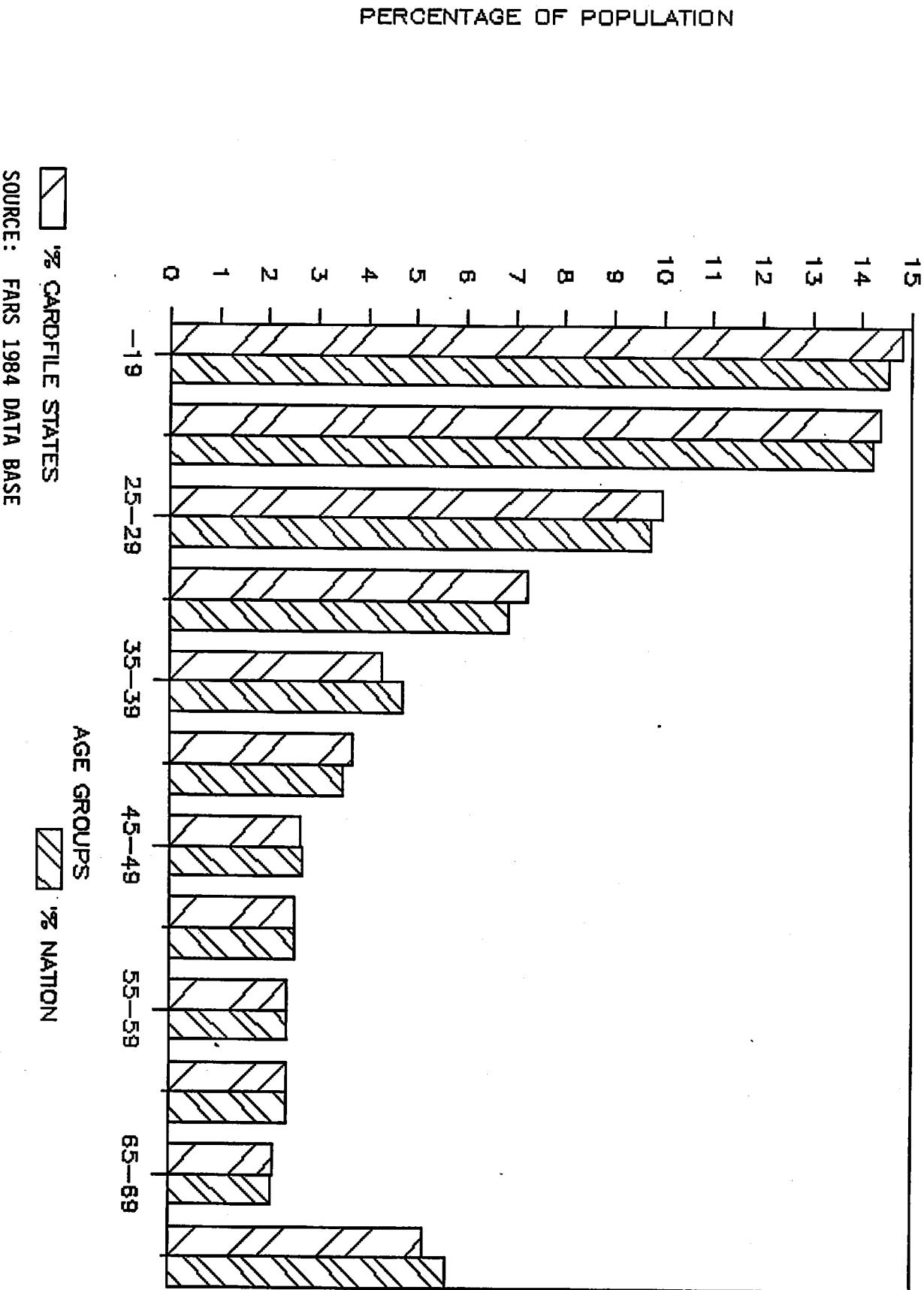
TOTAL URBAN+RURAL -FIGURE 9C



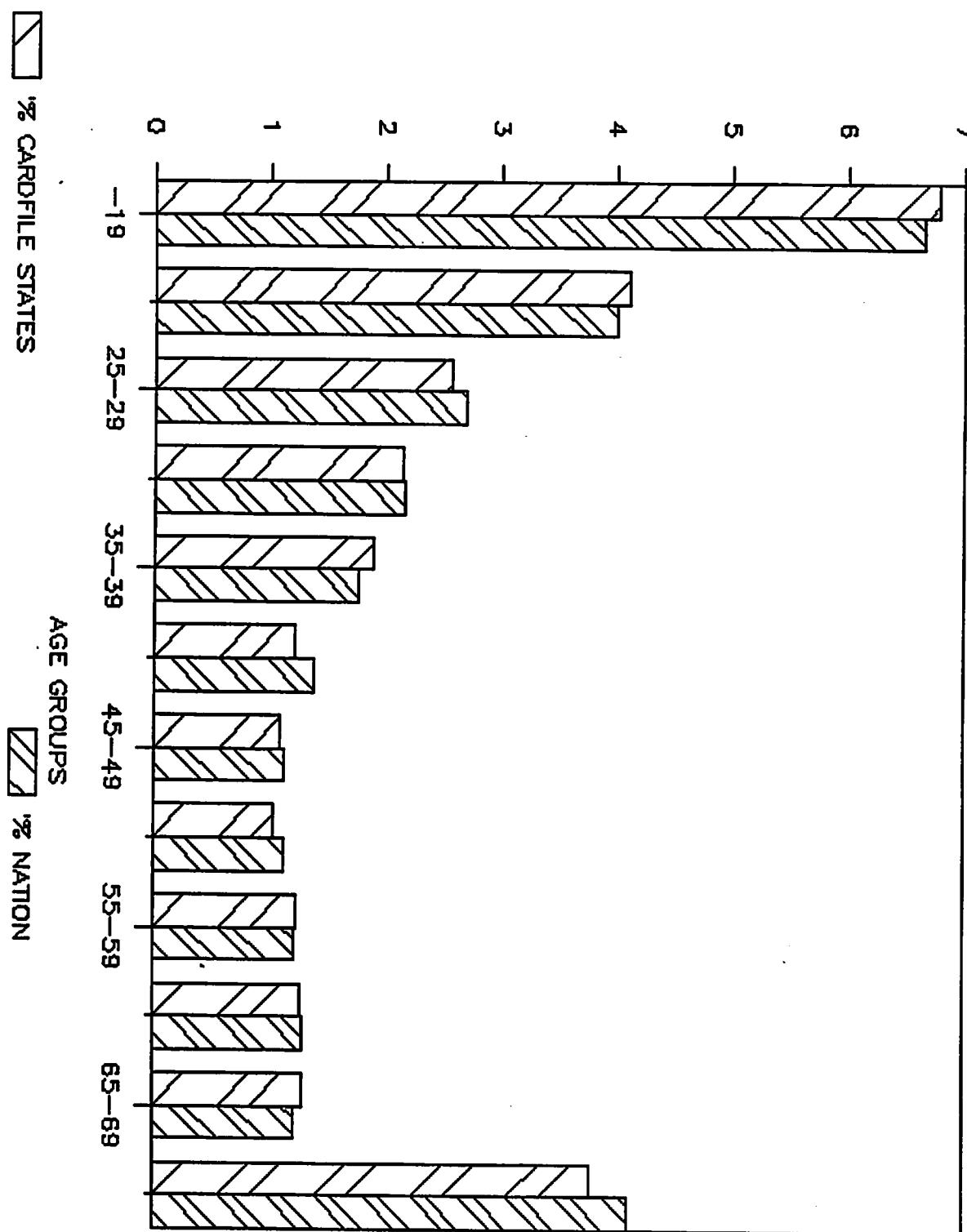
SOURCE: HIGHWAY STATISTICS 1984, pp. 142-145

# MOTOR VEHICLE FATALITIES BY SEX BY AGE

COMPARISONS FOR MALES—FIGURE 10A



MOTOR VEHICLE FATALITIES BY SEX BY AGE  
COMPARISONS FOR FEMALES—FIGURE 10B

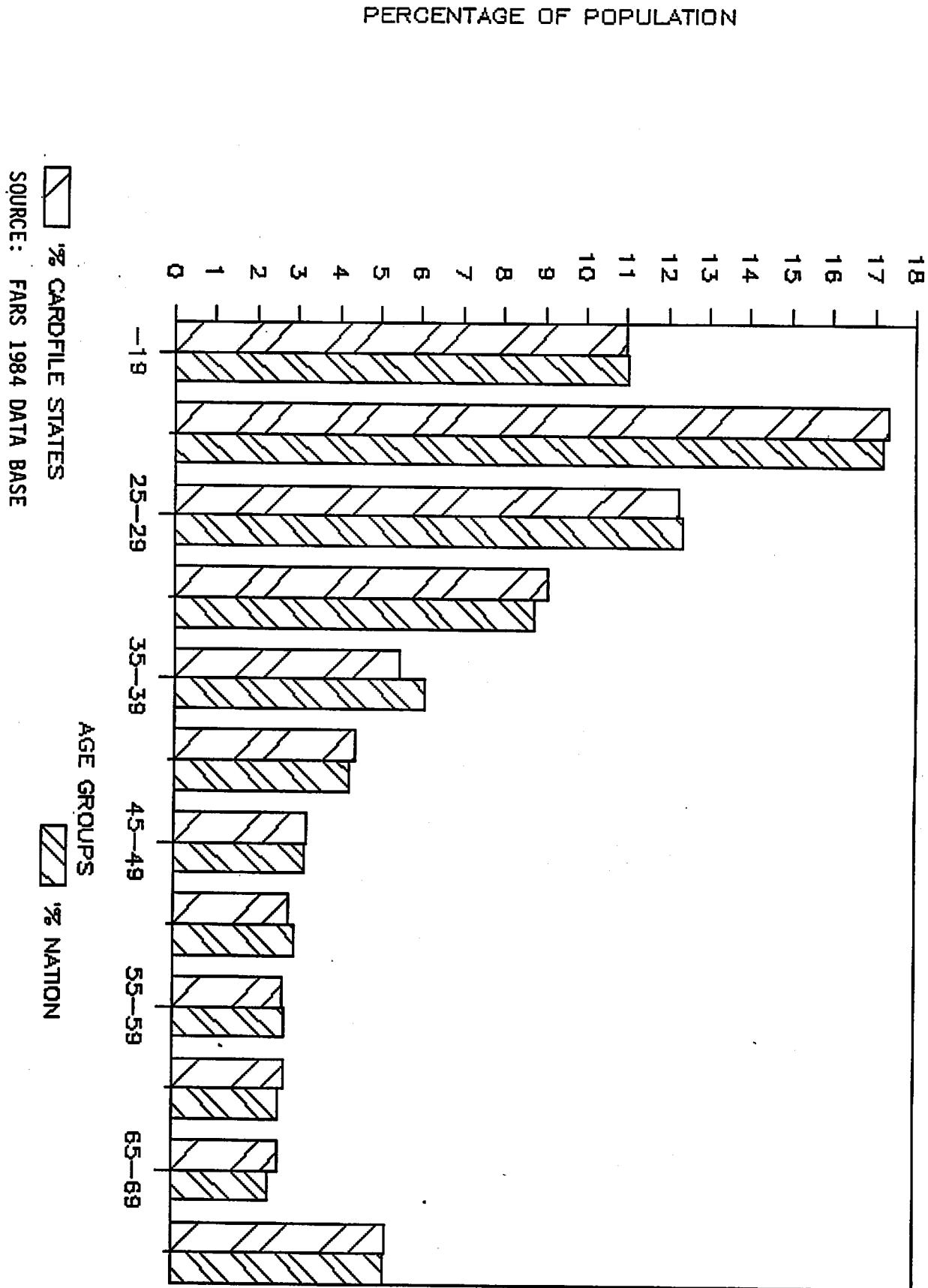


% CARDFILE STATES

SOURCE: FARS 1984 DATA BASE

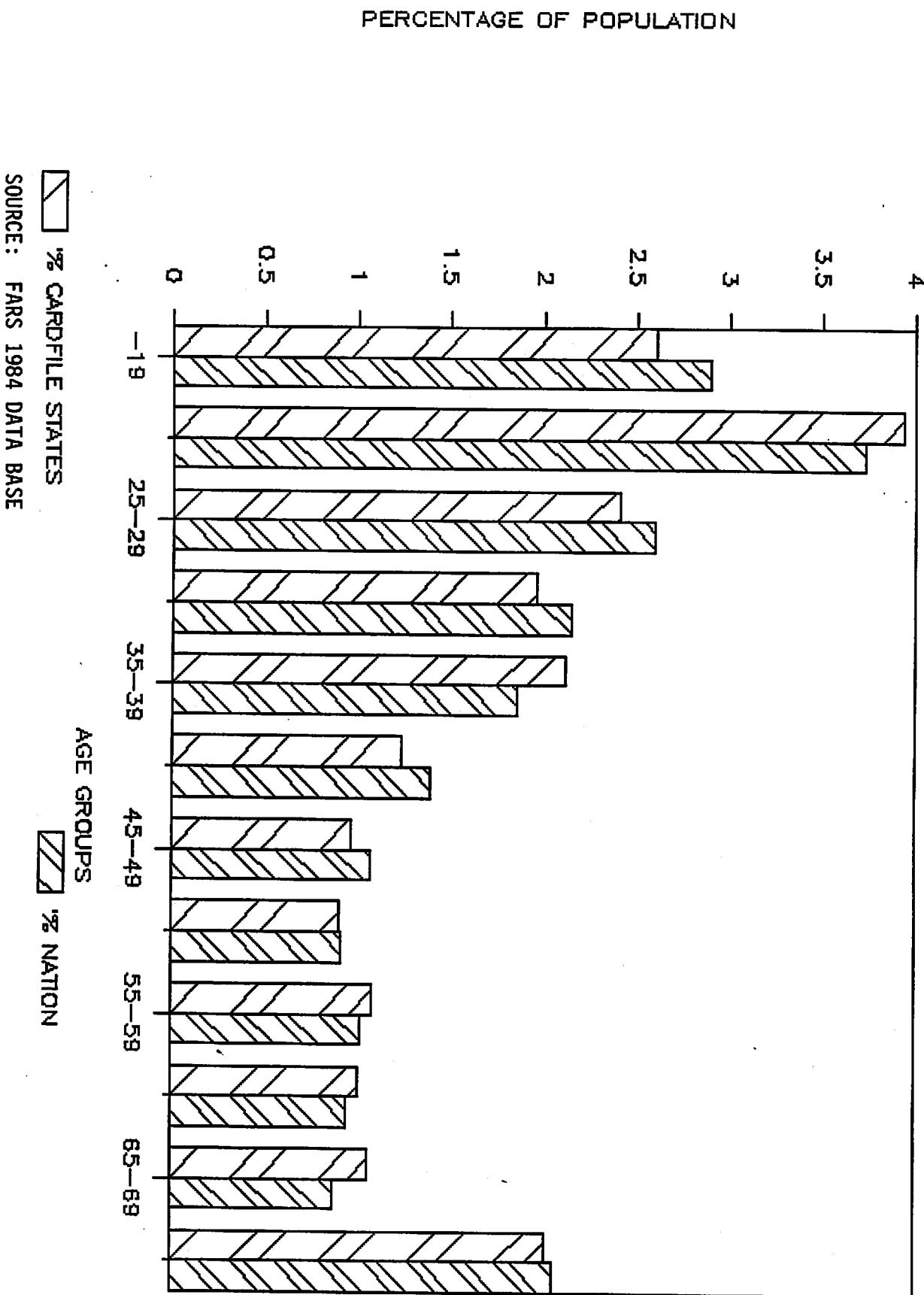
# MOTOR VEHICLE FATALITIES BY SEX BY AGE

COMPARISON OF MALE DRIVERS—FIGURE 11A

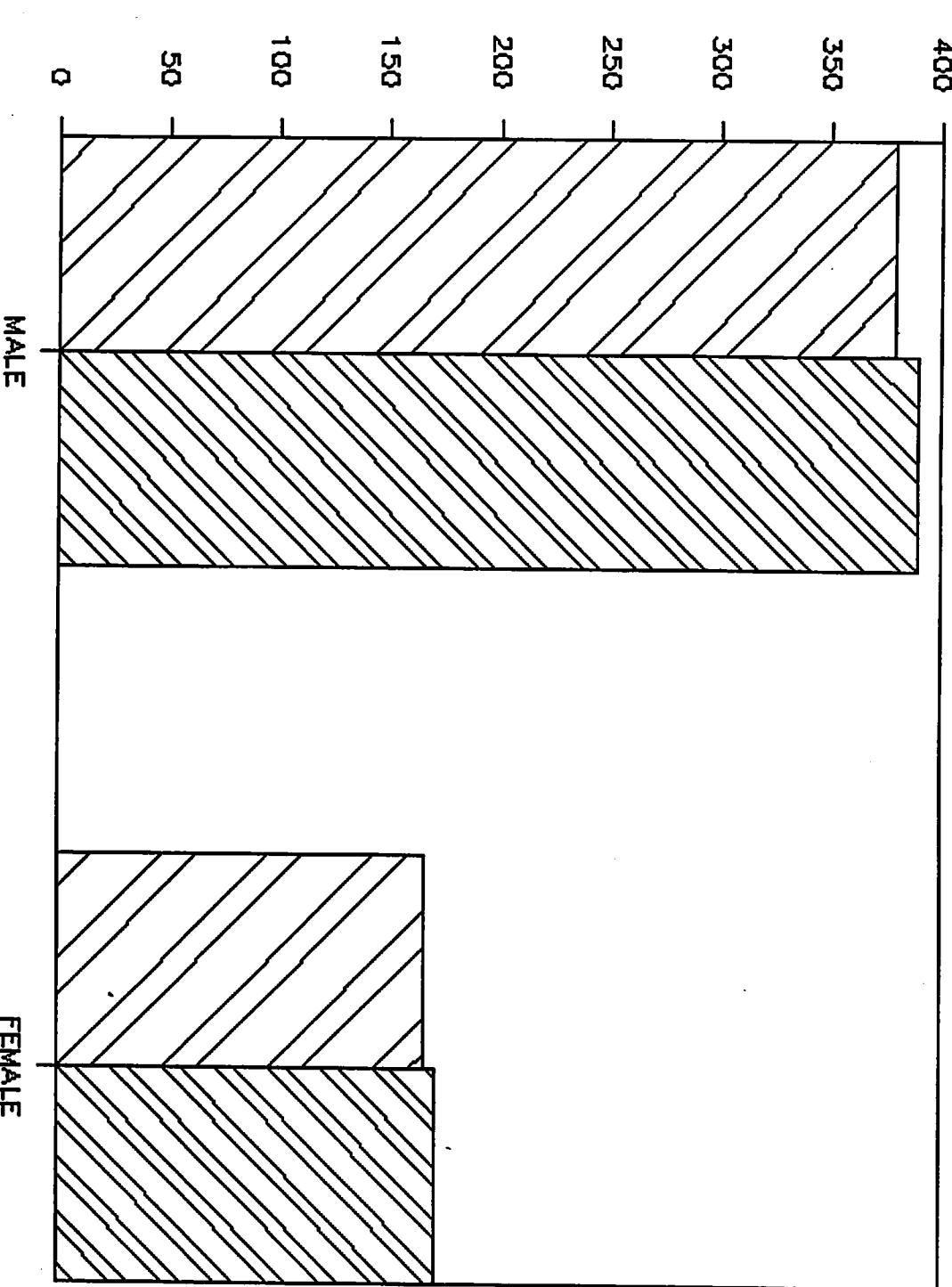


MOTOR VEHICLE FATALITIES BY SEX BY AGE

COMPARISON OF FEMALE DRIVERS—FIGURE 11B



FATALITIES PER MILLION LICENCED DRIVERS  
PER YEAR BY SEX—FIGURE 12



■ % CARDFILE STATES

▨ % NATION

SOURCE: FARS 1984 DATA BASE AND U.S. HIGHWAY STATISTICS 1984, pp. 33

FIGURE 13. TOP 20 VEHICLES INVOLVED IN FATAL ACCIDENTS

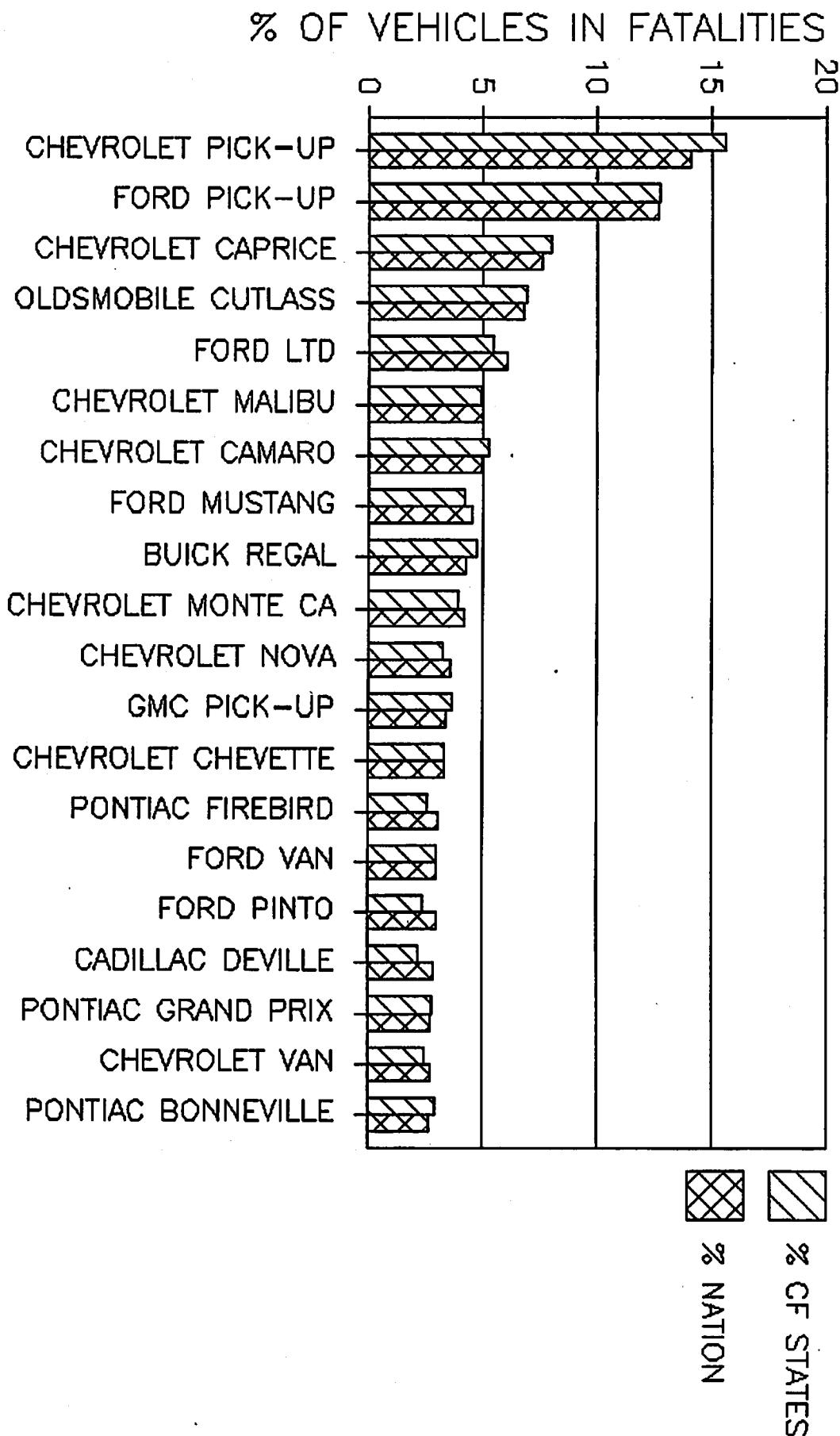
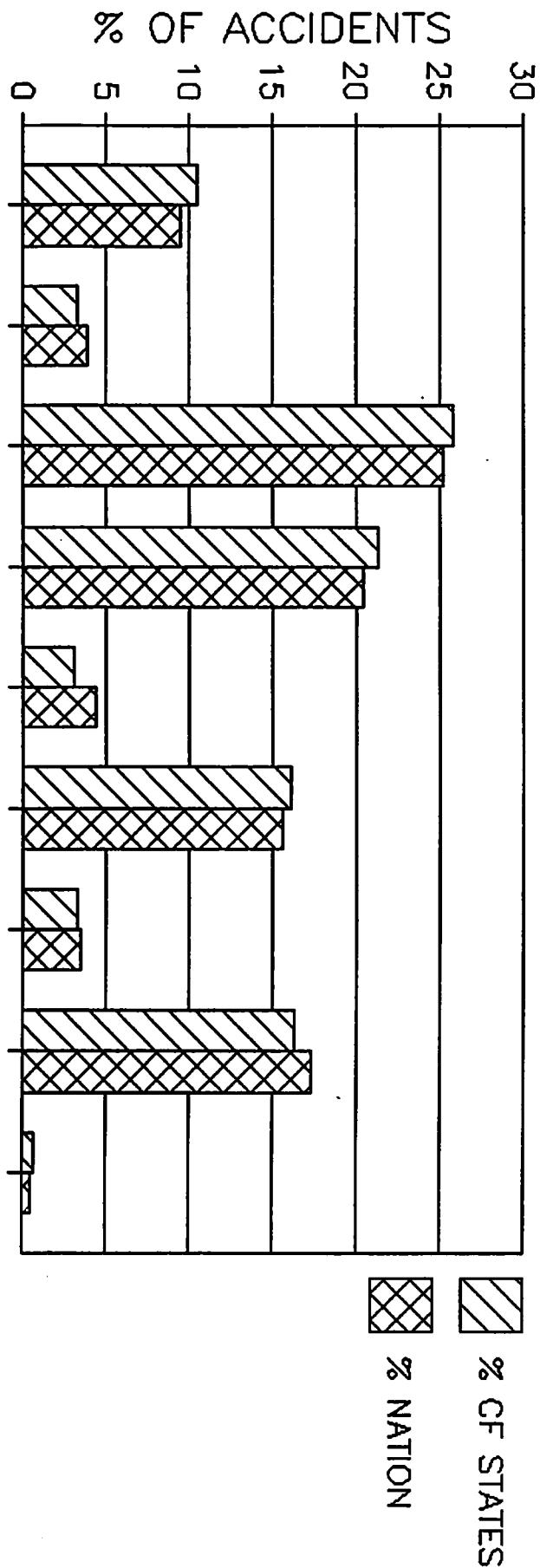


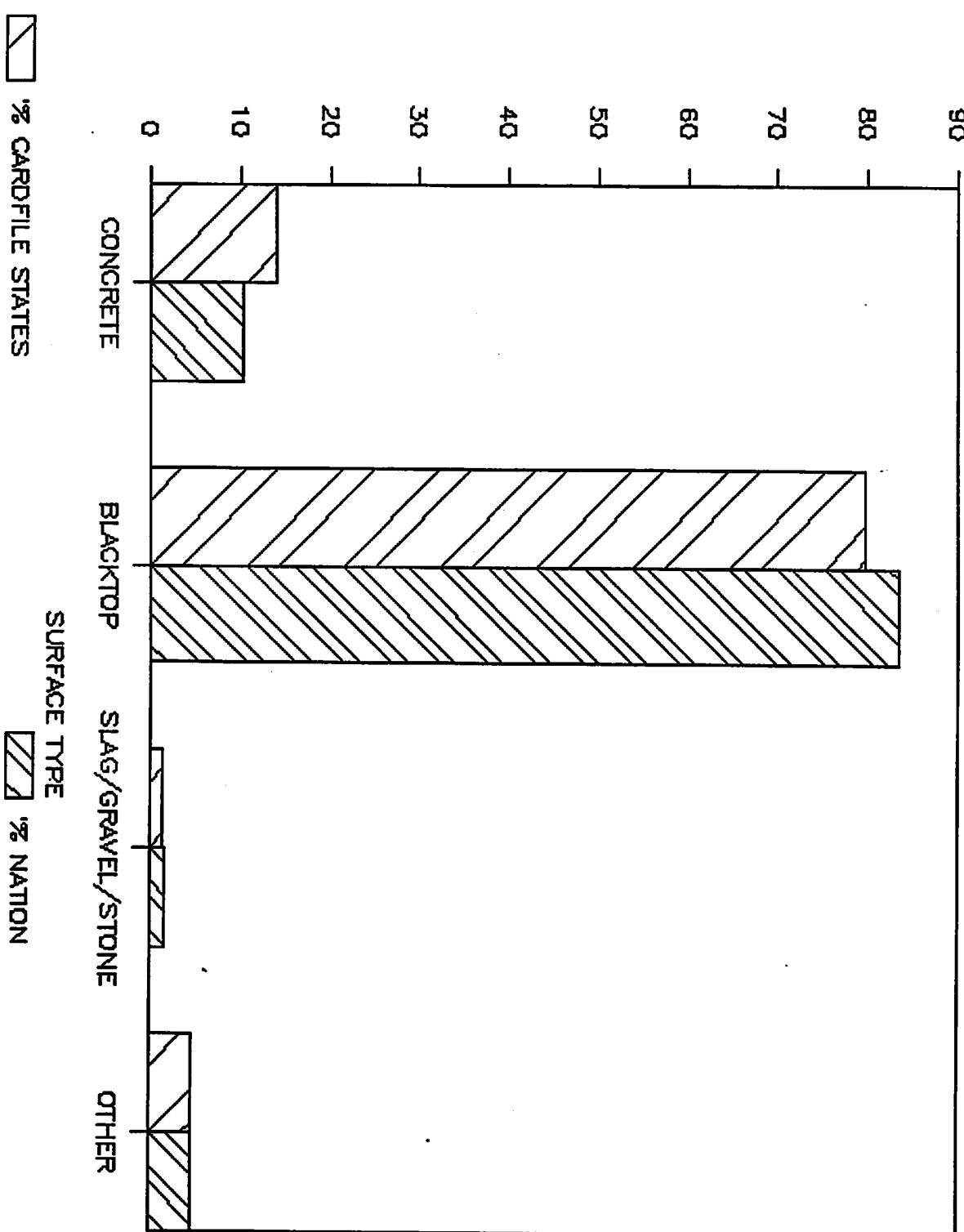
FIGURE 14. FATAL ACCIDENTS BY ROAD FUNCTION CLASS



SOURCE: FARS 1984 DATA BASE

# FATAL ACCIDENTS BY SURFACE TYPE

FIGURE 15A



'% CARDFILE STATES  
 '% NATION

SOURCE: FARS 1984 DATA BASE

FIGURE 16. FATAL ACCIDENTS BY MANNER OF COLLISION

80

60

40

20

0

% OF FATAL ACCIDENTS

NOT APPLICABLE

REAR END

HEAD ON

REAR TO REAR

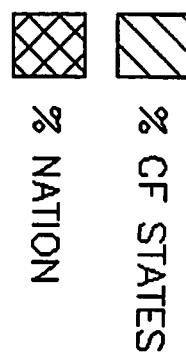
ANGLE

SIDE SWIPE S.D.

SIDE SWIPE D.D.

UNKNOWN

MANNER OF COLLISION



SOURCE: FARS 1984 DATA BASE

**TABLES OF INDIVIDUAL CARDFILE STATES VS. NATION**

**APPENDIX 1**

APPENDIX TABLE 1-PEOPLE BY AGE BY STATE (IN MILLIONS)

THE STATE OF WISCONSIN, COME BY STATE, 20-24  
-19 - 7 OF STATE - OF WISCONSIN, COME BY STATE, 20-24  
THE STATE OF WISCONSIN, COME BY STATE, 20-24

		REGULAR		REGULAR		REGULAR		REGULAR		REGULAR		REGULAR		REGULAR	
		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF NATIONAL	
		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF NATIONAL	
		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF STATE		1 OF NATIONAL		1 OF STATE		1 OF NATIONAL	
NATION		3697219.00		16.32		; 10633211.00		4.71		; 970510.00		4.28		;	
30-34		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:15-29		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:15-29		1 OF STATE	
POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL	
INDIANA		202401.00		3.69		2.33		0.96 :		163201.00		2.77		2.38	
MARYLAND		17215.00		4.08		1.98		1.07 :		161427.00		3.15		2.06	
MICHIGAN		348315.00		3.76		4.01		0.98 :		277801.00		3.09		4.05	
PENNSYLVANIA		416215.00		3.51		4.80		0.92 :		330811.00		2.79		4.82	
TEXAS		562118.00		3.95		6.48		1.03 :		437838.00		3.08		6.39	
WASHINGTON		178753.00		4.33		2.06		1.13 :		138715.00		3.36		2.02	
TOTAL		187977.00		3.82		21.67		1.00 :		1499822.00		3.03		21.71	
NATION		8636796.00		3.85		; 6861599.00		3.03		; 5708210.00		2.52		;	
45-49		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:50-54		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:55-59		1 OF STATE	
POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL	
INDIANA		129714.06		2.36		2.41		0.99 :		136506.00		2.49		2.44	
MARYLAND		107207.00		2.54		1.99		1.07 :		105231.00		2.63		1.97	
MICHIGAN		215594.09		2.35		4.00		0.98 :		236445.09		2.55		4.21	
PENNSYLVANIA		286858.00		2.42		3.32		1.92 :		326520.00		2.78		5.97	
TEXAS		333884.00		2.35		4.29		0.99 :		38145.00		2.31		5.84	
WASHINGTON		97405.00		2.36		1.81		0.99 :		97453.00		2.36		1.73	
TOTAL		1170762.00		2.38		21.73		1.00 :		1229653.00		2.52		21.78	
NATION		5386249.00		2.38		; 5620670.00		2.49		; 5408161.00		2.42		;	
60-64		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:65-69		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:70+		1 OF STATE	
POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL	
INDIANA		109167.00		1.97		2.32		0.96 :		88269.00		1.61		2.26	
MARYLAND		89809.00		2.01		1.92		0.98 :		62872.00		1.49		1.81	
MICHIGAN		103872.00		1.98		3.94		1.96 :		144113.00		1.56		3.69	
PENNSYLVANIA		289152.00		2.44		6.19		1.18 :		252802.00		1.99		6.04	
TEXAS		269336.00		1.75		5.34		0.85 :		212713.00		1.56		5.45	
WASHINGTON		86540.00		2.09		1.85		1.02 :		70295.00		1.70		1.90	
TOTAL		1001826.00		2.04		21.45		0.99 :		814034.00		1.65		20.86	
NATION		465892.00		2.06		;		3929255.00		1.72		;		6401920.00	
INDIANA		935690.00		17.05		1.53		1.64		256974.00		4.68		2.41	
MARYLAND		675920.00		16.93		1.93		0.98		163532.00		4.58		1.91	
MICHIGAN		158729.00		17.14		4.29		1.05		404423.00		4.77		4.14	
PENNSYLVANIA		181631.00		15.31		4.91		0.94		522500.00		4.41		4.50	
TEXAS		2497690.00		17.49		6.75		1.47		721080.00		5.07		5.76	
WASHINGTON		662813.00		16.64		1.79		0.96		262259.00		4.79		1.93	
TOTAL		8165572.00		16.60		22.06		1.02		234180.00		4.76		21.98	
NATION		3697219.00		16.32		; 10633211.00		4.71		; 970510.00		4.28		;	
30-34		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:15-29		1 OF STATE		1 OF NATIONAL		RATIO OF STATE 1:15-29		1 OF STATE	
POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL		1		POPULATION CLASS		TO NATIONAL	
INDIANA		202401.00		3.69		2.33		0.96 :		163201.00		2.77		2.38	
MARYLAND		17215.00		4.08		1.98		1.07 :		161427.00		3.15		2.06	
MICHIGAN		348315.00		3.76		4.01		0.98 :		277801.00		3.09		4.05	
PENNSYLVANIA		416215.00		3.51		4.80		0.92 :		330811.00		2.79		4.82	
TEXAS		562118.00		3.95		6.48		1.03 :		437838.00		3.08		6.39	
WASHINGTON		178753.00		4.33		2.06		1.13 :		138715.00		3.36		2.02	
TOTAL		187977.00		3.82		21.67		1.00 :		1499822.00		3.03		21.71	
NATION		8636796.00		3.85		; 6861599.00									

## FEMALE

		-19		1 OF STATE		2 OF NATIONAL		RATIO OF STATE 1:20-24		1 OF STATE		2 OF NATIONAL		RATIO OF STATE 1:25-29		1 OF STATE		2 OF NATIONAL		RATIO OF STATE 1:30-34			
				CLASS				TO NATIONAL 2		CLASS				TO NATIONAL 2		CLASS				TO NATIONAL 2			
INDIANA	900385.00	16.40	2.54			1.05		261737.00		4.77		2.46		1.01		233096.00		4.75		2.37		0.98	
MARYLAND	650855.00	15.43	1.83			0.98		199139.00		4.72		1.87		1.00		190425.00		4.52		1.94		1.04	
MICHIGAN	1528076.00	16.50	4.31			1.05		453004.00		4.89		4.25		1.04		407648.00		4.40		4.15		1.02	
PENNSYLVANIA	1746853.00	14.74	4.93			0.94		538715.00		4.53		5.04		0.96		476539.00		4.02		4.85		0.93	
TEXAS	2383603.00	16.75	6.72			1.07		697278.00		4.91		6.56		1.04		644790.00		4.53		6.37		1.05	
WASHINGTON	630539.00	15.26	1.78			0.97		194284.00		4.70		1.82		1.00		192244.00		4.66		1.96		1.08	
<b>TOTAL</b>	<b>7842109.00</b>	<b>15.94</b>	<b>22.10</b>			<b>1.02</b>		<b>2344357.00</b>		<b>4.76</b>		<b>22.00</b>		<b>1.01</b>		<b>2145242.00</b>		<b>4.36</b>		<b>21.85</b>		<b>1.01</b>	
<b>NATION</b>	<b>35085744.00</b>	<b>15.66</b>						<b>:10655073.00</b>		<b>4.70</b>						<b>:98158122.00</b>		<b>4.33</b>					
<b>30-34</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:35-39</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:40-44</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:45-49</b>		<b>1 OF STATE</b>			
INDIANA	209156.00	1.81	2.35			0.97		168915.00		3.07		2.39		0.98		143447.00		2.61		2.41		0.99	
MARYLAND	182738.00	4.32	2.05			1.10		149767.00		3.55		2.11		1.13		119755.00		2.84		2.01		1.08	
MICHIGAN	340054.00	3.89	4.05			0.99		286526.00		3.09		4.03		0.99		237452.00		2.57		3.99		0.97	
PENNSYLVANIA	431632.00	3.64	4.66			0.93		351472.00		2.96		4.95		0.94		307465.00		2.59		5.16		0.98	
TEXAS	582305.00	3.95	6.33			1.01		402361.00		3.11		6.23		0.99		367015.00		2.58		6.16		0.98	
WASHINGTON	175882.00	4.26	1.98			1.09		134667.00		3.26		1.90		1.04		105382.00		2.53		1.77		0.97	
<b>TOTAL</b>	<b>1921347.00</b>	<b>3.91</b>	<b>21.63</b>			<b>1.00</b>		<b>1533728.00</b>		<b>3.12</b>		<b>21.59</b>		<b>0.99</b>		<b>1280716.00</b>		<b>2.60</b>		<b>21.48</b>		<b>0.99</b>	
<b>NATION</b>	<b>8884124.00</b>	<b>3.92</b>						<b>:7105793.00</b>		<b>3.14</b>						<b>:5961188.00</b>		<b>2.63</b>					
<b>45-49</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:39-44</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:45-50</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:51-55</b>		<b>1 OF STATE</b>			
INDIANA	137098.00	2.50	2.40			0.79		163394.00		2.67		2.40		0.99		146022.00		2.66		2.38		0.98	
MARYLAND	111592.00	2.65	1.96			1.05		116376.00		2.77		1.92		1.03		117955.00		2.80		1.92		1.03	
MICHIGAN	228720.00	2.48	4.03			0.99		248971.00		2.69		4.09		1.00		245707.00		2.65		4.01		0.98	
PENNSYLVANIA	313399.00	2.64	5.50			1.05		345905.00		3.08		6.01		1.15		386001.00		3.20		5.20		1.08	
TEXAS	347507.00	2.44	6.09			0.97		352130.00		2.47		5.78		0.92		337008.00		2.37		5.49		0.87	
WASHINGTON	94058.00	2.32	1.68			0.92		101605.00		2.45		1.66		0.91		105643.00		2.56		1.72		0.94	
<b>TOTAL</b>	<b>1233584.00</b>	<b>2.51</b>	<b>21.67</b>			<b>1.00</b>		<b>133231.00</b>		<b>2.71</b>		<b>21.86</b>		<b>1.01</b>		<b>1332376.00</b>		<b>2.71</b>		<b>21.72</b>		<b>1.00</b>	
<b>NATION</b>	<b>370156.00</b>	<b>2.52</b>						<b>:608378.00</b>		<b>2.69</b>						<b>:6133391.00</b>		<b>2.71</b>					
<b>60-64</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:46-59</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:57-64</b>		<b>1 OF STATE</b>		<b>2 OF NATIONAL</b>		<b>RATIO OF STATE 1:65-74</b>		<b>1 OF STATE</b>			
INDIANA	1261615.00	2.29	2.32			0.96		105596.00		2.00		2.25		0.93		243020.00		4.43		2.34		0.97	
MARYLAND	95571.00	2.27	1.76			0.75		75416.00		1.68		1.63		0.87		160622.00		3.81		1.55		0.83	
MICHIGAN	206556.00	2.26	3.87			0.95		175248.00		1.89		3.59		0.88		163607.00		3.92		3.51		0.86	
PENNSYLVANIA	343829.00	2.90	6.35			1.21		301243.00		2.54		6.17		1.18		623906.00		5.26		6.02		1.15	
TEXAS	267213.00	1.98	5.21			0.83		263367.00		1.85		5.40		0.86		568891.00		3.86		5.30		0.84	
WASHINGTON	92497.00	2.24	1.71			0.94		81028.00		1.96		1.66		0.91		169989.00		4.11		1.64		0.90	
<b>TOTAL</b>	<b>1197281.00</b>	<b>2.34</b>	<b>21.21</b>			<b>0.98</b>		<b>1069919.00</b>		<b>2.05</b>		<b>20.70</b>		<b>0.95</b>		<b>2109835.00</b>		<b>4.29</b>		<b>20.36</b>		<b>0.94</b>	
<b>NATION</b>	<b>5417729.00</b>	<b>2.39</b>						<b>:497926.00</b>		<b>2.15</b>						<b>:10364986.00</b>		<b>4.58</b>					

SOURCE: 1980 GENERAL POPULATION CHARACTERISTICS, U.S. CENSUS

	TOTAL MALE+FEMALE	% OF STATE POPULATION CLASS	RATIO OF STATE % TO NATIONAL %
INDIANA	5490244	100.00	2.42
MARYLAND	4216975	100.00	1.86
MICHIGAN	9262078	100.00	4.09
PENNSYLVANIA	11863895	100.00	5.24
TEXAS	14229191	100.00	6.28
WASHINGTON	4132156	100.00	1.82
<b>TOTAL</b>	<b>49194539</b>	<b>100.00</b>	<b>21.71</b>
<b>NATION</b>	<b>226545805</b>		<b>1.00</b>

APPENDIX TABLE 3-LICENSED DRIVERS BY SEX BY STATE (MILLIONS)

	MALE % OF STATE N-MILLION DRIVERS	% OF NATIONAL CLASS	RATIO OF STATE %: TO NATIONAL %	FEMALE % OF STATE % OF NATIONAL N-MILLION DRIVERS	CLASS	RATIO OF STATE % TO NATIONAL %
INDIANA	1.82	50.98	2.25	0.98	1.75	47.02
MARYLAND	1.48	51.75	1.83	0.99	1.38	48.25
MICHIGAN	3.34	52.19	4.12	1.00	3.06	47.81
PENNSYLVANIA	3.97	53.15	4.90	1.02	3.50	46.85
TEXAS	5.73	52.76	7.07	1.01	5.13	47.24
WASHINGTON	1.56	52.35	1.93	1.00	1.42	47.65
<b>TOTAL</b>	<b>17.90</b>	<b>52.43</b>	<b>22.10</b>	<b>1.01</b>	<b>16.24</b>	<b>47.57</b>
<b>NATION</b>	<b>81.01</b>	<b>52.13</b>			<b>74.38</b>	<b>47.87</b>

SOURCE: HIGHWAY STATISTICS 1984 PG. 30  
HE 5623.A1 U5X 1984

APPENDIX TABLE 3B-RATIO OF LICENCED DRIVERS TO PEOPLE  
(PEOPLE IN THOUSANDS)

	ALL RESIDENTS	RESIDENTS AGE 15 AND OVER	ALL DRIVERS	DRIVERS PER THOUSAND RESIDENTS	DRIVERS PER THOUSAND RESIDENTS AGE 15+	RATIO STATES/NATION
						AGE 15 + RESIDENTS
INDIANA	5498.00	4749.00	3574337.00	650.00	841.00	2.328
MARYLAND	4339.00	3473.00	2860835.00	658.00	824.00	1.842
MICHIGAN	9075.00	7040.00	6392320.00	704.00	908.00	1.883
PENNSYLVANIA	11901.00	9540.00	7469884.00	628.00	783.00	3.843
TEXAS	15987.00	12024.00	10855549.00	679.00	903.00	5.173
WASHINGTON	4339.00	3384.00	2972976.00	684.00	879.00	6.520
TOTAL	51161.00	39710.00	34125901.00	667.03	859.38	1.842
NATION	236158.00	184424.00	155391002.00	658.00	843.00	21.664
SOURCE: HIGHWAY STATISTICS 1984						21.532
HE 5623.A1 USX 1984						1.000
						1.000

APPENDIX TABLE 4 - MOTOR-VEHICLE REGISTRATIONS BY CLASS BY STATE (MILLIONS OF VEHICLES)

N-MILLION	AUTOMOBILES		1 OF ALL VEHICLES		2 OF ALL VEHICLES		IN STATE		IN COUNTRY		IN CLASS		RATIO OF STATE TO NATIONAL		1 OF ALL VEHICLES		IN STATE		IN COUNTRY		IN CLASS		RATIO OF STATE TO NATIONAL		
	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	IN STATE	IN COUNTRY	
INDIANA	2.93	74.27	2.29	0.97	0.02	0.45	3.08	1.39	1.00	25.28	2.62	1.11													
MARYLAND	2.67	83.58	2.09	1.08	0.91	0.35	1.83	0.95	0.51	16.00	1.35	0.76													
MICHIGAN	5.07	79.63	3.97	1.04	0.02	0.34	3.70	0.97	1.28	20.03	3.35	0.88													
PENNSYLVANIA	5.81	81.98	4.54	1.07	0.03	0.38	4.66	1.10	1.25	17.63	3.28	0.77													
TEXAS	6.42	67.15	6.59	0.90	0.05	0.43	8.88	1.21	3.70	30.42	9.73	1.33													
WASHINGTON	2.42	70.55	1.89	0.92	0.01	0.32	1.89	0.92	1.00	28.13	2.63	1.27													
TOTAL	27.32	75.47	21.36	0.98	0.14	0.39	24.03	1.11	0.74	28.14	22.91	1.06													
NATION	127.87	76.60							0.58	0.35								38.05	22.85						
N-MILLION	TOTAL		1 OF ALL VEHICLES		2 OF ALL VEHICLES		IN STATE		IN COUNTRY		IN CLASS		RATIO OF STATE TO NATIONAL		TOTAL		IN STATE		IN COUNTRY		IN CLASS		RATIO OF STATE TO NATIONAL		
INDIANA	1.95	100.00	2.37	1.00																					
MARYLAND	1.19	100.00	1.92	1.00																					
MICHIGAN	6.37	100.00	3.82	1.00																					
PENNSYLVANIA	7.08	100.00	4.25	1.00																					
TEXAS	12.17	100.00	7.31	1.00																					
WASHINGTON	1.43	100.00	2.06	1.00																					
TOTAL	36.19	100.00	21.74	1.00																					
NATION	166.50	100.00																							

SOURCE: HIGHWAY STATISTICS 1984  
U.S. DEPT. OF TRANSPORTATION FHM  
Pg. 17

APPENDIX TABLE 5. REGISTERED VEHICLES: DOMESTIC VS IMPORTS (AUTOMOBILES ONLY)

STATE	DOMESTIC AUTOMOBILES	% OF STATE'S DOMESTIC AUTOMOBILES CLASS	RATIO OF STATE : IMPORT	% OF STATE'S DOMESTIC AUTOMOBILES	% OF NATIONAL AUTOMOBILES CLASS	RATIO OF STATE : NATIONAL	% OF NATIONAL AUTOMOBILES CLASS
INDIANA	2335227.00	88.91	2.45	1.12 :	291374.00	11.10	1.29
MARYLAND	145985.00	74.76	1.66	0.94 :	49271.00	25.24	2.19
MICHIGAN	4105290.00	90.65	4.63	1.14 :	423665.00	9.35	1.87
PENNSYLVANIA	4093577.00	83.03	5.11	1.04 :	918622.00	16.97	4.06
TEXAS	6347573.00	83.16	7.22	1.05 :	1285015.00	16.84	5.67
WASHINGTON	141241.00	67.04	1.61	0.84 :	694417.00	32.96	3.07
TOTAL	20151891.00	83.07	22.91	1.04 :	4106064.00	16.93	18.13
NATION	87945050.00	79.52	160.00	1.00 :	172622056.00	20.49	100.00
						1.00 :	1105970Bb.00
							100.00

SOURCE: POLK NAPP

## REGISTERED VEHICLES: DOMESTIC VS IMPORTS (LIGHT TRUCKS ONLY)

STATE	DOMESTIC LIGHT TRUCKS	% OF STATE'S DOMESTIC LIGHT TRUCKS CLASS	RATIO OF STATE : IMPORT	% OF STATE'S DOMESTIC LIGHT TRUCKS CLASS	RATIO OF STATE : TOTAL	% OF NATIONAL LIGHT TRUCKS CLASS	
INDIANA	750559.00	94.36	2.77	1.07 :	448579.00	5.64	
MARYLAND	374946.00	88.22	1.38	1.09 :	50633.00	11.78	
MICHIGAN	1107084.00	94.58	4.09	1.07 :	63475.00	5.42	
PENNSYLVANIA	1108242.00	93.39	4.09	1.06 :	78889.00	6.61	
TEXAS	2713027.00	91.51	10.02	1.04 :	251776.00	8.49	
WASHINGTON	583521.00	78.83	2.16	0.99 :	158622.00	21.17	
TOTAL	6639191.00	91.14	24.51	1.04 :	665474.00	8.86	
NATION	27088837.00	87.95	100.00	1.00 :	3709867.00	12.05	
						1.00 :	30798894.00
							100.00

SOURCE: POLK NAPP

## REGISTERED VEHICLES: DOMESTIC VS IMPORTS (TOTAL: AUTO+LIGHT TRUCK)

STATE	DOMESTIC VEHICLES	% OF STATE'S DOMESTIC VEHICLES CLASS	RATIO OF STATE : IMPORT	% OF STATE'S DOMESTIC VEHICLES CLASS	RATIO OF STATE : TOTAL	% OF NATIONAL VEHICLES CLASS	
INDIANA	3094186.00	90.17	2.69	1.11 :	336223.00	9.83	
MARYLAND	1834933.00	77.18	1.59	0.95 :	543034.00	22.84	
MICHIGAN	5212484.00	91.45	4.53	1.12 :	487160.00	8.55	
PENNSYLVANIA	5601819.00	84.89	4.87	1.04 :	97111.00	15.11	
TEXAS	9006690.00	85.50	7.88	1.05 :	155671.00	14.50	
WASHINGTON	1996022.00	70.10	1.74	0.86 :	851239.00	29.90	
TOTAL	26770084.00	84.94	23.29	1.04 :	4751498.00	15.06	
NATION	115033887.00	81.36	100.00	1.00 :	26367023.00	18.64	
						1.00 :	141395890.00
							100.00

SOURCE: POLK NAPP



CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET	
MOVA	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU CLASSIC	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU CLASSIC	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU CLASSIC	
INDIANA	41074.00	1.20	2.75	1.14	35901.00	1.08	2.52	1.04	36483.00	1.07	2.62	1.08	
MARYLAND	31844.00	1.34	2.13	1.27	29974.00	1.26	2.05	1.22	29508.00	1.24	2.12	1.26	
MICHIGAN	64896.00	1.14	4.35	1.08	52676.00	0.97	3.60	0.89	5884.00	1.03	4.21	1.04	
PENNSYLVANIA	91689.00	1.44	6.36	1.36	88370.00	1.34	6.04	1.29	5307.00	0.81	3.65	0.82	
TEXAS	75233.00	0.71	5.05	0.67	115075.00	1.09	7.87	1.05	13859.00	1.31	9.94	1.33	
WASHINGTON	21532.00	0.76	1.44	0.72	19723.00	0.69	1.35	0.67	19723.00	0.69	1.42	0.70	
TOTAL	379488.00	1.04	22.09	0.99	362719.00	1.07	23.42	1.05	336494.00	1.07	24.15	1.05	
NATION	1491525.00	1.05			1463077.00	1.03			1393368.00	0.98			
FORD		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET	
THUNDERBIRD	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	
INDIANA	35467.00	1.04	2.58	1.07	30258.00	0.88	2.34	0.97	47011.00	1.37	3.79	1.56	
MARYLAND	23070.00	0.97	1.68	1.00	25549.00	1.24	2.29	1.36	16486.00	0.69	1.33	0.79	
MICHIGAN	63673.00	1.12	4.63	1.15	48494.00	0.85	3.76	0.93	73883.00	1.30	5.95	1.48	
PENNSYLVANIA	53607.00	0.81	3.90	0.84	67965.00	1.33	6.82	1.46	54666.00	0.83	4.42	0.95	
TEXAS	138539.00	1.31	10.08	1.34	79562.00	0.75	6.17	0.82	124352.00	1.17	10.01	1.34	
WASHINGTON	19723.00	0.69	1.43	0.71	16553.00	0.58	1.28	0.64	8653.00	0.30	0.70	0.35	
TOTAL	334099.00	1.06	24.31	1.09	29291.00	0.93	22.67	1.02	325251.00	1.03	26.19	1.17	
NATION	1374313.00	0.97			1290325.00	0.91			1241642.00	0.88			
BUICK		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET	
REGAL	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	
INDIANA	28564.00	0.83	2.46	1.02	31811.00	0.93	2.82	1.17	947828.00	27.71	2.77	1.15	
MARYLAND	17858.00	0.75	1.54	0.91	25248.00	0.98	2.06	1.23	602193.00	25.32	1.76	1.05	
MICHIGAN	51418.00	0.90	4.44	1.10	63307.00	1.16	5.69	1.46	1482272.00	26.01	4.34	1.08	
PENNSYLVANIA	57060.00	0.86	4.92	1.05	78105.00	1.18	6.94	1.49	1624177.00	26.61	4.75	1.02	
TEXAS	88652.00	0.84	7.64	1.02	60272.00	0.57	5.35	0.71	3665716.00	28.93	8.97	1.20	
WASHINGTON	9318.00	0.33	0.80	0.40	22567.00	0.81	2.04	1.01	446610.00	15.62	1.30	0.65	
TOTAL	257910.00	0.80	21.80	0.98	282712.00	0.90	25.11	1.13	8166793.00	25.89	25.89	1.07	
NATION	1160341.00	0.82			112597.00	0.80			36187598.00	24.18			
TOTAL		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET		1 OF STATE'S 2 OF NATIONAL		RATIO OF STATE 2:CHEVROLET	
N- MILLION	VEHICLES IN FACTORY	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS	TO NATIONAL 1	IMALIBU	VEHICLES	CLASS
INDIANA	3420419.00	100.00	2.42	1.00									
MARYLAND	2377957.00	100.00	1.68	1.00									
MICHIGAN	5899624.00	100.00	4.03	1.00									
PENNSYLVANIA	6598932.00	100.00	4.67	1.00									
TEXAS	10597341.00	100.00	7.49	1.00									
WASHINGTON	2847301.00	100.00	2.01	1.00									
TOTAL	31541584.00	100.00	22.31	1.00									
MARITIM	141398540.00	100.00											

SOURCE: POLK DATA 1984

APPENDIX TABLE 7 ANNUAL VEHICLE MILES OF TRAVEL  
BY FUNCTIONAL CLASS BY STATE

RURAL											
	% OF INTERSTATE STATE HIGHWAYS	% OF NATION INTERSTATE	RATIO OF STATE 1:PRINCIPAL TO NATIONAL 1:ARTERY	% OF STATE HIGHWAYS	% OF NATION PRINCIPAL ARTERY TO NATIONAL 1:ARTERY	% OF STATE HIGHWAYS	% OF NATION 2:MINOR TO NATIONAL 1: ARTERY	% OF STATE HIGHWAYS	% OF NATION PRINCIPAL ARTERY TO NATIONAL 1: ARTERY	% OF STATE HIGHWAYS	% OF NATION MINOR ARTERY TO NATIONAL 1: ARTERY
INDIANA	4179.00	10.17	2.81	1.18	3204.00	1.80	2.23	0.93	412.00	10.74	3.22
MARYLAND	2054.00	6.48	1.38	0.75	2377.00	7.50	1.65	0.89	2428.00	7.66	1.77
MICHIGAN	3950.00	6.22	2.66	0.72	5100.00	8.03	3.55	0.96	3710.00	5.84	2.71
PENNSYLVANIA	6600.00	8.88	4.44	1.03	6357.00	8.56	4.42	1.02	8193.00	11.03	5.99
TEXAS	10802.00	7.84	7.27	0.91	15428.00	11.20	10.73	1.34	6359.00	4.62	4.65
WASHINGTON	2653.00	7.75	1.79	0.89	2856.00	8.34	1.99	1.00	2134.00	6.24	1.56
TOTAL	30238.00	7.90	20.36	0.91	35323.00	9.23	24.57	1.10	27238.00	7.12	19.90
NATION	148542.00	8.45			143784.00	8.39			136985.00	7.97	
URBAN											
	% OF MAJOR COLLECTOR STATE HIGHWAYS	% OF NATION MAJOR COLLECTOR	RATIO OF STATE 1:MINOR TO NATIONAL 1: COLLECTOR	% OF STATE HIGHWAYS	% OF NATION MINOR COLLECTOR	RATIO OF STATE 1: TO NATIONAL 1: LOCAL	% OF STATE HIGHWAYS	% OF NATION	RATIO OF STATE 1: TO NATIONAL 1: LOCAL	% OF STATE HIGHWAYS	% OF NATION TO NATIONAL 1: LOCAL
INDIANA	5777.00	14.06	3.61	1.31	1611.00	3.92	3.69	1.54	1837.00	4.47	2.13
MARYLAND	1925.00	6.10	1.21	0.66	711.00	2.24	1.63	0.88	960.00	3.03	1.12
MICHIGAN	6880.00	13.99	5.55	1.50	1580.00	2.49	3.62	0.98	1260.00	1.99	1.46
PENNSYLVANIA	5305.00	7.19	3.34	0.77	2374.00	3.20	5.43	1.26	5435.00	7.31	6.32
TEXAS	13991.00	9.79	8.44	1.05	2031.00	1.47	4.65	0.58	4724.00	3.43	5.49
WASHINGTON	4287.00	12.46	2.67	1.34	1715.00	5.01	3.97	1.97	494.00	1.64	0.57
TOTAL	39695.00	10.38	24.82	1.11	10022.00	2.62	22.94	1.03	14710.00	3.65	17.10
NATION	159908.00	9.31			43894.00	2.35			86024.00	5.01	
URBAN											
	% OF INTERSTATE STATE HIGHWAYS	% OF NATION INTERSTATE	RATIO OF STATE 1: TO NATIONAL 1: OTHER FREEWAY	% OF STATE HIGHWAYS	% OF NATION OTHER FREEWAY	RATIO OF STATE 1:PRINCIPAL TO NATIONAL 1: ARTERY	% OF STATE HIGHWAYS	% OF NATION PRINCIPAL ARTERY TO NATIONAL 1: ARTERY	% OF STATE HIGHWAYS	% OF NATION 2:MINOR TO NATIONAL 1: ARTERY	% OF STATE HIGHWAYS
INDIANA	3448.00	8.88	1.79	0.75	672.00	1.64	0.72	0.30	6775.00	16.49	2.50
MARYLAND	3826.00	18.57	2.89	1.53	2137.00	6.74	2.28	1.24	6486.00	20.46	2.39
MICHIGAN	7210.00	11.36	3.54	0.96	2430.00	3.83	2.59	0.70	12700.00	20.01	4.69
PENNSYLVANIA	5358.00	7.21	2.63	0.61	3033.00	4.16	3.30	0.76	14751.00	20.12	5.52
TEXAS	18743.00	13.62	9.22	1.15	9709.00	7.05	10.37	1.29	18046.00	13.10	6.66
WASHINGTON	5777.00	16.93	2.85	1.43	1994.00	5.82	2.13	1.07	6016.00	17.57	2.22
TOTAL	46662.00	12.20	22.92	1.03	20025.00	5.24	21.39	0.95	66974.00	16.98	23.98
NATION	203572.00	11.84			93845.00	5.45			27916.00	15.78	1.08

APPELLEIX 1878 8 MILAGE RÉGION

MINOR ARTERY	% OF STATE HIGHWAYS	% OF NATION MINOR ARTERY	RATIO OF STATE %:		% OF STATE HIGHWAYS	% OF NATION COLLECTOR	RATIO OF STATE %:		% OF STATE HIGHWAYS	% OF NATION LOCAL	RATIO OF STATE %:	
			TO NATIONAL 1	COLLECTOR			TO NATIONAL 1	COLLECTOR			TO NATIONAL 1	COLLECTOR
INDIANA	4247.00	10.34	2.17	0.91 :	1600.00	3.41	1.59	0.67 :	3312.00	8.06	2.26	0.94 :
MARYLAND	3357.00	10.59	1.72	0.93 :	1903.00	6.00	2.17	1.17 :	1488.00	4.63	1.00	0.54 :
MICHIGAN	8450.00	13.31	4.33	1.17 :	6180.00	9.74	7.04	1.90 :	2020.00	3.18	1.38	0.37 :
PENNSYLVANIA	7127.00	9.59	3.65	0.84 :	4050.00	5.45	4.61	1.07 :	5414.00	7.29	3.69	0.85 :
TEXAS	13388.00	9.72	6.85	0.85 :	5578.00	4.06	6.39	0.79 :	19397.00	14.08	13.22	1.65 :
WASHINGTON	3687.00	10.79	1.89	0.95 :	1919.00	5.60	2.19	1.10 :	704.00	2.06	0.48	0.24 :
TOTAL	40266.00	10.53	20.61	0.92 :	21050.00	5.30	23.78	1.08 :	32315.00	8.45	22.03	0.99 :
NATION	195378.00	11.38		:	87789.00	5.11		:	146619.00	8.54		

TOTALS

TOTAL MILEAGE	% OF STATE HIGHWAYS	% OF NATION BY STATE	RATIO OF STATE %:URBAN		% OF STATE HIGHWAYS	% OF NATION BY STATE	RATIO OF STATE %:URBAN		% OF STATE HIGHWAYS	% OF NATION BY STATE	RATIO OF STATE %:	
			TO NATIONAL 1	:TOTAL			TO NATIONAL 1	:TOTAL			TO NATIONAL 1	COLLECTOR
INDIANA	41074.00	100.00	2.39	1.00 :	21020.00	100.00	2.92	1.00 :	20054.00	100.00	2.01	1.00 :
MARYLAND	37702.00	100.00	1.85	1.00 :	10453.00	100.00	1.46	1.00 :	21237.00	100.00	2.13	1.00 :
MICHIGAN	63400.00	100.00	3.70	1.00 :	24880.00	100.00	3.41	1.00 :	38990.00	100.00	3.91	1.00 :
PENNSYLVANIA	74297.00	100.00	4.33	1.00 :	34304.00	100.00	4.77	1.00 :	39932.00	100.00	4.01	1.00 :
TEXAS	137737.00	100.00	8.02	1.00 :	52836.00	100.00	7.35	1.00 :	84901.00	100.00	8.51	1.00 :
WASHINGTON	34248.00	100.00	1.99	1.00 :	14121.00	100.00	1.96	1.00 :	20127.00	100.00	0.02	1.00 :
TOTAL	382526.00	100.00	22.78	1.00 :	157226.00	100.00	21.87	1.00 :	225302.00	100.00	22.58	1.00 :
NATION	1716768.00	100.00		:	718849.00	100.00		:	977919.00	100.00		

SOURCE: HIGHWAY STATISTICS 1964 PG. 176  
U.S. DEPT. OF TRANSPORTATION FHWA

APPENDIX TABLE 9-ROAD MILEAGE BY STATE

RURAL

STATE	FLEXIBLE	1 OF STATE 1 OF NATION RATIO OF STATE 1:1610			1 OF STATE 1 OF NATION RATIO OF STATE 1:INTERMEDIATE			1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN		
		HIGHWAYS	TO NATIONAL 1		HIGHWAYS	TO NATIONAL 2		HIGHWAYS	TO NATIONAL 2	
INDIANA	8162.00	26.20	1.96	0.76	1206.00	3.87	2.79	1.08	13554.00	43.51
MARYLAND	4190.00	46.76	1.00	1.35	341.00	4.03	0.84	1.12	1052.00	11.74
MICHIGAN	5194.00	12.89	1.24	0.37	1433.00	3.56	3.32	0.99	17181.00	42.60
PENNSYLVANIA	15344.00	43.32	3.67	1.25	2459.00	6.96	5.70	1.94	2549.00	15.70
TEXAS	16723.00	21.98	4.33	0.63	1679.00	1.89	3.78	0.53	4222.00	4.90
WASHINGTON	9021.00	38.53	2.16	1.11	573.00	2.45	1.33	0.68	4872.00	29.43
<b>TOTAL</b>	<b>60804.00</b>	<b>26.99</b>	<b>14.57</b>	<b>0.78</b>	<b>7661.00</b>	<b>3.40</b>	<b>17.76</b>	<b>0.95</b>	<b>48430.00</b>	<b>21.50</b>
NATION	417258.00	31.68			43145.00	3.59			189735.00	15.77
STATE	LDR-TYPE	1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN			1 OF STATE 1 OF NATION RATIO OF STATE 1:TOTAL-RURAL			1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN		
		HIGHWAYS	TO NATIONAL 1		HIGHWAYS	TO NATIONAL 2		HIGHWAYS	TO NATIONAL 2	
INDIANA	677.00	2.17	0.39	0.15	1545.00	5.02	0.94	0.36	25164.00	80.77
MARYLAND	278.00	3.10	0.16	0.21	74.00	0.83	0.04	0.06	3955.00	66.45
MICHIGAN	4107.00	10.19	2.35	0.70	374.00	9.27	2.23	0.67	34679.00	78.51
PENNSYLVANIA	2444.00	6.91	1.40	0.48	347.00	0.78	0.21	0.07	26113.00	73.87
TEXAS	45306.00	52.62	25.97	3.63	522.00	0.61	0.31	0.04	70602.00	82.01
WASHINGTON	178.00	0.76	0.10	0.05	1973.00	8.43	1.18	0.61	18837.00	79.60
<b>TOTAL</b>	<b>52990.00</b>	<b>23.52</b>	<b>30.37</b>	<b>1.62</b>	<b>825.00</b>	<b>3.65</b>	<b>4.91</b>	<b>0.26</b>	<b>178106.00</b>	<b>79.07</b>
HAIKU	174970.00	14.50			167291.00	13.91			991901.00	82.45
STATE	FLEXIBLE	1 OF STATE 1 OF NATION RATIO OF STATE 1:RIGID			1 OF STATE 1 OF NATION RATIO OF STATE 1:INTERMEDIATE			1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN		
		HIGHWAYS	TO NATIONAL 1		HIGHWAYS	TO NATIONAL 2		HIGHWAYS	TO NATIONAL 2	
INDIANA	2020.00	6.48	1.50	0.58	644.00	2.07	2.34	0.70	3215.00	10.32
MARYLAND	2495.00	27.73	1.84	2.47	306.00	1.41	1.11	1.49	208.00	2.32
MICHIGAN	3740.00	9.33	2.78	0.83	1871.00	4.64	6.80	2.03	2460.00	6.11
PENNSYLVANIA	6631.00	18.76	4.91	1.67	1200.00	3.39	4.36	1.48	1226.00	3.47
TEXAS	8937.00	9.80	6.24	0.87	2988.00	3.45	10.79	1.51	2259.00	2.62
WASHINGTON	3094.00	13.21	2.29	1.18	476.00	2.03	1.73	0.89	1164.00	4.97
<b>TOTAL</b>	<b>26429.00</b>	<b>11.73</b>	<b>19.56</b>	<b>1.04</b>	<b>745.00</b>	<b>3.31</b>	<b>27.13</b>	<b>1.45</b>	<b>10532.00</b>	<b>4.68</b>
NATION	135075.00	11.23			2757.00	2.29			3981.00	2.91
STATE	LDR-TYPE	1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN			1 OF STATE 1 OF NATION RATIO OF STATE 1:TOTAL-URBAN			1 OF STATE 1 OF NATION RATIO OF STATE 1:URBAN		
		HIGHWAYS	TO NATIONAL 1		HIGHWAYS	TO NATIONAL 2		HIGHWAYS	TO NATIONAL 2	
INDIANA	72.00	0.23	0.62	0.24	39.00	0.13	2.05	0.79	5990.00	19.23
MARYLAND	4.00	0.04	0.03	0.05	3.00	0.03	0.16	0.21	3005.00	33.55
MICHIGAN	376.00	0.93	3.24	0.97	191.00	0.47	10.06	3.00	8658.00	21.49
PENNSYLVANIA	156.00	0.44	1.34	0.46	20.00	0.06	1.05	0.36	9235.00	26.13
TEXAS	1774.00	2.00	14.85	2.03	102.00	0.12	5.37	0.75	15490.00	17.99
WASHINGTON	6.00	0.03	0.05	0.03	37.00	0.16	1.95	1.00	4777.00	20.40
<b>TOTAL</b>	<b>2358.00</b>	<b>1.04</b>	<b>20.13</b>	<b>1.07</b>	<b>392.00</b>	<b>0.17</b>	<b>20.64</b>	<b>1.10</b>	<b>47156.00</b>	<b>20.93</b>
NATION	11612.00	0.96			1897.40	0.16			21084.00	17.35

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  
Z OF STATE Z OF NATION RATIO OF STATE Z

TOTAL RURAL+URBAN HIGHWAYS	Z	RATIO OF STATE Z TO NATIONAL Z	Z
INDIANA	31154	100.00	2.59
MARYLAND	8961	100.00	0.74
MICHIGAN	40287	100.00	3.35
PENNSYLVANIA	35348	100.00	2.94
TEXAS	86092	100.00	7.16
WASHINGTON	23414	100.00	1.95
<b>TOTAL</b>	<b>225256</b>	<b>100.00</b>	<b>18.72</b>
<b>NATION</b>	<b>1202991</b>	<b>100.00</b>	<b>1.00</b>

APPENDIX TABLE 10-ALL MOTOR VEHICLE FATALITIES BY SEX BY AGE BY STATE

(COL. 1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
MALE														
INDIANA	139.00	15.03	2.16	1.03 :	139.00	15.03	2.21	1.06 :	93.00	10.05	2.15	1.03 :		
MARYLAND	78.00	12.13	1.21	0.83 :	102.00	15.86	1.62	1.11 :	56.00	8.71	1.30	0.89 :		
MICHIGAN	252.00	16.46	3.92	1.13 :	166.00	12.80	3.11	0.90 :	145.00	9.47	3.36	0.97 :		
PENNSYLVANIA	255.00	14.77	3.96	1.02 :	220.00	12.74	3.49	0.89 :	170.00	9.84	3.94	1.01 :		
TEXAS	573.00	14.65	8.91	1.01 :	660.00	15.34	9.53	1.08 :	418.00	10.69	9.68	1.10 :		
WASHINGTON	106.00	14.21	1.65	0.98 :	106.00	14.71	1.68	1.00 :	62.00	8.31	1.44	0.85 :		
TOTAL	1403.00	14.79	21.82	1.02 :	1363.00	14.37	21.64	1.01 :	944.00	9.95	21.87	1.02 :		
NATION	6431.00	14.53			6299.00	14.23			4317.00	9.76				
FATALITIES FATALITIES CLASS														
30-34 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:35-39														
INDIANA	65.00	7.03	2.14	1.02 :	38.00	4.11	1.82	0.87 :	33.00	3.78	2.26	1.08 :		
MARYLAND	50.00	7.78	1.64	1.13 :	24.00	3.73	1.15	0.79 :	26.00	4.04	1.68	1.16 :		
MICHIGAN	111.00	7.25	3.65	1.05 :	64.00	4.18	3.06	0.89 :	56.00	3.66	3.62	1.04 :		
PENNSYLVANIA	121.00	7.01	3.98	1.02 :	80.00	4.63	3.83	0.98 :	70.00	4.05	4.52	1.16 :		
TEXAS	273.00	7.49	9.63	1.09 :	168.00	4.30	8.05	0.91 :	172.00	3.38	8.52	0.96 :		
WASHINGTON	48.00	6.43	1.39	0.94 :	32.00	4.29	1.53	0.91 :	31.00	4.16	2.00	1.19 :		
TOTAL	658.00	7.25	22.62	1.06 :	406.00	4.28	19.44	0.91 :	350.00	3.69	22.60	1.05 :		
NATION	3001.00	6.87			2086.00	4.72			1519.00	3.50				
FATALITIES FATALITIES CLASS														
45-49 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:50-54														
INDIANA	21.00	2.27	1.76	0.84 :	31.00	3.35	2.76	1.32 :	22.00	2.38	2.97	0.99 :		
MARYLAND	18.00	2.80	1.51	1.04 :	24.00	3.73	2.14	1.47 :	14.00	2.18	1.32	0.91 :		
MICHIGAN	44.00	2.87	3.69	1.07 :	26.00	2.12	2.32	0.67 :	31.00	2.02	2.92	0.84 :		
PENNSYLVANIA	42.00	2.43	3.52	0.90 :	46.00	2.66	4.10	1.05 :	41.00	2.37	3.86	0.99 :		
TEXAS	106.00	2.71	8.88	1.00 :	92.00	2.35	8.20	0.95 :	105.00	2.63	9.71	1.10 :		
WASHINGTON	21.00	2.82	1.76	1.04 :	22.00	2.95	1.86	1.16 :	14.00	1.88	1.32	0.78 :		
TOTAL	252.00	2.66	21.12	0.99 :	241.00	2.54	21.48	1.00 :	225.00	2.37	21.21	0.99 :		
NATION	1193.00	2.70			1122.00	2.54			1061.00	2.40				

60-64 FATALITIES	% OF STATE FATALITIES CLASS	TO NATIONAL % FATALITIES	RATIO OF STATE 2:65-69		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:70*		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:70*		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:70*		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:70*			
			FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS		
INDIANA	15.00	1.40	1.24		0.59		19.00		2.05		2.07		0.99		44.00		4.76		1.78		0.85	
MARYLAND	18.00	2.80	1.72		1.18		4.00		0.62		0.44		0.30		41.00		6.38		1.66		1.14	
MICHIGAN	38.00	2.48	3.63		1.05		33.00		2.16		3.59		1.04		80.00		5.23		3.23		0.93	
PENNSYLVANIA	39.00	2.26	3.73		0.96		48.00		2.78		5.23		1.34		88.00		5.10		3.55		0.91	
TEXAS	96.00	2.45	9.18		1.04		85.00		2.17		9.26		1.05		201.00		5.14		8.12		0.92	
WASHINGTON	22.00	2.95	2.10		1.25		12.00		1.61		1.31		0.78		35.00		4.69		1.41		0.84	
TOTAL	226.00	2.38	21.61		1.01		201.00		2.12		21.50		1.02		489.00		5.16		19.75		0.92	
NATION	1066.00	2.35					918.00		2.07						2476.00		5.60					

TOTAL # MILLION	1 OF STATE 2 OF NATIONAL FATALITIES CLASS	TO NATIONAL 2: FATALITIES CLASS	RATIO OF STATE 2: FATALITIES CLASS																		
			FATALITIES	CLASS	FATALITIES	CLASS															
INDIANA	659.00	71.24	2.09		1.00		1.00		0.99		0.99										
MARYLAND	453.00	70.76	1.44		0.99		0.99		0.99		0.99										
MICHIGAN	1076.00	70.28	1.61		0.99		0.99		0.99		0.99										
PENNSYLVANIA	1220.00	70.64	1.87		1.03		1.03		1.03		1.03										
TEXAS	2857.00	73.31	9.09		0.96		0.96		0.96		0.96										
WASHINGTON	511.00	68.50	1.62		1.00																
TOTAL	6788.00	71.58	21.52		1.00																
NATION	31541.00	71.28																			

SOURCE: FARS

-19 FATALITIES	% OF STATE FATALITIES CLASS	TO NATIONAL % FATALITIES	RATIO OF STATE 2:20-24		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:25-29		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:30-34		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:35-39		1 OF STATE 2 OF NATIONAL		RATIO OF STATE 2:40-44			
			FATALITIES	CLASS	FATALITIES	CLASS	FATALITIES	CLASS														
INDIANA	68.00	7.35	2.31		1.11		39.00		4.22		2.20		1.05		23.00		2.49		1.93		0.92	
MARYLAND	42.00	4.53	1.43		0.98		33.00		5.13		1.86		1.28		15.00		2.33		1.26		0.87	
MICHIGAN	118.00	7.71	4.01		1.16		47.00		3.07		2.65		0.77		40.00		2.61		3.35		0.97	
PENNSYLVANIA	100.00	5.79	3.40		0.87		72.00		4.17		4.06		1.04		40.00		2.32		3.35		0.86	
TEXAS	265.00	6.78	9.01		1.02		157.00		4.01		8.86		1.00		106.00		2.71		8.88		1.00	
WASHINGTON	51.00	6.84	1.73		1.03		42.00		5.63		2.37		1.41		19.00		2.55		1.59		0.94	
TOTAL	644.00	6.79	21.89		1.02		390.00		4.11		22.01		1.03		243.00		2.56		20.37		0.95	
NATION	2912.00	6.65					1772.00		4.00						1873.00		2.70					

30-34 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:35-39 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:40-44 2 OF STATE 2 OF NATIONAL RATIO OF STATE:  
 FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :

INDIANA	13.00	1.40	1.36	0.65	17.00	1.84	2.17	1.04	12.00	1.30	1.97	0.94
MARYLAND	13.00	2.02	1.36	0.94	11.00	1.71	1.40	0.97	5.00	0.78	0.82	0.53
MICHIGAN	31.00	2.02	3.24	0.94	32.00	2.09	4.09	1.18	17.00	1.11	2.79	0.81
PENNSYLVANIA	45.00	2.61	4.71	1.21	34.00	1.97	4.34	1.11	28.00	1.62	4.59	1.18
TEXAS	81.00	2.07	8.47	0.96	62.00	1.58	7.92	0.90	44.00	1.12	7.21	0.87
WASHINGTON	20.00	2.68	2.09	1.24	23.00	3.08	2.94	1.74	10.00	1.34	1.64	0.97
TOTAL	201.00	2.14	21.23	0.99	179.00	1.89	22.86	1.07	116.00	1.22	19.02	0.89
RATIO	956.00	2.16			783.00	1.77			610.00	1.38		

45-49 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:50-54 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:55-59 2 OF STATE 2 OF NATIONAL RATIO OF STATE:  
 FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :

INDIANA	9.00	0.97	1.80	0.86	11.00	1.19	2.22	1.06	8.00	0.86	1.49	0.71
MARYLAND	7.00	1.09	1.40	0.76	11.00	1.71	2.22	1.53	7.00	1.09	1.30	0.90
MICHIGAN	23.00	1.50	4.60	1.35	15.00	0.98	3.02	0.87	26.00	1.70	4.84	1.40
PENNSYLVANIA	17.00	0.98	3.40	0.87	17.00	0.98	3.43	0.88	23.00	1.33	4.28	1.10
TEXAS	41.00	1.05	8.20	0.93	40.00	1.02	8.06	0.91	45.00	1.15	8.38	0.95
WASHINGTON	6.00	0.80	1.20	0.71	4.00	0.54	0.81	0.48	9.00	1.21	1.68	0.99
TOTAL	103.00	1.09	20.60	0.76	98.00	1.03	19.76	0.92	116.00	1.24	21.97	1.02
RATIO	500.00	1.13			476.00	1.12			337.00	1.21		

60-64 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:55-59 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:70+ 2 OF STATE 2 OF NATIONAL RATIO OF STATE:  
 FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :FATALITIES FATALITIES CLASS TO NATIONAL 2 :

INDIANA	14.00	1.51	2.46	1.18	9.00	0.97	1.68	0.80	43.00	4.65	2.37	1.13
MARYLAND	5.00	0.78	0.88	0.61	5.00	0.78	0.93	0.64	30.00	5.29	1.87	1.29
MICHIGAN	22.00	1.44	3.87	1.12	23.00	1.50	4.30	1.24	61.00	3.98	3.34	0.97
PENNSYLVANIA	30.00	1.74	5.28	1.35	25.00	1.45	4.67	1.20	76.00	4.40	4.18	1.07
TEXAS	37.00	1.00	6.87	0.78	48.00	1.23	6.97	1.01	116.00	2.97	6.38	0.72
WASHINGTON	11.00	1.47	1.94	1.15	12.00	1.61	2.20	1.33	28.00	3.75	1.54	0.91
TOTAL	121.00	1.28	21.30	0.99	122.00	1.29	22.80	1.06	358.00	3.78	19.70	0.92
RATIO	568.00	1.28			535.00	1.21			1817.00	4.11		

TOTAL 2 OF STATE 2 OF NATIONAL RATIO OF STATE 2:  
 MILLION FATALITIES CLASS TO NATIONAL 2 :

INDIANA	266.00	28.76	2.09	1.00								
MARYLAND	188.00	29.24	1.48	1.02								
MICHIGAN	455.00	29.72	3.59	1.03								
PENNSYLVANIA	507.00	29.36	3.99	1.02								
TEXAS	1044.00	26.69	8.21	0.93								
WASHINGTON	235.00	31.50	1.85	1.10								
TOTAL	2695.00	28.42	21.21	0.99								
RATIO	12709.00	28.72										

925	
643	
1531	
1727	
3911	
746	

APPENDIX TABLE II-DRIVER FATALITIES BY SET BY AGE BY STATE

(COL. 1)	(2)	(3)	(4)	(5)	(2)	(3)	MALE	(4)	(5)	(2)	(3)	(4)	(5)
	-19	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:20-24	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:25-29	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:			
FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1		
INDIANA	64.00	10.88	2.26	0.99	107.00	18.20	2.43	1.06	69.00	11.73	2.18	0.95	
MARYLAND	41.00	11.26	1.45	1.02	73.00	20.05	1.66	1.17	35.00	9.62	1.11	0.78	
MICHIGAN	104.00	11.72	3.69	1.06	141.00	16.23	3.27	0.94	107.00	12.06	3.39	0.98	
PENNSYLVANIA	99.00	9.93	3.50	0.90	161.00	16.15	3.66	0.94	124.00	12.44	3.93	1.01	
TEXAS	266.00	11.24	9.06	1.02	405.00	17.79	9.20	1.03	299.00	13.13	9.46	1.06	
WASHINGTON	47.00	10.49	1.66	0.95	75.00	16.74	1.70	0.97	46.00	10.27	1.46	0.83	
TOTAL	611.00	10.99	21.62	0.99	985.00	17.35	21.93	1.01	880.00	12.23	21.53	0.99	
NATION	2826.00	11.04		4000.00	17.20			3139.00	12.35				
	30-34	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:35-39	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:40-44	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:			
FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1		
INDIANA	30.00	8.30	2.23	0.97	31.00	5.27	2.00	0.87	28.00	4.76	2.58	1.12	
MARYLAND	37.00	10.16	1.65	1.16	17.00	4.67	1.10	0.77	17.00	4.67	1.57	1.10	
MICHIGAN	82.00	9.24	3.66	1.06	43.00	4.85	2.77	0.80	39.00	4.40	3.60	1.04	
PENNSYLVANIA	91.00	9.13	4.06	1.04	62.00	6.22	4.00	1.03	52.00	5.22	4.80	1.23	
TEXAS	210.00	9.22	9.38	1.05	125.00	5.49	8.06	0.91	90.00	3.95	8.30	0.93	
WASHINGTON	35.00	7.81	1.56	0.87	26.00	5.80	1.68	0.98	19.00	4.24	1.75	1.00	
TOTAL	505.00	9.08	22.55	1.04	304.00	5.47	19.61	0.90	245.00	4.41	22.60	1.04	
NATION	2239.00	8.75		1550.00	6.06			1084.00	4.24				
	45-49	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:50-54	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:55-59	1 OF STATE'S	1 OF NATIONAL	RATIO OF STATE 2:			
FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1	FATALITIES	FATALITIES	CLASS	TO NATIONAL 1		
INDIANA	18.00	3.06	2.20	0.96	21.00	3.57	2.78	1.21	14.00	2.38	2.02	0.88	
MARYLAND	11.00	3.02	1.35	0.95	16.00	4.40	2.12	1.49	12.00	3.30	1.73	1.22	
MICHIGAN	31.00	3.49	3.79	1.09	16.00	1.80	2.12	0.61	21.00	2.37	3.03	0.87	
PENNSYLVANIA	29.00	2.91	3.55	0.91	29.00	2.91	3.84	0.99	28.00	2.81	4.04	1.04	
TEXAS	75.00	3.29	9.18	1.03	54.00	2.37	7.15	0.80	66.00	2.90	9.52	1.07	
WASHINGTON	15.00	3.35	1.64	1.05	19.00	4.24	2.52	1.44	8.00	1.79	1.45	0.66	
TOTAL	179.00	3.22	21.91	1.01	155.00	2.79	20.53	0.94	149.00	2.68	21.50	0.99	
NATION	817.00	3.19		755.00	2.95			693.00	2.71				

				Z OF STATE'S FATALITIES	Z OF NATIONAL FATALITIES	RATIO OF STATE Z:5-69	Z OF STATE'S FATALITIES	Z OF NATIONAL FATALITIES	RATIO OF STATE Z:70*	Z OF STATE'S FATALITIES	Z OF NATIONAL FATALITIES	RATIO OF STATE Z:
				CLASS	CLASS	TO NATIONAL 1	CLASS	CLASS	TO NATIONAL 1	CLASS	CLASS	TO NATIONAL 1
INDIANA	12.00	2.04	1.83	0.80	14.00	2.38	2.34	1.02	23.00	3.91	1.75	0.76
MARYLAND	9.00	2.47	1.37	0.97	4.00	1.10	0.67	0.47	18.00	4.94	1.37	0.96
MICHIGAN	26.00	2.93	3.97	1.14	26.00	2.83	4.35	1.25	49.00	5.52	3.73	1.08
PENNSYLVANIA	22.00	2.21	3.36	0.86	35.00	3.51	5.85	1.50	49.00	4.91	3.73	0.96
TEXAS	63.00	2.77	9.42	1.08	55.00	2.41	9.20	1.03	126.00	5.53	9.60	1.08
WASHINGTON	18.00	4.02	2.75	1.57	10.00	2.73	1.67	0.96	24.00	5.36	1.83	1.04
TOTAL	150.00	2.70	22.90	1.05	144.00	2.59	24.08	1.11	289.00	5.20	22.03	1.01
NATION	653.00	2.56			598.00	2.34			1312.00	5.13		
				Z OF STATE'S FATALITIES	Z OF NATIONAL FATALITIES	RATIO OF STATE Z:						
				N-MILLION	CLASS	TO NATIONAL 1						
INDIANA	451.00	76.70	2.24	0.98								
MARYLAND	290.00	79.67	1.44	1.01								
MICHIGAN	688.00	77.56	3.42	0.99								
PENNSYLVANIA	781.00	78.33	3.09	1.00								
TEXAS	1824.00	80.11	9.08	1.02								
WASHINGTON	342.00	76.34	1.70	0.97								
TOTAL	4376.00	78.89	21.78	1.00								
NATION	20088.00	78.51										

SOURCE: FHRS

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	60-64			70-74			80-84			90-94		
	FATALITIES	% OF STATE'S FATALITIES	Z OF NATIONAL CLASS	FATALITIES	% OF STATE'S FATALITIES	Z OF NATIONAL CLASS	FATALITIES	% OF STATE'S FATALITIES	Z OF NATIONAL CLASS	FATALITIES	% OF STATE'S FATALITIES	Z OF NATIONAL CLASS
INDIANA	6.00	1.02	2.48	1.08	7.00	1.19	3.15	1.37	15.00	2.55	2.85	1.24
MARYLAND	3.00	0.82	1.24	0.97	1.00	0.27	0.45	0.32	12.00	3.30	2.28	1.60
MICHIGAN	11.00	1.24	4.55	1.31	12.00	1.35	5.41	1.58	18.00	2.03	3.42	0.99
PENNSYLVANIA	13.00	1.30	5.37	1.39	10.00	1.00	4.50	1.16	17.00	1.70	3.23	0.85
TEXAS	18.00	0.79	7.44	0.84	24.00	1.05	10.81	1.21	44.00	1.93	8.36	0.94
WASHINGTON	5.00	1.12	2.07	1.18	5.00	1.12	2.25	1.29	6.00	1.34	1.14	0.65
TOTAL	56.00	1.01	23.14	1.06	59.00	1.06	26.58	1.22	112.00	2.01	21.29	0.76
NATION	242.00	0.95			222.00	0.87			526.00	2.06		
TOTAL # OF STATE'S FATALITIES TO NATIONAL # OF MILLION FATALITIES												
INDIANA	137.00	23.30	2.49	1.08								
MARYLAND	74.00	20.33	1.35	0.95								
MICHIGAN	199.00	22.43	3.62	1.04								
PENNSYLVANIA	216.00	21.66	3.93	1.01								
TEXAS	453.00	19.89	8.74	0.93								
WASHINGTON	106.00	23.66	1.93	1.10								
TOTAL	1185.00	21.31	21.55	0.99								
NATION	5500.00	21.49										

SOURCE: FARS

APPENDIX TABLE 12-FATALITIES PER MILLION LICENSED PER YEAR

	MALE DRIVERS (MILLIONS)	MALE FATALITIES	FEMALE DRIVERS (MILLIONS)	FEMALE FATALITIES	MALE FATALITIES PER MILLION MALE	FEMALE FATALITIES PER MILLION FEMALE
INDIANA	1.82	659.00	1.75	266.00	362.09	152.00
MARYLAND	1.48	455.00	1.38	188.00	307.43	136.23
MICHIGAN	3.34	1076.00	3.06	455.00	322.16	148.69
PENNSYLVANIA	3.97	1220.00	3.50	507.00	307.30	144.86
TEXAS	5.73	2867.00	5.13	1044.00	500.35	203.51
WASHINGTON	1.56	511.00	1.42	235.00	327.56	165.49
TOTAL	17.90	6788.00	16.24	2695.00	379.22	165.95
NATION	81.01	31541.00	74.38	12709.00	389.35	170.87

SOURCE: HIGHWAY STATISTICS 1984 P.30 AND FARS 1984

APPENDIX TABLE 13-TOP 20 MAKE/MODELS INVOLVED IN FATAL ACCIDENTS



STATE	POINTE GRAND PRIX	% OF STATE'S VEHICLES IN FATALS CLASS		% OF NATIONAL VEHICLES IN FATALS CLASS		RATIO OF STATE %: TO NATIONAL %	
		%	VEHICLES	%	VEHICLES	%	VEHICLES
INDIANA	27.00	2.16	4.94	0.79	12.00	0.96	2.23
MARYLAND	5.00	0.59	0.81	0.22	9.00	1.06	1.68
MICHIGAN	26.00	1.25	4.75	0.46	35.00	1.48	6.52
PENNSYLVANIA	16.00	0.69	2.92	0.26	21.00	0.91	3.91
TEXAS	48.00	0.98	8.77	0.36	48.00	0.98	8.94
WASHINGTON	2.00	0.71	0.37	0.08	4.00	0.41	0.74
TOTAL	124.00	2.78	22.67	1.02	129.00	2.89	24.02
NATION	547.00	2.71			537.00	2.66	

STATE	TOTAL MILLION VEHICLES	% OF STATE'S VEHICLES IN FATALS CLASS		% OF NATIONAL VEHICLES IN FATALS CLASS		RATIO OF STATE %: TO NATIONAL %	
		%	VEHICLES	%	VEHICLES	%	VEHICLES
INDIANA	1252.00	100.00	6.21	1.00	1.00	1.00	1.00
MARYLAND	847.00	100.00	4.20	1.00	1.00	1.00	1.00
MICHIGAN	2084.00	100.00	10.34	1.00	1.00	1.00	1.00
PENNSYLVANIA	2306.00	100.00	11.44	1.00	1.00	1.00	1.00
TEXAS	4889.00	100.00	24.26	1.00	1.00	1.00	1.00
WASHINGTON	966.00	100.00	4.79	1.00	1.00	1.00	1.00
TOTAL	4461.00	100.00	22.13	1.00	1.00	1.00	1.00
NATION	20154.00	100.00					

\* SOURCE: HIGHWAY STATISTICS 1984

\* PENNSYLVANIA CATEGORIZES MOST LIGHT TRUCKS AS UNKNOWN

APPENDIX TABLE 14-ACCIDENTS BY ROAD FUNCTION CLASS BY STATE

STATE	INTERSTATE	ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:	
		ACCIDENTS	CLASS	TO NATIONAL	1	ACCIDENTS	CLASS	TO NATIONAL	1	ACCIDENTS	CLASS	TO NATIONAL	1	ACCIDENTS	CLASS	TO NATIONAL	1
INDIANA		74.00	8.83	1.97	0.93	20.00	2.39	1.32	0.62	180.00	21.48	1.80	0.65	180.00	21.48	1.73	0.65
MARYLAND		51.00	8.67	1.56	0.92	14.00	2.38	0.92	0.62	173.00	20.42	1.73	1.17	173.00	20.42	1.73	1.17
MICHIGAN		87.00	6.51	2.37	0.69	24.00	1.75	1.55	0.46	354.00	25.88	3.55	1.03	354.00	25.88	3.55	1.03
PENNSYLVANIA		113.00	7.23	3.01	0.76	38.00	2.43	2.51	0.64	419.00	26.82	4.70	1.06	419.00	26.82	4.70	1.06
TEXAS		513.00	14.80	13.68	1.56	181.00	5.22	11.94	1.37	857.00	25.02	8.69	0.99	857.00	25.02	8.69	0.99
WASHINGTON		53.00	7.86	1.41	0.83	0.00	0.00	0.00	0.00	197.00	29.52	1.99	1.17	197.00	29.52	1.99	1.17
TOTAL		893.00	10.51	23.81	1.11	277.00	3.26	18.27	0.85	2192.00	25.80	21.96	1.02	2192.00	25.80	21.96	1.02
NATION		3750.00	9.46			1516.00	3.82			9982.00	25.19			9982.00	25.19		
ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS	
MINOR ART		ACCIDENTS		CLASS		TO NATIONAL		1		URBAN COLLECTOR		ACCIDENTS		CLASS		TO NATIONAL	
INDIANA		197.00	23.51	2.43	1.15	20.00	2.39	1.16	0.55	114.00	13.60	1.84	0.87	114.00	13.60	1.84	0.87
MARYLAND		135.00	22.96	1.67	1.12	39.00	6.63	2.27	1.53	85.00	14.46	1.37	0.93	85.00	14.46	1.37	0.93
MICHIGAN		318.00	23.25	3.93	1.14	75.00	1.83	1.45	0.42	273.00	19.76	4.42	1.28	273.00	19.76	4.42	1.28
PENNSYLVANIA		402.00	25.74	4.97	1.26	36.00	2.30	2.09	0.53	186.00	11.91	3.01	0.76	186.00	11.91	3.01	0.76
TEXAS		599.00	17.79	7.40	0.85	107.00	3.09	6.22	0.71	598.00	17.26	9.67	1.11	598.00	17.26	9.67	1.11
WASHINGTON		151.00	22.85	1.70	1.12	29.00	4.30	1.69	0.99	108.00	16.02	1.75	1.03	108.00	16.02	1.75	1.03
TOTAL		1805.00	21.25	22.30	1.04	256.00	3.01	14.88	0.59	1364.00	16.06	22.07	1.03	1364.00	16.06	22.07	1.03
NATION		6095.00	20.43			1720.00	4.34			6181.00	15.60			6181.00	15.60		
ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS	
MINOR RURAL COLLECTOR		ACCIDENTS		CLASS		TO NATIONAL		1		LOCAL ROAD STREET ACCIDENTS		ACCIDENTS		CLASS		TO NATIONAL	
INDIANA		18.00	2.15	1.33	0.63	215.00	25.66	3.13	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARYLAND		19.00	3.23	1.41	0.95	65.00	11.05	0.75	0.64	7.00	1.19	4.02	2.71	7.00	1.19	4.02	2.71
MICHIGAN		47.00	3.58	3.63	1.05	202.00	14.77	2.94	0.85	36.00	2.48	19.54	5.66	36.00	2.48	19.54	5.66
PENNSYLVANIA		65.00	4.16	4.81	1.22	291.00	18.63	4.24	1.08	12.00	0.77	6.90	1.75	12.00	0.77	6.90	1.75
TEXAS		94.00	2.71	6.96	0.80	506.00	14.69	7.37	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WASHINGTON		30.00	4.45	2.22	1.31	101.00	14.98	1.47	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL		275.00	3.24	20.36	0.95	1380.00	16.24	20.11	0.94	53.00	0.62	30.46	1.42	53.00	0.62	30.46	1.42
NATION		1351.00	3.41			6857.00	17.31			171.00	0.44			171.00	0.44		
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
TOTAL ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS		1 OF STATES		2 OF NATIONAL		RATIO OF STATE 2:		ACCIDENTS	
		ACCIDENTS		CLASS		TO NATIONAL		1		ACCIDENTS		CLASS		TO NATIONAL		1	
INDIANA		838.00	100.00	2.11	1.00												
MARYLAND		588.00	100.00	1.48	1.00												
MICHIGAN		1348.00	100.00	3.45	1.00												
PENNSYLVANIA		1562.00	100.00	3.94	1.00												
TEXAS		3455.00	100.00	8.74	1.00												
WASHINGTON		674.00	100.00	1.70	1.00												
TOTAL		8495.00	100.00	21.44	1.00												
NATION		39631.00	100.00														

SOURCE: FARS 1984

APPENDIX TABLE 15-ACCIDENTS BY SURFACE TYPE BY STATE

STATE	ACCIDENTS		CLASS	TO NATIONAL %	ACCIDENTS		CLASS	TO NATIONAL %	ACCIDENTS		CLASS	TO NATIONAL %	ACCIDENTS		CLASS	TO NATIONAL %	
	CONCRETE	ACCIDENTS			Z OF STATE'S	Z OF NATIONAL			ACCIDENTS	Z OF STATE'S			ACCIDENTS	Z OF STATE'S	Z OF NATIONAL		
INDIANA	123.00	14.48	3.03	1.43	698.00	83.29	2.11	1.00	16.00	1.91	2.43	1.15	1	1	1	1	
MARYLAND	43.09	7.31	1.06	0.71	539.00	91.67	1.63	1.10	4.00	0.68	0.61	0.41	1	1	1	1	
MICHIGAN	270.00	19.74	6.64	1.92	994.00	72.66	3.03	0.87	67.00	4.90	10.20	2.75	1	1	1	1	
PENNSYLVANIA	242.00	15.49	5.95	1.51	1078.00	65.81	3.11	0.79	0.00	0.00	0.00	0.00	1	1	1	1	
TEXAS	462.00	13.33	11.37	1.30	2923.00	84.36	8.88	1.01	28.00	0.81	4.26	0.49	1	1	1	1	
WASHINGTON	59.00	8.75	1.45	0.95	597.00	88.87	1.81	1.07	11.00	1.63	1.67	0.98	1	1	1	1	
<b>TOTAL</b>	<b>1199.00</b>	<b>14.11</b>	<b>29.50</b>	<b>1.38</b>	<b>6781.00</b>	<b>79.82</b>	<b>20.51</b>	<b>0.96</b>	<b>126.00</b>	<b>1.48</b>	<b>19.18</b>	<b>0.89</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	
<b>NATION</b>	<b>4064.00</b>	<b>10.25</b>			<b>33057.00</b>	<b>83.41</b>				<b>657.00</b>	<b>1.66</b>						
STATE	ACCIDENTS	Z OF STATE'S	Z OF NATIONAL	RATIO OF STATE Z	ACCIDENTS	Z OF STATE'S	Z OF NATIONAL	RATIO OF STATE Z	ACCIDENTS	Z OF STATE'S	Z OF NATIONAL	RATIO OF STATE Z	ACCIDENTS	Z OF STATE'S	Z OF NATIONAL	RATIO OF STATE Z	
STATE	OTHER	ACCIDENTS	CLASS	TO NATIONAL %													
INDIANA	1.00	0.12	0.05	0.03	INDIANA	838.00	100.00	2.11	1.00								
MARYLAND	2.00	0.34	0.11	0.07	MARYLAND	588.00	100.00	1.48	1.00								
MICHIGAN	37.00	2.70	2.00	0.59	MICHIGAN	1348.00	100.00	3.45	1.00								
PENNSYLVANIA	292.00	18.69	15.76	4.00	PENNSYLVANIA	1542.00	100.00	3.94	1.00								
TEXAS	52.00	1.50	2.81	0.32	TEXAS	3465.00	100.00	8.74	1.00								
WASHINGTON	5.00	0.74	0.27	0.16	WASHINGTON	674.00	100.00	1.70	1.00								
<b>TOTAL</b>	<b>389.00</b>	<b>4.58</b>	<b>20.99</b>	<b>0.98</b>	<b>TOTAL</b>	<b>8495.00</b>	<b>100.00</b>	<b>21.44</b>	<b>1.00</b>								
<b>NATION</b>	<b>1653.00</b>	<b>4.68</b>			<b>NATION</b>	<b>30851.00</b>	<b>100.00</b>										

SOURCE: FARS 1984

APPENDIX / TABLE 16-FATAL ACCIDENTS BY MANNER OF COLLISION

	% OF STATE'S % OF NATIONAL RATIO OF STATE 2:			% OF STATE'S % OF NATIONAL RATIO OF STATE 2:			% OF STATE'S % OF NATIONAL RATIO OF STATE 2:					
	NOT APPLICABLE	ACCIDENTS	CLASS	TO NATIONAL 1	REAR END	ACCIDENTS	CLASS	TO NATIONAL 1	HEAD ON			
INDIANA	305.00	60.26	2.05	0.97	46.00	5.49	2.50	1.18	137.00	16.35	2.34	1.11
MARYLAND	363.00	61.73	1.48	1.00	31.00	5.78	1.85	1.25	103.00	17.52	1.76	1.10
MICHIGAN	793.00	57.97	3.23	0.93	60.00	4.39	3.23	0.95	211.00	17.62	4.11	1.19
PENNSYLVANIA	964.00	61.72	3.72	0.99	65.00	4.16	3.59	0.90	206.00	13.19	3.52	0.89
TEXAS	2144.00	61.88	8.72	1.00	188.00	5.43	10.23	1.17	487.00	14.11	8.35	0.95
WASHINGTON	440.00	65.28	1.79	1.05	25.00	3.71	1.35	0.80	117.00	17.36	2.00	1.17
<b>TOTAL</b>	<b>5207.00</b>	<b>61.32</b>	<b>21.19</b>	<b>0.99</b>	<b>418.00</b>	<b>4.84</b>	<b>1838.00</b>	<b>1.06</b>	<b>1283.00</b>	<b>15.22</b>	<b>22.07</b>	<b>1.03</b>
<b>NATION</b>	<b>24579.00</b>	<b>62.02</b>			<b>1838.00</b>	<b>4.84</b>			<b>5838.00</b>	<b>14.78</b>		
<b>% OF STATE'S % OF NATIONAL RATIO OF STATE 2:</b>												
REAR TO REAR	ACCIDENTS	CLASS	TO NATIONAL 1	SINGLE	REAR TO REAR	ACCIDENTS	CLASS	TO NATIONAL 1	SINGLE			
INDIANA	0.00	0.00	0.00	0.00	0.00	130.00	15.99	2.03	0.96	0.00	0.00	0.00
MARYLAND	0.00	0.00	0.00	0.00	0.00	81.00	13.78	1.23	0.83	0.00	0.00	0.00
MICHIGAN	0.00	0.00	0.00	0.00	0.00	239.00	17.47	3.62	1.05	1.00	0.07	3.57
PENNSYLVANIA	0.00	0.00	0.00	0.00	0.00	308.00	19.77	4.67	1.18	1.00	0.06	3.57
TEXAS	1.00	0.03	25.00	2.88	553.00	15.96	8.39	0.96	0.00	0.00	0.00	0.00
WASHINGTON	0.00	0.00	0.00	0.00	0.00	88.00	13.06	1.33	0.78	0.00	0.00	0.00
<b>TOTAL</b>	<b>1.00</b>	<b>0.01</b>	<b>25.00</b>	<b>1.17</b>	<b>1403.00</b>	<b>16.52</b>	<b>21.28</b>	<b>0.99</b>	<b>2.00</b>	<b>0.02</b>	<b>7.14</b>	<b>0.33</b>
<b>NATION</b>	<b>4.00</b>	<b>0.01</b>			<b>6591.00</b>	<b>16.64</b>			<b>28.00</b>	<b>0.07</b>		
<b>% OF STATE'S % OF NATIONAL RATIO OF STATE 2:</b>												
SIDE SWIPE	% OF STATE'S % OF NATIONAL RATIO OF STATE 2:	SIDE SWIPE	% OF STATE'S % OF NATIONAL RATIO OF STATE 2:	SIDE SWIPE	SIDE SWIPE	% OF STATE'S % OF NATIONAL RATIO OF STATE 2:	SIDE SWIPE	% OF STATE'S % OF NATIONAL RATIO OF STATE 2:	SIDE SWIPE			
SAME DIRECTION ACCIDENTS	CLASS	TO NATIONAL 1	OPPOSITE DIRECTION	ACCIDENTS	CLASS	TO NATIONAL 1	ACCIDENTS	CLASS	TO NATIONAL 1			
INDIANA	7.00	0.84	1.83	0.87	9.00	1.07	2.59	1.22	838.00	100.00	2.11	1.00
MARYLAND	5.00	0.85	1.31	0.88	2.00	0.34	0.57	0.39	588.00	100.00	1.48	1.00
MICHIGAN	13.00	0.75	3.40	0.99	21.00	1.53	6.03	1.75	1388.00	100.00	3.45	1.00
PENNSYLVANIA	9.00	0.58	2.36	0.60	9.00	0.58	2.59	0.66	1582.00	100.00	3.94	1.00
TEXAS	59.00	1.70	15.44	1.77	31.00	0.89	8.91	1.02	365.00	100.00	8.74	1.00
WASHINGTON	1.00	0.15	0.26	0.15	3.00	0.44	0.86	0.51	674.00	100.00	1.70	1.00
<b>TOTAL</b>	<b>94.00</b>	<b>1.11</b>	<b>24.61</b>	<b>1.15</b>	<b>75.00</b>	<b>0.88</b>	<b>21.55</b>	<b>1.00</b>	<b>895.00</b>	<b>100.00</b>	<b>21.44</b>	<b>1.00</b>
<b>NATION</b>	<b>382.00</b>	<b>0.96</b>			<b>348.00</b>	<b>0.88</b>			<b>39631.00</b>	<b>100.00</b>		

SOURCE: FARS 1984