

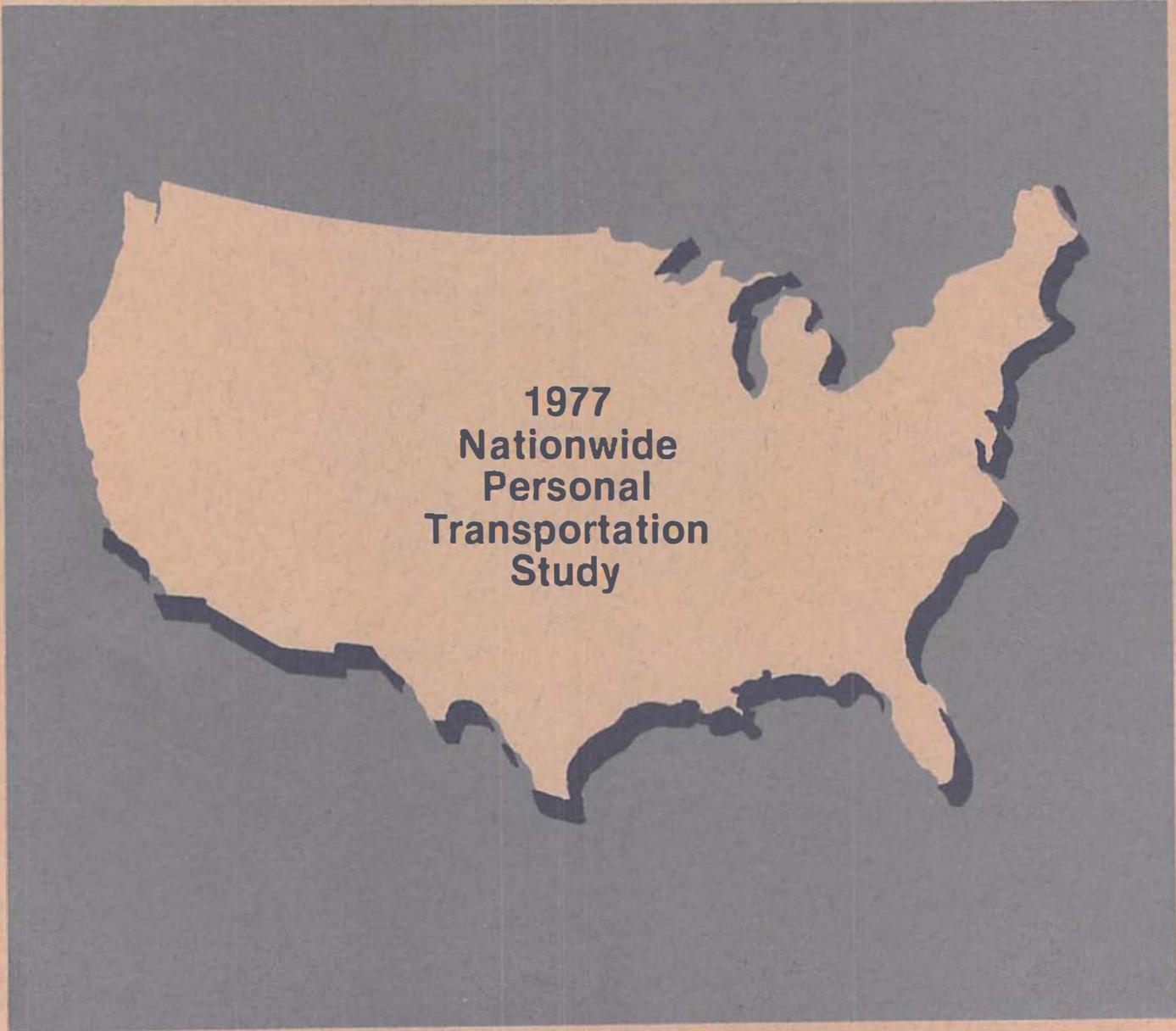


U.S. Department
of Transportation
Federal Highway
Administration

Purposes of Vehicle Trips and Travel

Office of Highway Planning
December 1980

Report No. 3

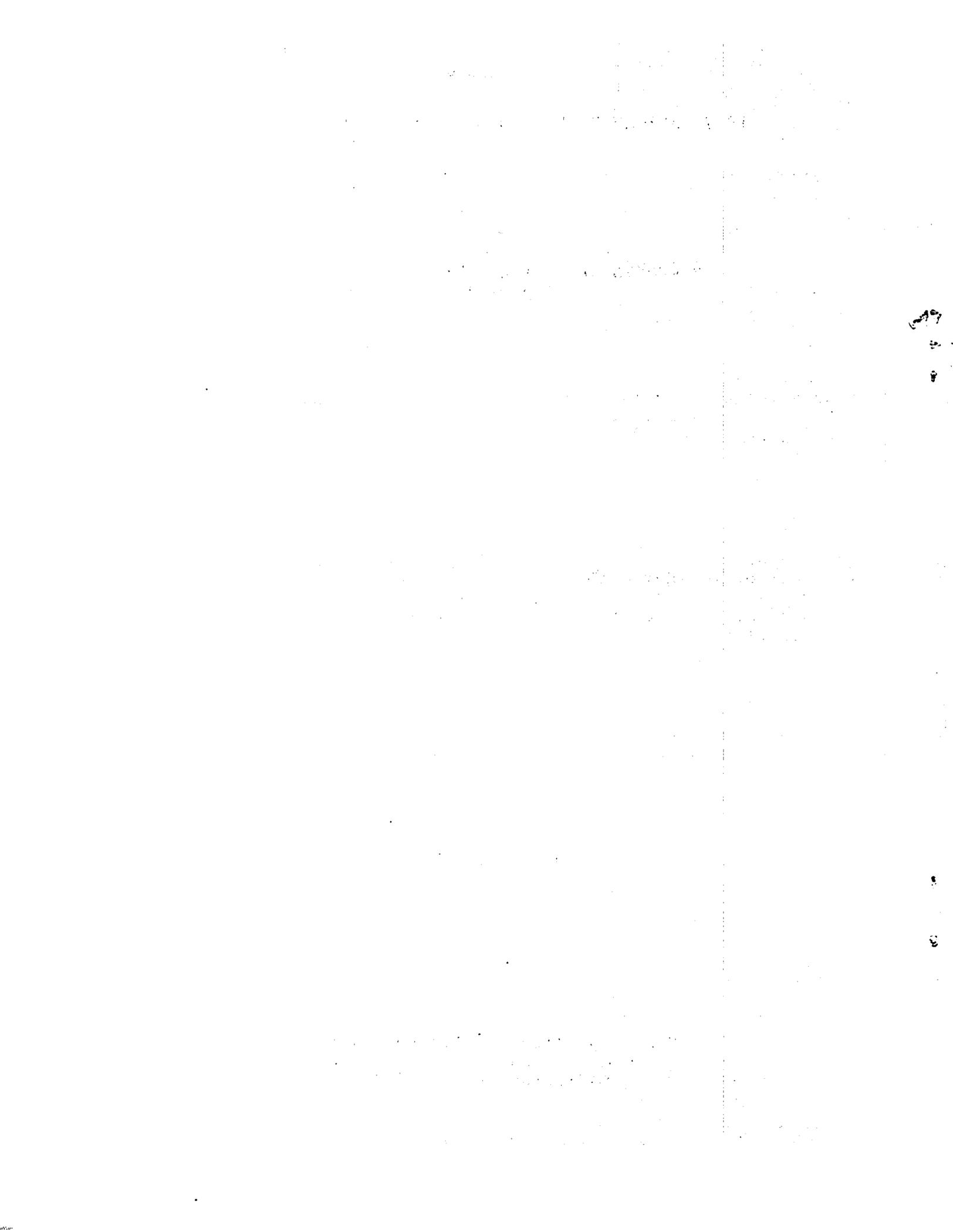


**1977
Nationwide
Personal
Transportation
Study**

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16. Abstract This report is part of a series that presents findings from the 1977 Nationwide Personal Transportation Study (NPTS). This report describes the purposes of private vehicle trips and travel. Trip purposes are related to the characteristics of households, drivers and vehicles; geographic location; time of day and day of week. Study is made of trends over time in vehicle trip purpose using comparative data from the 1969 NPTS Survey.					
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1977 NATIONWIDE PERSONAL TRANSPORTATION STUDY

PURPOSES OF VEHICLE TRIPS AND TRAVEL
Report 3

December 1980

U.S. Department of Transportation
Federal Highway Administration
Washington, D.C. 20590

Dear Mr. [Name],

I have received your letter of the 15th and am glad to hear from you. The information you provided is being reviewed and we will get back to you as soon as possible.

I am sorry that I cannot provide a more definitive answer at this time, but the complexity of the situation requires further investigation.

Your patience is appreciated, and we will contact you again once a final decision has been reached.

Sincerely,
[Name]

Very truly yours,
[Name]

Enclosed for you are the documents mentioned in your letter.

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I. HIGHLIGHTS

- o Vehicle miles of travel for earning a living account for 38 percent of all private vehicle travel, followed by travel for social and recreational (24 percent), family business (23 percent) and civic, educational and religious purposes (5 percent).
- o The longest vehicle trips are for social and recreational activities, averaging 10.2 miles, followed by earning a living (9.6 miles), civic, educational and religious purposes (6.1 miles) and family business (5.9 miles).
- o The proportions of vehicle trips and travel made for each purpose is similar regardless of place of residence.
- o More than 60 percent of all vehicle trips are 5 miles or less, but these trips account for only 17 percent of all vehicle miles of travel. More than 90 percent of all vehicle trips are 20 miles or less and account for 56 percent of all travel.
- o The percent of trips for earning a living generally increases as household income increases. The proportion of trips for family business and social and recreational activities tends to decrease as income increases.
- o Trip-making purpose varies by the age of the driver. Drivers, 16 to 21, make 28 percent of their trips for social and recreational reasons, followed by earning a living purposes (27 percent). Drivers, 21 to 60, make more trips for earning a living (34 to 38 percent), followed by family business (29 to 35 percent). Drivers, 61 or older, make approximately half their trips (46 to 50 percent) for family business.
- o The largest proportion of vehicle trips and travel during weekdays is for earning a living (35 to 40 percent). Trips are dominated by family business on Saturdays (41 percent) and social and recreational trips on Sundays (38 percent).
- o Vehicle trips and travel for certain purposes tend to be concentrated in specific time periods. As expected, over 60 percent of the trips and travel for earning a living start between 6 a.m. and 9 a.m. or between 4 p.m. and 7 p.m. The majority of family business trips begin between 9 a.m. and 7 p.m. Civic, education and religious trips are distributed throughout the day. Social and recreational trips tend to be made after 9 a.m. and do not decrease until after 1 a.m.
- o Households owning one vehicle and households owning two vehicles comprise approximately the same proportion of all households (one-third each), but two-vehicle households make almost twice the proportion of trips and travel as do one-vehicle households. Households with three or more vehicles comprise the remaining third of all households, and account for 27 to 37 percent of vehicle trips and travel.

II. INTRODUCTION

A. PURPOSE OF REPORT

This report presents data compiled from the 1977 Nationwide Personal Transportation Study (NPTS) which pertains to the purposes of private motor vehicle trips by households in the United States. The relationship of trip purposes to household, driver and trip characteristics is examined to determine when and how the pattern of trip purposes change. A better understanding of the reasons that generate travel and changes in the trip purpose patterns will improve evaluation of the use of energy resources and the need for transportation facilities.

B. ORGANIZATION OF FINDINGS

Section III presents findings of the 1977 Survey for all private motor vehicle travel, including tabulations of trip purpose information for the following household, driver or travel characteristics:

- o Residential location
- o Family income
- o Driver age
- o Driver occupation
- o Day of trip
- o Time of trip
- o Number of vehicles owned
- o Type of motor vehicle owned

The tables show the proportions of motor vehicle trips and vehicle miles of travel for each trip purpose. Average trip lengths are also shown in selected tables.

Section IV compares 1969 and 1977 survey findings for selected automobile travel only.

Information describing the NPTS survey procedures and data processing, including sample design, survey methodology, processing procedures, provisions for obtaining special tabulations and subject areas planned for 1977 NPTS reports, along with an order form for the public use tapes, are found in Appendices B and C of this report. A glossary of NPTS terms is contained in Appendix E.

C. DESCRIPTION OF DATA

Five major trip purpose categories, along with subcategories, are used in the survey:

1. Earning a Living
 - o Home to work
 - o Business related (work related)

2. Family and Personal Business (Family Business)
 - o Shopping
 - o Medical or Dental
 - o Other
3. Civic, Educational and Religious
4. Social and Recreational
 - o Visiting friends and relatives
 - o Pleasure driving
 - o Vacations
 - o Other
5. Other and Unknown

Definitions of each trip purpose category are contained in Subsection E of this Introduction.

Data contained in this report is for trips and travel in private vehicles only. Private vehicles include automobiles, vanbuses and other vans, minibuses, pickup and other small trucks, motorcycles and mopeds, recreational vehicles and taxis used for personal trips. As a proportion of trips and travel on all modes, private vehicle trips comprise 84 percent of person trips and 86 percent of person miles of travel. Survey findings on the uses of other modes, e.g., public transportation, walking, bicycling, will be contained in later reports in this NPTS report series.

D. COMPARABILITY BETWEEN 1977 NPTS AND 1969 NPTS

The 1977 NPTS is an update of the 1969 NPTS with several differences which should be noted. One of the most important differences occurs in the trip purpose categories. In the 1977 NPTS, data was collected on more detailed purpose categories than those used in 1969. It is recognized that many reasons can generate personal trips and travel. However, for the 1977 NPTS, the number of reasons is limited to 21. In analyzing and presenting the data, these 21 trip purposes are summarized into the 11 trip purposes used in the 1969 NPTS. In discussing the purposes of vehicle trips and travel, the 11 subcategories are often further aggregated into the broader categories of earning a living; family business; civic, educational and religious; social and recreational; and other. Appendix D contains a list of the original 21 trip purpose categories and the relationship of these categories to the 11 categories used in the 1969 NPTS. Additional information on the procedures used to obtain comparability of trip purposes between the 1977 and 1969 surveys is contained in Section IV and Appendix D.

Another difference between the two surveys is the expansion of the definition of private vehicle. In 1969, the NPTS survey was restricted to private passenger automobiles, station wagons and vans, and personal use of taxis. Due to the rapid growth of personal travel in privately-owned trucks, recreational vehicles, motorcycles and mopeds, trips in these types of vehicles are included in the 1977 survey.

The summary of the 1969 survey findings, which pertain to trip purpose, is contained in "Report 10, 1969 Nationwide Personal Transportation Survey, Purposes of Automobile Trips and Travel," published in May 1974 by the U.S. Department of Transportation.

Due to the differences in the two surveys, direct comparison of all information is not possible. However, some comparable survey findings are presented in Section IV along with a discussion of how the survey differences may affect the findings.

E. DEFINITIONS

The trip purposes used in this report are defined as follows:

Earning a Living

- o Home to Work: Includes travel to a place where one reports for work. It does not include any other work-related travel.
- o Business Related (Work Related): Trips related to business activities except to the place of work; for example, a plumber drives to a wholesale dealer to purchase supplies for his/her business.

Family and Personal Business

- o Shopping: Includes "window-shopping" and purchases of commodities, such as groceries, furniture, textiles, etc., for use or consumption elsewhere.
- o Doctor or Dentist: Trips made for medical, dental or psychiatric treatment or other related professional services.
- o Other: Trips taken to attend organized functions of the family or friends, such as weddings, graduations, reunions, etc. Includes purchase of services such as cleaning garments, beauty parlor treatments, servicing of an auto, etc.

Civic/Educational/Religious

- o Trips to political rallies, legislative hearings, voting places, etc.; to school, college or university for class(es), PTA meetings, seminars, etc.; to church services or to participate in other religious activities. Social activities that take place at a church or school are not classified as religious or educational.

Social and Recreational

- o Visit friends or relatives: Trips made to visit friends or relatives but not prompted by organized family affairs or an emergency.

- o Pleasure driving: Includes driving trips made with no other purpose listed here but to "go for a drive" with no destination in mind; for example, a Sunday drive in the country.
- o Vacation: Trips reported by the respondent as "vacation."
- o Other Social and Recreational: This purpose is composed of the following detailed purposes collected in the 1977 NPTS:
 - Eat Meal: Trips taken to eat a meal in a public place. Trips taken to a friend's house for dinner are classified "visit friends or relatives."
 - Sightseeing: Trips taken to sightsee or tour with a particular place planned to visit. This distinguishes "sightseeing" from "pleasure driving."
 - Entertainment: Trips taken to go to a movie, the theatre, opera, concert, discotheque, cabaret, spectator sports, such as a ball game, races, track meet, or an amusement park.
 - Recreation (participation): Trips taken to participate in sporting or outdoor activities, such as fishing, hunting, golf, swimming, picnicking, skiing, etc., also, trips to participate in indoor activities, such as skating, bowling, basketball, etc.
 - Social: Trips taken to enjoy some form of social activity involving friends or acquaintances, such as a party, playing cards, dancing, etc.

Other

NOTE: The remaining trip purposes collected in 1977 are defined below. Since there are not comparable trip purposes collected in 1969, these additional 1977 purposes required special handling in order to reclassify them into one of the above categories. If this was not possible, they are reclassified into the "Other and Unknown" category. These reclassifying procedures are further explained in Section IV and Appendix D of this report.

- o Convention: Trips made to attend business, professional, special interest, and other types of conventions; for example, Shriners, etc.
- o Change of Vehicle: Trips made specifically to change from one vehicle to another within the same "means of transportation" category. (For example, transferring from one bus to another, one plane to another, or from one passenger car to another.)
- o Pick up or leave off passenger: Trips that are made to serve a passenger. For example, a trip by Mrs. Columbo to pick up her mother and drive her to the store on travel day would be reported as two trips: the trip to her mother's home for the purpose of picking up a passenger and the trip to the store for the purpose

of shopping. If Mr. Hersholt drives from Washington to Chicago during the 14-day travel period and stops in Baltimore to pick up his son, the purpose of his first stop on his trip to Chicago will be reported as "picking up a passenger."

- o Return home: The trip made to the residence of the respondent at the time of the trip. In the case of a college student who lives on campus and is interviewed at school, trips to the dormitory or other living quarters on campus are considered "return home."
- o Lodging: Trips made for the purpose of taking overnight accommodations. This category is also used in lieu of "return home" when return trips are to this lodging.
- o Other: Any purpose for a trip that does not fit into one of the above categories.

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MEMORANDUM
TO: [Name]
FROM: [Name]
SUBJECT: [Subject]

[Main body of text, mostly illegible due to low contrast and scan quality]

DATE: [Date]

BY: [Signature]

III. 1977 SURVEY FINDINGS

DISTRIBUTION OF VEHICLE TRIPS, VEHICLE MILES OF TRAVEL AND AVERAGE TRIP LENGTH

U.S. Total

Table 1 is a summary of the proportion of trips and vehicle miles of travel for each of the five major trip purpose categories. Average trip length for each trip purpose is also shown.

Trips related to earning a living and family business each account for approximately one-third of all trips. However, due to longer average trip length (9.6 miles), travel for earning a living accounts for nearly 40 percent of all personal motor vehicle travel, while family business travel, averaging 5.9 miles, represents only 23 percent of travel.

While social and recreational trips are less than one-fifth of all trips, they are the longest trips (averaging 10.2 miles) and account for nearly one-quarter of personal vehicle travel.

Place of Residence

All Areas and Places. Table 2 shows that the proportion of vehicle trips made for each trip purpose is approximately the same outside and within Standard Metropolitan Statistical Areas (SMSA's).^{*} It also shows that the proportion of vehicle miles of travel for earning a living is slightly higher for households inside SMSA's (39.3 percent) than outside SMSA's (35.2 percent). Conversely, it shows that the proportion of travel for family business is slightly higher for households outside SMSA's (26.2 percent) than inside SMSA's (20.8 percent).

Table 3 shows approximately two-thirds of all vehicle trips (66.8 percent) and two-thirds of all vehicle travel (65.9 percent) are made by households inside SMSA's. This closely corresponds with the proportion of households located inside SMSA's (67.3 percent). For SMSA's, the table also shows that households outside central city areas have a greater proportion of trips and travel than households in central city areas.

^{*}Standard Metropolitan Statistical Area is defined as a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition, contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city. In the New England States, SMSA's consist of towns and cities instead of counties.

TABLE 1. PERCENT OF VEHICLE TRIPS, VEHICLE TRAVEL AND AVERAGE TRIP LENGTH BY TRIP PURPOSE

Trip Purpose	Percent of		Trip Length (Miles)
	Trips	Travel	
Earning a Living			
Home to Work	27.8	30.4	9.2
Work Related	5.1	7.3	11.9
Subtotal	32.9	37.7	9.6
Family and Personal Business			
Shopping	17.0	10.0	4.9
Medical or Dental	1.3	1.7	10.8
Other	14.0	11.2	6.7
Subtotal	32.3	22.9	5.9
Civic, Educational and Religious	6.4	4.7	6.1
Social and Recreational			
Visiting Friends and Relatives	8.4	11.3	11.2
Pleasure Driving	0.4	0.8	15.7
Vacations	0.1	0.6	95.4
Other	10.4	11.3	9.1
Subtotal	19.3	24.0	10.2
Other and Unknown	9.1	10.7	9.8
TOTAL	100.0†	100.0‡	8.3

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

TABLE 2. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL BY PURPOSE AND PLACE OF RESIDENCE (DISTRIBUTION BY PURPOSE)*

Trip Purpose	Place of Residence						All
	Outside SMSA			Inside SMSA			
	Under 5,000	Over 5,000	Average	Within Central City	Not in Central City	Average	
Vehicle Trips							
Earning a Living	32.0	32.0	32.0	33.3	33.2	33.3	32.9
Family and Personal Business	33.9	33.4	33.7	30.6	32.4	31.6	32.3
Civic, Educational, and Religious	5.8	7.0	6.5	6.7	6.2	6.4	6.4
Social and Recreational	19.7	19.3	19.4	19.8	18.8	19.2	19.3
Other	8.6	8.3	8.4	9.6	9.4	9.5	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel							
Earning a Living	36.7	33.9	35.2	38.2	39.8	39.3	37.7
Family and Personal Business	26.4	25.9	26.2	20.2	21.6	20.8	22.9
Civic, Educational, and Religious	4.2	5.2	4.8	4.5	4.8	4.7	4.7
Social and Recreational	22.7	24.3	23.5	24.7	23.9	24.0	24.0
Other	10.0	10.7	10.3	12.4	9.9	11.2	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡

* See Table A-1 and A-2, Appendix A for more detailed information

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

TABLE 3. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL BY PURPOSE AND PLACE OF RESIDENCE (DISTRIBUTION BY PLACE OF RESIDENCE)*

Trip Purpose	Place of Residence						Total
	Outside SMSA			Inside SMSA			
	Under 5,000	Over 5,000	Subtotal	Within Central City	Not in Central City	Subtotal	
Vehicle Trips							
Earning a Living	15.8	16.5	32.3	30.8	36.9	67.7	100.0
Family and Personal Business	17.3	17.6	34.9	28.6	36.5	65.1	100.0
Civic, Educational, and Religious	14.8	18.5	33.3	31.6	35.1	66.7	100.0
Social and Recreational	16.9	16.8	33.7	31.1	35.2	66.3	100.0
Other	15.4	15.3	30.7	32.0	37.3	69.3	100.0
ALL PURPOSES	16.3	16.9	33.2	30.4	36.4	66.8	100.0†
Vehicle Miles of Travel							
Earning a Living	18.5	13.3	31.8	27.1	41.1	68.2	100.0
Family and Personal Business	22.0	16.9	38.9	23.9	37.2	61.1	100.0
Civic, Educational, and Religious	17.1	16.5	33.6	26.1	40.3	66.4	100.0
Social and Recreational	18.4	15.1	33.5	28.0	38.5	66.5	100.0
Other	17.9	15.0	32.9	31.4	35.7	67.1	100.0
ALL PURPOSES	19.2	14.9	34.1	27.0	38.9	65.9	100.0‡
Distribution of Households	16.7	16.0	32.7	34.9	32.4	67.3	100.0

* See Tables A-3 and A-4, Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

Table 3 also shows that the one-third to two-thirds split of trips and travel between households outside and inside SMSA's is similar for each trip purpose, with the exception of travel for family business which splits 38.9 percent for households outside SMSA's and 61.1 percent within SMSA's.

Outside SMSA's, households in places under 5,000 population have a greater proportion of vehicle miles of travel (19.2 percent) than households in places over 5,000 population (14.9 percent), while the proportion of trips for each population group are approximately equal.

Standard Metropolitan Statistical Area. Table 4 indicates the proportion of trips made for each trip purpose is similar for households in each SMSA population group. However, the larger the SMSA population, the greater the proportion of personal travel devoted to earning a living, rising from 34.7 percent for households in SMSA's under 250,000 population to 43.4 percent for households in SMSA's greater than 3 million population. The proportion of personal travel devoted to the other four trip purpose categories does not vary systematically by SMSA size.

Trip Length

As shown in Table 5, average trip lengths for the five major classifications of trip purpose are 10 miles or less. On the average, trips made by households outside SMSA's are slightly longer (8.5 miles) than trips made by households within SMSA's (8.2 miles). Vacation trips for households inside SMSA's (averaging 103.5 miles) are dramatically longer than the vacation trips of households outside SMSA's which average 39.9 miles. Reflecting greater proximity to shopping and services, family business trips are about 20 percent shorter for households inside SMSA's than those outside SMSA's (5.4 miles versus 6.6 miles).

Looking at SMSA population size groups in Table 6, average trip lengths are longer in the larger SMSA groups, increasing from an average of 7.6 miles for households in the under 250,000 population group to 8.8 miles in the over 3 million population group. For example, the length of the average pleasure driving trip is 69 percent longer for the largest (over 3 million) population group than the smallest (under 250,000) population group.

For each trip purpose, Table 7 shows proportions of trips and travel within seven trip length categories. Over 60 percent of all vehicle trips are 5 miles or less in length.* Most (89.3 percent) of the vehicle trips to earn a living are 20 miles or less in length with almost half (49.4 percent) 5 miles or less. Family business trips are shorter with 95.3 percent 20 miles or less and 72.2 percent 5 miles or less. Only social and recreational trips have a significant proportion of trips more than 100 miles (6 percent).

*Details on trips and travel 5 miles or less are shown in Table A-28 and A-29, Appendix A.

**TABLE 4. PERCENT OF VEHICLE TRIPS BY PURPOSE AND
SMSA POPULATION SIZE GROUPS***

Trip Purpose	SMSA Population Size Groups					All
	Under 250,000	250,000 to 499,999	500,000 to 999,999	1 million to 3 million	Over 3 million	
Vehicle Trips						
Earning a Living	32.2	33.2	33.8	32.5	34.7	33.2
Family and Personal Business	30.9	31.8	30.7	32.3	31.6	31.7
Civic, Educational, and Religious	6.5	6.5	6.9	6.4	6.0	6.4
Social and Recreational	20.8	19.5	19.6	19.6	17.2	19.2
Other	9.6	9.0	9.0	9.2	10.5	9.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel						
Earning a Living	34.7	34.3	38.8	40.4	43.4	37.7
Family and Personal Business	20.1	21.7	23.6	21.1	19.0	22.9
Civic, Educational, and Religious	5.2	4.2	4.6	5.0	4.4	4.7
Social and Recreational	24.8	27.2	24.9	23.8	21.9	24.0
Other	15.2	12.6	8.1	9.7	11.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0‡

* See Tables A-5 and A-6, Appendix A for more details

† Total Trips = 72,771,000,000 (108,826,000,000 less 36,055,000,000 outside SMSA's)

‡ Total vehicle miles of travel = 538,690,000,000 (907,603,000,000 less 368,913,000,000 outside SMSA's)

TABLE 5. AVERAGE VEHICLE TRIP LENGTH BY PURPOSE AND PLACE OF RESIDENCE INSIDE OR OUTSIDE SMSA'S

Average Vehicle Trip Length (Miles)							
Trip Purpose	Place of Residence						Total
	Outside SMSA			Inside SMSA			
	Under 5,000	Over 5,000	Average	Within Central City	Not in Central City	Average	
Earning a Living							
Home to Work	10.5	7.3	8.9	7.9	10.4	9.2	9.2
Work Related	14.5	9.8	12.0	11.7	11.8	11.7	11.9
Average	11.1	7.7	9.4	8.4	10.6	9.6	9.6
Family and Personal Business							
Shopping	7.3	4.2	5.7	3.8	5.0	4.4	4.9
Medical or Dental	16.2	11.4	14.1	6.1	11.6	9.3	10.8
Other	7.3	6.8	7.0	6.1	6.6	6.3	6.7
Average	7.6	5.6	6.6	4.8	5.9	5.4	5.9
Civic, Educational, and Religious	7.0	5.4	6.1	5.0	6.9	5.9	6.1
Social and Recreational							
Visiting Friends and Relatives	12.1	11.1	11.6	10.1	11.6	10.9	11.2
Pleasure Driving	15.6	12.2	14.4	15.5	17.3	16.6	15.7
Vacations	20.4	98.4	39.9	80.5	120.9	103.5	95.4
Other	10.1	7.4	8.7	8.1	10.3	9.2	9.1
Average	11.2	9.2	10.2	9.2	11.4	10.3	10.2
Other and Unknown	11.3	9.6	9.8	9.6	9.3	9.4	9.8
ALL PURPOSES	9.8	7.3	8.5	7.4	8.9	8.2	8.3

**TABLE 6. AVERAGE VEHICLE TRIP LENGTH BY PURPOSE AND SMSA
POPULATION SIZE GROUPS**

Average Vehicle Trip Length (Miles)						
SMSA Population Size Groups						
Trip Purpose	Under 250,000	250,000 to 499,999	500,000 to 999,999	1 million to 3 million	Over 3 million	All
Earning a Living						
Home to Work	7.4	7.9	8.8	10.3	10.3	9.2
Work Related	12.4	9.2	10.3	12.2	14.2	11.7
Average	8.1	8.1	9.0	10.5	10.9	9.6
Family and Personal Business						
Shopping	4.3	4.6	4.7	4.6	4.2	4.4
Medical or Dental	6.7	8.1	11.9	9.2	10.1	9.3
Other	5.4	6.0	7.3	6.4	6.4	6.3
Average	4.8	5.3	6.0	5.5	5.2	5.4
Civic, Educational, and Religious						
	6.1	5.1	5.3	6.5	6.5	5.9
Social and Recreational						
Visiting Friends and Relatives	9.4	11.7	10.4	11.1	11.4	10.9
Pleasure Driving	14.7	11.0	13.3	18.4	24.8	16.6
Vacations	76.2	149.7	90.6	108.1	105.6	103.5
Other	8.4	10.1	9.0	8.8	10.2	9.2
Average	9.1	11.1	11.5	10.3	11.2	10.3
Other and Unknown						
	11.8	11.0	7.1	8.9	9.4	9.4
ALL PURPOSES	7.6	7.9	7.9	8.5	8.8	8.3

**TABLE 7. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL
BY PURPOSE AND TRIP LENGTH ***

Trip Purpose	Vehicle Trip Length (miles)							TOTAL
	5 and Under	6-10	11-20	21-30	31-50	51-100	Over 100	
Vehicle Trips								
Earning a Living	49.4	21.3	18.6	6.0	2.9	1.2	0.6	100.0
Family and Personal Business	72.2	14.4	8.7	2.4	1.6	0.5	0.2	100.0
Civic, Educational and Religious	68.6	16.6	9.6	2.7	1.9	0.5	0.1	100.0
Social and Recreational	52.2	19.1	12.7	4.4	3.0	2.6	6.0	100.0
Other	67.3	15.9	9.4	2.8	2.2	1.1	1.3	100.0
ALL PURPOSES	61.4	17.9	12.9	4.0	2.3	1.0	0.5	100.0†
Vehicle Miles of Travel								
Earning a Living	13.4	18.1	29.9	16.5	11.3	6.3	4.5	100.0
Family and Personal Business	25.3	19.3	22.7	10.3	8.9	6.5	7.0	100.0
Civic, Educational and Religious	24.5	20.6	24.2	11.6	13.2	4.6	1.3	100.0
Social and Recreational	12.9	15.1	18.8	11.3	11.2	13.7	17.0	100.0
Other	15.8	12.9	14.2	7.5	9.6	8.1	31.9	100.0
ALL PURPOSES	16.8	17.2	23.5	12.5	10.6	8.3	11.1	100.0‡

* See Tables A-7, A-8, A-28, and A-29, Appendix A, for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

Note that the majority of vehicle trips are 5 miles or less in length (61.4 percent), but the majority of travel is done in trips 20 miles or less (57.5 percent).

Household Income

The relationships between trip purpose and seven categories of annual household income are shown in Tables 8 through 12. Table 8 summarizes the proportion of trips and travel attributed to each income category. Tables 9 through 12 show the distribution of trips and travel and the average trip lengths for each of the four major classes of trip purposes and the percent of households in each of the household income categories.

Table 8 shows that the lowest proportions of vehicle trips (22.6 percent) and travel (24.9 percent) to earn a living are made by households with annual incomes less than \$5,000, as compared to the average of 32.9 percent of trips and 37.7 percent of travel for all households. The proportion of vehicle trips and travel to earn a living increases for households with incomes up to \$25,000 and then decreases for households with annual incomes above \$25,000.

Households with annual incomes less than \$5,000 make 23 percent of their vehicle trips and 32 percent of their travel for social and recreational purposes. The proportion of trips and travel for social and recreational purposes shows decreases through the \$15,000 to \$35,000 income categories, then shows slight increases.

As shown in Tables 9 through 12, the greatest proportions of vehicle trips and travel in each trip purpose class are made by households in the \$15,000 to \$25,000 income group, ranging from 31.9 percent of social and recreational trips to 36.4 percent of trips for earning a living and from 32 percent of social and recreational travel to 37.4 percent of travel to earn a living. This is attributable partially to the fact that the greatest proportions of households (24.8 percent) are in the \$15,000 to \$25,000 income group.

Tables 9 through 12 also show that the proportion of vehicle trips and travel for the lower income groups are less than the proportion of households found in these groups. Proportions of trips and travel for the income groups over \$25,000 are above the proportion of households found in these income groups. In the \$10,000 to \$15,000 income group, the proportion of trips and travel most closely approximates the proportion of households in this group.

As shown in Table 9, the average trip length for earning a living approximates 10 miles for most household income groups with the lowest income groups making shorter trips for earning a living. Home-to-work trips are shorter than work-related trips for each income group.

Table 10 indicates the average trip length for family business trips approximate 6 miles. Medical and dental trips are longer, averaging from 7.8 miles to 13.2 miles with the longer trips in the lower income groups.

**TABLE 8. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL
BY TRIP PURPOSE AND ANNUAL HOUSEHOLD INCOME***

Trip Purpose	Annual Household Income							ALL
	Less than \$5,000	\$5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Vehicle Trips								
Earning a Living	22.6	29.9	34.0	35.5	34.2	31.8	31.8	32.9
Family and Personal Business	36.8	34.3	31.5	31.3	32.2	31.4	29.8	32.3
Civic, Educational and Religious	8.9	5.6	6.0	6.3	6.9	7.2	5.9	6.4
Social and Recreational	23.1	21.3	19.6	18.0	17.4	18.7	20.5	19.3
Other	8.6	8.9	8.9	8.9	9.3	10.9	12.0	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel								
Earning a Living	24.9	32.3	40.1	40.5	39.5	39.5	34.9	37.7
Family and Personal Business	27.6	26.2	21.0	22.1	22.7	19.9	24.0	22.9
Civic, Educational and Religious	6.3	4.5	4.5	4.3	4.8	5.3	5.4	4.7
Social and Recreational	31.8	26.6	24.1	21.9	22.9	24.3	21.0	24.0
Other	9.4	10.4	10.3	11.2	10.1	11.0	14.7	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡

* See Tables A-9 and A-10 in appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

TABLE 9. DISTRIBUTION OF VEHICLE TRIPS AND VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) FOR EARNING A LIVING BY ANNUAL HOUSEHOLD INCOME

Trip Purpose	Annual Household Income							TOTAL
	Less than \$5,000	\$5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Vehicle Trips								
Earning a Living								
Home to Work	4.8	15.3	23.6	37.0	12.5	4.8	2.0	100.0
Work Related	6.4	14.1	20.8	34.4	15.3	5.8	3.2	100.0
Average	5.1	15.1	23.1	36.4	13.0	5.0	2.3	100.0†
Vehicle Miles of Travel								
Earning a Living								
Home to Work	3.6	14.0	23.2	39.0	13.2	5.1	1.9	100.0
Work Related	6.0	10.6	25.4	30.9	16.5	7.4	3.2	100.0
Average	4.0	13.5	23.4	37.4	14.2	5.3	2.2	100.0‡
Trip Length (miles)								
Earning a Living								
Home to Work	7.1	8.4	9.0	9.7	9.7	9.8	8.6	9.2
Work Related	11.1	9.0	14.5	10.7	12.8	15.3	12.2	11.9
Average	7.9	8.5	9.5	9.8	10.3	10.8	9.9	9.6
Distribution of Households	19.7	21.8	21.3	24.8	7.9	3.0	1.5	100.0

† Trips for earning a living=35,804,000,000

‡ Vehicle miles of travel for earning a living=342,166,000,000

**TABLE 10. DISTRIBUTION OF VEHICLE TRIPS AND VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES)
FOR FAMILY AND PERSONAL BUSINESS BY ANNUAL HOUSEHOLD INCOME**

Trip Purpose	Annual Household Income							Total
	Less than \$5,000	\$ 5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Vehicle Trips								
Family and Personal Business								
Shopping	8.2	16.8	21.9	32.8	13.2	5.0	2.1	100.0
Medical or Dental	9.5	17.7	19.4	34.1	10.8	6.9	1.6	100.0
Other	8.4	18.4	21.7	32.9	11.6	4.8	2.2	100.0
Average	8.3	17.6	21.7	32.8	12.5	5.0	2.1	100.0†
Vehicle Miles of Travel								
Family and Personal Business								
Shopping	6.6	15.7	21.1	33.8	15.0	5.5	2.3	100.0
Medical or Dental	9.8	20.6	23.9	29.9	9.5	5.1	1.2	100.0
Other	8.1	19.2	19.4	34.6	12.0	3.9	2.8	100.0
Average	7.4	17.7	20.0	34.0	13.6	4.8	2.5	100.0‡
Trip Length (miles)								
Family and Personal Business								
Shopping	3.9	4.6	4.7	5.0	5.5	5.5	5.3	4.9
Medical or Dental	11.2	12.6	13.2	9.4	9.5	7.8	8.5	10.8
Other	6.4	7.0	6.0	7.0	6.9	5.4	8.7	6.7
Average	5.3	6.0	5.6	6.0	6.1	5.6	6.9	5.9
Distribution of Households	19.7	21.8	21.3	24.8	7.9	3.0	1.5	100.0

† Trips for family and personal business = 35,151,000,000

‡ Vehicle miles of travel for family and personal business = 207,841,000,000

Table 11 indicates the average trip length for civic, educational and religious activities ranges from 5.1 to 7.9 miles with the longer trips being made by the higher income groups.

Social and recreational vehicle trips, shown in Table 12, average 10.2 miles with only slight variations among the income groups. The longest vacation trips by motor vehicle are made by households in the \$15,000 to \$25,000 income group (130.2 miles) and the shortest (approximately 60 miles) in the \$25,000 and over income groups.

Age of Driver

The purpose of travel varies considerably by driver age. As shown in Table 13, the proportion of vehicle trips in the six age groups between 21 and 60 are similar to each other but are different from the 16 to 20, 61 to 70 and over 70 age groups.

For the 21 to 60 age groups, approximately 35 percent of their vehicle trips are for earning a living, 30 percent for family business, 15 to 25 percent for social and recreational purposes and about 5 percent for civic, educational and religious purposes. For drivers under age 21, the proportion of vehicle trips for earning a living (27.2 percent) and family business (22.7 percent) is less than for drivers in the 21 to 60 age groups, while the proportion of trips for social and recreational (27.9 percent) and civic, educational and religious (13.3 percent) is greater.

Reflecting reduced work activity, drivers in the 61 to 70 and over 70 age groups make 22 percent and 8 percent, respectively, of their vehicle trips for earning a living. A greater proportion of the over 60 age group's trips are for family business (45 to 50 percent) and social and recreational trips (20 to 25 percent).

Travel varies more by driver age groups than trips do. Travel for earning a living is 45 percent of total travel for drivers between ages 36 and 50. The proportion is less for both younger and older drivers and is only 6 percent of total travel for drivers over age 70.

For social and recreational travel, the reverse is true. Drivers in the 41 to 50 age group report less than 18 percent of their travel for social and recreational purposes while the youngest and oldest drivers report 33 percent and 39 percent, respectively, for such travel.

Trip lengths for earning a living and family business increase as driver age increases through age 50 and then decrease. Average trip lengths for other travel purposes do not show a uniform pattern.

For purposes of examining the distribution of vehicle trips and travel by driver age group within each trip purpose category, Table A-31, Appendix A, is provided.

**TABLE 11. DISTRIBUTION OF VEHICLE TRIPS AND VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES)
FOR CIVIC, EDUCATIONAL AND RELIGIOUS BY ANNUAL HOUSEHOLD INCOME**

Trip Purpose	Annual Household Income							Total
	Less than \$5,000	\$5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Vehicle Trips								
Civic, Educational and Religious	10.1	14.5	20.9	33.4	13.3	5.7	2.1	100.0†
Vehicle Miles of Travel								
Civic, Educational and Religious	8.4	15.1	21.4	32.6	13.7	6.1	2.7	100.0‡
Trip Length (miles)								
Civic, Educational and Religious	5.1	6.3	6.2	5.9	6.3	6.5	7.9	6.1
Distribution of Household	19.7	21.8	21.3	24.8	7.9	3.0	1.5	100.0

† Trips for civic, educational and religious = 6,965,000,000

‡ Vehicle miles of travel for civic, educational and religious = 42,657,000,000

TABLE 12. DISTRIBUTION OF VEHICLE TRIPS AND VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) FOR SOCIAL AND RECREATIONAL BY ANNUAL HOUSEHOLD INCOME

Trip Purpose	Annual Household Income							Total
	Less than \$5,000	\$ 5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Vehicle Trips								
Social and Recreational								
Visiting Friends and Relatives	10.6	20.4	22.6	30.5	10.3	3.9	1.7	100.0
Pleasure Driving	7.1	24.8	18.0	34.0	8.3	3.5	4.3	100.0
Vacations	0.0	16.6	29.0	25.0	20.5	4.0	4.9	100.0
Other	7.3	16.2	22.7	32.9	12.0	6.0	2.9	100.0
Average	8.3	17.3	22.3	31.9	12.7	5.4	2.1	100.0†
Vehicle - Miles of Travel								
Social and Recreational								
Visiting Friends and Relatives	9.4	19.7	21.5	30.0	13.6	4.2	1.6	100.0
Pleasure Driving	5.6	18.0	16.8	32.4	10.0	14.2	3.0	100.0
Vacations	0.0	12.8	35.5	34.1	12.2	2.5	2.9	100.0
Other	7.7	15.0	22.9	33.8	12.1	6.1	2.4	100.0
Average	8.1	17.5	22.6	32.0	12.3	5.2	2.3	100.0‡
Trip Length (miles)								
Social and Recreational								
Visiting Friends and Relatives	9.9	10.8	10.6	11.0	14.7	12.3	11.1	11.2
Pleasure Driving	12.3	11.3	14.6	15.0	18.9	63.3	10.9	15.7
Vacations	0.0	73.6	116.6	130.2	56.6	60.0	57.0	95.4
Other	9.6	8.5	9.2	9.4	9.2	9.3	7.3	9.1
Average	9.8	9.9	10.3	15.3	11.8	11.0	8.9	10.2
Distribution of Households	19.7	21.8	21.3	24.8	7.9	3.0	1.5	100.0

† Trips for social and recreational = 21,003,000,000

‡ Vehicle miles of travel for social and recreational = 217,825,000,000

TABLE 13. PERCENT OF VEHICLE TRIPS, VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) BY PURPOSE AND AGE OF DRIVER*

Trip Purpose	Age of Driver									All Drivers
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	Over 70	
Vehicle Trips										
Earning a Living	27.2	34.2	35.0	35.0	35.5	37.9	36.7	21.9	8.0	32.9
Family and Personal Business	22.7	28.8	30.0	32.3	32.0	32.9	34.7	45.5	49.6	32.3
Civic, Educational and Religious	13.3	4.7	5.3	4.5	6.0	5.6	5.8	6.1	9.9	6.4
Social and Recreational	27.9	24.1	20.1	17.7	15.8	13.7	15.4	19.5	25.2	19.3
Other	8.9	8.2	9.6	10.5	10.7	9.9	7.4	7.0	7.3	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel										
Earning a Living	27.6	35.8	40.8	42.2	44.6	44.2	40.5	23.0	5.9	37.7
Family and Personal Business	18.0	20.8	20.1	22.2	23.5	23.2	22.9	34.2	36.4	22.9
Civic, Educational and Religious	12.3	4.6	4.7	3.5	3.6	3.5	2.9	3.8	7.8	4.7
Social and Recreational	33.3	28.1	23.7	22.0	20.4	17.7	22.8	25.4	38.5	24.0
Other	8.8	10.7	10.7	10.1	7.9	11.4	10.9	13.6	11.4	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡
Trip Length (miles)										
Earning a Living	8.6	8.9	9.5	10.8	10.5	10.2	9.7	7.9	4.5	9.6
Family and Personal Business	5.6	5.9	5.4	6.2	6.1	6.2	5.8	5.6	4.4	5.9
Civic, Educational and Religious	6.5	8.3	7.3	6.9	4.9	5.5	4.4	4.7	4.7	6.1
Social and Recreational	8.4	10.0	9.8	11.2	9.6	11.5	13.1	9.9	9.1	10.2
Other	7.0	11.2	9.2	8.6	6.1	10.2	13.0	14.7	9.4	9.8
ALL PURPOSES	7.1	8.6	8.2	9.0	8.3	8.8	8.8	7.5	6.0	8.3

* See tables A-11, A-12, A-13, Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

Occupation of Driver*

Table 14 shows the relationship between trip purpose and vehicle trips, travel and average trip length for seven categories of driver occupation plus retired, unemployed and work status unknown categories. Except for farmers and farm managers, the proportions of vehicle trips and travel are generally similar among the occupation classes of workers.

Approximately one-half of all vehicle trips and travel made by managers and administrators is made for earning a living. In contrast, farmers make only 35 percent of their vehicle trips and 31 percent of their travel for earning a living.

Retired individuals report almost half of their vehicle trips are for family business, but these trips are 34 percent of their vehicle miles of travel. Another one-third of retired persons' travel is for social and recreational purposes.

With the exception of farmers and farm managers and service workers, average trip lengths associated with each travel purpose are not significantly different among the occupational classes.

For family business travel, farmers report an average trip length of 10.2 miles as compared to an average trip length of 5.9 miles for all drivers. Farmers' social and recreational trips at 17.4 miles are long when compared to the average social and recreational trip of 10.2 miles for all drivers. Service workers make shorter than average trips, particularly for earning a living (7.8 miles versus the average of 9.6 miles). Some of the most significant differences shown in Table 14 are the contrasts between travel patterns of drivers in one of the seven occupational categories and those who are retired, unemployed or whose work status is unknown.

Day of the Week

Table 15 shows the variations in vehicle trips and travel purpose among days of the week. Trips for earning a living represent 40 percent of trips made on Monday through Thursday, declining to 35 percent on Friday, 18 percent on Saturday and 11 percent on Sunday. Earning a living travel shows a similar pattern.

Family business is the dominant trip purpose on Saturday, representing over 40 percent of total trips. Almost 40 percent of Sunday trips are made for a social and recreational purpose. Weekend travel is dominated by the social and recreational purpose reaching almost 40 percent on Saturday and more than 45 percent on Sunday.

Trip lengths for each purpose are generally uniform throughout the week with the exception of trips for family business purposes which increase

*Occupational categories were obtained from the Dictionary of Occupational Titles (one digit summary).

**TABLE 14. PERCENT OF VEHICLE TRIPS, VEHICLE TRAVEL AND
AVERAGE TRIP LENGTH (MILES) BY PURPOSE AND OCCUPATION OF DRIVER***

Trip Purpose	Occupation of Driver										
	Professional and Semi- Professional	Farmers and Farm Managers	Managers and Administrators	Sales Clerks and Other Clerks	Craftsmen and Foremen	Operators and Laborers	Service Workers	Retired	Unemployed	Occupation or Work Status Unknown	All Drivers
	Vehicle Trips										
Earning a Living	41.7	34.5	49.4	45.8	43.8	40.2	42.6	11.7	10.3	24.1	32.9
Family and Personal Business	28.9	36.7	24.6	27.7	26.8	26.7	24.9	49.7	41.7	33.8	32.3
Civic, Educational and Religious	6.0	6.9	3.5	4.4	3.3	4.0	4.3	7.6	11.9	7.3	6.4
Social and Recreational	15.8	16.8	16.3	15.4	19.4	21.2	17.1	23.6	22.0	23.4	19.3
Other	7.6	5.1	6.2	6.7	6.7	7.9	11.1	7.4	14.1	11.4	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
	Vehicle Miles of Travel										
Earning a Living	46.8	30.8	50.4	51.8	49.5	43.1	45.0	13.1	11.3	22.3	37.7
Family and Personal Business	20.4	34.0	17.4	18.0	16.0	18.5	17.8	33.9	36.6	23.6	22.9
Civic, Educational and Religious	4.1	4.1	2.3	2.8	1.9	3.1	2.9	4.7	12.1	4.4	4.7
Social and Recreational	19.3	26.8	20.4	18.9	24.1	26.4	22.0	33.5	27.2	30.0	24.0
Other	9.4	4.3	9.5	8.5	8.5	8.9	12.3	14.8	12.8	19.7	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡
	Average Trip Length (miles)										
Earning a Living	10.5	9.8	10.4	8.8	11.9	9.4	7.8	8.8	6.5	8.4	9.6
Family and Personal Business	6.7	10.2	7.3	5.1	6.3	6.1	5.3	5.4	5.6	6.4	5.9
Civic, Educational and Religious	6.4	6.5	6.7	5.0	5.9	6.8	5.0	4.9	6.4	5.5	6.1
Social and Recreational	11.5	17.4	12.8	9.6	13.2	10.8	9.4	11.2	7.7	11.7	10.2
Other	11.6	9.4	15.6	9.8	13.5	9.8	8.2	15.8	5.7	15.8	9.8
TOTAL	9.4	11.0	10.2	7.8	10.6	8.7	7.4	7.9	6.3	9.1	8.3

* See tables A-14, A-15, A-16, Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

TABLE 15. PERCENT OF VEHICLE TRIPS, VEHICLE-MILES OF TRAVEL AND AVERAGE TRIP LENGTH (MILES) BY PURPOSE AND DAY OF WEEK*

Trip Purpose	Day of the Week							All
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Vehicle Trips								
Earning a Living	39.1	40.3	39.1	39.3	35.3	18.1	10.5	32.9
Family and Personal Business	32.2	29.9	29.9	30.9	34.4	41.3	26.0	32.3
Civic, Educational and Religious	5.2	7.0	6.8	5.8	3.7	3.1	16.9	6.4
Social and Recreational	14.2	13.7	15.1	14.4	17.6	28.6	37.9	19.3
Other	9.3	9.1	9.1	9.6	9.0	8.9	8.7	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel								
Earning a Living	49.6	47.8	50.1	46.8	41.4	17.8	9.7	37.7
Family and Personal Business	20.9	21.0	20.7	21.7	23.4	29.6	21.2	22.9
Civic, Educational and Religious	4.3	5.4	5.1	5.0	3.1	3.0	7.5	4.7
Social and Recreational	15.8	15.0	14.6	17.5	22.0	38.1	46.3	24.0
Other	9.4	10.8	9.5	9.0	10.1	11.5	15.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡
Trip Length (miles)								
Earning a Living	10.0	9.1	10.1	9.4	9.7	8.9	9.4	9.6
Family and Personal Business	5.1	5.4	5.5	5.6	5.7	6.4	8.3	5.9
Civic, Educational and Religious	6.5	5.9	5.9	6.8	6.9	8.7	4.5	6.1
Social and Recreational	8.8	8.5	7.7	9.6	10.3	12.0	12.5	10.2
Other	8.0	9.1	8.2	7.4	9.3	11.6	18.0	9.8
ALL PURPOSES	7.9	7.7	7.9	7.9	8.3	9.0	10.2	8.3

* See tables A-17, A-18, and A-19, Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

in length on the weekend. Civic, educational and religious trips and social and recreational trips are also longest on Saturdays and Sundays.

The distribution of vehicle trips and travel by day of the week within each trip purpose category is shown in Table A-32, Appendix A.

Hour of the Day Trips Began

Trips and travel are concentrated during certain hours of the day, usually 6:00 a.m. to 8:59 a.m. or 4:00 p.m. to 6:59 p.m., depending on trip purpose. Almost all trips (over 88 percent) and travel (over 88 percent) begin between 6:00 a.m. and 9:59 p.m.

Earning a Living. As expected, trips to work are concentrated between 6:00 a.m. to 8:59 a.m. and 4:00 p.m. to 6:59 p.m. These two periods account for more than 60 percent of trips and travel for this purpose (see Table 16). Business related trips exhibit a different peaking characteristic with almost 60 percent of trips and travel for this purpose beginning between 9:00 a.m. and 3:59 p.m.

Trip lengths for trips to work average about 9 miles during rush hour (6:00 a.m. to 8:59 a.m. and 4:00 p.m. to 6:59 p.m.). Business related trips are generally longer than trips to work, averaging 11.6 miles, and average trip length varies from 9.4 miles at 9:00 a.m. to 12:59 p.m. to 36.8 miles at 1:00 a.m. to 5:59 a.m.

Family Business. More than half (64.4 percent) of trips and 61.6 percent of travel for family business begin between 9:00 a.m. and 3:59 p.m. and an additional 20 percent of trips and travel begin between 4:00 p.m. and 6:59 p.m. (see Table 17). One component of family business travel (dental and medical trips) has a significant portion of trips (11.3 percent) and travel (16.6 percent) earlier in the day from 6:00 a.m. to 8:59 a.m. Also, a significant portion of shopping trips (12 percent) and travel (10.8 percent) begin later in the day from 7:00 p.m. to 9:59 p.m.

Family business trips are of uniform length--between 5.5 and 5.8 miles--between 9:00 a.m. and 9:59 p.m. The longest trips (9.5 miles) begin between 10:00 p.m. and 12:59 a.m.

Civic, Educational and Religious. Vehicle trips for civic, educational and religious purposes are primarily morning trips (see Table 18). More than 50 percent of the trips and 47 percent of the travel begins between 6:00 a.m. and 12:59 p.m., with another 46 percent of trips and 49 percent of travel beginning between 1:00 p.m. and 9:59 p.m.

Except for the late night and early morning period (10:00 p.m. through 5:59 a.m.), which accounts for almost no civic, educational and religious travel, trip lengths range from 5.2 miles during the 9:00 a.m. to 12:59 p.m. period to 7.0 miles for the 4:00 p.m. to 6:59 p.m. period.

**TABLE 16. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND
AVERAGE TRIP LENGTH (MILES) FOR EARNING A LIVING BY HOUR OF DAY TRIP BEGAN**

Trip Purpose	Hour of Day Trip Began							TOTAL
	A.M.			P.M.				
	1:00 - 5:59	6:00 - 8:59	9:00 - 12:59PM	1:00 - 3:59	4:00 - 6:59	7:00 - 9:59	10:00 - 12:59AM	
Vehicle Trips								
Earning a Living								
Home to Work	4.1	33.7	8.8	13.5	28.8	5.7	5.4	100.0
Work Related	1.3	13.1	35.1	24.2	17.6	6.1	2.6	100.0
Average	3.7	30.6	12.8	15.1	27.1	5.8	4.9	100.0†
Vehicle Miles of Travel								
Earning a Living								
Home to Work	6.3	35.0	6.7	13.1	27.6	5.4	5.9	100.0
Work Related	3.7	17.3	27.7	27.8	15.5	5.9	2.1	100.0
Average	5.8	31.6	10.7	15.9	25.3	5.5	5.2	100.0‡
Trip Length (miles)								
Earning a Living								
Home to Work	13.8	9.5	7.0	8.9	8.8	8.5	10.1	9.1
Work Related	36.8	15.7	9.4	13.6	10.4	11.5	9.8	11.6
Average	15.0	9.9	8.0	10.1	9.0	9.0	10.0	9.6

† Trips for earning a living = 35,804,000,000

‡ Vehicle miles of travel for earning a living = 342,166,000,000

**TABLE 17. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND
AVERAGE TRIP LENGTH (MILES) FOR FAMILY BUSINESS BY HOUR OF DAY TRIP BEGAN**

Trip Purpose	Hour of Day Trip Began							TOTAL
	A.M.			P.M.				
	1:00 - 5:59	6:00 - 8:59	9:00 - 12:59PM	1:00 - 3:59	4:00 - 6:59	7:00 - 9:59	10:00 - 12:59AM	
Vehicle Trips								
Family and Personal Business								
Shopping	0.2	2.3	32.5	28.1	23.7	12.0	1.2	100.0
Medical or Dental	0.6	11.3	39.5	31.1	14.8	2.3	0.4	100.0
Other	0.5	5.6	43.1	25.0	16.8	7.2	1.8	100.0
Average	0.3	4.1	37.4	27.0	20.3	9.5	1.4	100.0†
Vehicle Miles of Travel								
Family and Personal Business								
Shopping	0.1	2.7	32.5	29.2	23.5	10.8	1.2	100.0
Medical or Dental	0.4	16.6	35.8	29.7	11.4	3.6	2.5	100.0
Other	0.8	7.6	37.8	23.1	18.5	9.0	3.2	100.0
Average	0.5	6.1	35.4	26.2	20.1	9.4	2.3	100.0‡
Trip Length (miles)								
Family and Personal Business								
Shopping	4.1	5.7	4.9	5.1	4.8	4.4	5.1	4.8
Medical or Dental	7.0	15.8	9.7	10.2	8.3	16.8	8.7	10.5
Other	10.1	9.0	5.8	6.1	7.3	8.3	11.7	6.5
Average	8.2	8.8	5.5	5.7	5.8	5.8	9.5	5.7

† Trips for family and personal business = 35,151,000,000

‡ Vehicle miles of travel for family and personal business = 207,841,000,000

**TABLE 18. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND
AVERAGE TRIP LENGTH (MILES) FOR CIVIC, EDUCATIONAL AND RELIGIOUS
BY HOUR OF DAY TRIP BEGAN**

Trip Purpose	Hour of Day Trip Began							TOTAL
	A.M.			P.M.				
	1:00 - 5:59	6:00 - 8:59	9:00 - 12:59PM	1:00 - 3:59	4:00 - 6:59	7:00 - 9:59	10:00 - 12:59AM	
Vehicle Trips								
Civic, Educational and Religious	0.2	20.0	30.7	13.9	16.2	16.0	3.0	100.0†
Vehicle Miles of Travel								
Civic, Educational and Religious	0.1	20.9	26.5	15.7	18.8	14.2	3.8	100.0‡
Trip Length (miles)								
Civic, Educational and Religious	2.9	6.4	5.2	6.8	7.0	5.3	7.5	6.2

† Trips for civic, educational and religious = 6,965,000,000

‡ Vehicle miles of travel for civic, educational and religious = 42,657,000,000

Social and Recreational. Social and recreational vehicle trips and travel are begun through the period of 9:00 a.m. to 9:59 p.m. (see Table 19) with more than 80 percent of trips and travel beginning during this time. Approximately one-half the social and recreational trips begin between 4:00 p.m. and 9:59 p.m., and they represent about 40 percent of the travel.

Social and recreational trip lengths range between 7.4 miles and 12.2 miles during the day except from 6:00 a.m. to 8:59 a.m. Trips beginning during this time average 24 miles with vacation travel averaging 141.2 miles per trip.

Vehicle Ownership*

Table 20 shows the proportions of vehicle trips and travel for each trip purpose within five vehicle ownership categories. The table shows little variation among the one, two, three and four or more vehicle ownership categories. For these households, travel for earning a living and for family business each account for approximately 33 percent of all motor vehicle trips, with social and recreational travel accounting for approximately 20 percent.

For households without a motor vehicle, travel in motor vehicles for earning a living is 25 percent of all vehicle trips. Family business travel is 40 percent of all motor vehicle trip making.

As seen in Table 20, the vehicle miles of travel for each trip purpose is similar for all motor vehicle ownership categories--even for households owning no motor vehicle.

Tables 21 through 24 show the distribution of trips, travel, trip length and households among the five motor vehicle ownership categories for each of the four major classes of trip purpose.

Earning a Living. Households that own two vehicles comprise about one-third (34.4 percent) of all households, but make almost half of the trips (47 percent) and travel (48.6 percent) for earning a living (see Table 21). This is approximately the same percentage *per vehicle* as single-vehicle households.

Households owning no vehicles make less than one percent of the vehicle trips and travel for earning a living but travel the longest distances (12.4 miles). Single-vehicle households make the shortest trips (8.6 miles). Multivehicle households' trip lengths for earning a living average between 9.6 miles and 10 miles.

Family Business. As shown in Table 22, almost half of the vehicle trips and travel for family business (45 percent) are made by two-

*Includes all vehicles owned by the household or available to the household and used on a regular basis.

**TABLE 19. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND
AVERAGE TRIP LENGTH (MILES) FOR SOCIAL AND RECREATIONAL
BY HOUR OF DAY TRIP BEGAN**

Trip Purpose	Hour of Day Trip Began							TOTAL
	A.M.			P.M.				
	1:00 - 5:59	6:00 - 8:59	9:00 - 12:59PM	1:00 - 3:59	4:00 - 6:59	7:00 - 9:59	10:00 - 12:59AM	
Vehicle Trips								
Social and Recreational								
Visiting Friends and Relatives	1.9	2.8	19.5	20.5	24.7	21.0	9.6	100.0
Pleasure Driving	2.8	1.9	16.6	23.5	26.2	19.9	9.1	100.0
Vacations	3.8	20.6	32.6	19.3	22.7	1.0	0.0	100.0
Other	3.4	4.1	17.8	15.1	24.1	25.0	10.5	100.0
Average	1.9	3.7	18.7	17.8	24.5	23.2	10.2	100.0†
Vehicle Miles of Travel								
Social and Recreational								
Visiting Friends and Relatives	2.1	6.9	24.7	20.2	22.9	15.2	8.0	100.0
Pleasure Driving	2.5	5.7	22.2	28.5	21.4	15.2	4.5	100.0
Vacations	0.0	30.4	28.5	27.4	12.2	1.5	0.0	100.0
Other	4.3	8.5	18.7	17.8	23.0	18.7	9.0	100.0
Average	3.0	8.1	21.9	19.5	22.7	16.6	8.2	100.0‡
Trip Length (miles)								
Social and Recreational								
Visiting Friends and Relatives	12.4	27.4	14.1	11.0	10.3	8.1	9.2	11.2
Pleasure Driving	14.2	12.0	21.0	18.9	12.8	11.9	7.8	14.1
Vacations	0.0	141.2	81.6	128.9	50.9	130.0	0.0	97.9
Other	11.6	18.9	9.6	10.7	8.7	6.8	7.7	8.9
Average	11.9	24.0	12.2	11.4	9.6	7.4	8.3	10.2

† Trips for social and recreational = 21,003,000,000

‡ Vehicle miles of travel for social and recreational = 217,825,000,000

Table 20. DISTRIBUTION OF VEHICLE TRIPS AND VEHICLE TRAVEL BY PURPOSE WITHIN HOUSEHOLD VEHICLE OWNERSHIP GROUPS*

Trip Purpose	Vehicle Ownership Per Household						All
	One	Two	Three	Four or More	Subtotal	None	
	Vehicle Trips						
Earning a Living	28.8	34.3	33.4	35.8	33.0	25.5	32.9
Family and Personal Business	35.2	31.9	30.8	29.4	32.5	40.0	32.3
Civic, Educational, and Religious	5.7	6.2	7.4	7.7	6.5	6.2	6.4
Social and Recreational	20.6	18.4	19.7	19.3	19.0	19.1	19.3
Other	9.7	9.2	8.7	7.8	9.0	9.2	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
	Vehicle Miles of Travel						
Earning a Living	32.5	40.3	37.4	40.0	37.7	38.7	37.7
Family and Personal Business	24.9	22.2	22.0	22.0	22.7	22.1	22.9
Civic, Educational, and Religious	4.0	4.3	5.7	5.8	4.7	4.6	4.7
Social and Recreational	27.2	22.9	23.7	22.3	24.4	25.3	24.0
Other	11.4	10.3	11.2	9.9	10.5	9.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡

* See Tables A-20 and A-21, Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

TABLE 21. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) FOR EARNING A LIVING BY HOUSEHOLD VEHICLE OWNERSHIP GROUP

Vehicle Ownership Per Household							
Trip Purpose	One	Two	Three	Four or More	Subtotal	None	TOTAL
Vehicle Trips							
Earning a Living							
Home to Work	22.6	47.1	18.7	11.3	99.7	0.3	100.0
Work Related	20.5	46.8	20.0	12.2	99.5	0.5	100.0
Average	22.3	47.0	18.9	11.4	99.6	0.4	100.0†
Vehicle Miles of Travel							
Earning a Living							
Home to Work	20.2	48.9	19.3	11.3	99.7	0.3	100.0
Work Related	19.1	47.2	20.8	12.2	99.3	0.7	100.0
Average	20.0	48.6	19.6	11.4	99.6	0.4	100.0‡
Trip Length (miles)							
Earning a Living							
Home to Work	8.2	9.5	9.5	9.2	9.2	10.8	9.2
Work Related	11.1	12.0	12.3	11.9	11.9	17.9	11.9
Average	8.6	9.9	10.0	9.6	9.6	12.4	9.6
Distribution of Households	34.6	34.4	10.7	5.0	84.7	15.3	100.0

† Trips for earning a living = 35,804,000,000

‡ Vehicle miles of travel for earning a living = 342,166,000,000

**TABLE 22. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL
AND AVERAGE TRIP LENGTH (MILES) FOR FAMILY AND PERSONAL BUSINESS
BY HOUSEHOLD VEHICLE OWNERSHIP GROUP**

Trip Purpose	Vehicle Ownership Per Household					Subtotal	None	TOTAL
	One	Two	Three	Four or More				
Vehicle Trips								
Family and Personal Business								
Shopping	29.0	45.3	16.7	8.5	99.5	0.5	100.0	
Medical or Dental	27.3	47.2	17.4	7.2	99.1	0.9	100.0	
Other	26.0	43.4	19.1	11.0	99.5	0.5	100.0	
Average	27.6	44.5	17.7	9.7	99.5	0.5	100.0†	
Vehicle Miles of Travel								
Family and Personal Business								
Shopping	25.3	44.3	19.5	10.7	99.8	0.2	100.0	
Medical or Dental	28.1	41.9	20.6	8.8	99.4	0.6	100.0	
Other	24.9	45.6	18.7	10.4	99.6	0.4	100.0	
Average	25.2	44.8	19.2	10.5	99.7	0.3	100.0‡	
Trip Length (miles)								
Family and Personal Business								
Shopping	4.2	4.7	5.7	6.2	4.8	2.6	4.9	
Medical or Dental	11.1	9.5	12.7	13.1	10.8	7.4	10.8	
Other	6.4	7.0	6.5	6.3	6.7	6.0	6.7	
Average	5.4	5.9	6.3	6.5	5.9	4.5	5.9	
Distribution of Households	34.6	34.4	10.7	5.0	84.7	15.3	100.0	

† Trips for family and personal business = 35,151,000,000

‡ Vehicle miles of travel for family and personal business = 207,841,000,000

vehicle households. Single-vehicle households are next with over 25 percent of trips and travel for this purpose. The proportion of trips *per vehicle* is higher for single-vehicle households than for two-vehicle households even though the proportions of households in the one- and two-vehicle categories are the same.

Trip lengths increase as vehicle ownership increases, varying from 5.4 miles for single-vehicle households to 6.5 miles for households with four or more vehicles.

Civic, Educational and Religious. Table 23 shows that more than 40 percent of the vehicle trips and travel for civic, educational and religious purposes are made by households owning two vehicles. This is approximately equal (on a *per vehicle* basis) to the one vehicle households. Adjusting for the number of households owning three and four or more vehicles, the *per vehicle* proportion of trips and travel is about equal for all households.

Trip lengths increase from 5.3 miles to 6.8 miles as vehicle ownership increases up to three-vehicle households. Trips by households owning four or more vehicles are slightly shorter (6.5 miles) than trips by households owning three vehicles.

Social and Recreational. Table 24 shows that two-vehicle households make almost 43 percent of all trips and travel for this purpose. On a *per vehicle* basis, this is a lower percentage than single-vehicle households.

Trip lengths for this purpose do not vary substantially among the vehicle ownership categories, ranging from 9.9 to 10.8 miles.

Vehicle Type

Table 25 shows the distribution of trips and travel by purpose within the following four motor vehicle categories:

- o Automobile, vanbus, minibus
- o Pickup and other truck
- o Recreational vehicle (RV)
- o Motorcycle and moped

Family business is the most frequent type of trip made by automobiles, vanbuses and minibuses (32.6 percent), with earning a living (31.3 percent) a close second. Pickups are used primarily for earning a living with 43.2 percent of the trips and 47.6 percent of the travel for this purpose. More than 40 percent of recreational vehicle (RV) trips are for family business but only 22.6 percent of travel by RV's is for this purpose. Almost half (45.8 percent) of RV travel is for social and recreational purposes. Motorcycles and mopeds are used principally for earning a living, with 48.3 percent of trips and 53.4 percent of travel by these vehicles for this purpose.

TABLE 23. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) FOR CIVIC, EDUCATIONAL AND RELIGIOUS BY HOUSEHOLD VEHICLE OWNERSHIP GROUP

Trip Purpose	Vehicle Ownership Per Household					Subtotal	None	TOTAL
	One	Two	Three	Four or More				
Vehicle Trips								
Civic, Educational and Religious	22.5	43.3	21.3	12.5	99.6	0.4	100.0†	
Vehicle Miles of Travel								
Civic, Educational and Religious	19.8	42.4	24.0	13.4	99.6	0.4	100.0‡	
Trip Length (miles)								
Civic, Educational and Religious	5.3	5.9	6.8	6.5	6.0	6.0	6.1	
Distribution of Households	34.6	34.4	10.7	5.0	84.7	15.3	100.0	

† Trips for civic, educational and religious = 6,965,000,000

‡ Vehicle miles of travel for civic, educational and religious = 42,857,000,000

**TABLE 24. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL
AND AVERAGE TRIP LENGTH (MILES) FOR SOCIAL AND RECREATIONAL BY
HOUSEHOLD VEHICLE OWNERSHIP GROUP**

Trip Purpose	Vehicle Ownership Per Household					Subtotal	None	TOTAL
	One	Two	Three	Four or More				
Vehicle Trips								
Social and Recreational								
Visiting Friends and Relatives	29.9	42.1	17.4	10.1	99.5	0.5	100.0	
Pleasure Driving	17.6	37.7	24.2	20.5	100.0	0.0	100.0	
Vacations	38.2	38.5	22.0	1.3	100.0	0.0	100.0	
Other	25.2	44.0	19.9	10.5	99.6	0.4	100.0	
Average	27.3	42.6	19.0	10.7	99.6	0.5	100.0†	
Vehicle Miles of Travel								
Social and Recreational								
Visiting Friends and Relatives	28.8	43.0	18.1	9.6	99.5	0.5	100.0	
Pleasure Driving	12.5	36.2	28.7	22.6	100.0	0.0	100.0	
Vacations	35.6	39.9	24.3	0.2	100.0	0.0	100.0	
Other	24.1	44.9	20.5	10.2	99.7	0.3	100.0	
Average	26.0	43.3	19.8	10.5	99.6	0.4	100.0‡	
Trip Length (miles)								
Social and Recreational								
Visiting Friends and Relatives	10.7	11.3	11.6	10.6	11.1	13.3	11.2	
Pleasure Driving	11.1	15.0	18.6	17.2	15.6	0.0	15.7	
Vacations	88.8	98.8	105.4	15.0	94.8	0.0	95.4	
Other	8.7	9.3	9.4	8.8	9.1	8.3	9.1	
Average	10.0	10.5	10.8	9.9	10.2	10.9	10.2	
Distribution of Households	34.6	34.4	10.7	5.0	84.7	15.3	100.0	

† Trips for social and recreational=21,003,000,000

‡ Vehicle miles of travel for social and recreational=217,825,000,000

TABLE 25. DISTRIBUTION OF VEHICLE TRIPS, VEHICLE TRAVEL AND AVERAGE TRIP LENGTH (MILES) BY PURPOSE WITHIN VEHICLE TYPE GROUP*

Trip Purpose	Vehicle Type				
	Auto, Vanbus Minibus	Pickup & Other Truck	RV	Motorcycle/ Moped	All Vehicle Types
Trips					
Earning a Living	31.3	43.2	25.3	48.3	32.9
Family and Personal Business	32.6	30.4	40.4	23.8	32.3
Civic, Educational and Religious	6.9	3.2	1.0	2.3	6.4
Social and Recreational	19.7	16.5	25.8	21.4	19.3
Other	9.5	6.7	7.5	4.2	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0†
Vehicle Miles of Travel					
Earning a Living	36.3	47.6	17.4	53.4	37.7
Family and Personal Business	23.0	22.0	22.6	14.8	22.9
Civic, Educational and Religious	5.2	1.6	0.1	1.3	4.7
Social and Recreational	24.6	19.5	45.8	22.9	24.0
Other	10.9	9.3	14.1	7.6	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0‡
Trip Length (Miles)					
Earning a Living	9.4	10.6	12.3	9.8	9.6
Family and Personal Business	5.7	7.0	10.0	5.5	5.9
Civic, Educational and Religious	6.1	4.9	1.0	5.1	6.1
Social and Recreational	10.2	11.3	31.6	9.5	10.2
Other	9.4	13.4	33.4	16.2	9.8
ALL PURPOSES	8.1	9.6	17.8	8.9	8.3

* See tables A-22, A-23, A-24 Appendix A for more details

† Total number of trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000

The longest trip length among the motor vehicle categories is attributable to RV's (17.8 miles), largely because RV's social and recreational trip lengths averaged 31.6 miles. Average trip length by other vehicle types does not vary systematically.

IV. TRENDS OVER TIME

Data changes in trip purposes have occurred since the initial 1969 NPTS. However, any comparisons between the 1969 and 1977 surveys are limited to automobiles (standard and station wagons), vanbuses and minibuses and personal use of taxis because these vehicle trips are common to both surveys. (The 1977 Survey also includes personal travel in privately owned trucks, recreational vehicles, motorcycles and mopeds.)

Included are comparisons of changes in the proportion of automobile trips, travel and trip length used for the four major trip purposes:

- o Earning a living
- o Family business
- o Civic, educational and religious
- o Social and recreational
- o Other

Three travel comparisons are made:

- o A summary of trip purpose changes
- o Changes related to automobile ownership characteristics
- o Changes related to weekday and weekend travel characteristics

Significant differences also occur in trip purpose categories between the 1969 and 1977 NPTS. Specifically, the number of trip purposes was expanded from 11 in 1969 to 21 in 1977. Because of these differences, certain procedures were devised to equate the 21 trip purposes in 1977 to the 11 trip purposes in 1969.

The trip purposes added in 1977 are as follows:

- o Sightseeing
- o Entertainment
- o Recreation (participant)
- o Overnight lodging
- o Social
- o Return home
- o Change of vehicle without change of mode
- o Change means of transportation, and pick up and leave off passengers

Some of the 1977 additional trip purposes could be incorporated into one of the 1969 trip purpose categories without any additional recoding or reclassifying. For example, the 1977 purposes sightseeing and entertainment are incorporated into the 1969 trip purpose: other social and recreational.

Other 1977 trip purposes, such as change mode, pick up or leave off passengers, and change vehicle without change of mode could not easily be classified with a 1969 trip purpose code since these trip purposes did not exist in 1969. A procedure was developed for linking these trips to the next acceptable trip.

In the 1969 and 1977 surveys, the trip destination is used to determine trip purpose. However, in 1969 if return home was offered for a trip purpose, the interviewer coded it as the purpose of the trip that originally generated the travel. In 1977, return home is treated as a separate trip purpose, therefore, a special procedure was developed to later recode or reclassify return home trips, according to the major purpose which generated the original travel. A more detailed explanation of the procedures is found in Appendix D.

As a part of the trip recoding and reclassifying process, a number of trips are classified as other. In the 1969 survey, 1.1 percent of vehicle trips and 1.2 percent of vehicle miles of travel are in the other category. In 1977, 9.1 percent of vehicle trips and 10.7 percent of vehicle miles are classified as other. Because of the tenfold increase in the amount of trips and travel classed as "other," care must be exercised in comparing the two survey results. In order to best review trends over time in trip purposes, two presentations are made in Subsection A below, one that includes the "other" category and another that excludes it.

A. SUMMARY OF CHANGES

Total vehicle miles of travel, including commercial travel, increased by 38.5 percent in the period between 1969 and 1977.*

While there has been an absolute increase in travel over this period, the proportion of auto trips and travel in each of the five major purpose categories including "other", has shifted between 1969 and 1977. Caution should be exercised in making comparisons between the two survey periods. Because of the recoding and trip linking procedures used by FHWA for the 1977 data (see Appendix D), many trips are classified into the fifth or "other" category that may have otherwise been included in one of the first four categories if the purposes used in 1969 had been retained. As a result, the number of auto trips and amount of travel in the "other" category increased significantly with corresponding decreases in most of the remaining categories. The summary below presents the changes in trip purpose distribution between 1969 and 1977.

*Source: *Highway Travel Trends During the 1970's*, Federal Highway Administration, July 1980.

Trends in Trip Purpose Distribution

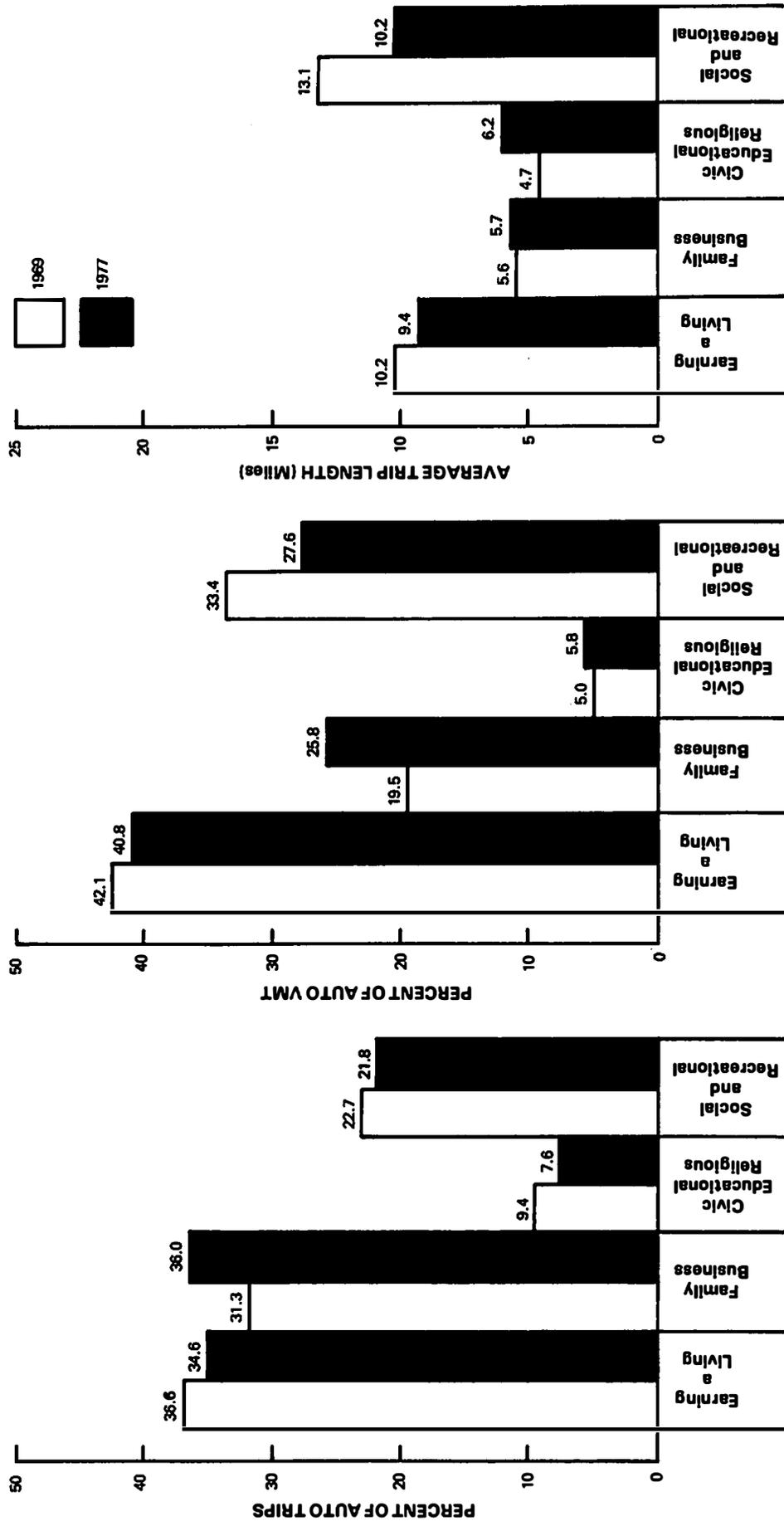
	<u>Auto Trips</u>		<u>Vehicle Miles of Travel (Auto)</u>	
	<u>1969</u>	<u>1977</u>	<u>1969</u>	<u>1977</u>
Earning a living	36.2	31.3	41.6	36.3
Family and personal business	31.0	32.6	19.3	23.0
Civic, educational and religious	9.3	6.9	4.9	5.2
Social and recreational	22.4	19.7	33.0	24.6
Other	1.1	9.5	1.2	10.9
Total	100.0	100.0	100.0	100.0

Family and personal business and "other" represent a higher proportion of trips and travel in 1977 than in 1969. Increases in the family business category are most likely due to sharp increases in trips and travel for shopping. While proportional shares of all remaining trip purposes decreased, the actual number of trips and vehicle miles of travel for each purpose may have increased over the period.

If the "other" category is excluded from the comparison and the distribution of the remaining major trip purposes is adjusted to reflect 100 percent, similar trends are found. It should be noted that the proportions of trips and travel for each purpose are slightly different when only the four major purposes are considered. Figure 1 shows a comparison of the distribution of trips and travel and average trip length for the four major purposes. Increases occurred in trips and travel for family business; all other categories showed relative decreases.

As also shown in Figure 1, trip lengths for earning a living and social and recreational travel decreased from 1969 to 1977. Approximately 70 percent of all travel was for these two purposes. Trips for civic, educational and religious purposes, which accounted for about 5 percent of total travel, increased in length.

Figure 1. CHANGE IN AUTO TRIPS, VEHICLE MILES OF TRAVEL (VMT) AND TRIP LENGTH BY TRIP PURPOSE



Source: Table A-25, Appendix A

B. CHANGES RELATED TO AUTOMOBILE OWNERSHIP CHARACTERISTICS

The 1969 and 1977 changes in the proportions of trips and travel by household auto ownership characteristics for each trip purpose are shown in Figure 2. The proportion of trips and travel for two-auto households has remained approximately the same, while households with three or more autos have significantly higher proportions of trips and travel for every trip purpose in 1977. The percent of households with three or more autos increased from 4.6 in 1969 to 8.2 in 1977. This increased travel by households owning three or more vehicles is offset by 1969 to 1977 reductions in proportions of trips and travel for no-car and one-car households. These households declined from 69 percent in 1969 to 49.9 in 1977. These changes are similar for all trip purposes and most likely due to changes in household auto ownership characteristics rather than changes in trip purposes.

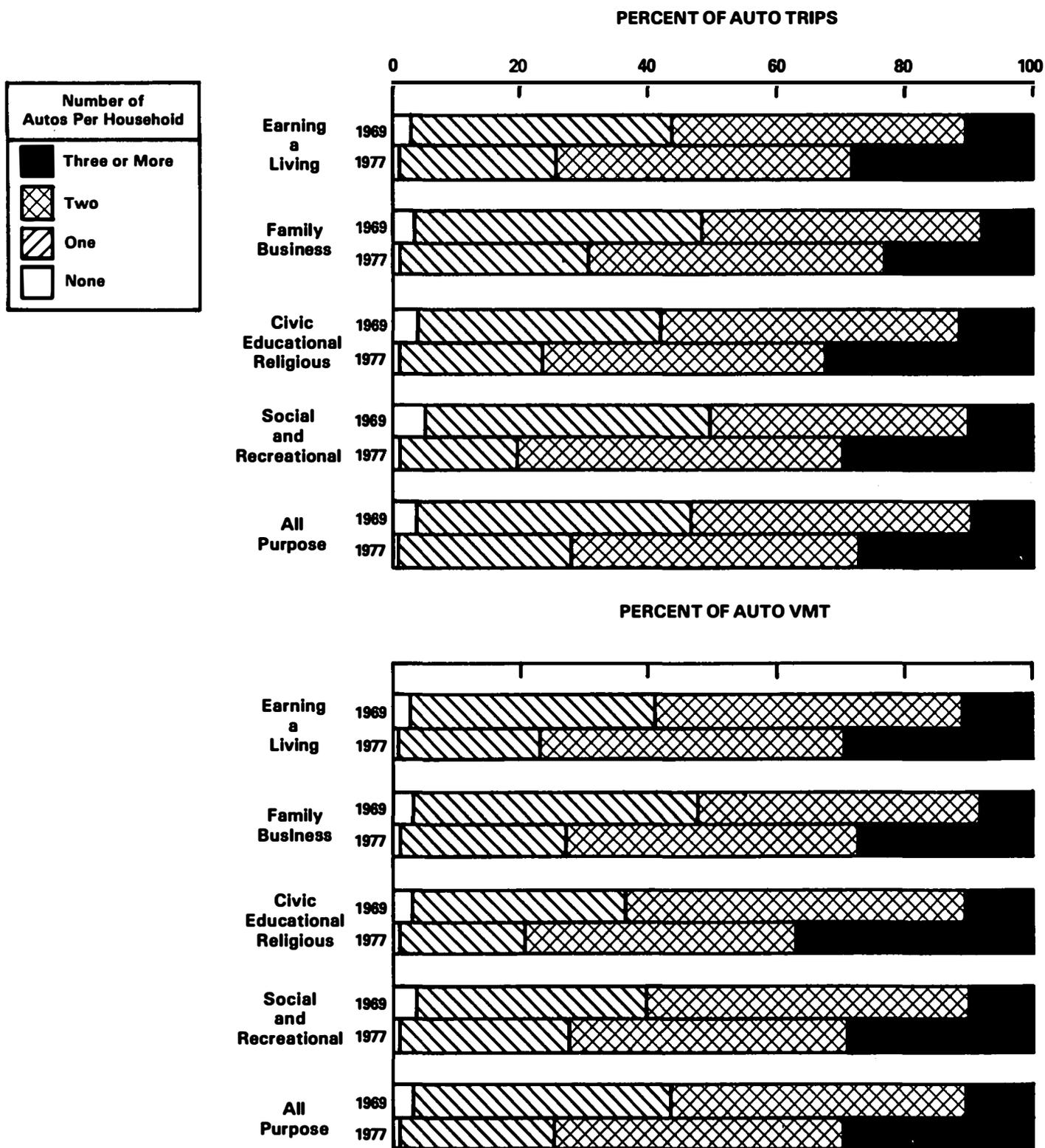
Figure 3 shows the 1969 to 1977 change in average trip length for each trip purpose by the four automobile ownership characteristics. For all purposes, except civic, educational and religious trips, average trip length decreased from 1969 to 1977. There were small increases in trip length for households without automobiles for social and recreational trips and trips for earning a living. Decreases in trip length are greatest in households of three or more automobiles. Trip lengths also show a reduction from 1969 to 1977 for all trip purposes by households with at least one auto.

Civic, educational and religious trips show an increase in trip length for all auto ownership categories.

C. CHANGES RELATED TO WEEKDAY AND WEEKEND TRAVEL CHARACTERISTICS

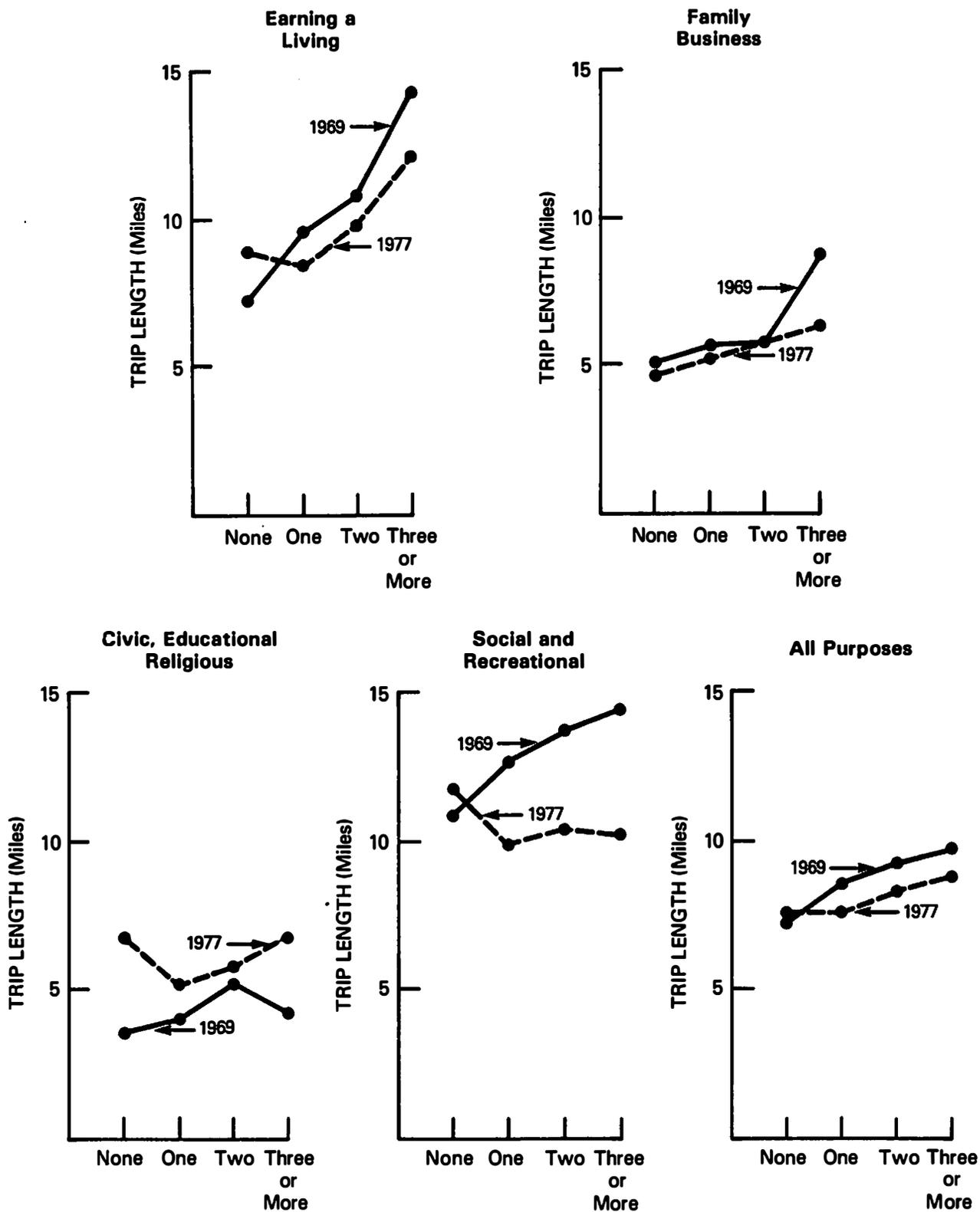
Figure 4 shows the 1969 and 1977 distributions of trip purposes for weekday and weekend travel. Minimal changes transpired. During weekdays, the proportion of trips made for earning a living decreased slightly, while the proportion of trips for family business trips increased. On weekends, the proportion of family business trips increased, while the proportions of all other trips showed a small decrease.

Figure 2. CHANGES IN AUTO TRIPS AND VMT BY PURPOSE AND AUTOS PER HOUSEHOLD



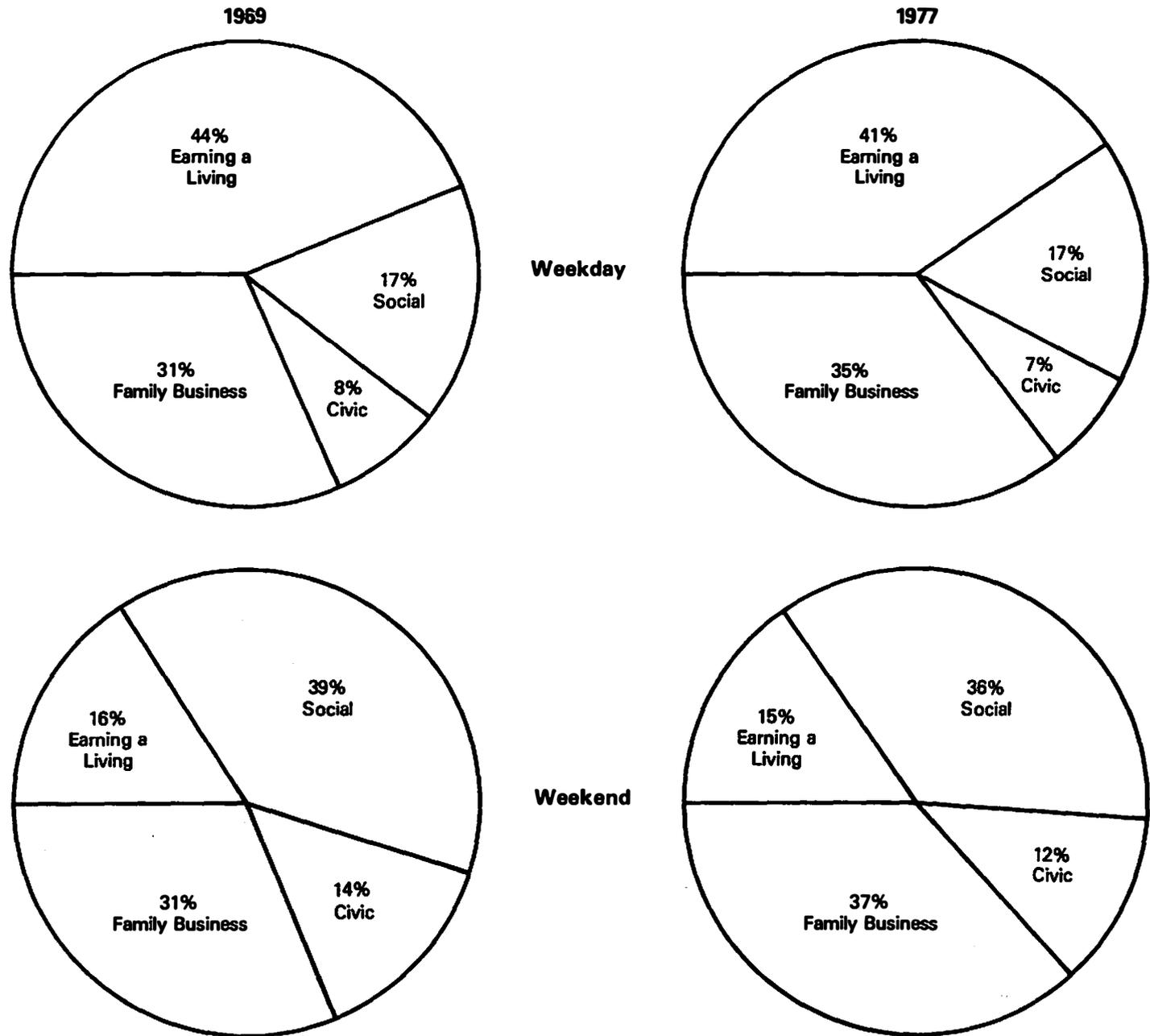
Source: Table A-28, Appendix A

Figure 3.
CHANGE IN AVERAGE TRIP LENGTHS BY PURPOSE AND AUTOS PER HOUSEHOLD



Source: Table A-26, Appendix A

Figure 4.
CHANGE IN AUTO TRIPS BY PERIOD OF WEEK



Source: Table A-27, Appendix A

V. SUMMARY

In this report the purpose of motor vehicle trips, travel and trip length is analyzed in terms of household characteristics such as income, individual characteristics such as driver age, temporal characteristics such as day of the week and time of day, and vehicle characteristics such as number of vehicles owned per household and vehicle type. Variations by trip purpose are seen in the examination of these characteristics. In analyzing other characteristics, such as occupation of driver, little variation by trip purpose occurs, while household location shows no variation.

The greatest use of motor vehicles is for earning a living which represents 37.7 percent of vehicle miles of travel. In terms of number of vehicle trips, earning a living and family business are approximately equal with 32.9 percent and 32.3 percent of total trips, respectively. Overall, trips tend to be short, with trips for the major purposes averaging under 10 miles. The average social and recreational trip, however, is 10.2 miles long.

One of the household characteristics that has little influence on the purpose of vehicle trips is location. Distribution of travel for two population groups outside SMSA's and two areas inside SMSA's show almost no change in the distribution of trips and travel by purpose. Likewise, SMSA size is not a factor in the distribution of trips and travel by purpose.

In general, residents inside SMSA's make twice as many trips and travel as residents outside SMSA's which reflects the distribution of households. This is a uniform finding for all trip purposes. Trip lengths are longer as SMSA population size increases.

The proportion of trips for earning a living generally increases as income increases, while the proportion of family business and social and recreational trips generally decrease as income increases. While the lowest income group (under \$5,000) consists of almost 20 percent of all households, they make only 5 percent of trips for earning a living and from 8 to 10 percent of other trip purposes. This proportion increases for the \$5,000 to \$9,999 income group and is balanced for the \$10,000 to \$14,999 group, where 21.3 percent of the households account for about the same proportion of trips. For the \$15,000 and above income groups, trip making is 50 percent more than the proportion of households in the income group.

Trip purpose varies significantly by age of driver. For drivers between 21 and 60 years old, the predominant trip purpose is earning a living. Trips for family business and social and recreational purposes share second place jointly in amount of travel.

As expected, earning a living trips claim a lesser proportion of vehicle trips for driver age groups 61 to 70 and over 70. In these groups, family business and social and recreational trips are a more significant proportion of their trips.

Vehicle trip purposes vary somewhat by occupation of the driver. Distribution of trips and travel for drivers who are retired, unemployed or whose work status is unknown are significantly different from those who are employed in one of the seven occupational categories examined. For employed drivers, farmers and farm managers show differences from other workers.

Travel by day of week is, as expected, with trips for earning a living the most prevalent purpose on weekdays. Family business trips are the primary purpose of Saturday trips. Social and recreational trips are the principal trip purpose on Sundays and the largest component of weekend travel.

The time of day a vehicle trip begins is related to trip purpose. The two peak travel periods (6 a.m. to 9 a.m. and 4 p.m. to 7 p.m.) contain most of the vehicle trips and travel for earning a living. Family business is fairly evenly distributed throughout the 9 a.m. to 7 p.m. period. Civic, educational and religious travel begins mostly between 6 a.m. and 1 p.m. with smaller but significant civic, educational and religious travel beginning throughout the afternoon and evening until 10 p.m. Social and recreational travel is uniformly distributed from 9 a.m. to 10 p.m.

Vehicle ownership affects the proportion of vehicle trips made for earning a living and family business. These two trip purposes account for about 60 percent of all motor vehicle travel. For multiple vehicle households, the proportion of trips for earning a living is about 35 percent. For households with no vehicles or one vehicle, earning a living is less than 30 percent of all vehicle trips.

One-vehicle and two-vehicle households each account for almost 35 percent of total households, but two-vehicle household trips and travel are about double that of one-vehicle households. This indicates that trips and travel on a per vehicle basis are equal. This relationship is also true for three-vehicle and four-or-more-vehicle households. As expected, households with no vehicle (15.3 percent of the total households) account for less than 1 percent of vehicle trips and travel for each purpose.

Trip purpose shows some variation by vehicle type. Earning a living is the most prevalent purpose in the use of pickups, other trucks, and motorcycles and mopeds. Automobiles, vanbuses and minibuses are used equally for family business and for earning a living. Recreational vehicles are mainly used for family business trips, but record the most vehicle miles of travel for social and recreational purposes.

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**TABLE A-1. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND PLACE OF RESIDENCE (DISTRIBUTION BY PURPOSE)**

Vehicle Trips							
Place of Residence							
Trip Purpose	Outside SMSA			Inside SMSA			All
	Under 5000	Over 5000	Average	Within Central City	Not in Central City	Average	
Earning a Living							
Home to Work	26.6	26.5	26.5	28.4	28.2	28.3	27.8
Work Related	5.4	5.5	5.5	4.9	5.0	5.0	5.1
Subtotal	32.0	32.0	32.0	33.3	33.2	33.3	32.9
Family and Personal Business							
Shopping	15.8	16.2	16.0	16.9	18.1	17.6	17.0
Medical or Dental	1.3	0.9	1.1	1.2	1.5	1.3	1.3
Other	16.8	16.3	16.6	12.5	12.8	12.7	14.0
Subtotal	33.9	33.4	33.7	30.6	32.4	31.6	32.3
Civic, Educational and Religious	5.8	7.0	6.5	6.7	6.2	6.4	6.4
Social and Recreational							
Visiting Friends and Relatives	9.2	8.7	8.9	8.2	8.2	8.2	8.4
Pleasure Driving	0.8	0.4	0.6	0.3	0.4	0.3	0.4
Vacations	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Other	9.7	10.2	9.9	11.2	10.1	10.6	10.4
Subtotal	19.7	19.3	19.4	19.8	18.8	19.2	19.3
Other and Unknown	8.6	8.3	8.4	9.6	9.4	9.5	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,826,000,000

TABLE A-2. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND PLACE OF RESIDENCE (DISTRIBUTION BY PURPOSE)

Vehicle Miles of Travel							
Place of Residence							
Trip Purpose	Outside SMSA			Inside SMSA			All
	Under 5000	Over 5000	Average	Within Central City	Not in Central City	Average	
Earning a Living							
Home to Work	28.7	26.5	27.5	30.5	33.2	32.1	30.4
Work Related	8.0	7.4	7.7	7.7	6.6	7.2	7.3
Subtotal	36.7	33.9	35.2	38.2	39.8	39.3	37.7
Family and Personal Business							
Shopping	11.8	9.2	10.5	8.8	10.2	9.5	10.0
Medical or Dental	2.1	1.5	1.8	1.0	2.0	1.5	1.7
Other	12.5	15.2	13.9	10.4	9.4	9.8	11.2
Subtotal	26.4	25.9	26.2	20.2	21.6	20.8	22.9
Civic, Educational and Religious	4.2	5.2	4.8	4.5	4.8	4.7	4.7
Social and Recreational							
Visiting Friends and Relatives	11.3	13.2	12.2	11.2	10.6	10.8	11.3
Pleasure Driving	1.3	0.7	1.1	0.6	0.7	0.6	0.8
Vacations	0.1	0.1	0.1	0.6	0.9	0.7	0.6
Other	10.0	10.3	10.1	12.3	11.7	11.9	11.3
Subtotal	22.7	24.3	23.5	24.7	23.9	24.0	24.0
Other and Unknown	10.0	10.7	10.3	12.4	9.9	11.2	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

**TABLE A-3. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND PLACE OF RESIDENCE (DISTRIBUTION BY PLACE OF RESIDENCE)**

Vehicle Trips							
Place of Residence							
Trip Purpose	Outside SMSA			Inside SMSA			TOTAL
	Under 5000	Over 5000	Subtotal	Within Central City	Not in Central City	Subtotal	
Earning a Living							
Home to Work	15.6	16.2	31.8	31.1	37.1	68.2	100.0
Work Related	17.2	18.3	35.5	29.0	35.5	64.5	100.0
Average	15.8	16.5	32.3	30.8	36.9	67.7	100.0
Family and Personal Business							
Shopping	15.1	16.1	31.2	30.2	38.6	68.8	100.0
Medical or Dental	16.0	12.3	28.3	29.2	42.5	71.7	100.0
Other	19.7	19.8	39.5	27.1	33.4	60.5	100.0
Average	17.3	17.6	34.9	28.6	36.5	65.1	100.0
Civic, Educational and Religious	14.8	18.5	33.3	31.6	35.1	66.7	100.0
Social and Recreational							
Visiting Friends and Relatives	17.7	17.5	35.2	29.6	35.2	64.8	100.0
Pleasure Driving	30.3	15.6	45.9	20.5	33.6	54.1	100.0
Vacations	10.3	2.8	13.1	36.1	50.8	86.9	100.0
Other	15.3	16.6	31.9	32.8	35.3	68.1	100.0
Average	16.9	16.8	33.7	31.1	35.2	66.3	100.0
Other and Unknown	15.4	15.3	30.7	32.0	37.3	69.3	100.0
ALL PURPOSES	16.3	16.9	33.2	30.4	36.4	66.8	100.0†

† Total number of trips = 108,826,000,000

**TABLE A-4. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND PLACE OF RESIDENCE
(DISTRIBUTION BY PLACE OF RESIDENCE)**

Vehicle Miles of Travel							
Place of Residence							
Trip Purpose	Outside SMSA			Inside SMSA			TOTAL
	Under 5000	Over 5000	Subtotal	Within Central City	Not in Central City	Subtotal	
Earning a Living							
Home to Work	18.0	12.9	30.9	26.9	42.2	69.1	100.0
Work Related	21.0	15.2	36.2	28.7	35.1	63.8	100.0
Average	18.5	13.3	31.8	27.1	41.1	68.2	100.0
Family and Personal Business							
Shopping	22.7	13.8	36.5	23.9	39.6	63.5	100.0
Medical or Dental	24.1	13.0	37.1	16.7	46.2	62.9	100.0
Other	21.5	20.3	41.8	25.1	33.1	58.2	100.0
Average	22.0	16.9	38.9	23.9	37.2	61.1	100.0
Civic, Educational and Religious	17.1	16.5	33.6	26.1	40.3	66.4	100.0
Social and Recreational							
Visiting Friends and Relatives	19.2	17.4	36.6	26.8	36.6	63.4	100.0
Pleasure Driving	30.2	12.2	42.4	20.4	37.2	57.6	100.0
Vacations	2.2	2.9	5.1	30.5	64.4	94.9	100.0
Other	17.0	13.6	30.6	29.3	40.1	69.4	100.0
Average	18.4	15.1	33.5	28.0	38.5	66.5	100.0
Other and Unknown	17.9	15.0	32.9	31.4	35.7	67.1	100.0
ALL PURPOSES	19.2	14.9	34.1	27.0	38.9	65.9	100.0†

† Total vehicle-miles of travel = 907,603,000,000

TABLE A-5. PERCENT OF VEHICLE TRIPS BY PURPOSE AND SMSA POPULATION SIZE GROUPS

Vehicle Trips						
Trip Purpose	SMSA Size					All
	Under 250,000	250,000 to 499,999	500,000 to 999,999	1 million to 3 million	Over 3 million	
Earning a Living						
Home to Work	27.6	27.5	28.6	28.4	29.2	28.3
Work Related	4.6	5.7	5.2	4.1	5.5	4.9
Subtotal	32.2	33.2	33.8	32.5	34.7	33.2
Family and Personal Business						
Shopping	16.8	17.4	17.1	17.6	18.5	17.6
Medical or Dental	1.0	1.5	1.4	1.5	1.4	1.4
Other	13.1	12.9	12.2	13.2	11.7	12.7
Subtotal	30.9	31.8	30.7	32.3	31.6	31.7
Civic, Educational, and Religious	6.5	6.5	6.9	6.4	6.0	6.4
Social and Recreational						
Visiting Friends and Relatives	9.0	8.0	7.7	8.6	7.6	8.2
Pleasure Driving	0.4	0.3	0.4	0.5	0.2	0.3
Vacations	0.1	0.0	0.1	0.1	0.1	0.1
Other	11.3	11.2	11.4	10.4	9.3	10.6
Subtotal	20.8	19.5	19.6	19.6	17.2	19.2
Other and Unknown	9.6	9.0	9.0	9.2	10.5	9.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0†

† Total trips = 72,771,000,000 (108,826,000,000 less 36,055,000,000 outside SMSA's)

**TABLE A-6. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND SMSA
POPULATION SIZE GROUPS**

Vehicle Miles of Travel						
Trip Purpose	SMSA Size					All
	Under 250,000	250,000 to 499,999	500,000 to 999,999	1 million to 3 million	Over 3 million	
Earning a Living						
Home to Work	27.1	27.7	32.1	34.4	34.4	30.4
Work Related	7.6	6.6	6.7	6.0	9.0	7.3
Subtotal	34.7	34.3	38.8	40.4	43.4	37.7
Family and Personal Business						
Shopping	9.6	10.2	10.2	9.5	8.8	10.0
Medical or Dental	1.0	1.5	2.0	1.6	1.7	1.7
Other	9.5	10.0	11.4	10.0	8.5	11.2
Subtotal	20.1	21.7	23.6	21.1	19.0	22.9
Civic, Educational, and Religious	5.2	4.2	4.6	5.0	4.4	4.7
Social and Recreational						
Visiting Friends and Relatives	11.1	11.8	10.1	11.3	9.8	11.3
Pleasure Driving	0.7	0.4	0.6	1.0	0.5	0.8
Vacations	0.4	0.8	1.2	0.7	0.8	0.6
Other	12.6	14.2	13.0	10.8	10.8	11.3
Subtotal	24.8	27.2	24.9	23.8	21.9	24.0
Other and Unknown	15.2	12.6	8.1	9.7	11.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 538,690,000,000 (907,603,000,000 less 368,913,000,000 outside SMSA's)

**TABLE A-7. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND TRIP LENGTH (DISTRIBUTION BY TRIP LENGTH)**

Vehicle Trips								
Trip Purpose	Trip Length (miles)							TOTAL
	5 and Under*	6-10	11-20	21-30	31-50	51-100	Over 100	
Earning a Living								
Home to Work	49.1	22.1	19.2	6.0	2.7	0.8	0.1	100.0
Work Related	52.7	17.1	16.2	6.6	4.1	2.3	1.0	100.0
Average	49.4	21.3	18.6	6.0	2.9	1.2	0.6	100.0
Family and Personal Business								
Shopping	75.2	13.9	7.9	1.8	0.8	0.3	0.1	100.0
Medical or Dental	49.1	22.2	16.4	5.9	4.4	1.8	0.2	100.0
Other	71.1	14.4	8.8	2.6	1.9	0.7	0.5	100.0
Average	72.2	14.4	8.7	2.4	1.6	0.5	0.2	100.0
Civic, Educational and Religious	68.6	16.6	9.6	2.7	1.9	0.5	0.1	100.0
Social and Recreational								
Visiting Friends and Relatives	56.8	19.0	12.7	4.7	3.6	2.0	1.2	100.0
Pleasure Driving	32.2	24.0	24.5	9.9	5.8	2.2	1.4	100.0
Vacations	9.5	8.4	7.8	0.0	3.7	25.9	44.7	100.0
Other	60.2	19.3	12.1	3.8	2.1	1.8	0.7	100.0
Average	52.2	19.1	12.7	4.4	3.0	2.6	6.0	100.0
Other and Unknown	67.3	15.9	9.4	2.8	2.2	1.1	1.3	100.0
ALL PURPOSES	61.4	17.9	12.9	4.0	2.3	1.0	0.5	100.0†

† Total number of trips= 108,826,000,000

* See table A-28 for more details on trips 5 miles and under

**TABLE A-8. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND TRIP LENGTH
(DISTRIBUTION BY TRIP LENGTH)**

Trip Purpose	Vehicle Miles of Travel							TOTAL
	Trip Length (miles)							
	5 and Under*	6-10	11-20	21-30	31-50	51-100	Over 100	
Earning a Living								
Home to Work	13.9	19.4	31.8	17.0	10.7	5.1	2.1	100.0
Work Related	11.2	12.4	21.3	13.8	13.7	12.0	15.6	100.0
Average	13.4	18.1	29.9	16.5	11.3	6.3	4.5	100.0
Family and Personal Business								
Shopping	31.4	22.1	24.6	9.6	6.2	3.6	2.5	100.0
Medical or Dental	12.8	17.2	23.1	15.2	15.9	13.1	2.7	100.0
Other	21.6	16.8	20.8	10.1	10.4	8.2	12.1	100.0
Average	25.3	19.3	22.7	10.3	8.9	6.5	7.0	100.0
Civic, Educational and Religious	24.5	20.6	24.2	11.6	13.2	4.6	1.3	100.0
Social and Recreational								
Visiting Friends and Relatives	11.2	13.9	17.1	11.5	13.1	13.3	19.9	100.0
Pleasure Driving	7.3	14.6	25.1	20.4	11.8	11.9	8.9	100.0
Vacations	0.0	0.9	1.2	0.0	1.7	21.0	75.2	100.0
Other	15.6	17.3	21.1	11.1	9.9	13.8	11.2	100.0
Average	12.9	15.1	18.8	11.3	11.2	13.7	17.0	100.0
Other and Unknown	15.8	12.9	14.2	7.5	9.6	8.1	31.9	100.0
ALL PURPOSES	16.8	17.2	23.5	12.5	10.6	8.3	11.1	100.0†

† Total vehicle miles of travel = 907,603,000,000

* See Table A-29 for more details on travel 5 miles and under

**TABLE A-9. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND ANNUAL HOUSEHOLD INCOME (DISTRIBUTION BY PURPOSE)**

Vehicle Trips								
Trip Purpose	Annual Household Income							ALL
	Less than \$5,000	\$5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	
Earning a Living								
Home to Work	18.1	25.6	29.2	30.3	27.9	26.1	24.8	24.8
Work Related	4.5	4.3	4.8	5.2	6.3	5.7	7.0	7.0
Subtotal	22.6	29.9	34.0	35.5	34.2	31.8	31.8	31.8
Family and Personal Business								
Shopping	19.0	17.3	16.8	16.5	18.1	16.6	15.5	15.5
Medical or Dental	1.7	1.4	1.1	1.3	1.1	1.7	0.9	0.9
Other	16.1	15.6	13.6	13.5	13.0	13.1	13.4	13.4
Subtotal	36.8	34.3	31.5	31.3	32.2	31.4	29.8	29.8
Civic, Educational and Religious	8.9	5.6	6.0	6.3	6.9	7.2	5.9	5.9
Social and Recreational								
Visiting Friends and Relatives	12.3	10.4	8.6	7.6	7.0	6.3	6.2	6.2
Pleasure Driving	0.4	0.6	0.3	0.4	0.3	0.3	0.8	0.8
Vacations	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1
Other	10.4	10.2	10.6	10.0	10.0	12.1	13.4	13.4
Subtotal	23.1	21.3	19.6	18.0	17.4	18.7	20.5	20.5
Other and Unknown	8.6	8.9	8.9	8.9	9.3	10.9	12.0	12.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,826,000,000

**TABLE A-10. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND ANNUAL HOUSEHOLD INCOME
(DISTRIBUTION BY PURPOSE)**

Trip Purpose	Vehicle Miles of Travel							
	Annual Household Income							
	Less than \$5,000	\$5,000 to 9,999	\$10,000 to 14,999	\$15,000 to 24,999	\$25,000 to 34,999	\$35,000 to 49,999	\$50,000 and Over	ALL
Earning a Living								
Home to Work	17.8	27.4	31.8	34.1	30.5	29.5	24.9	30.4
Work Related	7.1	4.9	8.3	6.4	9.0	10.0	10.0	7.3
Subtotal	24.9	32.3	40.1	40.5	39.5	39.5	34.9	37.7
Family and Personal Business								
Shopping	10.5	10.0	9.5	9.6	11.4	10.3	9.6	10.0
Medical or Dental	2.5	2.3	1.8	1.4	1.2	1.5	0.8	1.7
Other	14.6	13.9	9.7	11.1	10.1	8.1	13.6	11.2
Subtotal	27.6	26.2	21.0	22.1	22.7	19.9	24.0	22.9
Civic, Educational and Religious	6.3	4.5	4.5	4.3	4.8	5.3	5.4	4.7
Social and Recreational								
Visiting Friends and Relatives	17.2	14.3	10.9	9.6	11.5	8.9	7.9	11.3
Pleasure Driving	0.7	0.9	0.6	0.7	0.6	2.1	1.0	0.8
Vacations	0.0	0.4	0.9	0.6	0.5	0.3	0.7	0.6
Other	13.9	11.0	11.7	11.0	10.3	13.0	11.4	11.3
Subtotal	31.8	26.6	24.1	21.9	22.9	24.3	21.0	24.0
Other and Unknown	9.4	10.4	10.3	11.2	10.1	11.0	14.7	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

**TABLE A-11. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND AGE OF DRIVER**

Trip Purpose	Vehicle Trips									
	Age of Driver									
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	Over 70	All Drivers
Earning a Living										
Home to Work	24.6	30.0	30.3	28.1	29.9	31.1	30.7	17.6	6.6	27.8
Work Related	2.6	4.2	4.7	6.9	5.6	6.8	6.0	4.3	1.4	5.1
Subtotal	27.2	34.2	35.0	35.0	35.5	37.9	36.7	21.9	8.0	32.9
Family and Personal Business										
Shopping	10.9	13.8	15.8	17.8	16.6	17.3	19.0	24.7	29.4	17.0
Medical or Dental	0.7	0.9	1.1	1.3	1.3	1.3	1.6	1.9	2.9	1.3
Other	11.1	14.1	13.1	13.2	14.1	14.3	14.1	18.9	17.3	14.0
Subtotal	22.7	28.8	30.0	32.3	32.0	32.9	34.7	45.5	49.6	32.3
Civic, Educational and Religious	13.3	4.7	5.3	4.5	6.0	5.6	5.8	6.1	9.9	6.4
Social and Recreational										
Visiting Friends and Relatives	13.8	12.2	9.2	6.6	5.9	4.9	6.7	8.6	11.2	8.4
Pleasure Driving	1.1	0.4	0.5	0.2	0.2	0.2	0.3	0.4	0.8	0.4
Vacations	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1
Other	13.0	11.5	10.3	10.8	9.7	8.5	8.3	10.4	13.2	10.4
Subtotal	27.9	24.1	20.1	17.7	15.8	13.7	15.4	19.5	25.2	19.3
Other and Unknown	8.9	8.2	9.6	10.5	10.7	9.9	7.4	7.0	7.3	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,826,000,000

**TABLE A-12. PERCENT OF VEHICLE TRAVEL BY PURPOSE
AND AGE OF DRIVER**

Trip Purpose	Vehicle Miles of Travel									
	Age of Driver									
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	Over 70	All Drivers
Earning a Living										
Home to Work	23.6	31.6	34.2	31.9	37.5	34.8	31.5	16.8	4.8	30.4
Work Related	4.0	4.2	6.6	10.3	7.1	9.4	9.0	6.2	1.1	7.3
Subtotal	27.6	35.8	40.8	42.2	44.6	44.2	40.5	23.0	5.9	37.7
Family and Personal Business										
Shopping	7.4	8.0	9.0	9.9	10.4	10.2	10.6	14.1	19.7	10.0
Medical or Dental	0.7	1.4	1.4	1.7	1.6	1.5	2.2	2.7	5.1	1.7
Other	9.9	11.4	9.7	10.6	11.5	11.5	10.1	17.4	11.6	11.2
Subtotal	18.0	20.8	20.1	22.2	23.5	23.2	22.9	34.2	36.4	22.9
Civic, Educational and Religious	12.3	4.6	4.7	3.5	3.6	3.5	2.9	3.8	7.8	4.7
Social and Recreational										
Visiting Friends and Relatives	17.6	13.5	11.2	9.3	8.3	6.9	12.7	12.0	22.2	11.3
Pleasure Driving	2.0	0.6	0.7	0.5	0.4	0.7	0.6	0.8	2.1	0.8
Vacations	0.0	0.3	0.5	0.6	0.7	1.0	0.6	0.3	0.0	0.6
Other	13.7	13.7	11.3	11.6	11.0	9.1	8.9	12.3	14.2	11.3
Subtotal	33.3	28.1	23.7	22.0	20.4	17.7	22.8	25.4	38.5	24.0
Other and Unknown	8.8	10.7	10.7	10.1	7.9	11.4	10.9	13.6	11.4	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

**TABLE A-13. AVERAGE TRIP LENGTH BY PURPOSE
AND AGE OF DRIVER**

Trip Purpose	Average Trip Length (Miles)									
	Age of Driver									
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	Over 70	All Drivers
Earning a Living										
Home to Work	6.8	9.0	9.2	10.2	10.5	9.8	9.0	7.2	4.4	9.2
Work Related	10.9	8.7	11.4	13.4	10.6	12.3	13.3	11.0	4.7	11.9
Average	8.6	8.9	9.5	10.8	10.5	10.2	9.7	7.9	4.5	9.6
Family and Personal Business										
Shopping	4.8	5.0	4.6	5.0	5.2	5.2	4.9	4.3	4.0	4.9
Medical or Dental	7.1	13.3	10.0	12.1	10.0	9.7	12.6	10.5	10.4	10.8
Other	6.3	7.0	6.1	7.2	6.8	7.1	6.3	6.9	4.0	6.7
Average	5.6	5.9	5.4	6.2	6.1	6.2	5.8	5.6	4.4	5.9
Civic, Educational and Religious	6.5	8.3	7.3	6.9	4.9	5.5	4.4	4.7	4.7	6.1
Social and Recreational										
Visiting Friends and Relatives	9.0	9.5	10.1	12.8	11.8	12.5	16.5	10.6	11.7	11.2
Pleasure Driving	12.7	13.2	13.2	19.7	13.8	27.0	17.2	16.1	15.5	15.7
Vacations	0.0	120.3	86.4	82.5	114.2	108.5	95.4	33.1	0.0	95.4
Other	7.4	10.2	9.0	9.6	9.4	9.5	9.5	8.9	6.4	9.1
Average	8.4	10.0	9.8	11.2	9.6	11.5	13.1	9.9	9.1	10.2
Other and Unknown	7.0	11.2	9.2	8.6	6.1	10.2	13.0	14.7	9.4	9.8
ALL PURPOSES	7.1	8.6	8.2	9.0	8.3	8.8	8.8	7.5	6.0	8.3

**TABLE A-14. PERCENT OF VEHICLE TRIPS BY PURPOSE
AND OCCUPATION OF DRIVER**

Vehicle Trips											
Occupation of Driver											
Trip Purpose	Professional and Semi- Professional	Farmers and Farm Managers	Managers and Administrators	Sales Clerks and Other Clerks	Craftsmen and Foremen	Operators and Laborers	Service Workers	Retired	Unemployed	Occupation or Work Status Unknown	All Drivers
Earning a Living											
Home to Work	34.6	13.5	36.9	39.2	37.4	36.5	38.8	9.9	8.8	20.9	27.8
Work Related	7.1	21.0	12.5	6.6	6.4	3.7	3.8	1.8	1.5	3.2	5.1
Subtotal	41.7	34.5	49.4	45.8	43.8	40.2	42.6	11.7	10.3	24.1	32.9
Family and Personal Business											
Shopping	15.4	10.0	9.9	13.2	13.1	13.2	12.4	28.7	24.7	18.2	17.0
Medical or Dental	0.9	2.0	0.9	0.8	0.6	0.7	1.3	2.3	2.2	1.9	1.3
Other	12.6	24.7	13.8	13.7	13.1	12.8	11.2	18.7	14.8	13.7	14.0
Subtotal	28.9	36.7	24.6	27.7	26.8	26.7	24.9	49.7	41.7	33.8	32.3
Civic, Educational and Religious	6.0	6.9	3.5	4.4	3.3	4.0	4.3	7.6	11.9	7.3	6.4
Social and Recreational											
Visiting Friends and Relatives	5.8	7.2	5.6	6.1	7.7	10.1	7.3	9.9	11.3	10.0	8.4
Pleasure Driving	0.2	0.2	0.2	0.2	0.4	0.7	0.8	0.7	0.4	0.5	0.4
Vacations	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.2	0.1
Other	9.7	9.4	10.5	9.1	11.2	10.3	9.0	12.9	10.3	12.7	10.4
Subtotal	15.8	16.8	16.3	15.4	19.4	21.2	17.1	23.6	22.0	23.4	19.3
Other and Unknown	7.6	5.1	6.2	6.7	6.7	7.9	11.1	7.4	14.1	11.4	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,826,000,000

TABLE A-15. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND OCCUPATION OF DRIVER

Trip Purpose	Vehicle Miles of Travel										
	Occupation of Driver										
	Professional and Semi-Professional	Farmers and Farm Managers	Managers and Administrators	Sales Clerks and Other Clerks	Craftsmen and Foremen	Operators and Laborers	Service Workers	Retired	Unemployed	Occupation or Work Status Unknown	All Drivers
Earning a Living											
Home to Work	37.9	8.0	34.5	42.5	41.5	38.6	39.7	10.7	8.9	17.2	30.4
Work Related	8.9	22.8	15.9	9.3	8.0	4.5	5.3	2.4	2.4	5.1	7.3
Subtotal	46.8	30.8	50.4	51.8	49.5	43.1	45.0	13.1	11.3	22.3	37.7
Family and Personal Business											
Shopping	8.3	11.5	5.8	7.9	6.6	7.7	7.1	16.8	18.0	10.3	10.0
Medical or Dental	1.3	5.3	1.3	0.7	0.9	1.0	1.4	2.5	3.5	1.9	1.7
Other	10.8	17.2	10.3	9.4	8.5	9.8	9.3	14.6	15.1	11.4	11.2
Subtotal	20.4	34.0	17.4	18.0	16.0	18.5	17.8	33.9	36.6	23.6	22.9
Civic, Educational and Religious											
	4.1	4.1	2.3	2.8	1.9	3.1	2.9	4.7	12.1	4.4	4.7
Social and Recreational											
Visiting Friends and Relatives	9.7	15.8	8.0	8.2	9.2	12.9	10.0	17.3	14.8	12.8	11.3
Pleasure Driving	0.3	0.3	0.6	0.4	0.5	1.5	1.5	1.7	0.7	1.1	0.8
Vacations	1.2	0.0	0.4	0.5	0.5	1.0	1.0	0.3	0.1	1.6	0.6
Other	8.1	10.7	11.4	9.8	13.9	11.0	9.5	14.2	11.6	14.5	11.3
Subtotal	19.3	26.8	20.4	18.9	24.1	26.4	22.0	33.5	27.2	30.0	24.0
Other and Unknown											
	9.4	4.3	9.5	8.5	8.5	8.9	12.3	14.8	12.8	19.7	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

TABLE A-16. AVERAGE TRIP LENGTH BY PURPOSE AND OCCUPATION OF DRIVER

Trip Purpose	Average Trip Length (miles)										
	Occupation of Driver										
	Professional and Semi-Professional	Farmers and Farm Managers	Managers and Administrators	Sales Clerks and Other Clerks	Craftsmen and Foremen	Operators and Laborers	Service Workers	Retired	Unemployed	Occupation or Work Status Unknown	All Drivers
Earning a Living											
Home to Work	10.3	6.5	9.5	8.4	11.8	9.3	7.6	8.5	6.4	7.5	9.2
Work Related	11.9	11.9	13.0	11.1	13.2	10.7	10.1	10.7	10.2	14.7	11.9
Average	10.5	9.8	10.4	8.8	11.9	9.4	7.8	8.8	6.5	8.4	9.6
Family and Personal Business											
Shopping	5.1	12.7	6.0	4.7	5.3	5.2	4.2	4.6	4.6	5.2	4.9
Medical or Dental	14.2	29.1	15.2	7.0	14.5	12.5	8.1	8.5	10.2	9.1	10.8
Other	8.1	7.7	7.7	5.4	6.8	6.7	6.1	6.2	6.5	7.6	6.7
Average	6.7	10.2	7.3	5.1	6.3	6.1	5.3	5.4	5.6	6.4	5.9
Civic, Educational and Religious	6.4	6.5	6.7	5.0	5.9	6.8	5.0	4.9	6.4	5.5	6.1
Social and Recreational											
Visiting Friends and Relatives	15.8	24.1	14.6	10.6	12.6	11.1	10.1	13.7	8.2	11.7	11.2
Pleasure Driving	13.7	15.0	28.9	16.8	10.9	18.7	14.3	20.1	10.1	19.5	15.7
Vacations	132.3	0.0	88.8	150.7	98.8	85.5	165.0	26.2	82.6	74.7	95.4
Other	7.9	12.5	11.1	8.4	13.2	9.4	7.8	8.7	7.1	10.4	9.1
Average	11.5	17.4	12.8	9.6	13.2	10.8	9.4	11.2	7.7	11.7	10.2
Other and Unknown	11.6	9.4	15.6	9.8	13.5	9.8	8.2	15.8	5.7	15.8	9.8
ALL PURPOSES	9.4	11.0	10.2	7.8	10.6	8.7	7.4	7.9	6.3	9.1	8.3

TABLE A-17. PERCENT OF VEHICLE TRIPS BY TRIP PURPOSE AND DAY OF WEEK

Vehicle Trips								
Day of the Week								
Trip Purpose	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	All
Earning a Living								
Home to Work	33.0	34.0	33.2	33.1	30.6	14.7	8.3	27.8
Work Related	6.1	6.3	5.9	6.2	4.7	3.4	2.2	5.1
Subtotal	39.1	40.3	39.1	39.3	35.3	18.1	10.5	32.9
Family and Personal Business								
Shopping	14.6	14.6	14.5	15.5	16.8	27.2	16.3	17.0
Medical or Dental	2.0	1.8	1.5	1.4	1.4	0.5	0.3	1.3
Other	15.6	13.5	13.9	14.0	16.2	13.6	9.4	14.0
Subtotal	32.2	29.9	29.9	30.9	34.4	41.3	26.0	32.3
Civic, Educational and Religious	5.2	7.0	6.8	5.8	3.7	3.1	16.9	6.4
Social and Recreational								
Visiting Friends and Relatives	6.3	5.9	6.5	5.7	7.2	11.8	19.5	8.4
Pleasure Driving	0.3	0.3	0.4	0.2	0.3	0.7	1.1	0.4
Vacations	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1
Other	7.6	7.5	8.1	8.4	10.1	16.0	17.3	10.4
Subtotal	14.2	13.7	15.1	14.4	17.6	28.6	37.9	19.3
Other and Unknown	9.3	9.1	9.1	9.6	9.0	8.9	8.7	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,826,000,000

TABLE A-18. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND DAY OF WEEK

Vehicle Miles of Travel								
Day of the Week								
Trip Purpose	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	All
Earning a Living								
Home to Work	39.1	39.3	40.5	38.4	34.9	13.6	6.3	30.4
Work Related	10.5	8.5	9.6	8.4	6.5	4.2	3.4	7.3
Subtotal	49.6	47.8	50.1	46.8	41.4	17.8	9.7	37.7
Family and Personal Business								
Shopping	7.7	9.0	8.0	8.8	10.0	17.3	7.7	10.0
Medical or Dental	2.5	2.2	1.7	2.4	1.7	0.5	0.8	1.7
Other	10.7	9.8	11.0	10.5	11.7	11.8	12.7	11.2
Subtotal	20.9	21.0	20.7	21.7	23.4	29.6	21.2	22.9
Civic, Educational and Religious								
	4.3	5.4	5.1	5.0	3.1	3.0	7.5	4.7
Social and Recreational								
Visiting Friends and Relatives	7.5	7.6	6.1	8.0	10.1	16.5	24.4	11.3
Pleasure Driving	0.4	0.3	0.8	0.2	0.6	1.0	2.4	0.8
Vacations	0.5	0.1	0.4	0.9	0.5	1.1	0.4	0.6
Other	7.4	7.0	7.3	8.4	10.8	19.5	19.1	11.3
Subtotal	15.8	15.0	14.6	17.5	22.0	38.1	46.3	24.0
Other and Unknown								
	9.4	10.8	9.5	9.0	10.1	11.5	15.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

TABLE A-19. AVERAGE TRIP LENGTH BY PURPOSE AND DAY OF WEEK

Average Trip Length (miles)								
Trip Purpose	Day of the Week							All
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Earning a Living								
Home to Work	9.3	8.9	9.6	9.1	9.5	8.4	7.7	9.2
Work Related	13.7	10.3	13.0	10.8	11.4	11.2	15.9	11.9
Average	10.0	9.1	10.1	9.4	9.7	8.9	9.4	9.6
Family and Personal Business								
Shopping	4.1	4.7	4.3	4.4	5.0	5.7	4.8	4.9
Medical or Dental	10.2	9.6	9.0	13.7	10.2	8.0	28.5	10.8
Other	5.4	5.6	6.2	5.9	6.0	7.8	13.8	6.7
Average	5.1	5.4	5.5	5.6	5.7	6.4	8.3	5.9
Civic, Educational and Religious	6.5	5.9	5.9	6.8	6.9	8.7	4.5	6.1
Social and Recreational								
Visiting Friends and Relatives	9.3	10.0	7.4	11.0	11.7	12.6	12.8	11.2
Pleasure Driving	10.2	10.0	20.0	15.1	14.8	11.8	21.9	15.7
Vacations	300.0	150.0	46.0	109.5	86.6	98.7	106.0	95.4
Other	7.7	7.2	7.1	7.8	8.8	10.9	11.4	9.1
Average	8.8	8.5	7.7	9.6	10.3	12.0	12.5	10.2
Other and Unknown	8.0	9.1	8.2	7.4	9.3	11.6	18.0	9.8
ALL PURPOSES	7.9	7.7	7.9	7.9	8.3	9.0	10.2	8.3

**Table A-20. PERCENT OF VEHICLE TRIPS BY PURPOSE AND
VEHICLE OWNERSHIP PER HOUSEHOLD (DISTRIBUTION BY PURPOSE)**

Vehicle Trips								
Trip Purpose	Vehicle Ownership Per Household					Subtotal	None	All
	One	Two	Three	Four or More				
Earning a Living								
Home to Work	24.7	29.0	27.9	29.9	27.9	19.6	27.8	
Work Related	4.1	5.3	5.5	5.9	5.1	5.9	5.1	
Subtotal	28.8	34.3	33.4	35.8	33.0	25.5	32.9	
Family and Personal Business								
Shopping	19.5	17.1	15.3	13.8	17.2	18.9	17.0	
Medical or Dental	1.4	1.4	1.2	0.9	1.3	2.9	1.3	
Other	14.3	13.4	14.3	14.7	14.0	18.2	14.0	
Subtotal	35.2	31.9	30.8	29.4	32.5	40.0	32.3	
Civic, Educational, and Religious								
	5.7	6.2	7.4	7.7	6.5	6.2	6.4	
Social and Recreational								
Visiting Friends and Relatives	9.9	7.9	7.9	8.1	8.2	9.6	8.4	
Pleasure Driving	0.3	0.4	0.6	0.8	0.4	0.0	0.4	
Vacations	0.1	0.0	0.1	0.0	0.1	0.0	0.1	
Other	10.3	10.1	11.1	10.4	10.3	9.5	10.4	
Subtotal	20.6	18.4	19.7	19.3	19.0	19.1	19.3	
Other and Unknown								
	9.7	9.2	8.7	7.8	9.0	9.2	9.1	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†	

† Total number of trips = 108,826,000,000

**TABLE A-21. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND
VEHICLE OWNERSHIP PER HOUSEHOLD
(DISTRIBUTION BY PURPOSE)**

Vehicle Miles of Travel							
Trip Purpose	Vehicle Ownership Per Household				Subtotal	None	All
	One	Two	Three	Four or More			
Earning a Living							
Home to Work	26.5	32.8	29.8	31.8	30.4	25.9	30.4
Work Related	6.0	7.5	7.6	8.2	7.3	12.8	7.3
Subtotal	32.5	40.3	37.4	40.0	37.7	38.7	37.7
Family and Personal Business							
Shopping	10.9	9.7	9.8	10.0	10.0	6.0	10.0
Medical or Dental	2.0	1.5	1.7	1.3	1.6	2.6	1.7
Other	12.0	11.0	10.5	10.7	11.1	13.5	11.2
Subtotal	24.9	22.2	22.0	22.0	22.7	22.1	22.9
Civic, Educational, and Religious	4.0	4.3	5.7	5.8	4.7	4.6	4.7
Social and Recreational							
Visiting Friends and Relatives	14.0	10.6	10.2	10.0	11.4	15.7	11.3
Pleasure Driving	0.4	0.6	1.1	1.7	1.0	0.0	0.8
Vacations	1.0	0.5	0.7	0.0	0.7	0.0	0.6
Other	11.8	11.2	11.7	10.6	11.3	9.6	11.3
Subtotal	27.2	22.9	23.7	22.3	24.4	25.3	24.0
Other and Unknown	11.4	10.3	11.2	9.9	10.5	9.3	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

TABLE A-22. PERCENT OF VEHICLE TRIPS BY PURPOSE AND VEHICLE TYPE

Vehicle Trips					
Vehicle Type					
Trip Purpose	Auto, Vanbus Minibus	Pickup & Other Truck	RV	Motorcycle/ Moped	All Vehicle Types
Earning a Living					
Home to Work	26.7	33.8	24.3	43.8	27.8
Work Related	4.6	9.4	1.0	4.5	5.1
Subtotal	31.3	43.2	25.3	48.3	32.9
Family and Personal Business					
Shopping	17.8	11.8	23.7	7.9	17.0
Medical or Dental	1.4	0.5	0.0	0.2	1.3
Other	13.4	18.1	16.7	15.7	14.0
Subtotal	32.6	30.4	40.4	23.8	32.3
Civic, Educational and Religious					
	6.9	3.2	1.0	2.3	6.4
Social and Recreational					
Visiting Friends and Relatives	8.6	7.4	13.2	7.3	8.4
Pleasure Driving	0.4	0.6	0.0	4.4	0.4
Vacations	0.1	0.0	0.0	0.0	0.1
Other	10.8	8.5	12.6	9.7	10.4
Subtotal	19.7	18.5	25.8	21.4	19.3
Other and Unknown					
	9.5	6.7	7.5	4.2	9.1
TOTAL	100.0	100.0	100.0	100.0	100.0†

† Total number of trips = 108,828,000,000

TABLE A-23. PERCENT OF VEHICLE TRAVEL BY PURPOSE AND VEHICLE TYPE

Vehicle Miles of Travel					
Trip Purpose	Vehicle Type				
	Auto, Vanbus Minibus	Pickup & Other Truck	RV	Motorcycle/ Moped	All Vehicle Types
Earning a Living					
Home to Work	29.8	34.9	17.0	47.4	30.4
Work Related	6.5	12.7	0.4	6.0	7.3
Subtotal	36.3	47.6	17.4	53.4	37.7
Family and Personal Business					
Shopping	10.5	7.0	6.6	5.4	10.0
Medical or Dental	1.8	0.8	0.0	0.1	1.7
Other	10.7	14.2	16.0	9.3	11.2
Subtotal	23.0	22.0	22.6	14.8	22.9
Civic, Educational and Religious					
	5.2	1.6	0.1	1.3	4.7
Social and Recreational					
Visiting Friends and Relatives	11.7	1.3	25.0	5.4	11.3
Pleasure Driving	0.6	8.6	0.0	9.4	0.8
Vacations	0.7	0.1	0.0	0.0	0.6
Other	11.6	9.5	20.8	8.1	11.3
Subtotal	24.6	19.5	45.8	22.9	24.0
Other and Unknown					
	10.9	9.3	14.1	7.6	10.7
TOTAL	100.0	100.0	100.0	100.0	100.0†

† Total vehicle miles of travel = 907,603,000,000

TABLE A-24. AVERAGE TRIP LENGTH BY PURPOSE AND VEHICLE TYPE

Average Trip Length (miles)					
Trip Purpose	Vehicle Type				
	Auto, Vanbus Minibus	Pickup & Other Truck	RV	Motorcycle/ Moped	All Vehicle Types
Earning a Living					
Home to Work	9.0	9.9	12.5	9.6	9.2
Work Related	11.5	13.1	7.0	11.9	11.9
Average	9.4	10.6	12.3	9.8	9.6
Family and Personal Business					
Shopping	4.8	5.6	5.0	6.0	4.9
Medical or Dental	10.5	16.1	0.0	7.0	10.8
Other	6.5	7.6	17.1	5.3	6.7
Average	5.7	7.0	10.0	5.5	5.9
Civic, Educational and Religious	6.1	4.9	1.0	5.1	6.1
Social and Recreational					
Visiting Friends and Relatives	11.1	11.0	33.8	6.5	11.2
Pleasure Driving	14.0	21.9	0.0	19.0	15.7
Vacations	97.9	39.2	0.0	0.0	95.4
Other	8.9	10.8	29.5	7.4	9.1
Average	10.2	11.3	31.6	9.5	10.2
Other and Unknown	9.4	13.4	33.4	16.2	9.8
ALL PURPOSES	8.1	9.6	17.8	8.9	8.3

**TABLE A-25. PERCENT OF AUTO* TRIPS, AUTO TRAVEL
AND AVERAGE TRIP LENGTH BY PURPOSE**

Trip Purpose	Percent of Trips		Percent of Travel		Average Trip Length (miles)	
	1969	1977	1969	1977	1969	1977
Earning a Living	36.6	34.6	42.1	40.8	10.2	9.4
Family and Personal Business	31.3	36.0	19.5	25.8	5.6	5.7
Civic, Educational and Religious	9.4	7.6	5.0	5.8	4.7	6.2
Social and Recreational	22.7	21.8	33.4	27.6	13.1	10.2
TOTAL	100.0†	100.0‡	100.0††	100.0‡‡	8.9	8.3

† Auto trips in 1969 = 87,284,000,000

‡ Auto trips in 1977 = 95,568,000,000

†† Auto miles of travel in 1969 = 770,940,000,000

‡‡ Auto miles of travel in 1977 = 781,476,000,000

* Auto includes standard auto, station wagon, vanbus, minibus and personal use taxi.

TABLE A-26. PERCENT OF AUTO* TRIPS, AUTO TRAVEL (VMT) AND AVERAGE TRIP LENGTH BY PURPOSE AND NUMBER OF AUTOS OWNED

Trip Purpose	Percent of Trips						Percent of VMT						Average Trip Length (miles)					
	Year	Autos per Household					Year	Autos per Household					Year	Autos per Household				
		One	Two	Three or More	None	Total		One	Two	Three or More	None	Total		One	Two	Three or More	None	All
Earning a Living	1969	40.4	45.4	11.7	2.5	100.0	1969	37.8	47.9	11.9	2.4	100.0	1969	9.5	10.7	11.4	7.1	10.2
	1977	24.6	46.0	29.0	0.4	100.0	1977	22.1	47.6	30.0	0.3	100.0	1977	8.4	9.7	12.0	8.7	9.4
Family and Personal Business	1969	44.4	43.5	9.0	3.1	100.0	1969	44.9	43.7	8.7	2.7	100.0	1969	5.6	5.6	8.7	5.0	5.6
	1977	29.3	44.2	26.0	0.5	100.0	1977	26.5	44.5	28.6	0.4	100.0	1977	5.2	5.7	6.4	4.7	5.7
Civic, Educational and Religious	1969	37.8	46.1	12.4	3.7	100.0	1969	33.1	52.8	11.2	2.9	100.0	1969	4.1	5.4	4.3	3.6	4.7
	1977	22.9	43.8	33.0	0.3	100.0	1977	19.9	42.3	37.4	0.4	100.0	1977	5.3	5.9	6.9	6.8	6.2
Social and Recreational	1969	44.2	40.6	10.8	4.4	100.0	1969	35.9	50.4	10.2	3.5	100.0	1969	12.6	13.6	14.3	10.8	13.0
	1977	28.4	42.0	29.2	0.4	100.0	1977	27.1	42.9	29.6	0.4	100.0	1977	9.9	10.4	10.2	11.7	10.2
TOTAL	1969	42.3	43.8	10.3	3.6	100.0†	1969	40.5	45.4	11.2	2.9	100.0††	1969	8.5	9.2	9.6	7.2	8.9
	1977	27.1	44.5	28.0	0.4	100.0‡	1977	24.7	45.0	29.9	0.4	100.0‡‡	1977	7.5	8.3	8.7	7.5	8.3

† Auto trips in 1969 = 87,284,000,000

‡ Auto trips in 1977 = 95,566,000,000

†† Auto miles of travel in 1969 = 770,940,000,000

‡‡ Auto miles of travel in 1977 = 781,476,000,000

* Auto includes standard auto, station wagon, vanbus, minibus and personal use taxi.

TABLE A-27. PERCENT OF AUTO* TRIPS, AND AUTO TRAVEL BY PURPOSE AND DAY OF WEEK

Trip Purpose		Day of Week						
		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		Auto Trips						
Earning a Living	1969	45.0	43.7	45.4	44.2	39.1	22.3	10.2
	1977	41.5	42.9	41.3	42.3	37.2	18.8	10.5
Family and Personal Business	1969	32.9	29.7	28.0	31.7	34.0	41.0	21.2
	1977	35.9	33.6	33.7	34.5	38.1	46.2	28.1
Civic, Educational and Religious	1969	8.1	9.2	9.8	7.8	5.9	2.3	25.5
	1977	6.3	8.3	7.8	7.0	4.4	3.6	19.7
Social and Recreational	1969	14.0	17.4	16.8	16.3	21.0	34.4	43.1
	1977	16.3	15.2	17.2	16.2	20.3	31.4	41.7
TOTAL	1969	100.0	100.0	100.0	100.0	100.0	100.0	100.0†
	1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡
		Auto Miles of Travel						
Earning a Living	1969	57.5	53.6	55.4	53.0	46.3	19.1	9.4
	1977	53.6	52.6	53.4	50.1	43.4	18.8	9.4
Family and Personal Business	1969	20.4	18.5	20.6	21.5	20.7	24.2	11.8
	1977	22.6	23.6	23.6	23.8	26.6	34.1	24.9
Civic, Educational and Religious	1969	4.4	6.2	5.1	5.4	3.6	1.9	8.8
	1977	5.3	6.8	6.3	6.2	3.9	3.7	9.9
Social and Recreational	1969	17.7	21.7	18.9	20.1	29.4	54.8	70.0
	1977	18.5	17.0	16.7	19.9	26.1	43.4	55.8
TOTAL	1969	100.0	100.0	100.0	100.0	100.0	100.0	100.0††
	1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0‡‡

† Auto trips in 1969 = 87,284,000,000

‡ Auto trips in 1977 = 95,556,000,000

†† Auto miles of travel in 1969 = 770,940,000,000

‡‡ Auto miles of travel in 1977 = 781,476,000,000

* Auto includes standard auto, station wagon, vanbus, minibus and personal use taxi.

**TABLE A-28. PERCENT OF VEHICLE TRIPS, 5 MILES AND LESS
BY PURPOSE AND TRIP LENGTH**

Trip Purpose	Trip Length						TOTAL
	Less than Half-mile	One Mile	Two Miles	Three Miles	Four Miles	Five Miles	
Earning a Living							
Home to Work	11.0	19.6	22.0	18.8	12.8	15.8	100.0
Work Related	12.4	21.4	21.6	16.5	10.1	18.0	100.0
Average	11.2	19.9	21.9	18.4	12.4	16.2	100.0
Family and Personal Business							
Shopping	20.2	24.6	21.2	14.6	8.6	10.8	100.0
Medical or Dental	9.3	19.1	20.4	17.9	12.6	20.7	100.0
Other	20.1	24.1	22.0	15.7	8.4	9.7	100.0
Average	19.9	24.1	21.5	15.2	8.7	10.6	100.0
Civic, Educational and Religious	15.8	22.5	21.0	17.8	11.3	11.6	100.0
Social and Recreational							
Visiting Friends and Relatives	17.9	19.7	23.3	16.2	10.0	12.9	100.0
Pleasure Driving	11.3	11.3	20.0	14.7	22.7	20.0	100.0
Vacations	*	*	*	*	*	*	*
Other	14.0	21.4	22.5	17.3	10.9	13.9	100.0
Average	15.7	20.5	22.8	16.8	10.7	13.5	100.0
Other and Unknown	13.6	25.1	23.2	16.8	9.6	11.7	100.0
ALL PURPOSES	15.9	22.3	22.0	16.7	10.3	12.8	100.0†

† Trips 5 miles and less = 66,819,000,000

TABLE A-29. PERCENT OF VEHICLE MILES OF TRAVEL, IN TRIPS OF 5 MILES AND LESS BY PURPOSE AND TRIP LENGTH

Trip Purpose	Trip Length						Total
	Less than Half-mile	One Mile	Two Miles	Three Miles	Four Miles	Five Miles	
Earning a Living							
Home to Work	2.2	7.7	17.1	22.0	20.1	30.9	100.0
Work-Related	2.5	8.5	17.2	19.8	16.0	36.0	100.0
Average	2.2	7.8	17.1	21.7	19.4	31.8	100.0
Family and Personal Business							
Shopping	4.8	11.7	20.2	20.9	16.5	25.9	100.0
Medical or Dental	1.7	7.0	14.9	19.7	18.6	38.1	100.0
Other	4.8	11.6	21.2	22.7	16.2	23.5	100.0
Average	4.7	11.5	20.5	21.6	16.5	25.2	100.0
Civic, Educational and Religious	3.4	9.8	18.3	23.4	19.7	25.4	100.0
Social and Recreational							
Visiting Friends and Relatives	3.9	8.6	20.4	21.3	17.5	28.3	100.0
Pleasure Driving	2.0	4.0	13.5	15.4	31.1	34.0	100.0
Vacations	•	•	•	•	•	•	•
Other	2.9	9.0	18.9	21.8	18.3	29.1	100.0
Average	3.3	8.7	19.4	21.5	18.2	28.9	100.0
Other and Unknown	3.0	11.1	20.5	22.4	17.1	25.9	100.0
ALL PURPOSES	3.5	9.7	19.1	21.8	18.0	27.9	100.0 †

† Vehicle miles of travel in trips of 5 miles and less = 152,477,000,000

TABLE A-30.
PERCENT OF VEHICLE TRIPS AND VEHICLE MILES OF TRAVEL BY TRIP LENGTH AND TRIP PURPOSE

Trip Length (miles)	Trip Purposes											
	Earning a Living		Family and Personal Business		Civic, Educational and Religious		Social and Recreational		Other		Total	
	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel
Less than ½	5.5	0.3	14.4	1.2	10.8	0.8	8.2	0.4	9.2	0.5	9.8	0.6
1	9.8	1.0	17.3	2.9	15.4	2.4	10.7	1.1	16.8	1.8	13.6	1.6
2	10.9	2.3	15.5	5.2	14.4	4.5	11.9	2.5	15.6	3.2	13.5	3.2
3	9.1	2.9	11.0	5.5	12.2	5.7	8.8	2.8	11.3	3.5	10.3	3.7
4	6.1	2.6	6.3	4.2	7.8	4.8	5.6	2.3	6.5	2.7	6.3	3.0
5	8.0	4.3	7.7	6.3	8.0	6.3	7.0	3.8	7.9	4.1	7.9	4.7
Subtotal	49.4	13.4	72.2	25.3	68.6	24.5	52.2	12.9	67.3	15.8	61.4	16.8
6-10	21.3	18.1	14.4	19.3	16.6	20.6	19.1	15.1	15.9	12.9	17.9	17.2
11-20	18.6	29.9	8.7	22.7	9.6	24.2	12.7	18.8	9.4	14.2	12.9	23.5
21-30	6.0	16.5	2.4	10.3	2.7	11.6	4.4	11.3	2.8	7.5	4.0	12.5
31-50	2.9	11.3	1.6	8.9	1.9	13.2	3.0	11.2	2.2	9.6	2.3	10.6
51-100	1.2	6.3	0.5	6.5	0.5	4.6	2.6	13.7	1.1	8.1	1.0	8.3
Over 100	0.6	4.5	0.2	7.0	0.1	1.3	6.0	17.0	1.3	31.9	0.5	11.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0†	100.0‡

† Total vehicle trips= 108,825,000,000

‡ Total vehicle miles of travel= 907,603,000,000

TABLE A-31. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL BY PURPOSE AND AGE OF DRIVER (DISTRIBUTION BY AGE)

Trip Purpose	Age of Driver									All Drivers
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	Over 70	
Vehicle Trips										
Earning a Living	8.7	14.0	14.7	12.6	10.9	18.6	15.0	4.8	0.7	100.0
Family and Personal Business	7.6	12.0	13.1	11.9	10.2	16.5	14.5	10.3	3.9	100.0
Civic, Educational and Religious	22.4	10.1	11.6	8.5	9.8	14.5	12.2	7.0	3.9	100.0
Social and Recreational	15.6	16.9	14.6	11.1	8.5	11.7	10.8	7.4	3.4	100.0
Other and Unknown	10.5	12.2	14.8	13.9	12.1	17.7	11.0	5.7	2.1	100.0
All Purposes	10.7	13.6	14.0	11.9	10.3	16.2	13.5	7.2	2.6	100.0†
Vehicle Miles of Travel										
Earning a Living	6.6	13.0	14.7	14.3	12.0	20.0	15.1	4.0	0.3	100.0
Family and Personal Business	7.1	12.8	12.1	12.6	10.6	17.6	14.4	9.9	2.9	100.0
Civic, Educational and Religious	23.7	13.7	14.0	9.7	7.9	13.2	9.1	5.5	3.2	100.0
Social and Recreational	12.7	16.2	13.8	12.0	8.7	12.9	13.6	7.1	3.0	100.0
Other and Unknown	7.6	14.2	14.1	12.3	7.7	18.8	14.7	8.6	2.0	100.0
All Purposes	9.1	14.0	13.8	13.0	10.3	17.1	14.3	6.6	1.8	100.0‡

† Total trips = 108,826,000,000

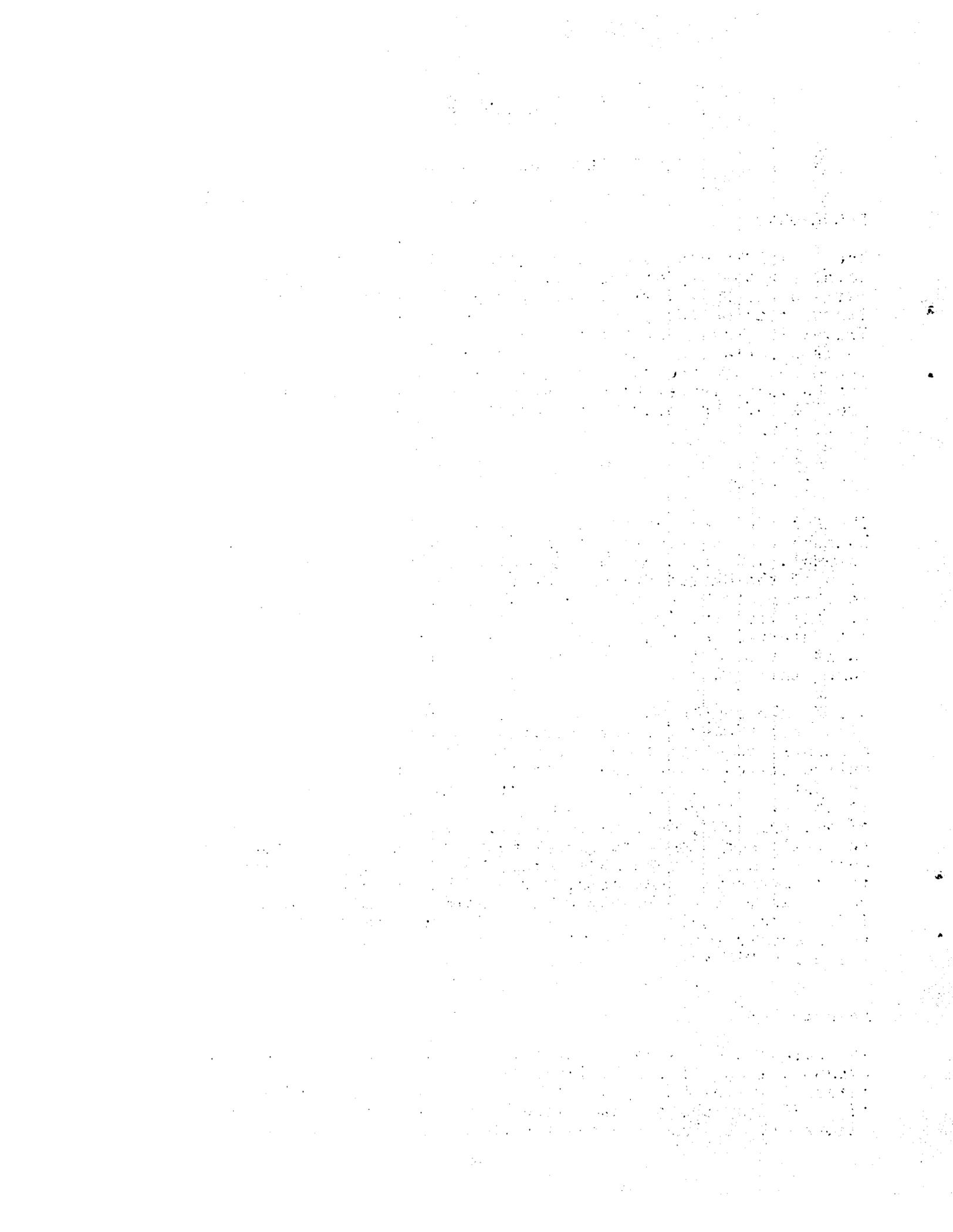
‡ Total vehicle miles of travel = 907,603,000,000

TABLE A-32. PERCENT OF VEHICLE TRIPS AND VEHICLE TRAVEL BY PURPOSE AND DAY OF WEEK (DISTRIBUTION BY DAY)

Day of Week								
Trip Purpose	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
Vehicle Trips								
Earning a Living	15.5	18.5	18.5	18.5	17.9	7.9	3.2	100.0
Family and Personal Business	12.9	14.0	14.3	14.8	17.7	18.3	8.0	100.0
Civic, Educational and Religious	10.6	16.5	16.3	14.0	9.7	6.9	26.0	100.0
Social and Recreational	9.6	10.7	12.1	11.5	15.3	21.3	19.5	100.0
Other and Unknown	13.2	15.1	15.5	16.2	16.4	14.1	9.5	100.0
All Purposes	13.0	15.1	15.5	15.5	16.6	14.4	9.9	100.0†
Vehicle Miles of Travel								
Earning a Living	16.1	17.7	19.4	18.1	18.2	7.4	3.1	100.0
Family and Personal Business	11.3	12.9	13.3	13.9	17.1	20.1	11.4	100.0
Civic, Educational and Religious	11.3	16.1	16.1	15.8	11.1	10.0	19.6	100.0
Social and Recreational	8.1	8.8	9.1	10.7	15.2	24.5	23.6	100.0
Other and Unknown	10.8	14.1	13.0	12.3	15.6	16.8	17.4	100.0
All Purposes	12.3	14.0	14.7	14.6	16.6	15.6	12.2	100.0‡

† Total trips = 108,826,000,000

‡ Total vehicle miles of travel = 907,603,000,000



APPENDIX B

SURVEY PROCEDURES AND DATA PROCESSING

BACKGROUND

The 1977 NPTS was conducted by the Bureau of the Census under the joint sponsorship of the Federal Highway Administration, and the National Highway Traffic Safety Administration of the Department of Transportation (DOT), as part of the expanded scope of the National Travel Program. The National Travel Program is part of the Census of Transportation, which is conducted every 5 years by the Bureau of the Census and includes the National Travel Survey (NTS). In 1977, the National Travel Program also included the 1977 NPTS and provided profiles of the volume and characteristics of travel by the civilian population.

SAMPLE DESIGN

The 1977 NPTS was based on a national probability sample of 24,466 households selected from each of the 50 States and the District of Columbia and representing the total civilian noninstitutional population of the United States. Of the 24,466 households, 3,433 units were found to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey. Some 3,084 households were not interviewed because the occupants were not at home after repeated calls, refused to participate in the survey, or were unavailable for some other reason.

All of the sample units consisted of households that had previously been interviewed for the Current Population Survey (CPS). The CPS is a stratified multistage cluster sample. In the first stage, the United States was divided into 1,030 primary sampling units (PSU's) consisting of counties, groups of counties, or independent cities, which were grouped into 376 strata. Among these strata, 156 consisted of a single PSU, designated as self-representing (SR) areas, and generally contained the larger metropolitan areas. The remaining 220 contained one or more PSU's that are relatively homogeneous according to socioeconomic characteristics. From each stratum, a single PSU was selected for the sample with a probability proportionate to its 1970 census population. These PSU's are referred to as nonself-representing (NSR). The CPS portion of the NPTS was selected from these 376 PSU's (156 SR and 220 NSR).

METHODOLOGY

As indicated previously, the 1977 NPTS was conducted as part of the expanded scope of the National Travel Program which also included the National Travel Survey (NTS). The NTS/NPTS included a common sample of 13,365 households interviewed from April to November 1977 and January 1978. These households were referred to as the basic sample,

and were interviewed four times for NTS data and once for NPTS data. An additional 4,584 addresses, referred to as the supplemental sample, were divided into three equal parts and were interviewed in December 1977, February 1978, and March 1978. This arrangement spread the total NPTS data collection over a 12-month period from April 1977 to March 1978, with approximately 1,500 households to be interviewed each month.

The households within each monthly sample were divided into 14 equal parts, with each part assigned to one of the first 14 days of the interview month. The assigned day was referred to as the designated travel day. In addition, each household was interviewed for trips of 75 miles and longer for the 14 days preceding the travel day; this was referred to as the 14-day travel period. Thus each household was interviewed for trips and travel during a 15-day period.

DATA PROCESSING

The major steps performed by the Bureau of the Census for the 1977 NPTS included clerical editing and coding of the NTS-2 Questionnaire (Sections I-VI); the NTS-2A (Section VII) was edited and coded by the FHWA DOT personnel; full transcription of the data to magnetic tapes; computer edit of the data to ensure completeness and consistency; calculation of the weighting factors for each household; and computation of variance and calculation of statistical reliability of the data. The data was tabulated upon receipt of the edited, weighted data tapes from the Bureau of the Census.

SPECIAL TABULATIONS

There are some applications that require the use of data items on the Census file, such as those related to place of residence of individual respondents, that cannot be included on the public use tape without possible disclosure of the individual respondents. If disclosure can be avoided, the Bureau of the Census will undertake special tabulations in accordance with its policy that "Special tabulation or transcriptions of data in the files of the Bureau of the Census will be undertaken on a cost basis, insofar as Bureau facilities are available. Those requesting special tabulations should understand that the data are based on surveys paid for by public funds and, therefore, are public property. The purpose for which such tabulations are obtained must not be contrary to the public interest, or be used to give unfair commercial or other advantage to any person or group."

Requests for special tabulations should be addressed to:

Chief, Demographic Surveys Division
Bureau of the Census
Washington, D.C. 20233

SUBJECT AREAS PLANNED FOR 1977 NPTS REPORTS

The following is a list of subject areas for which 1977 NPTS reports are presently planned. The sequence does not necessarily indicate the order in which the reports will be prepared and published. This is not a list of actual reports or report titles, but rather a list of subject areas. It is offered as an indication of current plans as well as to give transportation researchers and planners a general indication of the variety and scope which the 1977 NPTS data encompasses. For those reports that have been published, the correct title, report number and publication date are shown.

Licensed drivers: Characteristics of 1977 Licensed Drivers and Their Travel (Report 1, October 1980)

Private vehicles--ownership and physical characteristics

Purpose of trips and travel

Home-to-work trips and travel

Vehicle occupancy

Vehicle utilization

Travel and the family life cycle

Multi-occupant vehicle travel--public and private

Rural vs. urban travel

Mapping as a travel data collection technique

Survey description and tables of variance

Discretionary travel

Household travel rates

Person-trip characteristics

SURVEY QUESTIONNAIRE

Copies of the NPTS Survey Questionnaire are available upon written request from:

Office of Highway Planning (HHP-44)
Federal Highway Administration
400 Seventh Street, SW.
Washington, D.C. 20590

APPENDIX C

NPTS PUBLIC USE TAPE REQUEST

Single copies of the tapes are available through the Federal Highway Administration (FHWA).

For governmental agencies and educational institutions, there is no charge for tape copying. If no tapes are furnished with the request, there is a \$25 charge for each tape provided by FHWA.

For private individuals and all nongovernment or noneducation organizations, there is a \$36 charge per tape copied. In addition, if no tapes are forwarded with the request, there is an added charge of \$25 for each tape provided by FHWA.

- o All tapes provided to FHWA should be 9-track.
- o Appropriate user documentation will be provided with each request.

All orders should be documented on the attached form and should clearly indicate:

1. Which (or all) of the four (4) quarters of data that are desired.
2. Name and/or title of the individual or organization making the request.
3. Number of tapes, if any, included with the request (or being shipped separately).
4. Amount of payment enclosed if applicable.

All checks or money orders should be made payable to Federal Highway Administration. Request and payment should be forwarded to:

Federal Highway Administration
Highway Statistics Division
HHP-44 (NPTS)
400 Seventh Street, S.W.
Washington, D.C. 20590

NPTS PUBLIC USE TAPE REQUEST

1. Data desired

- Tape 1 - First Quarter ()
- Tape 2 - Second Quarter ()
- Tape 3 - Third Quarter ()
- Tape 4 - Fourth Quarter ()
- Tapes 1-4 - All Quarters ()

2. Number of tapes submitted

- None (tape payment included) (); 1 tape (); 2 tapes ();
- 3 tapes (); 4 tapes ()

3. Method of tape submittal

- With order ()
- Under separate cover ()

4. Type of tape labeling desire

- Standard IBM labels ()
- No labels ()

5. Recording density (9-track)

- 800 BPI (); 1600 BPI ()

6. Type of organization, Name and Address

- Educational () Government ()
- Private Organization () Private Individual ()
- Other (specify) ()

Name _____

Title _____

Organization _____

Address _____

City, State, Zip _____

7. Total fee enclosed

Tape copy on user furnished tape(s), _____ quarters
@ \$36 per quarter \$ _____

Tape copy on FHWA furnished tape(s), _____ quarters
@ \$61 per quarter \$ _____

8. Payment enclosed as

Money order

Check

APPENDIX D

RECODING AND TRIP LINKING PROCEDURES

As indicated previously, the scope of the 1977 NPTS is expanded from the 1969 NPTS. The number of trip purposes was expanded from 11 in 1969 to 21 in 1977. The trip purposes added in 1977 were conventions, sightseeing, entertainment, recreation (participant), overnight lodging, social, return home, change in vehicle without change of mode, change means of transportation and pick up and leave off passengers.

In order to compare changes between the two survey periods, recoding and/or trip linking of the 21 trip purposes used in 1977 to the 11 trip purposes used in 1969 is necessary for data comparability. This section contains a description of the recoding and trip linking procedures developed by FHWA for use in comparing the 1977 trip purposes with the 1969 trip purposes.

Table D-1 details the trip purpose recode procedure that FHWA developed for use in recoding of the 1977 NPTS trip purposes for comparability with 1969. This procedure involves the addition of a recode field at the end of each trip record. Thus, the trip record includes the original 1977 trip purpose codes as well as the recoded 1969 trip purpose codes. This provides maximum flexibility in the data record tape.

Some of the 1977 NPTS trip purposes are directly comparable to the 1969 NPTS trip purposes and no recode procedures were required; the 1977 trip purpose code was transferred to the recode field using the comparable 1969 code. These include the trip purposes shown in Group A and Group C of Table D-2.

The 1977 trip purposes included in Group B were recoded to agree with the 1969 code because these 1977 trip reasons are all subgroups of the 1969 trip code. The remaining 1977 trip reasons, i.e., those in Group D, required special handling, since there were no comparable 1969 trip reasons. The recoding procedure outlined in Table D-1 is concerned with this group of 1977 trip purposes and was applied in sequence (Rules 1-10).

In addition, the procedures include a method for handling work trips (Rules 11, 12 and 13), since fewer work trips were recorded in the 1969 NPTS than in the 1977 NPTS. Rules 11, 12 and 13 set forth procedures for handling the following situations:

1. The 1969 NPTS edit procedures limited the number of work trips to two: one initial trip "to work" and the other "return from work." All other trips involving work were coded "work related." In 1977 any trip to place of employment was coded as a work trip with no restriction as to number of acceptable work trips.

2. In 1969, trips to and from lunch during the work day were coded as "personal business," since there was no "eat meal" category. In 1977 the trip to lunch was coded as "eat meal" the return trip was coded "to work."

In addition, a procedure for linking trips coded 15 (change vehicle without change of mode), 16 (change mode of transportation), and 17 (pick up or leave off passengers) was developed, since these trip purposes were never considered in 1969 and were therefore "lost." Like the recoding procedure, this procedure involves an additional field at the end of the trip record for each household member. Trip purpose codes other than 15, 16 and 17 contain a zero in this field. Trip purpose codes 15, 16 and 17 contain the number of the trip to which these are linked in this field. The trip linking procedure is as follows:

If the original trip code was 15, 16 or 17, the trip number of the next acceptable trip (or non-15, 16 and 17) was entered. If there was no acceptable trip, the trip number of the last trip processed was entered.

Table D-1. Recode and Trip Linking Rules to Change 1977 NPTS Trip Purpose Codes to 1969 Trip Purpose Codes.

If there is more than one original trip code of 18 (return home), treat each group of trips ending with the code 18 trip as a separate entity for purposes of recoding.

1. If the original trip code was 03 (convention), then code 02 (business other than work) was added as the recode.
2. If the original trip code was 05 (eat meal) and it followed a trip recode of 01 (work), then code 04 (family or personal business) was added as the recode.
3. If the original trip code was 05 (eat meal) and it did not follow a trip recode of 01 (work), then code 10 (other social or recreational) was added as the recode.
4. If the original trip code was 11 (sightseeing), 12 (entertainment), or 13 (recreation), then code 10 (other social or recreational) was added as the recode.
5. If the original code was 19 (lodging), then code 11 (other) was added as the recode.
6. If the original trip code was 15, 16 or 17, then the recode was stored until a following trip recode was designated.
7. If the original trip code was 15, 16 or 17, and no acceptable* original trip codes followed, then code 11 (other) was added as the recode.
8. If the original trip code was 18 (return home) and there was a previous trip recode of 01 (work), then code 01 (work) was added as the recode.
9. If the original trip code was 18 (return home), and there was no previous trip recode of 01 (work), but there was a preceding trip, the recode of the preceding trip was added to the record.
10. If the original trip code was 18 (return home), and there were no previous trips, then code 11 (other) was added as the recode.
11. If the original trip code was 01 (work) and there were no previous 01 (work) trips, then code 01 (work) was added to the record.
12. If the original trip code was 01 (work) trip, and the preceding trip was not recoded as 01 (work), then the recode of the preceding trip was added to the record.

*Acceptable trip codes for purposes of this procedure are the following 1977 trip codes: 01, 02, 04, 06, 07, 08, 09, 10, 14 and 21; and in addition, trip codes 05, 11, 12, 13 and 20 which were recoded to 10.

13. If the original trip code was 01 (work), and it was followed by one or more successive 01 (work) trips, then a recode of 02 (business other than work related) was added to the second as well as subsequent 01 (work) trips.

Table D-2. 1977-1969 NPTS Trips Purposes and Codes

	CODE	1977 TRIP PURPOSES	CODE	1969 TRIP PURPOSES
GROUP A:	01	To place of work	01	To work
	02	Work-related business	02	Business other than to work
	07	Shopping	03	Shopping
	08	Family or personal business	04	Other family or personal business
	04	Civic, educational or religious	05	To school or church
	06	Doctor or dentist	06	To doctor or dentist
	14	Vacation	07	Vacation
	09	Visit friends or relatives	08	Visit friends or relatives
	10	Pleasure driving	09	Pleasure driving
	66 GROUP B:	11	Sightseeing	10
5		Eat meal		
12		Entertainment		
13		Recreation		
20		Social		
GROUP C:	21	Other	11	Other
GROUP D:	03	Convention		
	15	Change vehicle without change of mode		
	16	Change means (mode) of transportation		
	17	Pick up or leave off passenger		
	18	Return home		
	19	Lodging		

APPENDIX E

GLOSSARY OF TERMS USED IN NPTS

This glossary is provided to assist the user in the interpretation of the data.

Airport: A commercial facility that services regularly scheduled airlines.

Carpool: A regularly scheduled traveling arrangement whereby two or more persons ride together in the same vehicle, sharing the driving and/or the cost of the trip, or simply riding together regularly with one or more persons doing the driving. If two or more household members regularly ride to work in the same vehicle, it is also considered a carpool.

Central City: A city of 50,000 inhabitants or more in the 1970 Census or twin cities i.e., cities with contiguous boundaries and constituting, for general social and economic purposes, a single community with a combined population of at least 50,000, and with the smaller of the twin cities having a population of at least 15,000.

Destination: For travel period trips, the destination is the farthest point of travel from the point of origin of a one-way trip of 75 miles or more.

In travel day trips, the destination is the point at which there is a break in travel.

Driver: A person who operates a motorized vehicle. If more than one person drives on a single trip, the person who drives the most miles is classified as the principal driver. If one or more household members share the driving, the percent of driving done by each household member is recorded separately. If nonhousehold members share the driving, the total percent of driving done by all nonhousehold members is recorded.

Education Level: The number of years of regular schooling completed in graded public, private, or parochial schools, or in colleges, universities, or professional schools, whether day school or night school. Regular schooling is that which advances a person toward an elementary or high school diploma, or a college, university or professional school degree.

Employed: A person is considered employed if there is a definite arrangement for regular full-time or part-time work for pay every week or every month. A formal, definite arrangement with one or more employers to work a specified number of hours a week, or days a month, but on an irregular schedule during the work month is also considered employment. A person who is on call to work whenever there is a need for his (her) services, is not considered employed.

Family Income: The money income of all persons in a household, including those temporarily absent. Includes wages and salary (before deductions), commissions, tips, cash bonuses; net income from a person's own (unincorporated) business, professional practice, or farm (gross receipts minus business expenses); pensions, dividends, interest, unemployment or workmen's compensation, social security, veterans' payments, rent received from owned property (minus the operating costs), public assistance payments, regular gifts of money from friends or relatives not living in the household, alimony, child support, and other kinds of periodic money income other than earnings. Excludes income in kind, such as room and board, insurance payments, lump-sum inheritances, occasional gifts of money from persons not living in the same household, money received from selling one's house, car, or other personal property, withdrawal of savings from banks, and tax refunds.

Federal-aid rural area: Any area outside of federal-aid urban areas.

Federal-aid urban area: An urban place of 5,000 or more population as determined by the Bureau of the Census.

Freeway, tollway, or expressway: A divided arterial highway for through traffic with full or partial control of access and grade separations at major intersections.

Head of household: The one person who is regarded as the head by the members of the household. In most cases the husband is the head, if living in the household. In some cases, the head may be a parent of the chief wage earner or the only adult member of the household. An Armed Forces member is considered as the head only if he lives at home and is a household member. Only one head is designated for each household.

Household: A group of persons whose usual place of residence is a specific housing unit; these persons may or may not be related to each other. The total of all U.S. households represents the total civilian noninstitutionalized population.

Household trip: One or more household members traveling together.

Household vehicle: A motorized vehicle that is owned, leased, rented or company owned and left at home to be regularly used by household members during the reference period. Includes vehicles used solely for business purposes if kept at home, e.g., taxicabs, police cars, etc., which may be owned by, or assigned to, household members for their regular use. Includes vehicles brought home by a car sales person or auto mechanic, only if the vehicle was available for use by him (her) during the entire reference period. Includes all vehicles that were owned or available for use by members of the household during the reference period even though a vehicle may have been sold before

the interview. Excludes vehicles that were not working and not expected to be working within 60 days, and vehicles that were purchased or received after the designated travel day.

Licensed driver: Any person who holds a valid driver's license from any State.

Means of transportation: A personal mode used for going from one place (origin) to another (destination). Includes private and public motorized modes, as well as walking. For all travel day trips, each change of mode constitutes a separate trip. The following personal transportation modes are included:

- Automobile: A privately owned and/or operated licensed motorized vehicle including cars, jeeps, dune buggies and stationwagons. Also includes leased and rented cars if they are privately operated and not picking up passengers in return for fare.
- Vanbus/Minibus: Privately owned and/or operated vans and buses designed to carry from 5-13 passengers.
- Pickup truck/other van: A small open-body motorized vehicle, privately owned and/or operated, with four to six tires, built on a chassis comparable to that of a passenger car. Accommodates fewer than five passengers. Includes travel trucks (service trucks) when they are not being used for commercial purposes.
- Other truck (personal use): The private use, either as a passenger or driver, of all other types of trucks, i.e., dump trucks, trailer trucks, etc., when they are not being used for commercial purposes.
- Motorcycle: Includes large, medium and small motorcycles. Does not include minibikes, etc., which can not be licensed for highway use.
- Self-contained recreational vehicle: Includes recreational vehicles that are operated as a self-contained unit without being hitched to another vehicle: for example, a motor home.
- Taxi (personal use): The use of a passenger vehicle either by a driver or a passenger, which does not involve the duties of a professional driver for the payment of a fare by a passenger.
- Bus: Includes intercity buses, etc.; mass transit systems and shuttle buses that are available to the general public. Also includes senior citizen buses or similar bus services that are available to the public. Does not include shuttle buses operated by a government agency or private industry for the convenience of employees, contracted or chartered buses or school buses. These latter types are included in "other."

- Train: Includes commuter trains and passenger trains other than elevated trains and subways.
- Streetcar: Includes trolleys, streetcars, and cable cars.
- Elevated rail or subway: Includes elevated train and subway trains.
- Airplane: Includes commercial airplanes and smaller planes that are available for use by the general public in exchange for a fare. Private planes and helicopters are included under "other."
- Taxi (commercial use): The use of a taxicab by a driver for hire or by a passenger for fare. Also includes airport limousines. Does not include rental cars if they are privately operated and not picking up passengers in return for fare.
- Truck (commercial use): Includes the commercial use, either as a driver or a passenger, of pickups, dump trucks and trailer trucks being operated for business-related purposes.
- Bicycles: Includes bicycles of all speeds and sizes and minibikes.
- Walk: Includes jogging, walking etc., provided the origin and destination are not the same.
- Schoolbus: Includes county school buses, private school buses, and buses chartered from private companies for the express purpose of carrying students to or from school and/or school-related activities. Does not include school buses chartered or reserved for other trips, such as church outings; these are included under "other."
- Motorized bicycle/(often called a Moped): Includes bicycles equipped with both pedals and a small engine, typically a horsepower or less.
- Other: Includes any types of transportation not included above.

Motorized vehicle: Includes all vehicles that are licensed for highway driving. Specifically excluded are snowmobiles, minibikes, etc.

Origin: Starting point of a trip.

Owned vehicle: Includes all vehicles that one or more household members have purchased for private use regardless if paid for in full, or a gift or legacy to a household member for private use.

Passenger: For a specific trip, any occupant of a motorized vehicle other than the driver.

Person (household member): All people, whether present or temporarily absent, whose usual place of residence is the sample unit, or people staying in the sample unit who have no other usual place of residence elsewhere.

Person miles: A measure of person travel. When one person travels one mile, one person mile of travel results. Where two or more persons travel together in the same vehicle, each person makes the same number of person miles as the vehicle miles. Therefore, four persons traveling five miles in the same vehicle, make 4 times 5 vehicle miles or twenty person miles.

Person nights: The number of nights spent by each person away from home on a travel period trip. For example, two persons on a trip spending 5 nights away from home would result in ten person nights.

Person trip: A unit of person travel. When two or more persons travel together in the same vehicle, each person is counted as making one person trip.

Rural area: Any area outside of an urban place.

Standard Metropolitan Statistical Area (SMSA): Except in the New England States, a standard metropolitan statistical area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition, contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city. In the New England States, SMSA's consist of towns and cities instead of counties.

Station wagon: A passenger vehicle, having an enclosed body of paneled design with two or more seats, where the rear seats can be removed or folded down to create larger luggage or freight compartments.

Stop: For travel period trips, a break in travel other than for gasoline, rest and food. For travel day trips, each stop is treated as a separate trip.

Train station: A depot where regularly scheduled trains may be boarded for travel to cities at least 30 miles away.

Travel day: A 24-hour period from 4:00 a.m. to 3:59 a.m. designated by the Bureau of the Census as the reference period for studying trips and travel of a particular household.

Travel period: The 14 days immediately preceding the travel day of a household.

Traveler: A person reporting a travel day and/or travel period trip(s).

Traveling household: A household reporting at least one travel day and/or travel period trip.

Trip(travel day): A travel day trip is defined as any one-way travel from one address (place) to another by private motor vehicle, public transportation, bicycle, or walking. Jogging and walking for exercise are excluded. When travel is to more than one destination, a separate trip exists each time one or both of the following criteria is satisfied:

- a. The traveltime between two destinations exceeds 5 minutes.
- b. The purpose for travel to one destination is different from the purpose for travel to another.

The one exception is travel within a shopping center or mall. It is to be considered travel to one destination, regardless of the number of stores visited.

Trip(travel period): A travel period trip is one-way to a destination which is 75 miles or more from place of origin.

Trip duration: For travel period trips, the number of nights spent away from home on a single trip, including time (nights) spent enroute and at the destination. For travel day trips, usually measured in minutes.

Trip purpose: The main reason that motivated the trip. For purposes of this survey, there are 21 trip reasons. If there are more reasons than one, and the reasons do not involve different destinations, then only the main reason is chosen. If there are two or more reasons, and they each involve different destinations, then each reason is classified as a separate trip. The 21 trip reasons are defined as follows:

- To place of work: Includes travel to a place where one reports for work. It does not include any other work-related travel.
- Work-related business: Trips related to business activities except to the place of work; for example, a plumber drives to a wholesale dealer to purchase supplies for his business.
- Convention: Trips made to attend business, professional, special interest, and other types of conventions.
- Civic/Education/Religious: Trips to political rallies, legislative hearings, voting places, etc.; to school, college, or university for class(es), PTA meetings, seminars, etc.; to church services or to participate in other religious

activities. Social activities that take place at a church or school are not classified as religious or educational.

- Eat meal: Trips taken to eat a meal in a public place. Trips taken to a friend's house for dinner are classified "visit friends or relatives."
- Doctor or dentist: Trips made for medical, dental or psychiatric treatment or other related professional services.
- Shopping: Includes "window shopping" and purchases of commodities such as groceries, furniture, textiles, etc., for use or consumption elsewhere.
- Family or personal business: Trips taken to attend organized functions of the family or friends, such as weddings, graduations, reunions, etc. Includes purchase of services such as cleaning garments, beauty parlor treatments, servicing of an auto, etc.
- Visit friends or relatives: Trips made to visit friends or relatives but not prompted by organized family affairs or an emergency.
- Pleasure driving: Includes driving trips made with no other purpose listed here but to "go for a drive" with no destination in mind: for example, a Sunday drive in the country.
- Sightseeing: Trips taken to sightsee or tour with a particular place planned to visit. This distinguishes "sightseeing" from "pleasure driving."
- Entertainment: Trips taken to go to a movie, the theatre, opera, concert, discotheque, cabaret, spectator sports, such as a ball game, races, track meet, or an amusement park.
- Recreation (participant): Trips taken to participate in sporting or outdoor activities, such as fishing, hunting, golf, swimming, picnicking, skiing, skating, bowling, basketball, etc.
- Vacation: Trips reported by the respondent as "vacation."
- Change of vehicle: Trips made specifically to change from one vehicle to another within the same "means of transportation" category. (For example, transferring from one bus to another, one plane to another, or from one passenger car to another.)
- Pick up or leave off passenger: Trips that are made to serve a passenger. For example, a trip by Mrs. Columbo to pick up her mother and drive her to the store on travel day would be reported as two trips: the trip to her mother's home for the

purpose of picking up a passenger and the trip to the store for the purpose of shopping. If Mr. Hersholt drives from Washington to Chicago during the 14-day travel period and stops in Baltimore to pick up his son, the purpose of his first stop on his trip to Chicago will be reported in Part B of Section VI as "picking up a passenger."

- Return home: The trip made to the residence of the respondent at the time of the trip. In the case of a college student who lives on campus and is interviewed at school, trips to the dormitory or other living quarters on campus are considered "return home."
- Lodging: Trips made for the purpose of taking overnight accommodations. This category is also used in lieu of "return home" when return trips are to this lodging.
- Social: Trips taken to enjoy some form of social activity involving friends or acquaintances, such as a party, playing cards, dancing, etc.
- Other: Any purpose for a trip that does not fit into one of the above categories.

Type Z noninterview: A person in an interviewed household for which trip information is incomplete but certain demographic information is available.

Vehicle mile: A unit to measure vehicle travel made by a household vehicle: automobile, vanbus/minibus, pickup truck/other van, other truck (personal use), motorcycle, self-contained recreational vehicle, and taxi (personal use).

Vehicle occupancy: The number of persons, including driver and passenger(s) in a vehicle; also includes persons who did not complete a whole trip.

Vehicle trip: For purposes of this study, a vehicle trip is a trip made in a private vehicle regardless of the number of persons in the vehicle.

Vehicle type: For purposes of the study, one of the 12 vehicle types used for coding purposes in the household motorized vehicle record of the NTS-2 Questionnaire.

Urban place: Defined by the Bureau of the Census as follows:

- a. A place of 2,500 inhabitants or more incorporated as a city, borough, village, or town, (except towns in New England, New York, and Wisconsin);
- b. The densely settled fringe, whether incorporated or not, of urbanized areas;

c. Towns in New England and townships in New Jersey and Pennsylvania that contain no incorporated municipalities as subdivisions and have either 25,000 inhabitants or more, or a population of 2,500 to 25,000 and a density of 1,500 persons or more per square mile;

d. Counties in States other than the New England States, New Jersey, and Pennsylvania that have no incorporated municipalities within their boundaries and have a density of 1,500 persons or more per square mile; or

e. Unincorporated places of 2,500 inhabitants or more.

Urbanized area: Defined by the Bureau of the Census as:

1. Any area made up of:

a. A central city of 50,000 inhabitants or more in 1960, or in a special census conducted by the Census Bureau since 1960, or in the 1970 census; or

b. Twin cities, i.e. cities with contiguous boundaries and consisting for general social and economic purposes, a single community with a combined population of at least 50,000 and with the smaller of the twin cities having a population of at least 15,000.

2. Surrounding closely settled territory, including the following (but excluding the rural portions of extended cities):

a. Incorporated places of 2,500 inhabitants or more.

b. Incorporated places with fewer than 2,500 inhabitants provided that each has a closely settled area of 100 housing units or more.

c. Small parcels of land, normally less than one square mile in area, having a population density of 1,000 inhabitants or more per square mile. The areas of large nonresidential tracts devoted to such urban land uses as railroad yards, airports, factories, parks, golf courses, and cemeteries are excluded in computing the population density.

d. Other similar small areas in unincorporated territory with lower population density provided that they serve

- to eliminate enclaves, or
- to close indentations in the urbanized areas of one mile or less across the open end, or
- to link outlying enumeration districts of qualifying density that are not more than $1\frac{1}{2}$ miles from the main body of the urbanized area.