



**NATIONWIDE  
PERSONAL  
TRANSPORTATION  
STUDY**

**PURPOSES OF AUTOMOBILE  
TRIPS AND TRAVEL**

**REPORT NO. 10**

**MAY 1974**

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NATIONWIDE PERSONAL TRANSPORTATION STUDY

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AND TRAVEL

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## Introduction

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

## Description of Data

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

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

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

## Highlights

- ....Earning a living is the most frequent automobile tripmaking activity followed by activities for family business, social and recreational and civic, educational and religious purposes.
- ....Average trip length for each trip purpose increases as the number of automobiles in the household increases.
- ....For all purposes combined, two-car households contribute the greatest percent of trips and vehicle-miles of travel and three-or-more car households contribute the smallest percent of trips and vehicle-miles of travel.
- ....Two-car households make more trips for earning a living and civic, educational and religious activities than all other households, while one-car households make more trips for family business and social and recreational purposes than all other households.
- ....Two-car households generate more vehicle-miles of travel for all trip purposes except family business than all other households; one-car households generate the most vehicle-miles of travel for family business purposes.
- ....Residents of incorporated places of 1,000,000 and over perform a proportionately larger number of automobile trips and vehicle-miles of travel in connection with earning a living and a smaller percent of trips and vehicle-miles of travel for family business and social and recreational purposes than all other population groups.
- ....Households with annual incomes under \$4000 make the greatest percent of trips for family business, households with incomes of \$4000 and over make the greatest percent of trips for earning a living activities.
- ....Tripmaking for different purposes varies with different age-groups. For the 16-20 year olds, automobile trips and travel for social and recreational purposes are first in tripmaking; for workers from 21-60 years of age, it's trips for earning a living; while for the 61-70 year olds the largest proportion of trips are for family business activities.

- ....Automobile trips and vehicle-miles of travel for each trip purpose tend to be concentrated during certain hours of the day and almost two-thirds of all home-to-work trips are started from 6:00 a.m. through 8:39 a.m. and 4:59 p.m. through 6:59 p.m.
- ....Automobile trips and vehicle-miles of travel related to earning a living are most numerous on Monday through Friday while trips related to family business are most prevalent on Saturday. Sunday is the most popular day for educational, civic and religious trips, and trips for social and recreational purposes are concentrated on Saturday and Sunday.
- ....Short trip lengths predominate each of the major trip purposes. More than half (51.8 percent) of trips related to earning a living are 5 miles and less, compared to 74.2 percent of family business trips, 78.8 percent of civic, educational and religious trips and 56.6 percent of trips for social and recreational purposes.
- ....The average household makes 3.8 automobile trips per day; this includes an average of 1.4 trips for earning a living, 1.2 trips for family business, 0.8 trips for social and recreational purposes and 0.4 trips for educational, civic, and religious activities.
- ....The average household makes 34.0 vehicle-miles daily, including an average of 14.2 miles for earning a living, 6.6 miles for family business, 11.2 miles for social and recreational activities and approximately 1.6 miles for educational, civic, and religious activities.

## BACKGROUND AND PROCEDURES

### Background

The Nationwide Personal Transportation Survey was designed to obtain up-to-date information on national patterns of travel. Earlier surveys, limited primarily to automobile and truck travel, were conducted in a number of States between 1930-1940 and more recently between 1951-1959. In April, 1961, a national survey was conducted to estimate characteristics of travel and ownership and use of automobiles. In this national survey, family income data were available which could be related to travel patterns.

### Survey procedures

Data for the Nationwide Personal Transportation Survey were collected in 1969-1970 by the Bureau of the Census of the Department of Commerce for the Federal Highway Administration of the Department of Transportation.

The survey was based on a multi-stage probability sample of housing units located in 235 sample areas, comprising 485 counties and independent cities, representing every State and the District of Columbia. The 235 sample areas were selected by grouping all the Nation's counties and independent cities into about 1,900 primary sample units (PSU's) and further forming 235 strata containing one or more PSU's that are relatively homogeneous according to socio-economic characteristics. Within each of the strata, a single PSU was selected to represent the stratum. Within each PSU, a probability sample of housing units was selected to represent the civilian non-institutionalized population.

The households in the Nationwide Personal Transportation Survey comprised two outgoing panels in the Quarterly Housing Survey (QHS) conducted by the Bureau of the Census. One panel was interviewed in April, July, and October, 1969 and January, 1970; the second panel was interviewed only once in August, 1969.

Experienced field staff of the Bureau of the Census were assigned to the survey. Training consisted of a one-day session for field supervisors by Washington office personnel, and a one-day session of training of the interviewers by field supervisors. In addition, interviewers were assigned home-study exercises to be turned in before each interview period. The interviewers were also observed periodically by field office supervisory personnel.

The completed questionnaires were edited first in the Census regional field offices to clear up inconsistencies and omissions and later in the Washington office. The data were then coded, put on tapes and mechanically edited. An edited tape for each of the months of the survey was furnished to the Federal Highway Administration for processing.

At the first visit to a selected household, in panel 1 during April, 1969, and in panel 2 during August, 1969, Sections I through VII of the household questionnaire were completed as well as a control card. On the control card were entered data on characteristics of the household such as income, automobile ownership, and age and sex of persons in the households. Only Sections VI and VII of the questionnaire were completed at subsequent interviews at the households in panel 1.

Each of the tables in this report will indicate a reference source to a particular table from which the sample base can be determined. These sample bases are identified in Appendix A. A copy of the questionnaire is also found in the Appendix A.

### Sampling variability

The Nationwide Personal Transportation Survey is based on a probability sample and the estimates are subject to sampling variability. The term "sampling variability" refers to the expected differences between the results of the survey and those that would have been obtained had a complete census been taken.

Some items such as person or household characteristics or number of vehicles were collected only during the first visit to a household in April or in August. Standard errors of estimates, measures of sampling variability, were calculated from data collected those two months. Estimates of the standard errors for characteristics of vehicle trips and vehicle-miles were determined from variance functions fitted to the data collected during the five months of interviewing.

Most of the data are presented as percentage distributions. The base value of each 100 percent figure is also indicated. Tables I.A - 1 and 2, II.A - 1 and 2, III.A - 1 and 2, IV - 1 and 2, VI - A - 1 and 2 in Appendix B give the standard errors for specified percentages and base values. The appropriate standard error may be determined by interpolation. In general, the chances are about two out of three that the difference due to sampling variability between the estimated value and the figure that would have been obtained from a complete census does not exceed the standard error.

### Other possible sources of error

In addition to variability arising from the use of samples and household responses, errors may have been made by interviewers or by other personnel involved in the collection and processing of data. Quality controls at all levels of data collection, coding, and editing were exercised by the Bureau of the Census.

I. Distribution of automobile trips, vehicle-miles of travel (and trip length)

Automobile trips are primarily for four major purposes: earning a living, family business, social and recreational, and civic, educational, and religious. The distribution of automobile trips, vehicle-miles of travel, and trip length (miles) by trip purpose is shown in table 1.

Table 1.--Distribution of automobile trips, vehicle-miles of travel and trip length (miles) by trip purpose.

Trip purpose	Percent of automobile		Trip length (miles)
	Trips	Travel	
Earning a living			
Home-to-work	31.9	33.7	9.4
Related business	4.3	7.9	16.1
Subtotal	36.2	41.6	10.2
Family business			
Shopping	15.2	7.5	4.4
Medical and dental	1.8	1.6	8.4
Other	14.0	10.2	6.5
Subtotal	31.0	19.3	5.6
Civic, educational and religious	9.3	4.9	4.7
Social and recreational			
Visiting friends and relatives	8.9	12.1	12.0
Pleasure driving	1.4	3.1	20.0
Vacations	0.1	2.5	160.0
Other	12.0	15.3	11.4
Subtotal	22.4	33.0	13.1
Other and unknown	1.1	1.2	9.4
Total	100.0	100.0	8.9

SOURCE: Based upon unpublished table T-1 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Population size-groups

All areas and places

As shown in table 2, the percent of automobile trips and vehicle-miles of travel for primary trip purposes, shows no appreciable difference for residents of incorporated places and for persons residing in unincorporated areas. However, the distribution of trips and vehicle-miles of travel for each purpose did vary somewhat among incorporated places of different population sizes. For example, residents of places of 1,000,000 and over performed a proportionately larger percent of automobile trips and vehicle-miles of travel in connection with earning a living and the smallest percent of trips and vehicle-miles of travel for family business and social and recreational purposes.

Table 2.--Percent of automobile trips and vehicle-miles of travel by trip purpose, and place of residence - in all areas and selected places\*

Trip purpose	Place of residence			All areas & places
	Unincorporated areas	Incorporated places		
		1,000,000 & over	All	
<b>Automobile trips</b>				
Earning a living	35.8	46.3	36.5	36.2
Family business	31.5	25.9	30.8	31.0
Civic, educational & religious	10.0	8.8	8.9	9.3
Social & recreational	21.4	17.9	22.8	22.4
Other	1.3	1.1	1.0	1.1
Total	100.0	100.0	100.0	100.0
<b>Vehicle-miles of travel</b>				
Earning a living	41.8	50.7	41.5	41.6
Family business	21.5	12.5	18.0	19.3
Civic, educational & religious	6.0	4.9	4.3	4.9
Social & recreational	29.0	31.4	35.3	33.0
Other	1.7	0.5	0.9	1.2
Total	100.0	100.0	100.0	100.0

\* See table A - 1, Appendix A for more detailed information

Standard Metropolitan Statistical Areas

As shown in table 3 below, the distribution of automobile trips by trip purpose was fairly similar for all SMSA population size-groups; however, vehicle-miles of travel showed greater variation. Specifically, while the percent of automobile trips for any specified trip purpose did not vary by more than 4.6 percent among the various SMSA population size-groups, vehicle-miles of travel varied by more than 8 percent for social and recreational travel purposes and more than 12 percent for earning a living purposes.

Table 3.--Percent of automobile trips and vehicle-miles of travel by trip purpose and selected SMSA population size-groups.\*

Trip purpose	SMSA population size-groups		
	500,000 999,999	2,000,000- 2,999,999	All SMSA's
	Automobile trips		
Earning a living	35.8	37.9	36.6
Family business	33.9	30.6	30.7
Civic, educational & religious	8.2	9.5	9.2
Social and recreational	21.6	20.8	22.3
Other	0.5	1.2	1.2
Total	100.0	100.0	100.0
	Vehicle-miles of travel		
Earning a living	38.4	47.2	42.5
Family business	19.8	16.2	18.3
Civic, educational & religious	5.0	5.8	4.8
Social and recreational	36.2	29.7	33.4
Other	0.6	1.1	1.0
Total	100.0	100.0	100.0

\*See table A-2, Appendix A for more detailed information.



## Trip length

For all trips purposes, short trip lengths predominate. More than three-fifths (62.4) percent of all automobile trips are 5 miles and less (table 4) and an additional 16.8 percent are from 6-10 miles. Thus, almost 80 percent (79.2) of all trips are 10 miles and less in length, representing 31.1 percent of all vehicle-miles traveled. Trips of over 21 miles in length account for 8.3 percent of all trips and almost half (47.4 percent) of all vehicle-miles of travel.

Trips are longest in unincorporated areas and in incorporated places of 1,000,000 and over where only about 55.3 percent of all trips are 5 miles and less. Trip lengths reflect the longer distances traveled and average 9.8 miles in unincorporated areas and 10.4 and 11.7 miles in places of under 5,000 and 1,000,000 and over respectively, compared to 8.9 miles in all areas and places.

Table 4.--Percent of automobile trips for all trip purposes by trip length (miles) and place of residence.\*

Place of residence	Trip length - miles				Total	Trip length (miles)
	5 & less	6-10	11-20	21 & over		
	Automobile trips					
Unincorporated areas	55.1	21.6	15.1	8.2	100.0	
Incorporated places						
Under 5,000	61.7	12.5	14.8	11.0	100.0	
5,000-24,999	67.5	14.2	11.0	7.3	100.0	
25,000-49,999	70.9	12.0	10.2	6.9	100.0	
50,000-99,999	70.3	15.1	7.8	6.8	100.0	
100,000-999,999	65.7	18.4	10.8	5.1	100.0	
1,000,000 & over	55.3	21.6	13.4	9.7	100.0	
All places	66.2	15.4	11.1	7.3	100.0	
All areas & places	62.4	16.8	12.5	8.3	100.0	
	Vehicle-miles of travel					
Unincorporated areas	13.8	16.2	23.5	46.5	100.0	9.8
Incorporated places						
Under 5,000	10.2	9.6	22.1	58.1	100.0	10.4
5,000-24,999	16.8	14.9	21.2	47.1	100.0	7.9
25,000-49,999	19.6	12.3	20.0	48.1	100.0	7.8
50,000-99,999	19.5	15.0	14.7	50.8	100.0	8.1
100,000-999,999	21.2	19.3	21.5	38.0	100.0	7.7
1,000,000 & over	10.6	15.3	17.9	56.2	100.0	11.7
All places	16.8	15.0	20.2	48.0	100.0	8.4
All areas & places	15.7	15.4	21.5	47.4	100.0	8.9

\*See tables A-3 and A-4, Appendix A for more detailed information.

Earning a living

More than half (51.8 percent) of all trips and 12.6 percent of vehicle-miles traveled for earning a living purposes are 5 miles and less, and trips from 6-10 miles comprise 20.1 percent of all trips for these purposes and generate 16.1 percent of vehicle-miles of travel (table 5). Trips of 21 miles and longer comprise only 10.8 percent of the trips but generate 45.4 percent of the vehicle-miles of travel.

Workers in unincorporated areas and incorporated places of 1,000,000 and over usually travel the longer distances for these purposes. Less than half of the trips in unincorporated areas (42.5 percent) and incorporated places of 1,000,000 and over (45.0 percent) are 5 miles and less compared to more than half of the trips in all incorporated places (56.6 percent).

Reflecting the longer distances traveled in unincorporated areas and places of 1,000,000 and over, trip lengths average 11.5 and 12.8 miles respectively, compared to 10.2 miles in all areas and places.

Table 5.--Percent of automobile trips and vehicle-miles of travel for earning a living purposes, by trip length (miles) and place of residence.\*

Place of residence	Trip length - miles				Total	Trip length (miles)
	5 and less	6-10	11-20	21 and over		
Automobile trips						
Unincorporated areas	42.5	23.0	20.7	13.8	100.0	
Incorporated places						
Under 5,000	57.9	12.4	18.0	11.7	100.0	
5,000-24,999	56.1	17.0	17.5	9.4	100.0	
25,000-49,999	60.7	15.3	12.9	11.1	100.0	
50,000-99,999	61.7	19.3	9.9	9.1	100.0	
100,000-999,999	56.9	22.6	14.4	6.1	100.0	
1,000,000 & over	45.0	25.7	17.1	12.2	100.0	
All places	56.6	18.6	15.5	9.3	100.0	
All areas and places	51.8	20.1	17.3	10.8	100.0	
Vehicle-miles of travel						
Unincorporated areas	9.9	16.1	27.8	46.2	100.0	11.5
Incorporated places						
Under 5,000	9.0	9.6	27.3	54.1	100.0	10.3
5,000-24,999	13.0	15.1	18.5	43.4	100.0	9.3
25,999-49,999	16.9	13.7	21.2	48.2	100.0	9.2
50,000-99,999	18.2	17.5	16.4	47.9	100.0	8.9
100,000-999,999	18.9	21.1	15.7	34.3	100.0	8.7
1,000,000 & over	8.9	16.7	21.3	53.1	100.0	12.8
All places	14.2	16.1	24.8	44.9	100.0	9.5
All areas and places	12.6	16.1	25.9	45.4	100.0	10.2

\*See tables A-3 and A-4, Appendix A for more detailed information

### Family business

Excluding trips for civic, educational and religious purposes which comprise a small percent of total trips (9.3 percent), trip lengths for family business are the shortest of all trip purposes. Almost three-fourths (74.2 percent) of family business trips are 5 miles and less and almost 90 percent (88.5) are 10 miles and less (table 6). Trips of 10 miles and less generate almost half (48.0 percent) of total vehicle-miles of travel for these purposes.

Trip lengths are longest for residents of unincorporated areas and places of under 5,000 where only 84.4 and 80.6 percent of trips respectively are 10 miles and less. Reflecting the longer distances traveled, trip lengths average 6.7 and 7.7 miles respectively compared to 5.6 miles in all areas and places.

Table 6.--Percent of automobile trips and vehicle-miles of travel for family business purposes, by trip length (miles) and place of residence.

Place of residence	Trip length - miles				Total	Trip length (miles)
	5 and less	6-10	11-20	21 and over		
	<u>Automobile trips</u>					
Unincorporated areas	66.9	17.5	10.6	5.0	100.0	
Incorporated places						
Under 5,000	66.9	13.7	12.2	7.2	100.0	
5,000-24,999	80.8	11.1	5.2	2.9	100.0	
25,000-49,999	83.1	8.3	7.3	1.3	100.0	
50,000-99,999	82.2	11.4	4.0	2.4	100.0	
100,000-999,999	76.1	15.6	6.8	1.5	100.0	
1,000,000 & over	73.9	16.3	6.1	3.7	100.0	
All places	78.1	12.5	6.5	2.9	100.0	
All areas and places	74.2	14.3	7.8	3.7	100.0	
	<u>Vehicle-miles of travel</u>					
Unincorporated areas	22.9	16.7	7.4	53.0	100.0	6.7
Incorporated places						
Under 5,000	14.5	14.1	23.9	47.5	100.0	7.7
5,000-24,999	32.8	20.3	17.4	29.5	100.0	4.5
25,000-49,999	36.8	15.0	25.0	23.2	100.0	4.5
50,000-99,999	24.9	18.8	12.0	44.3	100.0	4.8
100,000-999,999	36.9	27.0	22.6	13.5	100.0	4.5
1,000,000 & over	26.7	23.2	17.2	32.9	100.0	5.7
All places	31.0	20.3	19.6	29.1	100.0	4.9
All areas and places	27.6	20.4	21.3	30.7	100.0	5.6

\*See tables A-3 and A-4, Appendix A for more detailed information

Civic, educational & religious

Almost 80 percent (78.8) of trips for these purposes are 5 miles and less and more than 90 percent (90.8) are 10 miles and less; only in places of under 5,000 and 1,000,000 and over does the proportion of travel 10 miles and less decrease perceptibly to 83.6 and 84.2 percent respectively (table 7). Vehicle-miles of travel show greater variation. While approximately 55.3 percent of all vehicle-miles of travel for these purposes are 10 miles and less, the proportion varies from 24.3 percent in places of under 5,000 to 76.3 percent in places of 50,000 - 99,999.

The average trip length is 4.7 miles. Trip lengths are longest in places of under 5,000 and 1,000,000 and over. (6.5 and 6.6 miles respectively), and shortest in places of 50,000 - 99,999 (3.1 miles).

Table 7.--Percent of automobile trips and vehicle-miles of travel for educational, civic, and religious purposes by trip length (miles) and place of residence.\*

Place of residence	Trip length-miles				Total	Trip length (miles)
	5 and less	6-10	11-20	21 and over		
	Automobile trips					
Unincorporated areas	72.1	16.7	7.4	3.8	100.0	
Incorporated places						
Under 5,000	81.7	1.9	11.3	5.1	100.0	
5,000-24,999	84.9	7.5	3.9	3.7	100.0	
25,000-49,999	85.0	6.0	6.4	2.6	100.0	
50,000-99,999	83.5	11.9	4.6	1/	100.0	
100,000-999,999	85.2	10.3	3.1	1.4	100.0	
1,000,000 & over	59.7	24.5	12.7	3.1	100.0	
All places	82.7	9.4	5.3	2.6	100.0	
All areas and places	78.8	12.0	6.2	3.0	100.0	
	Vehicle-miles of travel					
Unincorporated areas	28.9	22.5	18.9	29.7	100.0	5.9
Incorporated places						
Under 5,000	21.5	2.8	29.5	46.2	100.0	6.5
5,000-24,999	38.0	16.7	14.3	31.0	100.0	3.7
25,000-49,999	37.7	14.1	23.8	24.4	100.0	3.7
50,000-99,999	48.1	28.2	23.7	1/	100.0	3.1
100,000-999,999	51.9	21.3	12.3	14.5	100.0	3.6
1,000,000 & over	19.4	31.0	26.8	22.8	100.0	6.6
All places	10.1	10.4	15.1	64.4	100.0	4.1
All areas and places	35.0	20.3	19.0	25.7	100.0	4.7

1/ Data insufficient for analysis

\*See tables A-3 and A-4, Appendix A for more detailed information.

Social and recreational

Trip lengths for these purposes tend to be the longest, but fewer trips are made for these purposes than for earning a living or family business. Approximately 56.6 percent of automobile trips related to social and recreational trip purposes are 5 miles and less and 73.7 percent are 10 miles and less (table 8). Trips of 10 miles and less generate 20.8 percent of vehicle-miles of travel for these purposes.

Trip lengths do not vary considerably from the average of 13.0 miles except for residents of places of 1,000,000 and over (20.6 miles).

Table 8.--Percent of automobile trips and vehicle-miles of travel for social and recreational purposes by trip length (miles) and place of residence.\*

Place of residence	Trip length-miles				Total	Trip length (miles)
	5 and less	6-10	11-20	21 and over		
	<u>Automobile trips</u>					
Unincorporated areas	51.7	18.3	15.8	14.2	100.0	
Incorporated places						
Under 5,000	56.0	14.3	14.2	15.5		
5,000-24,999	60.1	16.6	11.8	11.5	100.0	
25,000-49,999	62.4	13.8	12.1	11.7	100.0	
50,000-99,999	61.2	15.2	11.5	12.1	100.0	
100,000-999,999	58.0	19.2	13.1	9.7	100.0	
1,000,000 & over	52.8	16.9	13.4	16.9	100.0	
All places	59.0	16.5	12.6	11.9	100.0	
All areas and places	56.6	17.1	13.6	12.7	100.0	
	<u>Vehicle-miles of travel</u>					
Unincorporated areas	10.7	11.4	18.6	59.3	100.0	13.3
Incorporated places						
Under 5,000	21.5	2.8	29.5	46.2	100.0	14.2
5,000-24,999	10.5	11.3	15.1	63.1	100.0	12.1
25,000-49,999	10.6	8.8	15.6	65.0	100.0	12.2
50,000-99,999	10.8	9.4	13.6	66.2	100.0	13.5
100,000-999,999	12.3	13.1	16.8	57.8	100.0	12.0
1,000,000 & over	5.5	6.7	11.3	76.5	100.0	20.6
All places	16.8	15.0	20.2	48.0	100.0	13.0
All areas and places	10.1	10.7	16.2	63.0	100.0	13.0

\*See tables A-3 and A-4, Appendix A for more detailed information.

Household income

Income influences the pattern of tripmaking. For the lowest income households, trips and vehicle-miles of travel for earning a living purposes comprise a much smaller proportion of total trips and vehicle-miles of travel than they do for the higher income levels; family business, and social and recreational activities show a correspondingly higher proportion (table A-5, Appendix A). For the higher income households, trips and vehicle-miles of travel for earning a living comprise the largest proportion of total trips and vehicle-miles of travel, followed by family business and social and recreational activities. For all households, trips for civic, educational and religious activities make the smallest contribution.

Earning a living

Trips and vehicle-miles of travel for earning a living purposes generally increase as income increases (table 9). This is also true for home-to-work, the main component of earning a living. Trips for related business activities show little variation by income class, although vehicle-miles of travel for this component are highest for the lowest (under \$3,000) and highest (\$15,000 and over) income groups.

Table 9.--Percent of automobile trips, vehicle-miles of travel and trip length (miles) for earning a living by selected income groups.\*

Trip purpose	Income groups				Average for all groups
	Under \$3000	\$3000 - 3999	\$10,000 - 14,999	\$15,000 & over	
<b>Automobile trips</b>					
Earning a living					
Home-to-work	22.1	28.7	32.9	32.0	31.9
Related business	4.7	3.4	5.0	4.2	4.3
Subtotal	26.8	32.1	37.9	36.2	36.2
<b>Vehicle-miles of travel</b>					
Earning a living					
Home-to-work	18.0	29.6	35.1	38.0	33.7
Related business	10.7	4.3	8.9	9.4	7.9
Subtotal	28.7	33.9	44.0	47.4	41.6
<b>Trip length (miles)</b>					
Earning a living					
Home-to-work	6.2	8.9	9.6	11.5	9.4
Related business	17.5	11.0	16.2	22.5	16.1
Subtotal	8.2	9.1	10.4	12.7	10.2

\*See table A - 5, Appendix A for more detailed information.

### Family business

Family business trips decrease from 35.1 percent of total automobile trips for households incomes under \$3,000, to 30.4 percent for households with incomes of \$15,000 and over (table 10). Vehicle-miles traveled show wide variation, decreasing from 26.6 percent of total vehicle-miles traveled for households with less than \$3,000 income to a low of 17.0 percent for households with incomes of \$15,000 and over. Trip lengths are longest for households in the \$3,000-\$3,999 income bracket (6.9) miles).

Shopping is the largest separable component of family business activities regardless of income group, and the percent of trips and vehicle-miles traveled for this purpose generally increases (although not appreciably) as income increases. Trip lengths average about 4.4 miles and generally show little variation.

Trips for "other" family business purposes, such as going to the bank, generally show little variation from the average of 14.0 percent, while vehicle-miles of travel tend to decrease as income increases; trip lengths average 6.5 miles.

Trips and vehicle-miles of travel for medical and dental purposes decrease as income increases, and average about 2.0 percent. Trip lengths show wide variation from the average of 8.4 miles.

Table 10.--Percent of automobile trips, vehicle-miles of travel and trip length (miles) for family business purposes by selected income groups.\*

Trip purpose	Income groups				All
	Under \$3000	\$3000 - 3999	\$10,000 - 14,999	\$15,000 & over	
<b>Automobile trips</b>					
Family business					
Shopping	17.8	16.5	14.5	14.2	15.2
Medical & dental	3.6	3.0	1.4	1.8	1.8
Other	13.7	15.1	14.3	14.4	14.0
Subtotal	35.1	34.6	30.2	30.4	31.0
<b>Vehicle-miles of travel</b>					
Family business					
Shopping	9.0	9.9	6.9	6.5	7.5
Medical & dental	2.7	4.0	1.9	1.1	1.6
Other	14.9	13.9	9.2	9.4	10.2
Subtotal	26.6	27.8	18.0	17.0	19.3
<b>Trip length (miles)</b>					
Family business					
Shopping	3.9	5.2	4.3	4.4	4.4
Medical & dental	5.8	11.5	11.8	5.9	8.4
Other	8.4	8.0	5.8	6.3	6.5
Subtotal	5.9	6.9	5.4	5.4	5.6

\*See table A - 5, Appendix A for more detailed information.

Civic, educational & religious

Trips and vehicle-miles of travel for these purposes show no particular pattern by income class (table 11).

Table 11.--Percent of automobile trips, vehicle-miles of travel, and trip length (miles) for civic, educational and religious purposes by selected income classes.\*

Trip purpose	Income groups				All
	Under \$3,000	\$3,000-3,999	\$10,000-14,999	\$15,000 & over	
	Automobile trips				
Civic, educational & religious	7.8	7.6	10.5	10.2	9.3
	Vehicle-miles of travel				
Civic, educational & religious	3.6	5.4	5.3	5.5	4.9
	Trip length (miles)				
Civic, educational & religious	3.6	6.2	4.5	5.1	4.7

\*See table A-5, Appendix A for more detailed information.



### Social and recreational

Households with incomes of less than \$3,000 make almost the same percent of trips for social and recreational purposes (28.4 percent) as trips related to earning a living (26.8 percent) (tables 12 and 9) respectively); in addition, the percent of vehicle-miles traveled (38.2 percent) for these purposes by households in this income bracket is one-third greater than those traveled for earning a living (28.7 percent). The percent of trips made for these purposes by all other income groups is below earning a living and family business; vehicle-miles are below earning a living. Trip lengths for this purpose are generally the longest of all trip purposes regardless of household income, averaging 13.1 miles.

The percent of trips for visiting friends and relatives is larger for households with incomes of under \$3,000 (14.9 percent of all trips and 17.2 percent of vehicle-miles traveled) than for households with incomes of \$15,000 and over (5.9 percent of all trips and 8.0 percent of all vehicle-miles traveled). Trip lengths show great variation and differ by as much as 4 miles from the average of 12.0 miles.

Trips related to pleasure driving were relatively infrequent at any income level, comprising a small percentage of trips (from 1-2 percent) and vehicle-miles of travel (from 1.6-7.0 percent). Vacation trips are almost nonexistent at the lower income levels but make some showing for households with incomes of \$15,000 and over; the average vacation trip length for the \$15,000 and over income households was 103.6 miles.

Trips included in the unsegregated "other" class occur with greater frequency than any of the specified social and recreational purposes for households with incomes of \$7,500 and over; for households with incomes below \$7,500, these trips are less frequent than those for visiting friends and relatives.

Table 12.-- Percent of automobile trips, vehicle-miles of travel and trip length (miles) for social and recreational purposes by selected income groups.\*

Trip Purpose	Income groups				
	Under \$3,000	\$3,000-3,999	\$10,000-14,999	\$15,000 & over	All
	Automobile trips				
Social & recreational					
Visiting friends & relatives	14.9	10.3	7.3	5.9	8.9
Pleasure driving	2.5	1.3	1.2	1.2	1.4
Vacations	0.1	1/	0.1	0.3	0.1
Other	10.9	13.5	11.6	14.2	12.0
Subtotal	28.4	25.1	20.2	21.6	22.4
	Vehicle-miles of driving				
Social & recreational					
Visiting friends & relatives	17.2	19.1	11.1	98.0	12.1
Pleasure driving	7.0	1.6	3.0	2.6	3.1
Vacations	0.9	1/	3.7	3.4	2.5
Other	13.1	11.9	13.7	14.9	15.3
Subtotal	38.2	32.6	31.5	28.9	33.0
	Trip length (miles)				
Social & recreational					
Visiting friends & relatives	8.9	16.1	13.8	13.0	12.0
Pleasure driving	22.1	11.1	22.4	14.3	20.0
Vacations	86.9	1/	276.9	103.6	160.0
Other	9.3	7.6	10.5	10.1	11.4
Subtotal	10.4	11.2	14.0	12.9	13.1

1/ Data insufficient for analysis

\*See Table A-5, Appendix for more detailed information

## Age of driver

The distribution of trips by trip purpose changes for different age-groups. Workers from 21-60 years of age make the largest proportion of their trips (from 37.9-45.5 percent of total) and vehicle-miles of travel (from 36.0-52.0 percent of total) for earning a living purposes; trips for family business activities are second, followed by trips for social and recreational and trips for civic, educational, and religious purposes (table A-6, Appendix A).

Workers in the 16-20 year age group make the largest percent of trips for social and recreational purposes (31.0 percent) while trips related to earning a living (27.3 percent) are second in tripmaking, followed by trips for family business (22.9 percent) and civic, educational and religious purposes (17.6 percent). Vehicle-miles of travel follow the same pattern: 38.4 percent are for social and recreational purposes, 27.6 percent are related to earning a living and an almost equal amount are generated by trips for family business (16.6 percent) and civic, educational and religious purposes (16.0 percent).

The 61-70 year olds make an almost equal proportion of trips related to family business (36.1 percent) and earning a living (35.1 percent) and a lesser percent for social and recreational (20.2 percent) and civic, educational and religious purposes (7.5 percent). Vehicle-miles traveled, however, are almost equally divided between earning a living (35.0 percent of total) and social and recreational purposes (34.8); more than one-fourth (25.1 percent) of all vehicle-miles traveled are for family business and only 3.0 percent are for civic, educational and religious.

More than half (53.5 percent) of the automobile trips made by the over-70 age group are related to family business, however, vehicle-miles of travel (36.2 percent) for these trip purposes are second to social and recreational trip purposes (46.0 percent). Social and recreational trips are second in tripmaking activity and average 27.1 percent of total; trips related to earning a living comprise 11.9 percent of total, and 5.5 percent of trips were for civic, religious and educational purposes.

Trip lengths for earning a living purposes are shortest for the 16-20 year group (7.6 miles) and longest for the 21-60 year age group (from 10.0 - 11.7 miles). Trip lengths for family business purposes show little variation among the different age groups and average 5.6 miles. Trip lengths for civic, educational and religious purposes are shortest for the 61-70 year age group (3.4 miles) and longest for the 21-25 year age group (10.6 miles). For all age groups except the 16-20 year olds, trip lengths for social and recreational purposes average approximately 14.0 miles; the average trip length for the 16-20 year olds for this purposes is almost 5 miles shorter (9.3).

### Occupation of driver

The distribution of automobile trips and vehicle-miles of travel by trip purpose and occupation of the driver is fairly similar for nearly all occupational groups except farmers and farm managers (tables A-7 and A-8, Appendix A). Excluding the unclassified "other" category, store and office clerks and salesmen make the largest percent of automobile trips (17.7) and vehicle-miles of travel (18.0); farmers and farm managers make the smallest percent of automobile trips (1.6) and vehicle-miles of travel (2.0) for all purposes.

### Earning a living

Farmers and farm managers perform proportionately fewer automobile trips and vehicle-miles of travel for earning a living purposes than all other occupational groups. Specifically, farmers and farm managers make 36.1 percent of all trips and 24.3 percent of all vehicle-miles of travel related to earning a living, while for all other occupational groups the proportions range from more than 43 percent of all trips and from 42.9 - 58.2 percent of vehicle-miles of travel. Farmers and farm managers make fewer home-to-work trips (24.0 percent as against over 40 percent for all other occupational groups), but make more trips for related business activities (12.1 percent compared to 2.5 - 9.1 percent for all other occupational groups).

### Family business

Farmers and farm managers make a larger percent of trips and vehicle-miles of travel for family business purposes than all other occupational groups. Specifically, more than one-third of all trips and vehicle-miles traveled by farmers and farm managers (34.8 and 35.8 percent respectively) are for family business activities due to the large proportion of "other" family business trips. Family business activities for all other occupations comprise from 24.9 - 29.7 percent of all trips and 14.1 - 20.1 percent of all vehicle-miles traveled.

### Education, civic and religious

Trips and vehicle-miles of travel for civic, educational and religious purposes were the lowest of all major trip purposes for all occupational groups.

### Social and recreational

The percent of trips for social and recreational purposes showed little variation by occupational group and ranged from 17.2 percent of total trips for proprietors, managers, and officials to 21.6 percent for craftsmen, foremen, and skilled laborers. Vehicle-miles of travel for these purposes showed somewhat greater variation, ranging from 18.4 percent for personal services workers to 36.9 percent for craftsmen, foremen, and skilled laborers.

### Trip length

The average trip length for each purpose by each occupational group is shown in table A-9, Appendix A. Farmers and farm managers made the shortest trip related to earning a living (7.3 miles) and the longest trip for family business, purposes (11.2 miles). Trips for civic, educational and religious purposes ranged from 3.5 miles for craftsmen, foremen, and skilled workers and laborers to 7.7 miles for protective services workers. Personal services workers traveled 7.1 miles for social and recreational activities while other proprietors, managers and officials traveled more than 10 miles further (18.0 miles). The average trip length for all purposes was shortest for personal services workers (6.7 miles) and longest for other proprietors, managers and officials(11.4 miles).

Day of the week

As shown in table 13 below, automobile trips and vehicle-miles of travel for all purposes show little variation during the week, although trips show more variation than vehicle-miles of travel.

Table 13.--Percent of automobile trips and vehicle-miles traveled during the week for all trip purposes.\*

Day of the week	All trip purposes	
	Automobile trips	Vehicle-miles of travel
Monday	13.9	13.5
Tuesday	15.0	14.2
Wednesday	15.1	13.6
Thursday	15.1	14.6
Friday	16.0	14.9
Saturday	13.4	15.2
Sunday	11.5	14.0
All	100.0	100.0

\* See tables A-10 and A-11, Appendix A for more detailed information

Earning a living

Automobile trips and vehicle-miles of travel related to earning a living show little variation from Monday through Friday when almost 90 percent (88.6 percent) of all trips and (88.8 percent) vehicle-miles are traveled (table 14). Home-to-work trips and vehicle-miles of travel exhibit the same trend. Related business trips and vehicle-miles travel, on the other hand, show some variation.

Table 14.--Percent of automobile trips and vehicle-miles traveled during the week for earning a living purposes.\*

Trip purpose	Day of the week							Total
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	
<u>Automobile trips</u>								
Earning a living								
Home-to-work	16.7	17.8	19.5	17.9	17.4	7.9	2.8	100.0
Related business	20.0	17.9	13.7	18.2	13.6	10.4	6.2	100.0
Subtotal	17.1	17.8	18.8	17.9	17.0	8.2	3.2	100.0
<u>Vehicle-miles of travel</u>								
Earning a living								
Home-to-work	17.4	17.9	18.9	18.1	17.7	7.2	2.8	100.0
Related business	22.0	18.4	12.9	19.3	11.2	11.8	4.4	100.0
Subtotal	18.2	18.0	17.8	18.3	16.5	8.1	3.1	100.0

\*See tables A-10 and A-11, Appendix A for more detailed information

Family business

During the week, the largest percent of automobile trips (17.7 percent) and vehicle-miles of travel (18.3 percent) for family business purposes are made on Saturday (table 15). Although many shopping trips are made during the week, almost one-fourth of these trips (22.1 percent) and vehicle-miles (26.1) are traveled on Saturday. Friday has the largest percent of trips made for "other" family business purposes (16.5 percent of trips made during the week) and Monday is the most popular day for trips to the doctor and dentist (21.4 percent).

Table 15.--Percent of automobile trips and vehicle-miles traveled during the week for family business purposes.\*

Trip purpose	Day of the week							All
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	
	Automobile trips							
Family business								
Shopping	13.2	12.2	11.9	14.6	18.3	22.1	7.7	100.0
Medical & dental	21.4	19.2	15.1	18.8	15.1	8.8	1.6	100.0
Other	15.3	15.8	14.7	15.3	16.5	13.9	8.5	100.0
Subtotal	14.6	14.4	13.4	15.1	17.3	17.7	7.5	100.0
	Vehicle-miles of travel							
Family business								
Shopping	12.7	9.8	11.7	15.2	17.9	26.1	6.6	100.0
Medical & dental	17.2	25.5	17.8	13.0	16.1	8.1	2.3	100.0
Other	14.4	13.8	15.4	17.0	14.4	14.2	10.8	100.0
Subtotal	14.1	13.2	14.2	15.9	15.9	18.3	8.4	100.0

\*See tables A-10 and A-11, Appendix A for more detailed information



Civic, educational and religious

Not surprisingly, Sunday is the most popular day for civic, educational and religious activities. Approximately 31.3 percent of trips and 25.2 percent of vehicle-miles of travel for these purposes are made on that day.

Table 16.--Percent of automobile trips and vehicle-miles traveled during the week for civic, educational and religious purposes.\*

Trip purpose	Day of the week							Total
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	
Civic, educational & religious	Automobile trips							100.0
	12.3	14.7	15.7	12.4	10.2	3.4	31.3	
Civic, educational & religious	Vehicle-miles of travel							100.0
	12.2	17.8	14.2	15.9	11.2	3.5	25.2	

\*See tables A-10 and A-11, Appendix A for more detailed information

Social and recreational

Social and recreational trips peak on the weekend and more than 40 percent (42.4) of trips made for these purposes and a greater percent of vehicle-miles of travel (53.9 percent) are generated on these two days. All components of this primary trip purpose show the same pattern.

Table 17.--Percent of automobile trips and vehicle-miles traveled during the week for social and recreational purposes.\*

Trip purpose	Day of the week							Total
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	
	Automobile trips							
Social & recreational								
Visiting friends & relatives	10.2	12.7	12.2	10.5	12.8	16.4	25.2	100.0
Pleasure driving	6.4	7.4	9.1	11.2	9.8	19.7	36.4	100.0
Vacations	5.4	5.8	20.6	25.4	10.4	18.4	14.0	100.0
Other	7.8	11.4	10.7	11.3	17.2	23.8	17.8	100.0
Subtotal	8.6	11.7	11.3	11.1	14.9	20.5	21.9	100.0
	Vehicle-miles of travel							
Social & recreational								
Visiting friends & relatives	8.2	6.4	9.7	6.7	12.3	22.6	34.1	100.0
Pleasure driving	7.9	5.0	5.5	9.4	8.4	23.0	40.8	100.0
Vacations	6.8	27.6	1.4	17.6	8.5	11.3	26.8	100.0
Other	6.3	9.3	7.6	8.9	15.7	28.3	23.9	100.0
Subtotal	7.1	9.2	7.7	8.8	13.3	24.4	29.5	100.0

\*See tables A-10 and A-11, Appendix A for more detailed information.

The preceding tables showed distribution of automobile trips and vehicle-miles of travel for each trip purpose by the day of the week; table 18 below shows the distribution of trips and vehicle-miles of travel made for each trip purpose within the day of the week. From 43.0 - 44.0 percent of all trips and more than half (52.0 - 56.0 percent) of all vehicle-miles traveled from Monday through Thursday are related to earning a living; on Friday trips and vehicle-miles of travel decrease to 38.5 and 45.7 percent of total respectively. Approximately 40.5 percent of all trips and 23.2 percent of vehicle-miles traveled on Saturday are for family business purposes; on Monday through Friday, about one-third of all trips and one-fifth of vehicle-miles are traveled for this purpose.

Trips for civic, educational and religious purposes are most prevalent on Sunday and comprise one-fourth (25.0 percent) of all trips and 8.6 percent of all vehicle-miles traveled on that day. Weekends are most popular for social and recreational trips. Approximately 33.9 percent are of all trip made on Saturday and 42.3 percent of all trips made on Sunday are for social and recreational purposes; vehicle-miles of travel increase from 52.7 percent of all miles generated on Saturday to 68.8 percent on Sunday.

Table 18.--Percent of automobile trips and vehicle-miles of travel by day of the week and trip purpose.\*

Trip purpose	Day of the week						
	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Automobile trips							
Earning a living	44.1	43.0	44.4	43.3	38.5	22.0	10.0
Family business	32.2	29.2	27.4	31.1	33.5	40.5	20.8
Civic, educational & religious	8.0	9.0	9.6	7.6	5.8	2.3	25.0
Social & recreational	13.7	17.1	16.5	16.0	20.7	33.9	42.3
Other	2.0	1.7	2.1	2.0	1.5	1.3	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Vehicle-miles of travel							
Earning a living	56.0	52.6	54.3	52.0	45.7	18.3	9.2
Family business	19.9	18.1	20.2	21.1	20.5	23.2	11.6
Civic, educational & religious	4.3	6.1	5.0	5.3	3.6	1.8	8.6
Social & recreational	17.2	21.3	18.5	19.7	29.0	52.7	68.8
Other	2.6	1.9	2.0	1.9	1.2	4.0	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\*See tables A-10 and A-11, Appendix A for more detailed information

### Trip lengths

The average trip length of 8.9 miles for all purposes shows little variation during the week, from 8.0 miles on Wednesday to 8.6 miles on Monday and Thursday, and increasing to 10.1 miles and 10.9 miles on Saturday and Sunday due to the preponderance of trips for social and recreational purposes (table A-12, Appendix A).

Trip lengths for earning a living purposes show little variation during the week, from 11.0 miles on Monday and decreasing to 9.7 miles on Wednesday. Home-to-work trip lengths show the same pattern with less than one mile variation in trip lengths during the week from the average of 9.4 miles. Trip lengths for related business purposes vary from 11.6 miles on Sunday to 18.3 miles on Saturday.

Family business trip lengths vary by less than one-half mile from the average of 5.6 miles. Shopping trips, the major component, follow the same pattern and average 4.4 miles. Trips to the doctor and dentist are longest on Sunday (12.1 miles) and Tuesday (11.0 miles) and are shortest on Thursday (5.7 miles), while trips for "other" family business purposes increase from 5.7 miles on Tuesday to 8.3 miles on Sunday.

Trips for civic, educational and religious purposes average 4.7 miles, and are longest on Wednesday (6.0 miles) and shortest on Sunday (3.8 miles). Trip lengths for social and recreational purposes are the longest of all activities and show great variation by day of the week, from 9.0 miles on Wednesday to 17.6 miles on Sunday. Trips for visiting friends and relatives are longest on Saturday (16.5 miles) and Sunday (16.3 miles) and more than 10 miles shorter on Tuesday (6.0 miles). Pleasure-driving trip lengths are the longest of this component, increasing to 24.4 miles on Monday and almost half (13.1 miles) on Tuesday. Trip lengths for "other" social and recreational purposes are longest on Sunday (15.3 miles) and again, almost half that distance (8.0 miles) on Wednesday.

Hour of day trips and travel began

Automobile trips and vehicle-miles of travel for each of the purposes tend to be concentrated during certain hours of the day (tables A-13 and A-14, Appendix A). Peak hours for all purposes are from 4:00 p.m.-6:59 p.m. when approximately one-fourth (24.7 percent) of all trips are begun and vehicle-miles (24.8 percent) are traveled; an additional 19.4 percent of all trips and 18.2 percent of vehicle-miles are traveled from 9:00 a.m.-12:59 p.m.

Earning a living

Almost two-thirds (62.3 percent) of all work trips and 63.4 percent of vehicle-miles of travel are reported from 6:00 a.m. - 8:59 a.m. and from 4:00 p.m.-6:59 p.m. (table 19 below). Automobile trips and vehicle-miles of travel for related business purposes are spread out from 9:00 a.m.-6:59 p.m.

Table 19.--Percent of automobile trips and vehicle-miles of travel for earning a living purposes by hour of day trip began.\*

Trip purpose	Hour of day trip began <sup>1/</sup>						Total
	AM			PM			
	1:00-5:59	6:00-8:59	9:00-12:59 p.m.	1:00-3:59	4:00-6:59	7:00-12:59 a.m.	
	Automobile trips						
Earning a living							
Home-to-work	3.7	34.2	10.0	13.9	28.1	10.1	100.0
Related business	1.2	9.8	30.2	23.3	20.9	14.6	100.0
	Vehicle-miles of travel						
Earning a living							
Home-to-work	4.8	36.0	8.3	13.2	27.4	10.3	100.0
Related business	2.4	14.9	27.7	24.4	17.1	13.5	100.0

<sup>1/</sup> Calculated from the hour to 59 minutes past the hour

\*See tables A-13 and A-14, Appendix A for more detailed information.

Family business

As shown in table 20 below, trips and vehicle-miles of travel for all components of family business are concentrated between 9:00 a.m.-6:59 p.m. Trips and vehicle-miles of travel for shopping as well as "other" family business trips are also significant from 7:00 p.m.-9:59 p.m. as many establishments are open later in the evening.

Table 20. Percent of automobile trips and vehicle-miles of travel for family business purposes by hour of day trip began.\*

	Hour of day trip began <sup>1/</sup>							Total
	AM			PM				
	1:00- 5:59	6:00- 8:59	9:00- 12:59 p.m.	1:00- 3:59	4:00- 6:59	7:00- 9:59	10:00- 12:59 a.m.	
	Automobile trips							
Family business								
Shopping	0.3	1.7	28.4	25.1	26.5	16.2	1.8	100.0
Medical & dental	0.5	4.5	36.0	30.3	19.7	6.6	2.4	100.0
Other	0.9	7.9	27.4	20.1	25.0	13.3	5.4	100.0
	Vehicle-miles of travel							
Family business								
Shopping	0.3	1.9	29.3	28.1	24.8	13.8	1.8	100.0
Medical & dental	<sup>2/</sup>	12.0	34.7	20.3	21.8	7.3	3.9	100.0
Other	2.2	8.3	25.4	22.3	24.4	13.2	4.2	100.0

<sup>1/</sup> Calculated from the hour to 59 minutes past the hour

<sup>2/</sup> Data insufficient for analysis

\*See tables A-13 and A-14, Appendix A for more detailed information.

Civic, educational and religious

About half (56.1 percent) of all trips and vehicle-miles of travel (48.3 percent) for these purposes are concentrated between 6:00 a.m. - 12:59 p.m.

Table 21.--Percent of automobile trips and vehicle-miles of travel for civic, educational and religious purposes by hour of day trip began.\*

Trip purpose	Hour of day trip began <sup>1/</sup>							Total
	AM			PM				
	1:00-5:59	6:00-8:59	9:00-12:59 p.m.	1:00-3:59	4:00-6:59	7:00-9:59	10:00-12:59 a.m.	
	Automobile trips							
Civic, educational & religious	0.3	25.7	31.4	14.9	13.7	12.0	3.0	100.0
	Vehicle-miles of travel							
Civic, educational & religious	0.5	22.6	25.7	15.9	18.4	12.4	4.5	100.0

<sup>1/</sup> Calculated from the hour to 59 minutes past the hour

\*See tables A-13 and A-14, Appendix A for more detailed information

Social and recreational

The concentration of social and recreational trips and vehicle-miles of travel by hour of the day is shown in table 22 below. Generally, trips and vehicle-miles of travel for these purposes are begun from 9:00 a.m.-9:59 p.m., although vehicle-miles traveled for vacations decline from 1:00 p.m.-3:59 p.m. and after 7:00 p.m.

Table 22.--Percent of automobile trips and vehicle-miles of travel for social and recreational purposes by hour of day trip began.\*

Trip purpose	Hour of the day <sup>1/</sup>							Total
	AM			PM				
	1:00-5:59	6:00-8:59	9:00-12:59 p.m.	1:00-3:59	4:00-6:59	7:00-9:59	10:00-12:59 a.m.	
	Automobile trips							
Social and recreational								
Visiting friends & relatives	1.3	3.0	15.9	18.7	25.9	26.1	9.1	100.0
Pleasure driving	2.3	2.3	12.9	20.7	27.4	26.0	8.4	100.0
Vacations	4.9	13.2	19.3	15.4	25.6	12.4	9.2	100.0
Other	3.8	2.2	11.6	13.9	21.8	29.3	17.4	100.0
	Vehicle-miles of travel							
Social and recreational								
Visiting friends & relatives	2.7	7.1	22.4	15.4	25.3	19.5	7.6	100.0
Pleasure driving	2.4	4.1	21.7	24.0	26.8	16.2	4.8	100.0
Vacations	10.0	18.6	34.4	6.7	28.0	1.8	0.5	100.0
Other	5.0	7.9	13.5	15.9	22.2	21.0	14.5	100.0

<sup>1/</sup> Calculated from the hour to 59 minutes past the hour

\*See tables A-13 and A-14, Appendix A for more detailed information.



The distribution of trips by hour of the day is shown in the bottom half of tables A-13 and A-14, Appendix A. From 4:00 a.m.- 8:59 a.m., about three-fourths of all trips are related to earning a living; from 9:00 a.m. - 3:59 p.m. almost half the trips are for family business purposes, and from 7:00 p.m. - 9:59 p.m. almost half of the trips are for social and recreational purposes. Trips for civic, educational and religious activities are started from 6:00 a.m. - 12:59 p.m.

#### Automobile occupancy

Another characteristic of automobile travel is car occupancy for each major trip purpose. See Report Number 1: Automobile Occupancy for a detailed examination of average automobile occupancy by trip purpose and place of residence, population groupings of the standard metropolitan statistical areas, day of week, length of trip, and time of day by hour that trip was started.

#### Season of the year

See Report Number 3: Seasonal Variation of Automobile Trip and Travel for a more detailed discussion of seasonal patterns of automobile trips and vehicle-miles of travel by trip purpose, place of residence in unincorporated areas and incorporated places, length of trip, and day of the week that the trip was started.

### II. Relationship of automobile trips and vehicle-miles of travel to household car ownership

#### Distribution of automobile trips and vehicle-miles of travel

Automobile trips and vehicle-miles of travel by trip purpose are greatly influenced by household car ownership. As shown in table 23, two-car households make the greatest percent of automobile trips (43.8 percent) and vehicle-miles of travel (45.4 percent) for all trip purposes. For a specific trip purpose, more auto trips are made by two-car households for earning a living, while one-car households make more trips for family business and social and recreational purposes than all other households. The distribution of vehicle-miles traveled by trip purpose and automobile ownership changes somewhat. For all trip purposes except family business, two-car households generate more vehicle-miles of travel than all other households, one-car households generate the most vehicle-miles of travel for family business purposes. For all trip purposes, households with three-or-more cars contribute the smallest percent of automobile trips and vehicle-miles of travel.

While households with three-or-more cars contribute the smallest percent of trips and vehicle-miles of travel for each trip purpose, they generally travel longer distances for all trip purposes except civic, educational and religious activities, two-car households make the longest trips for these purposes.

Table 23.--Percent of automobile trips, vehicle-miles of travel, and trip length (miles) by trip purpose and household car ownership.\*

Trip purpose	Automobile ownership per household				All households
	One	Two	Three-or-more	None	
Automobile trips					
Earning a living	40.4	45.4	11.7	2.5	100.0
Family business	44.4	43.5	9.0	3.1	100.0
Civic, educational and religious	37.8	46.1	12.4	3.7	100.0
Social and recreational	44.2	40.6	10.8	4.4	100.0
Percent of total	42.3	43.8	10.3	3.6	100.0
Vehicle-miles of travel					
Earning a living	37.8	47.9	11.9	2.4	100.0
Family business	44.9	43.7	8.7	2.7	100.0
Civic, educational and religious	33.1	52.8	11.2	2.9	100.0
Social and recreational	35.9	50.4	10.2	3.5	100.0
Percent of total	40.5	45.4	11.2	2.9	100.0
Trip length (miles)					
Earning a living	9.5	10.7	11.4	7.1	10.2
Family business	5.6	5.6	8.7	5.0	5.6
Civic, educational and religious	4.1	5.4	4.3	3.6	4.7
Social and recreational	12.6	13.6	14.3	10.8	13.0
All purposes	8.5	9.2	9.6	7.2	8.9

\*See tables A-15, A-16, and A-17, Appendix A for more detailed information

Table 23 showed the distribution of automobile trips, vehicle-miles of travel and trip length (miles) for each trip purpose by household automobile ownership; table 24 below, as well as tables 25, 26, 27 and 28, show the distribution of automobile trips, vehicle-miles of travel and trip length (miles) for each trip purpose within household automobile ownership groups.

Table 24.--Percent of automobile trips, vehicle-miles of travel and trip length (miles) by trip purposes within household car ownership groups.\*

Trip purpose	Automobile ownership per household				All households
	One	Two	Three-or-more	none	
	Automobile trips				
Earning a living	34.7	37.6	37.6	35.1	36.2
Family business	32.5	30.7	27.1	27.0	31.0
Educational, civic & religious	8.3	9.8	11.1	9.8	9.3
Social & recreational	23.4	20.6	23.0	27.1	22.4
Other	1.1	1.3	1.2	1.0	1.1
All purposes	100.0	100.0	100.0	100.0	100.0
	Vehicle-miles of travel				
Earning a living	38.9	43.8	44.2	34.7	41.6
Family business	21.5	18.7	15.1	18.4	19.3
Educational, civic & religious	4.0	5.7	4.9	4.9	4.9
Social & recreational	34.5	30.5	34.7	40.5	33.0
Other	1.1	1.3	1.1	1.5	1.2
All purposes	100.0	100.0	100.0	100.0	100.0

\*See tables A-15 and A-16, Appendix A for more detailed information

### Earning a living

The percent of trips and vehicle-miles of travel for earning a living purposes is lowest for one-car households (34.7 and 38.9 percent respectively); the average trip length is longest for households with three-or-more cars (11.4 miles) (table 25).

The percent of automobile trips and vehicle-miles of travel related to home-to-work purposes increases as number of cars in the household increases from 30.7 percent of all trips and 31.8 percent of vehicle-miles traveled by one-car households to 34.0 and 36.8 percent respectively for three-or-more car households. Reflecting the increase in the vehicle-miles traveled, the average trip length increases from 8.8 to 10.4 miles (daily) for one and three-or-more car households respectively.

Trips and vehicle-miles of travel for related business activities are greatest for two-car households.

Table 25.--Percent of automobile trips, vehicle-miles of travel, and trip length (miles) for earning a living purposes and household car ownership.\*

Trip Purpose	Automobile ownership per household				All households
	One	Two	Three-or-more	None	
Automobile trips					
Earning a living					
Home-to-work	30.7	32.6	34.0	31.1	31.9
Related business	4.0	5.0	3.6	4.0	4.3
Subtotal	34.7	37.6	37.6	35.1	36.2
Vehicle-miles of travel					
Earning a living					
Home-to-work	31.8	34.9	36.8	28.9	33.7
Related business	7.1	8.9	7.4	5.8	7.9
Subtotal	38.9	43.8	44.2	34.7	41.6
Trip length (miles)					
Earning a living					
Home-to-work	8.8	9.9	10.4	6.7	9.4
Related business	14.9	16.6	20.0	10.7	16.0
Subtotal	9.5	10.7	11.4	7.1	10.2

\*See tables A-15, A-16, and A-17, Appendix A for more detailed information

### Family business

As the number of cars in the household increases, the percent of trips and vehicle-miles of travel for family business purposes decreases (table 26). Trips decrease from 32.5 percent of total for one-car households to 27.1 percent for three-or-more car households; vehicle-miles decrease from 21.5 percent to 15.1 percent respectively. Trip lengths vary from 5.6 miles for one and two-car households to 8.7 miles for three-or-more car households.

Trips and vehicle-miles of travel for medical and dental purposes as well as shopping purposes follow the same pattern. Trip lengths for medical and dental purposes are shortest for two-car households (8.1 miles). Shopping trip lengths show little variation from 4.3 - 4.5 miles.

The percent of trips for other family business purposes remains about the same (from 14.0 to 14.2 percent of total) for all households; vehicle-miles of travel; however, decrease from 11.3 percent of total for one-car households to 8.8 percent of total for three-or-more car households. Trip lengths show little variation from 6.5 miles.

Table 26.--Percent of automobile trips, vehicle-miles of travel and trip length for family business purposes and household car ownership.\*

Trip purpose	Automobile ownership per household				All Households
	One	Two	Three-or-more	None	
<b>Automobile trips</b>					
Family business					
Shopping	16.5	15.0	11.7	13.5	15.2
Medical & dental	2.0	1.6	1.2	2.7	1.8
Other	14.0	14.1	14.2	10.8	14.0
Subtotal	32.5	30.7	27.1	27.0	31.0
<b>Vehicle-miles of travel</b>					
Family business					
Shopping	8.2	7.4	5.2	7.8	7.5
Medical & dental	2.0	1.4	1.1	1.5	1.6
Other	11.3	9.9	8.8	9.1	10.2
Subtotal	21.5	18.7	15.1	18.4	19.3
<b>Trip length (miles)</b>					
Family business					
Shopping	4.3	4.5	4.3	4.2	4.4
Medical & dental	8.8	8.1	9.0	4.1	8.3
Other	6.8	6.5	6.0	6.1	6.5
Subtotal	5.6	5.6	8.7	5.0	5.6

\*See tables A-15, A-16, and A-17, Appendix A for more detailed information

Civic, educational and religious

The percent of trips made for these purposes increases from 8.3 percent of total for one-car households to 11.1 percent for households with three-or-more cars; vehicle-miles are greatest for two-car households (5.7 percent) (table 27). Trip lengths are longest for two-car households (5.4 miles).

Table 27.--Percent of automobile trips, vehicle-miles of travel and trip length (miles) for civic, educational and religious purposes and household car ownership.\*

Trip purpose	Automobile ownership per household				
	One	Two	Three-or-more	None	All households
Civic, educational and religious	Automobile trips				
	8.3	9.8	11.1	9.8	9.3
Civic, educational and religious	Vehicle-miles of travel				
	4.0	5.7	4.9	4.9	4.9
Civic, educational and religious	Trip length (miles)				
	4.1	5.4	4.3	3.6	4.7

\*See tables A-15, A-16, and A-17, Appendix A for more detailed information

Social and recreational

The percent of trips and vehicle-miles of travel for these purposes is lowest for two-car households (20.6 and 30.5 percent respectively), and slightly higher for one and three-or-more car households (table 28). Three-or-more car households travel the farthest (14.3 miles) for these purposes.

The percent of trips and vehicle-miles of travel made for visiting friends and relatives decreases as car ownership increases; trip lengths are longest for two-car households (13.4 miles). Trip and vehicle-miles of travel for "other" social and recreational purposes show the reverse trend from visiting friends and relatives; trip lengths for these purposes are longest for three-or-more car households (14.6 miles).

The percent of vacation trips is negligible for households, but due to the relatively long trip length, vehicle-miles of travel account for 2.9 percent of total for two-car households. Trip lengths vary considerably, but decrease with increasing numbers of cars.

Table 28.--Percent of automobile trips, vehicle-miles of travel and trip length (miles) for social and recreational purposes and household car ownership.\*

Trip purpose	Automobile ownership per household				All households
	One	Two	Three-or-more	None	
	Automobile trips				
Social and recreational					
Visiting friends and relatives	10.7	7.4	7.0	11.9	8.9
Pleasure driving	1.3	1.3	1.7	2.3	1.4
Vacations	<u>1/</u>	<u>1/</u>	<u>1/</u>	<u>1/</u>	0.1
Other	11.4	11.9	14.3	12.9	12.0
Subtotal	23.4	20.6	23.0	27.1	22.4
	Vehicle-miles of travel				
Social and recreational					
Visiting friends and relatives	14.4	10.6	8.3	14.5	12.1
Pleasure driving	3.3	2.6	2.5	8.3	3.1
Vacations	2.2	2.9	2.2	1.4	2.5
Other	14.6	14.4	21.7	16.3	15.3
Subtotal	34.5	30.5	34.7	40.5	33.0
	Trip length (miles)				
Social and recreational					
Visiting friends and relatives	11.4	13.4	11.4	8.8	12.0
Pleasure driving	21.9	18.0	14.3	26.6	19.6
Vacations	211.8	195.0	61.4	204.0	160.0
Other	11.0	11.1	14.6	9.2	11.5
Subtotal	12.6	13.6	14.3	10.8	13.0

1/ Data insufficient for analysis

\*See tables A-15, A-16, and A-17, Appendix A for more detailed information

Daily and annual tripmaking rates and vehicle-miles of travel per household

This part of the report discusses the relationship of household car ownership to tripmaking rates for different purposes. In other words, do two-car households make twice as many trips for earning a living? Does the use of an additional automobile increase the number of trips made for social and recreational purposes? These and other related questions related to car-owning households will be answered.

The effect of car ownership upon the number of trips made for all purposes is shown below in table 29.

Table 29.--Daily and annual automobile trips and vehicle-miles of travel per household for all trip purposes by automobile ownership.\*

Trip purpose	Car-owning households							
	One		Two		Three-or-more		All	
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
	Automobile trips per household							
All purposes	1,219	3.3	2,317	6.3	3,102	8.5	1,396	3.8
	Vehicle-miles of travel per household							
All purposes	10,406	28.5	21,405	58.6	29,974	82.1	12,423	34.0

\*See table A-18, Appendix A for more detailed information



Earning a living

Tripmaking for earning a living tends to increase almost proportionately to the number of cars in the household; vehicle-miles of travel, however, show a greater proportionate increase (table 30).

Tripmaking for home-to-work purposes, the greatest component of earning a living, shows the same pattern. The number of trips made for related business is negligible, regardless of the number of cars owned.

Table 30.--Annual and daily automobile trips and vehicle-miles of travel per household for earning a living by automobile ownership.\*

Trip purpose	Cars owned per household						All car-owning households	
	One		Two		Three-or-more			
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
	Automobile trips per household							
Earning a living								
Home-to-work	374	1.0	757	2.1	1,055	2.9	444	1.2
Related business	49	0.1	115	0.3	111	0.3	62	0.2
Subtotal	423	1.1	872	2.4	1,166	3.2	506	1.4
	Vehicle-miles of travel per household							
Earning a living								
Home-to-work	3,307	9.1	7,466	20.5	11,020	30.2	4,183	11.5
Related business	736	2.0	1,905	5.2	2,224	6.1	983	2.7
Subtotal	4,043	11.1	9,371	25.7	13,244	36.3	5,166	14.2

\*See table A-18, Appendix A for more detailed information

Family business

Households with three-or-more cars make proportionately fewer trips for family business purposes than all other car-owning households and travel proportionately fewer vehicle-miles (table 31). Trips and vehicle-miles of travel for shopping as well as "other" family business purposes follow the same pattern. Tripmaking for medical and dental purposes is negligible (0.1 trips per day) for all households regardless of number of cars owned and vehicle-miles traveled range from 0.6 miles for one-car households to 0.9 miles daily for households with three-or-more cars.

Table 31.--Annual and daily automobile trips and vehicle-miles of travel per household for family business by car ownership.\*

Trip Purpose	Cars owned per household						All car-owning households	
	One		Two		Three-or-more			
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
	Automobile trips per household							
Family business								
Shopping	201	0.5	348	1.0	363	1.0	213	0.6
Medical and dental	24	0.1	38	0.1	36	0.1	24	0.1
Other	172	0.5	328	0.9	442	1.2	195	0.5
Subtotal	397	1.1	714	2.0	841	2.3	432	1.2
	Vehicle-miles of travel per household							
Family business								
Shopping	857	2.3	1,572	4.3	1,548	4.2	929	2.6
Medical and dental	206	0.6	308	0.8	326	0.9	202	0.5
Other	1,178	3.2	2,126	5.8	2,644	7.2	1,270	3.5
Subtotal	2,241	6.1	4,006	10.9	4,518	12.3	2,401	6.6

\*See table A-18, Appendix A for more detailed information.

Civic, educational and religious

The number of trips made for these purposes increases from one trip every 3 days for households with one car to about a trip a day (1.0 trips) for households with three-or-more cars. Two-car households travel more than twice as many vehicle-miles per day (3.4) as one-car households and vehicle-miles traveled increase slightly to 4.1 miles for households with three-or-more cars.

Table 32. Annual and daily automobile trips and vehicle-miles of travel per household for civic, educational and religious purposes by car ownership.\*

Trip purpose	Cars owned per household						All car-owning households	
	One		Two		Three-or-more			
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
	Automobile trips per household							
Civic, educational and religious	101	0.3	227	0.6	346	1.0	130	0.4
	Vehicle-miles of travel per household							
Civic, educational and religious	420	1.2	1,223	3.4	1,485	4.1	612	1.6

\*See table A-18, Appendix A for more detailed information.

Social and recreational

Households with three-or-more cars make twice as many trips (1.9 trips daily) for social and recreational purposes as do one-car households (0.8 trips daily) and generate nearly three times as many vehicle-miles of travel (28.5 vehicle-miles of travel for three-or-more car households compared to 9.8 vehicle-miles of travel per day for one-car households) (table 33).

Tripmaking for visiting friends and relatives shows minor increases from the daily average of 0.4 trips for all car-owning households. Vehicle-miles of travel increase from 4.1 miles for one-car households to 6.3 and 6.8 vehicle-miles of travel for two and three-or-more car households respectively.

Pleasure driving trips are insignificant for all households; however, vehicle-miles of travel increase from 1.0 to 1.5 to 2.1 for one, two, and three-or-more cars respectively.

Vacation trips, like pleasure driving trips, are insignificant; however, vehicle-miles make a showing, increasing from 0.6 for one-car households to 1.7 and 1.8 for two and three-or-more car households respectively.

Table 33.--Annual and daily automobile trips and vehicle-miles of travel per household for social and recreational purposes by automobile ownership.\*

Trip purpose	Cars owned per household						All car-owning households	
	One		Two		Three-or-more		Annual	Daily
	Annual	Daily	Annual	Daily	Annual	Daily		
	Automobile trips per household							
Social & recreational								
Visiting friends and relatives	132	0.4	171	0.5	218	0.6	125	0.3
Pleasure driving	16	1/	31	0.1	54	0.1	19	0.1
Vacations	1/	1/	1/	1/	1/	1/	2	1/
Other	137	0.4	275	0.8	445	1.2	166	0.4
Subtotal	285	0.8	477	1.4	718	1.9	312	0.8
	Vehicle-miles of travel per household							
Social & recreational								
Visiting friends and relatives	1,500	4.1	2,288	6.3	2,491	6.8	1,497	4.1
Pleasure driving	348	1.0	555	1.5	763	2.1	381	1.0
Vacations	230	0.6	622	1.7	649	1.8	320	0.9
Other	1,513	4.1	3,053	8.4	6,493	17.8	1,896	5.2
Subtotal	3,591	9.8	6,518	17.9	10,396	28.5	4,094	11.2

1/ Data insufficient for analysis

\*See table A-18, Appendix A for more detailed information.

By distances traveled for each trip purpose

As table 34 indicates, trip lengths for all trip purposes show no significant variation by number of cars owned, although one-car households usually travel the somewhat shorter distances. Less than half (45.2 percent) of the vehicle-miles generated by one-car households are for trips of 21 miles and over, compared to 52.9 percent of trips for households with three-or-more cars.

Table 34.--Percent of automobile trips and vehicle-miles of travel for all trip purposes by trip length and automobile ownership.\*

Household car ownership	Trip length - miles					Average trip length (miles)
	5 & less	6-10	11-20	21 & over	All	
Automobile trips						
All purposes						
One	62.2	17.7	12.5	7.6	100.0	
Two	61.9	14.7	12.9	10.5	100.0	
Three-or-more	61.7	15.7	12.3	10.3	100.0	
All households	62.4	16.8	12.5	8.3	100.0	
Vehicle-miles of travel						
All purposes						
One	15.6	16.7	22.5	45.2	100.0	8.5
Two	15.7	14.7	21.4	48.2	100.0	9.2
Three-or-more	14.5	13.3	19.3	52.9	100.0	9.6
All households	15.7	15.4	21.5	47.4	100.0	8.9

\*See tables A-19 and A-20, Appendix A for more detailed information

### Earning a living

As table 35 below indicates, the percent of trips and vehicle-miles of travel 20 miles and less shows little variation by number of cars owned. However, household with three-or-more cars generate more than half (52.9 percent) the vehicle-miles for trips 21 miles and greater. Average trip lengths are longest for multiple-car owners.

Table 35.--Percent of automobile trips and vehicle-miles of travel for earning a living by trip length and automobile ownership.\*

Household car ownership by trip purpose	Trip length (miles)					Average trip length (miles)
	5 & less	6-10	11-20	21 & over	Total	
Automobile trips						
Earning a living						
One	52.6	21.5	16.8	9.1	100.0	
Two	50.9	20.2	18.2	10.7	100.0	
Three-or-more	51.8	16.9	17.2	14.1	100.0	
All car-owning households	51.8	20.1	17.3	10.8	100.0	
Vehicle-miles of travel						
Earning a living						
One	13.7	18.4	26.8	41.1	100.0	8.8
Two	11.9	15.3	26.2	46.6	100.0	9.9
Three-or-more	11.5	12.3	23.3	52.9	100.0	10.9
All car-owning households	12.6	16.1	25.9	45.4	100.0	10.2

\*See tables A-19 and A-20, Appendix A for more detailed information

Family business

As table 36 below indicates, the percent of trips and vehicle-miles traveled for family business shows little variation by trip length and number of cars owned per household. However, households with three-or-more cars generate the largest percent of vehicle-miles of travel for trips of 21 miles and longer, resulting in an average trip length of 8.7 miles for these households compared to an average of 5.6 miles for all other car-owning households.

Table 36.--Percent of automobile trips and vehicle-miles of travel for family business by trip length and automobile ownership.\*

Household car ownership by trip purpose	Trip length (miles)					Average trip length (miles)
	5 & less	6-10	11-20	21 & over	Total	
Automobile trips						
Family business						
One	72.8	15.6	7.7	3.9	100.0	
Two	74.9	13.4	8.4	3.3	100.0	
Three-or-more	75.4	12.9	6.7	5.0	100.0	
All car-owning households	74.2	14.3	7.8	3.7	100.0	
Vehicle-miles of travel						
Family business						
One	25.3	22.0	20.7	32.0	100.0	5.6
Two	29.0	19.0	22.1	29.9	100.0	5.6
Three-or-more	28.3	18.9	18.6	34.2	100.0	8.7
All car-owning households	27.6	20.4	21.3	30.7	100.0	5.6

\*See tables A-19 and A-20, Appendix A for more detailed information

Civic, educational and religious

Two-car households travel the longer distances for civic, educational and religious purposes (table 37). This is reflected in the greater proportion of vehicle-miles of travel, especially for trips of 21 miles and greater. Two-car households travel an average of 5.4 miles for these purposes compared to about 4.2 miles for all other car-owning households.

Table 37.--Percent of automobile trips and vehicle-miles of travel for civic, educational and religious purposes by trip length and automobile ownership.\*

Household car ownership by trip purpose	Trip length (miles)					Average trip length (miles)
	5 & less	6-10	11-20	21 & over	Total	
Automobile trips						
Civic, educational and religious						
One	79.8	12.3	5.7	2.2	100.0	
Two	77.3	11.9	7.0	3.8	100.0	
Three-or-more	79.5	11.6	6.1	2.8	100.0	
All car-owning households	78.8	12.0	6.2	3.0	100.0	
Vehicle-miles of travel						
Civic, educational and religious						
One	35.7	23.2	19.7	21.4	100.0	4.1
Two	31.6	17.8	19.4	31.2	100.0	5.4
Three-or-more	38.7	21.6	20.4	19.3	100.0	4.3
All car-owning households	35.0	20.3	19.0	25.7	100.0	4.7

\*See tables A-19 and A-20, Appendix A for more detailed information



Social and recreational

More than three-fifths of vehicle-miles of travel generated for social and recreational purposes are for trips 21 miles and greater. The percent of trips and vehicle-miles of travel show little variation by trip length and number of cars owned per household; households with three-or-more cars travel an average of 14.3 miles for these purposes compared to 12.6 and 13.6 miles for one- and two-car households, respectively.

Table 38.--Percent of automobile trips and vehicle-miles of travel for social and recreational purposes by trip length and car ownership\*

Household car ownership by trip purpose	Trip length (miles)					Average trip length (miles)
	5 & less	6-10	11-20	21 & over	Total	
	Automobile trips					
Social and recreational						
One	56.2	16.4	14.9	12.5	100.0	
Two	57.3	17.6	12.4	12.7	100.0	
Three-or-more	53.3	18.9	13.7	14.1	100.0	
All car-owning households	56.6	17.1	13.6	12.7	100.0	
	Vehicle-miles of travel					
Social and recreational						
One	10.2	10.6	18.4	60.8	100.0	12.6
Two	10.1	10.8	14.4	64.7	100.0	13.6
Three-or-more	8.8	10.5	19.3	61.4	100.0	14.3
All car-owning households	10.1	10.7	16.2	63.0	100.0	13.0

\*See tables A-19 and A-20, Appendix A for more detailed information

## Summary

1. Earning a living is the most frequent automobile trip-making activity and accounts for 36.2 percent of all auto trips and an even greater proportion, 41.6 percent, of total vehicle-miles. Family business trips are second in trip-making activity and comprise 31.0 percent of all automobile trips but below social and recreational trips in vehicle-miles due to relatively short trip length; they account for only 19.3 percent of total vehicle-miles. Trips for social and recreational purposes represent 22.4 percent of trips for all purposes and 33.0 percent of vehicle-miles of travel. Trips for civic, educational and religious purposes account for 9.3 percent of all trips and 4.9 percent of vehicle-miles of travel.
2. Residents of incorporated places of 1,000,000 and over perform a proportionately larger number of automobile trips and vehicle-miles of travel in connection with earning a living and a smaller percent of trips and vehicle-miles of travel for family business and social and recreational purposes than all other population groups.
3. The average trip length for all purposes is 8.9 miles. The average automobile trip length for earning a living purposes is 10.2 miles; for family business 5.6 miles, for educational, civic and religious activities 4.7 miles and for social and recreational purposes the average trip length is 13.1 miles.
4. Short trip lengths predominate each of the major trip purposes. More than half (51.8 percent) of trips related to earning a living are 5 miles and less, compared to 74.2 percent of family business trips, 78.8 percent of civic, educational and religious trips and 56.6 percent of trips for social and recreational purposes.
5. Low income produces a different trip pattern from that prevailing at higher income levels. Family business is the most frequent trip-making activity for households with incomes under \$4,000; while trips for earning a living are the most frequent for households with incomes of \$4,000 and over.
6. The distribution of trips by trip purpose varies with different age-groups. The 16-20 year olds make the largest percent of automobile trips and vehicle-miles of travel for social and recreational purposes, followed by earning a living, family business and civic, educational and religious purposes. The 21-60 year olds make the largest number of automobile trips and vehicle-miles of travel related to earning a living, followed by trips related to family business activities, trips for social and recreational purposes and trips for civic, educational and religious purposes. The 61-70 year olds make the largest proportion of trips for family business activities; trips related to earning a living follow a close second, social and recreational trips are third and trips for civic, educational and religious purposes are fourth.

7. The distribution of automobile trips and vehicle-miles of travel by trip purpose and occupation of driver is fairly similar for nearly all occupational groups except farmers and farm managers. Farmers and farm managers performed proportionately fewer automobile trips and vehicle-miles of travel for home-to-work purposes and more automobile trips and associated vehicle-miles of driving for family business purposes than all other groups.
8. The largest percent of automobile trips and vehicle-miles of travel related to earning a living are made on Monday through Friday. Trips related to family business are most numerous on Saturday; trips for social and recreational purposes are concentrated on the weekend (Saturday and Sunday), while Sunday is the most popular day for civic, educational and religious activities.
9. Automobile trips and vehicle-miles of travel for each trip purpose tend to be concentrated during certain hour of the day. Approximately 62.3 percent of all work trips are started from 6:00 a.m. through 8:00 a.m. and from 4:00 p.m. through 6:00 p.m. Trips for medical and dental purposes peak from 9:00 a.m. through 12:00 noon, when approximately 36.0 percent of all trips are started. About 80.0 percent of all shopping trips are started from 9:00 a.m. through 6:00 p.m. and almost 56.1 percent of all trips for civic, educational and religious purposes are started from 6:00 a.m. through 12:00 noon. More than half (52.0 percent) of all trips started for visiting friends are made from 4:00 p.m. through 9:00 p.m. Pleasure-driving trips are concentrated from 4:00 p.m. through 9:00 p.m. (53.4 percent) and one-fourth of all vacation trips are started from 4:00 p.m. through 6:00 p.m.
10. For all purposes combined, two-car households contribute the greatest percent of trips (43.8 percent) and vehicle-miles of travel (45.4) and three-or-more car households contribute the smallest percent of trips (10.3 percent) and vehicle-miles of travel (11.2 percent). Of the total number of trips made for a specific purpose, two-car households make more trips for earning a living (45.4 percent) and civic, educational, and religious activities (46.1 percent) than all other households and one-car households make more trips for family business (44.4 percent) and social and recreational trips (44.2 percent) than all other households. The picture changes for vehicle-miles of travel. For all trip purposes except family business, two-car households generate more vehicle-miles of travel than all other households.

11. For all purposes combined, the average trip length is 8.9 miles and it increases as the number of cars in the households increase, from 8.5 miles for one-car households to 9.6 miles for households with three-or-more cars. The average trip length for earning a living purposes is 10.2 miles--increasing from 9.5 miles for one-car households to 11.4 miles for households with three-or-more cars.

Family business trips average 5.6 miles in length, increasing to 8.7 miles for three-or-more car households. Social and recreational trips exhibit the same trend. The average trip length for these purposes is 13.1 miles--12.6 miles for one-car households to 14.3 miles for three-or-more car households.

12. The average household makes 3.8 automobile trips daily and travels 34.0 vehicle-miles daily. Daily trips include 1.4 trips for earning a living 1.2 trips for family business, 0.8 trips for social and recreational purposes and 0.4 trips for educational, religious and civic activities. Vehicle-miles traveled daily include 14.2 miles for earning a living, 6.6 miles for family business, 11.2 miles for social and recreational activities, and approximately 1.6 miles for educational, civic, and religious activities.

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Table A-1.--Percent of automobile trips and vehicle-miles of travel by trip purpose and place of residence in all areas and places

Trip purpose	Place of residence										All areas and places	
	Unincorporated areas		Incorporated places									All
	Under 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over						
	Automobile trips											
Earning a living	31.5	32.4	30.8	29.6	31.7	31.6	43.0	32.1	31.9	31.9	31.9	
Home-to-work	4.3	5.6	4.6	5.0	4.1	4.1	3.3	4.4	4.3	4.3		
Related business	35.8	38.0	35.4	34.6	35.8	35.7	46.3	36.5	36.2	36.2		
Subtotal												
Family business	14.5	13.0	16.5	16.7	15.7	15.7	13.9	15.7	15.2	15.2		
Shopping	2.2	1.2	1.6	1.5	1.2	1.5	2.2	1.5	1.8	1.8		
Medical and dental	14.8	13.9	14.0	14.2	15.5	12.9	9.8	13.6	14.0	14.0		
Other	31.5	28.1	32.1	32.4	32.0	30.1	25.9	30.8	31.0	31.0		
Subtotal	10.0	7.1	8.9	8.9	8.9	9.8	8.8	8.9	9.3	9.3		
Educational, civic and religious	9.2	10.2	8.6	7.5	9.4	9.4	6.1	8.7	8.9	8.9		
Social and recreational	1.3	2.6	1.1	1.8	0.9	1.3	2.0	1.5	1.4	1.4		
Visiting friends and relatives	0.1	0.2	0.2	*	0.3	0.1	0.1	0.1	0.1	0.1		
Pleasure driving	10.8	13.4	12.6	13.9	11.6	12.5	9.7	12.5	12.0	12.0		
Vacations	21.4	26.4	22.5	23.2	22.2	23.3	17.9	22.8	22.4	22.4		
Other	1.3	0.4	1.1	0.9	1.1	1.1	1.1	1.0	1.1	1.1		
Subtotal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Total	34.5	7.4	22.3	7.0	7.7	16.4	4.8	65.5	100.0	100.0		
Percent of trips												
	Vehicle-miles of travel											
Earning a living	35.3	26.3	32.1	29.9	31.4	32.3	48.3	32.7	33.7	33.7		
Home-to-work	6.5	11.3	9.9	10.5	8.0	8.1	2.4	8.8	7.9	7.9		
Related business	41.8	37.6	42.0	40.4	39.4	40.4	50.7	41.5	41.6	41.6		
Subtotal												
Family business	8.1	8.8	7.4	6.6	6.7	7.3	4.3	7.1	7.5	7.5		
Shopping	2.5	1.4	1.4	0.9	0.6	1.0	0.8	1.1	1.6	1.6		
Medical and dental	10.9	10.5	9.4	11.3	12.0	9.2	7.4	9.8	10.2	10.2		
Other	21.5	20.7	18.2	18.8	19.3	17.5	12.5	18.0	19.3	19.3		
Subtotal	6.0	4.4	4.2	4.1	3.4	4.6	4.9	4.3	4.9	4.9		
Educational, civic and religious	10.6	12.5	12.8	15.1	17.4	13.1	6.7	13.0	12.1	12.1		
Social and recreational	2.5	3.9	2.6	4.6	1.4	3.8	5.5	3.4	3.1	3.1		
Visiting friends and relatives	2.2	3.9	1.8	0.5	2.9	2.0	6.7	2.6	2.5	2.5		
Pleasure driving	13.7	15.7	17.4	16.0	15.3	17.5	12.5	16.3	15.3	15.3		
Vacations	29.0	36.0	34.6	36.2	37.0	36.0	31.4	35.3	33.0	33.0		
Other	1.7	1.3	1.0	0.5	0.9	1.0	0.5	0.9	1.2	1.2		
Subtotal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Total	37.8	8.7	19.8	6.2	7.0	14.1	6.4	62.2	100.0	100.0		
Percent of trips												

1/ 87,284,000 automobile trips

2/ 775,940,000 vehicle-miles of travel

SOURCE: Based upon unpublished table T-1 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-2.-- Percent of automobile trips and vehicle-miles of travel by trip purpose and place of residence in SMSA's

Purpose	SMSA size groups							All SMSA's
	Under 250,000	250,000-499,999	500,000-999,999	1,000,000-1,999,999	2,000,000-2,999,999	3,000,000 and over	All	
Automobile trips								
Earning a living	30.0	32.2	32.3	31.2	33.9	35.0	32.5	
Home-to-work	4.3	3.8	3.5	5.3	4.0	3.8	4.1	
Related business	34.3	36.0	35.8	36.5	37.9	38.8	36.6	
Family business								
Shopping	15.5	15.2	17.3	14.9	17.8	15.7	15.9	
Medical and dental	1.5	1.8	1.6	1.1	1.6	2.3	1.7	
Other	14.5	12.3	15.0	13.8	11.2	11.8	13.1	
Subtotal	31.5	29.3	33.9	29.8	30.6	29.8	30.7	
Educational, civic, and religious	9.7	9.6	8.2	9.2	9.5	9.0	9.2	
Social and recreational								
Visiting friends and relatives	9.8	9.2	10.3	8.3	8.3	6.5	8.6	
Pleasure driving	1.5	1.8	0.8	1.0	0.9	1.4	1.3	
Vacations	0.2	0.1	0.2	0.2	0.1	0.1	0.1	
Other	12.1	13.1	10.3	13.2	11.5	13.0	12.3	
Subtotal	23.6	24.2	21.6	22.7	20.8	21.0	22.3	
Other	0.9	0.9	0.5	1.8	1.2	1.4	1.2	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Percent distribution	17.3	16.4	15.7	17.4	9.7	13.5	100.0	100.0
Vehicle-miles of travel								
Earning a living	28.3	38.4	32.8	31.0	40.7	40.0	35.3	
Home-to-work	6.8	7.1	5.6	10.1	6.5	6.8	7.2	
Related business	35.1	45.5	38.4	41.1	47.2	46.8	42.5	
Family business								
Shopping	7.7	8.7	8.2	7.2	8.5	5.6	7.4	
Medical and dental	1.0	1.4	1.2	0.8	1.3	1.2	1.2	
Other	12.4	10.0	10.4	10.5	6.4	8.3	9.7	
Subtotal	21.1	20.1	19.8	18.5	16.2	15.1	18.3	
Educational, civic and religious	5.3	4.4	5.0	4.8	5.8	4.2	4.8	
Social and recreational								
Visiting friends and relatives	17.6	9.0	16.7	11.3	10.6	9.3	12.1	
Pleasure driving	2.9	4.8	1.8	2.3	2.4	3.8	3.1	
Vacations	4.2	2.5	2.2	2.3	2.4	3.8	3.1	
Other	13.1	13.1	15.5	17.8	15.9	15.9	15.1	
Subtotal	37.8	29.4	36.2	33.7	29.7	32.8	33.4	
Other	0.7	0.6	0.6	1.9	1.1	1.1	1.0	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Percent distribution	15.9	16.2	14.8	17.4	9.1	26.6	100.0	100.0

1/60,529,000,000 automobile trips

2/527,297,000,000 vehicle-miles of travel

SOURCE: Based upon unpublished table T-1 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.



Table A-3. --Percent of automobile trips by trip purpose, trip length and place of residence.

Trip purpose by place of residence	Trip length - miles					Total
	5 and less	6-10	11-15	16-20	21 and over	
Earning a living						
Unincorporated areas	42.5	23.0	12.9	7.8	13.8	100.0
Incorporated places						
Under 5,000	57.9	12.4	10.7	7.3	11.7	100.0
5,000 - 24,999	56.1	17.0	10.7	6.8	9.4	100.0
25,000 - 49,999	60.7	15.3	9.7	3.2	11.1	100.0
50,000 - 99,999	61.7	19.3	7.4	2.5	9.1	100.0
100,000 - 999,999	56.9	22.6	6.6	5.8	6.1	100.0
1,000,000 and over	45.0	25.7	10.3	6.8	12.2	100.0
Subtotal	56.6	18.6	9.7	5.8	9.3	100.0
All areas and places	51.8	20.1	10.8	6.5	10.8	100.0
Family business						
Unincorporated areas	66.9	17.5	7.6	3.0	5.0	100.0
Incorporated places						
Under 5,000	66.9	13.7	8.7	3.5	7.2	100.0
5,000 - 24,999	80.8	11.1	3.8	1.4	2.9	100.0
25,000 - 49,999	83.1	8.3	4.9	2.4	1.3	100.0
50,000 - 99,999	82.2	11.4	2.7	1.3	2.4	100.0
100,000 - 999,999	76.1	15.6	5.2	1.6	1.5	100.0
1,000,000 and over	73.9	16.3	4.3	1.8	3.7	100.0
Subtotal	78.1	12.5	4.7	1.8	2.9	100.0
All areas and places	74.2	14.3	5.6	2.2	3.7	100.0
Civic, educational and religious						
Unincorporated areas	72.1	16.7	5.5	1.9	3.8	100.0
Incorporated places						
Under 5,000	81.7	1.9	4.1	7.2	5.1	100.0
5,000 - 24,999	84.9	7.5	3.2	0.7	3.7	100.0
25,000 - 49,999	85.0	6.0	5.5	0.9	2.6	100.0
50,000 - 99,999	83.5	11.9	2.3	2.3	*	100.0
100,000 - 999,999	85.2	10.3	2.3	0.8	1.4	100.0
1,000,000 and over	59.7	24.5	10.9	1.8	3.1	100.0
Subtotal	82.7	9.4	3.7	1.6	2.6	100.0
All areas and places	78.8	12.0	4.4	1.8	3.0	100.0
Social and recreational						
Unincorporated areas	51.7	18.3	10.1	5.7	14.2	100.0
Incorporated places						
Under 5,000	56.0	14.3	9.3	4.9	15.5	100.0
5,000 - 24,999	60.1	16.6	7.6	4.2	11.5	100.0
25,000 - 49,999	62.4	13.8	8.1	4.0	11.7	100.0
50,000 - 99,999	61.2	15.2	5.9	5.6	12.1	100.0
100,000 - 999,999	58.0	19.2	9.3	3.8	9.7	100.0
1,000,000 and over	52.8	16.9	9.1	4.3	16.9	100.0
Subtotal	59.0	16.5	8.2	4.4	11.9	100.0
All areas and places	56.6	17.1	8.8	4.8	12.7	100.0
All purposes						
Unincorporated areas	55.1	21.6	9.9	5.2	8.2	100.0
Incorporated places						
Under 5,000	61.7	12.5	9.3	5.5	11.0	100.0
5,000 - 24,999	67.5	14.2	7.0	4.0	7.3	100.0
25,000 - 49,999	70.9	12.0	7.3	2.9	6.9	100.0
50,000 - 99,999	70.3	15.1	5.1	2.7	6.8	100.0
100,000 - 999,999	65.7	18.4	7.2	3.6	5.1	100.0
1,000,000 and over	55.3	21.6	8.7	4.7	9.7	100.0
Subtotal	66.2	15.4	7.3	3.8	7.3	100.0
All areas and places	62.4	16.8	8.2	4.3	8.3	100.0

1/87,284,000 automobile trips  
\* Data insufficient for analysis.

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-4. --Percent of vehicle-miles of travel by trip purpose, trip length and place of residence.

Trip purpose by place of residence	Trip length - miles						Trip length (miles)
	5 and less	6-10	11-15	16-20	21 and over	Total	
<b>Earning a living</b>							
Unincorporated areas	9.9	16.1	15.0	12.8	46.2	100.0	11.5
Incorporated places							
Under 5,000	9.0	9.6	14.1	13.2	54.1	100.0	10.3
5,000 - 24,999	13.0	15.1	15.1	13.4	43.4	100.0	9.3
25,000 - 49,999	16.9	13.7	14.4	6.8	48.2	100.0	9.2
50,000 - 99,999	18.2	17.5	11.1	5.3	47.9	100.0	8.9
100,000 - 999,999	18.9	21.1	13.4	12.3	34.3	100.0	8.7
1,000,000 and over	8.9	16.7	11.1	10.2	53.1	100.0	12.8
Subtotal	14.2	16.1	13.6	11.2	44.9	100.0	9.5
All areas and places	12.6	16.1	14.1	11.8	45.4	100.0	10.2
<b>Family business</b>							
Unincorporated areas	22.9	16.7	5.5	1.9	53.0	100.0	6.7
Incorporated places							
Under 5,000	14.5	14.1	15.1	8.8	47.5	100.0	7.7
5,000 - 24,999	32.8	20.3	11.8	5.6	29.5	100.0	4.5
25,000 - 49,999	36.8	15.0	15.3	9.7	23.2	100.0	4.5
50,000 - 99,999	24.9	18.8	7.1	4.9	44.3	100.0	4.8
100,000 - 999,999	36.9	27.0	16.0	6.6	13.5	100.0	4.5
1,000,000 and over	26.7	23.2	10.6	6.6	32.9	100.0	5.7
Subtotal	31.0	20.3	12.9	6.7	29.1	100.0	4.9
All areas and places	27.6	20.4	13.8	7.5	30.7	100.0	5.6
<b>Civic, educational and religious</b>							
Unincorporated areas	28.9	22.5	12.7	6.2	29.7	100.0	5.9
Incorporated places							
Under 5,000	21.5	2.8	8.6	20.9	46.2	100.0	6.5
5,000 - 24,999	38.0	16.7	10.9	3.4	31.0	100.0	3.7
25,000 - 49,999	37.7	14.1	18.7	5.1	24.4	100.0	3.7
50,000 - 99,999	48.1	28.2	8.8	14.9	*	100.0	3.1
100,000 - 999,999	51.9	21.3	8.6	3.7	14.5	100.0	3.6
1,000,000 and over	19.4	31.0	21.4	5.4	22.8	100.0	6.6
Subtotal	10.1	10.4	8.7	6.4	64.4	100.0	4.1
All areas and places	35.0	20.3	12.2	6.8	25.7	100.0	4.7
<b>Social and recreational</b>							
Unincorporated areas	10.7	11.4	10.4	8.2	59.3	100.0	13.3
Incorporated places							
Under 5,000	21.5	2.8	8.6	20.9	46.2	100.0	14.2
5,000 - 24,999	10.5	11.3	8.5	6.6	63.1	100.0	12.1
25,000 - 49,999	10.6	8.8	9.4	6.2	65.0	100.0	12.2
50,000 - 99,999	10.8	9.4	5.9	7.7	66.2	100.0	13.5
100,000 - 999,999	12.3	13.1	10.8	6.0	57.8	100.0	12.0
1,000,000 and over	5.5	6.7	6.2	5.1	76.5	100.0	20.6
Subtotal	16.8	15.0	11.6	8.6	48.0	100.0	13.0
All areas and places	10.1	10.7	9.3	6.9	63.0	100.0	13.0
<b>All purposes</b>							
Unincorporated areas	13.8	16.2	13.5	10.0	46.5	100.0	9.8
Incorporated places							
Under 5,000	10.2	9.6	12.1	10.0	58.1	100.0	10.4
5,000 - 24,999	16.8	14.9	11.9	9.3	47.1	100.0	7.9
25,000 - 49,999	19.6	12.3	12.9	7.1	48.1	100.0	7.8
50,000 - 99,999	19.5	15.0	8.3	6.4	50.8	100.0	8.1
100,000 - 999,999	21.2	19.3	12.9	8.6	38.0	100.0	7.7
1,000,000 and over	10.6	15.3	10.0	7.9	56.2	100.0	11.7
Subtotal	16.8	15.0	11.6	8.6	48.0	100.0	8.4
All areas and places	15.7	15.4	12.4	9.1	47.4	100.0	8.9

\* Data insufficient for analysis.

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-5 - Percent of automobile trips, vehicle-miles of travel, and trip length by trip purpose and household income.

Purpose	Income classes								
	Under \$3,000	\$3,000-3,999	\$4,000-4,999	\$5,000-5,999	\$6,000-7,499	\$7,500-9,999	\$10,000-14,999	\$15,000 and over	All
<b>Automobile trips</b>									
Earning a living	22.1	28.7	31.2	32.6	33.8	32.9	32.9	32.0	31.9
Home-to-work	4.7	3.4	3.8	4.2	3.9	4.2	5.0	4.2	4.5
Related business	26.8	32.1	35.0	36.8	37.7	37.1	37.9	36.2	36.2
Subtotal									
Family business	17.8	16.5	15.3	15.2	15.3	15.9	14.5	14.2	15.2
Shopping	3.6	3.0	1.5	2.7	1.4	1.5	1.4	1.8	1.8
Medical and dental	13.7	15.1	14.6	11.6	15.0	13.2	14.3	14.4	14.0
Other	35.1	34.6	31.4	29.5	31.7	30.6	30.2	30.4	31.0
Subtotal									
Civic, educational and religious	7.8	7.6	9.9	10.4	7.7	8.1	10.5	10.2	9.3
Social and recreational	14.9	10.3	10.7	11.7	10.8	9.5	7.3	5.9	8.9
Visiting friends and relatives	2.5	1.3	2.1	1.7	1.9	1.1	1.2	1.2	1.4
Pleasure driving	0.1	*	*	*	0.1	0.2	0.1	0.7	0.1
Vacations	10.9	13.5	10.1	9.3	9.3	12.3	11.6	14.2	12.0
Other	28.4	25.1	22.9	22.7	22.1	23.1	20.2	21.6	22.4
Subtotal									
Other	1.9	0.6	0.8	0.6	0.8	1.1	1.2	1.6	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Vehicle-miles of travel</b>									
Earning a living	18.0	29.6	33.9	32.5	35.3	33.9	35.1	38.0	33.7
Home-to-work	10.7	4.3	5.3	3.4	5.1	6.4	8.9	9.4	7.9
Related business	28.7	33.9	39.2	35.9	40.4	40.3	44.0	47.4	41.6
Subtotal									
Family business	9.0	9.9	8.1	10.3	8.1	7.3	6.9	6.5	7.5
Shopping	2.7	4.0	1.9	2.6	1.6	0.9	1.9	1.1	1.6
Medical and dental	14.9	13.9	12.7	10.0	10.8	10.0	9.2	9.4	10.2
Other	26.6	27.8	22.7	22.9	20.5	18.2	18.0	17.0	19.3
Subtotal									
Civic, educational and religious	3.6	5.4	6.8	7.1	4.1	4.2	5.3	5.5	4.9
Social and recreational	17.2	19.1	12.7	13.7	15.1	11.3	11.1	8.0	12.1
Visiting friends and relatives	7.0	1.6	3.7	2.2	3.4	2.8	3.0	2.6	3.1
Pleasure driving	0.9	*	*	0.9	0.2	3.6	3.7	3.4	2.5
Vacations	13.1	11.9	13.6	16.6	14.4	18.4	13.7	14.9	15.3
Other	38.2	32.6	30.0	33.4	33.1	36.1	31.5	28.9	33.0
Subtotal									
Other	2.9	0.3	1.3	0.7	1.9	1.2	1.2	1.2	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Trip length - miles</b>									
Earning a living	6.2	8.9	8.1	8.2	8.2	9.7	9.6	11.5	9.4
Home-to-work	17.5	11.0	10.4	6.8	10.4	14.5	16.2	22.5	16.1
Related business	8.2	9.1	8.4	8.1	8.5	10.2	10.4	12.7	10.2
Subtotal									
Family business	3.9	5.2	4.0	5.6	4.2	4.3	4.3	4.4	4.4
Shopping	5.8	11.5	9.5	8.0	8.7	6.0	11.8	5.9	8.4
Medical and dental	8.4	8.0	6.5	7.1	5.7	7.1	5.8	6.3	6.5
Other	5.9	6.9	5.4	6.4	5.1	5.6	5.4	5.4	5.6
Subtotal									
Civic, educational and religious	3.6	6.2	5.1	5.7	4.3	4.8	4.5	5.1	4.7
Social and recreational	8.9	16.1	8.9	9.7	11.1	11.1	13.8	13.0	12.0
Visiting friends and relatives	22.1	11.1	13.2	10.7	14.4	24.4	22.4	14.3	20.0
Pleasure driving	86.9	0.0	0.0	250.0	28.4	199.3	276.9	103.6	160.0
Vacations	9.3	7.6	10.0	14.9	12.2	14.0	10.5	10.1	11.5
Other	10.4	11.2	9.8	12.2	11.9	14.7	14.0	12.9	13.1
Subtotal									
Other	11.8	4.7	14.3	8.9	8.9	10.0	8.9	7.2	9.4
Total	7.7	8.7	7.5	8.3	7.9	9.4	9.0	9.7	8.9

$\frac{1}{87,284,000,000}$  automobile trips      \*Data insufficient for analysis  
 $\frac{2}{775,940,000,000}$  on vehicle-miles of travel

SOURCE: Based upon unpublished table T-1 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-6.--Percent of automobile trips, vehicle-miles of travel and average trip length (miles) by trip purpose and age of driver

Trip purpose	Age groups											71 & over	All
	16-20	21-25	26-30	31-35	36-40	41-50	51-60	61-70	71 & over				
	Automobile trips												
	27.3	37.9	40.7	38.5	39.8	42.1	45.5	35.1	11.9	36.2			
Earning a living	22.9	30.1	28.8	31.5	34.2	32.4	31.1	36.1	53.5	31.0			
Family business	17.6	5.8	6.8	9.8	8.2	7.4	5.3	7.5	5.5	9.3			
Civic, educational and religious	31.0	24.9	22.5	18.9	17.2	16.6	17.3	20.2	27.1	22.4			
Social and recreational	1.2	1.3	1.2	1.3	0.6	1.5	0.8	1.1	2.0	1.1			
Other	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Total													
	27.6	36.0	42.3	48.8	47.6	52.0	50.4	35.0	12.1	41.6			
Earning a living	16.6	23.3	19.4	17.5	19.8	21.1	18.0	25.1	36.2	19.3			
Family business	16.0	5.7	4.0	3.8	3.4	3.1	2.3	3.0	3.7	4.9			
Civic, educational and religious	38.4	32.2	32.9	28.9	28.8	22.8	28.4	34.8	46.0	33.0			
Social and recreational	1.4	2.8	1.4	1.0	0.4	1.0	0.9	2.1	2.0	1.2			
Other	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Total													
	7.6	10.0	10.5	11.7	10.6	11.6	10.6	8.6	8.6	10.2			
Earning a living	5.4	8.2	6.9	5.1	5.1	6.1	5.5	6.0	5.7	5.6			
Family business	6.7	10.6	6.0	3.6	3.7	4.0	4.2	3.4	5.7	4.7			
Civic, educational and religious	9.3	13.7	14.8	14.1	14.7	15.0	15.6	14.8	14.3	13.1			
Social and recreational	9.1	23.9	12.1	7.0	5.8	6.2	10.7	16.6	8.5	9.4			
Other	7.5	10.6	10.2	9.2	8.8	9.4	9.5	8.6	8.4	8.9			
Total													

Source: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-7 --Percent of automobile trips by trip purpose and occupation of driver.

Trip purpose	Occupational groups							All drivers			
	Professional and semi-professional	Farmers and farm managers	Other proprietors, managers and officials	Store and office clerks and salesmen	Craftsmen, skilled and unskilled workers, etc.	Operators, semiskilled and unskilled workers and laborers	Protective services		Personal services	Other	
	Purpose within occupational groups										
Earning a living	40.6	24.0	42.3	43.4	40.6	40.6	43.4	40.1	5.3	31.9	
Home-to-work	6.5	12.1	9.1	5.5	3.5	3.6	5.6	3.4	2.5	4.3	
Related business	47.1	36.1	51.4	48.9	44.1	44.2	49.0	43.5	7.8	36.2	
Subtotal											
Family business	12.1	13.8	9.5	12.6	14.2	12.4	15.9	14.4	26.7	15.2	
Shopping	1.2	3.7	1.2	1.0	1.3	1.3	1.4	1.4	3.4	1.8	
Medical and dental	13.2	17.3	15.0	11.3	13.1	13.9	11.2	13.9	20.0	14.0	
Other	26.5	34.8	28.7	24.9	28.6	27.6	28.5	29.7	50.1	31.0	
Subtotal											
Civic, educational and religious	7.2	7.2	4.3	7.0	5.3	6.2	3.4	8.3	15.7	9.3	
Social and recreational	5.4	8.0	5.4	7.7	9.9	10.6	3.9	9.1	11.8	8.9	
Visiting friends and relatives	0.8	1.3	1.4	1.1	1.6	1.2	1.5	1.5	1.5	1.4	
Pleasure driving	0.1	*	0.1	0.2	0.3	0.1	0.2	*	0.1	0.1	
Vacations	11.6	11.5	10.3	8.9	9.8	9.9	11.9	16.8	11.5	12.0	
Other	17.9	20.8	17.2	21.6	21.6	21.2	17.5	17.4	24.9	22.4	
Subtotal	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Other	1.3	1.1	1.4	1.3	0.4	0.8	1.6	1.1	1.5	1.1	
Total											
	Purpose by occupational groups										
Earning a living	18.9	1.2	9.8	23.5	14.0	19.5	3.4	5.9	3.8	100.0	
Home-to-work	21.3	4.2	14.7	20.6	8.4	12.0	3.0	3.5	12.3	100.0	
Related business	19.2	1.5	10.5	22.1	13.3	18.6	3.3	5.6	5.9	100.0	
Subtotal											
Family business	11.5	1.4	4.5	14.0	10.0	12.2	2.5	4.3	39.6	100.0	
Shopping	10.6	3.4	5.1	9.9	8.3	11.7	2.0	3.8	45.2	100.0	
Medical and dental	13.6	1.9	7.8	13.6	10.0	14.8	1.9	4.5	31.9	100.0	
Other	12.4	1.7	6.0	13.6	9.9	13.4	2.2	4.4	36.4	100.0	
Subtotal											
Civic, educational and religious	12.8	1.3	3.9	14.5	7.0	11.4	1.0	4.7	43.4	100.0	
Social and recreational	9.2	1.5	4.7	15.5	12.7	18.8	1.1	4.9	31.6	100.0	
Visiting friends and relatives	9.0	1.6	8.4	15.2	14.6	15.1	2.9	5.7	27.5	100.0	
Pleasure driving	12.5	*	7.8	20.7	23.4	15.2	4.6	*	15.9	100.0	
Vacations	17.3	1.8	7.6	15.4	10.9	14.4	3.0	3.2	26.4	100.0	
Other	13.3	1.6	6.4	15.5	12.0	16.3	2.2	4.1	28.6	100.0	
Subtotal											
Total	15.2	1.6	7.6	17.7	11.3	15.7	2.5	4.8	23.6	100.0	

\* Data insufficient for analysis.

SOURCE: Based upon unpublished table T-2 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

1/87,284,000,000 automobile trips

Table 8. --Percent of vehicle-miles of travel by trip purpose and occupation of driver.

Trip purpose	Occupational groups							All drivers		
	Professional and semi-professional	Farmers and farm managers	Other proprietors, managers and officials	Store and office clerks and salesmen	Craftsmen, skilled laborers, etc.	Operators, semiskilled and unskilled workers and laborers	Protective services		Personal services	Other
Purpose within occupational groups										
Earning a living	38.6	8.2	39.4	45.5	41.5	42.6	36.4	49.4	5.0	33.7
Home-to-work	9.7	16.1	15.9	12.7	5.4	4.4	6.5	4.6	4.1	7.9
Related business	48.3	24.3	55.3	58.2	46.9	47.0	42.9	56.0	9.1	41.6
Subtotal										
Family business	5.6	8.5	3.2	5.9	5.5	6.0	10.2	6.8	18.1	7.5
Shopping	7.1	8.1	4.2	1.2	0.5	1.0	1.0	1.3	3.6	1.6
Medical and dental	9.1	19.2	7.7	7.7	8.1	10.9	8.2	12.0	19.2	10.2
Other	15.8	35.8	15.1	14.8	14.1	17.9	19.4	20.1	40.9	19.3
Subtotal										
Civic, educational and religious	3.8	3.8	1.4	4.0	1.8	3.3	3.9	5.3	12.5	4.9
Social and recreational	1.8	0.8	3.0	2.6	4.8	2.6	6.0	1.4	3.0	3.1
Pleasure driving	3.2	*	0.3	0.9	2.8	4.3	2.7	*	3.1	2.5
Vacations	10.5	15.8	8.6	8.9	16.4	13.0	9.3	11.2	16.3	12.1
Visiting friends and relatives	15.5	16.0	15.1	8.9	12.9	11.0	15.7	5.8	13.1	15.3
Other	31.0	32.6	27.0	21.3	36.9	30.9	33.7	18.4	35.5	33.0
Subtotal	1.1	3.5	1.2	1.7	0.3	0.1	0.1	0.2	2.0	1.2
Other	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total										
Purpose by occupational groups										
Earning a living	19.4	0.5	11.4	23.2	16.2	18.8	2.8	5.3	2.4	100.0
Home-to-work	20.5	3.9	19.3	27.3	8.9	8.1	2.1	2.1	7.8	100.0
Related business	19.6	1.1	13.0	24.0	14.8	16.7	2.6	4.7	3.5	100.0
Subtotal										
Family business	12.7	2.2	5.5	13.7	9.6	11.9	3.5	3.3	37.6	100.0
Shopping	10.6	*	18.5	11.8	4.1	8.9	1.4	2.7	42.0	100.0
Medical and dental	14.9	3.6	7.3	12.8	10.4	15.7	2.0	4.2	29.1	100.0
Other	13.7	3.6	7.6	13.1	9.5	13.0	2.5	3.7	33.3	100.0
Subtotal										
Civic, educational and religious	14.4	1.6	3.0	15.2	5.3	11.1	1.6	4.3	43.5	100.0
Social and recreational	11.2	0.5	10.9	16.1	23.0	14.0	5.6	1.9	16.8	100.0
Pleasure driving	23.5	2.6	7.2	13.0	15.9	18.3	3.8	9.5	21.9	100.0
Vacations	23.5	2.6	7.2	13.0	15.9	18.3	3.8	9.5	21.9	100.0
Visiting friends and relatives	22.0	2.6	12.3	12.9	14.3	13.7	3.4	1.8	17.0	100.0
Other	18.3	2.2	9.2	12.8	16.9	16.0	3.1	2.3	19.2	100.0
Subtotal										
All purposes	17.7	2.0	10.2	18.0	13.8	15.5	2.7	3.8	16.3	100.0

\* Data insufficient for analysis.

1/775,940,000 vehicle-miles of travel

SOURCE: Based upon unpublished table T-2 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-9. --Average trip length (miles) by major trip purpose and occupation of driver.

Trip purpose	Occupational groups							Personal services drivers	All drivers
	Professionals and semiprofessionals	Farmers and farm managers	Other proprietors, managers and officials	Store and office clerks and salesmen	Craftsmen, foremen, skilled laborers, etc.	Operators, semiskilled and unskilled workers and laborers	Protective services		
Earning a living	10.1	7.3	12.3	10.3	11.3	9.0	7.8	8.3	10.2
Family business	5.9	11.2	6.8	5.1	5.1	5.5	6.1	4.5	5.6
Civic, educational and religious	5.3	5.7	3.7	4.9	3.5	4.6	7.7	4.3	4.7
Social and recreational	17.3	17.0	18.0	10.4	17.7	12.2	17.1	7.1	13.1
Total	9.9	10.9	11.4	8.7	10.4	8.4	8.9	6.7	8.9

Source: Based upon unpublished table T-2 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-10. --Percent of automobile trips by trip purpose and day of the week

Trip purpose	Day of the week							Total
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
	Trip purpose by the week							
Earning a living	16.7	17.8	19.5	17.9	17.4	7.9	2.8	100.0
To and from work	20.0	17.9	13.7	18.2	13.6	10.4	6.2	100.0
Related business	17.1	17.8	18.8	17.9	17.0	8.2	3.2	100.0
Subtotal								
Family business	13.2	12.2	11.9	14.6	18.3	22.1	7.7	100.0
Shopping	21.4	19.2	15.1	18.8	15.1	8.8	1.6	100.0
Medical and dental	15.3	15.8	14.7	15.3	16.5	13.9	8.5	100.0
Other	14.6	14.4	13.4	15.1	17.3	17.7	7.5	100.0
Subtotal								
Educational, civic and religious	12.3	14.7	15.7	12.4	10.2	3.4	31.3	100.0
Social and recreational	18.2	12.3	12.2	10.5	12.8	16.4	23.2	100.0
Visiting friends and relatives	6.4	7.4	9.1	11.2	9.8	19.7	36.4	100.0
Pleasure driving	5.4	5.8	20.6	25.4	10.4	18.4	14.0	100.0
Vacations	7.8	11.4	10.7	11.3	17.2	23.8	17.8	100.0
Other	8.6	11.7	11.3	11.1	14.9	20.5	21.9	100.0
Subtotal								
All purposes	13.9	15.0	15.1	15.1	16.0	13.4	11.5	100.0
	Trip purpose within day of the week							
Earning a living	37.9	37.8	41.0	38.0	34.8	18.6	7.7	31.9
To and from work	6.2	5.2	3.4	5.3	3.7	3.4	2.3	4.4
Related business	44.1	43.0	44.4	43.3	38.5	22.0	10.0	36.2
Subtotal								
Family business	14.3	12.3	12.1	14.8	17.4	25.0	10.3	15.2
Shopping	2.6	2.2	1.7	2.1	1.6	1.1	0.2	1.8
Medical and dental	15.3	14.7	13.6	14.2	14.5	14.4	10.3	14.0
Other	32.2	29.2	27.4	31.1	33.5	40.5	20.8	31.0
Subtotal								
Educational, civic and religious	8.0	9.0	9.6	7.6	5.3	2.3	25.0	9.3
Social and recreational	6.5	7.5	7.2	6.2	7.2	18.8	19.5	8.9
Visiting friends and relatives	0.6	0.6	0.8	1.2	0.8	0.1	4.3	1.4
Pleasure driving	*	*	0.1	0.2	0.1	2.0	6.1	1.4
Vacations	6.6	9.0	8.5	18.8	12.7	21.0	18.4	11.9
Other	13.7	17.1	16.5	16.0	20.7	33.9	42.3	28.4
Subtotal	2.0	1.7	2.1	2.0	1.5	1.3	1.9	1.1
Other								
All purposes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Average number of daily trips (000)	233,898	250,365	251,735	251,380	266,647	224,037	196,316	1,669,718 1/2
Percent of weekly trips	13.9	15.0	15.1	15.1	16.0	13.4	11.5	100.0
		15.0	15.1	15.1	16.0	13.4	11.5	

\*Data insufficient for analysis

1/2 Represents average number of weekly trips

SOURCE: Based upon unpublished table T-7 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.



Table A-11.--Percent of vehicle-miles of travel by trip purpose and day of the week

Trip purpose	Day of the week							Total
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Earning a living To and from work Related business Subtotal	17.4	17.9	18.9	18.1	17.7	7.2	2.8	100.0
	22.0	18.4	12.9	19.3	11.2	11.8	4.4	100.0
	18.2	18.0	17.8	18.3	16.5	8.1	3.1	100.0
Family business Shopping Medical and dental Other Subtotal	12.7	9.8	11.7	15.2	17.9	26.1	6.6	100.0
	17.2	25.5	17.8	13.0	16.1	8.1	2.3	100.0
	14.4	13.8	15.4	17.0	14.4	14.2	10.8	100.0
Educational, civic and religious Social and recreational Visiting friends and relatives Pleasure driving Vacations Other Subtotal	14.1	13.2	14.2	15.9	15.9	18.3	8.4	100.0
	12.2	17.8	14.2	15.9	11.2	3.5	25.2	100.0
	8.2	6.4	9.7	6.7	12.3	22.6	34.1	100.0
ALL purposes	7.9	5.0	5.5	9.4	8.4	23.0	40.8	100.0
	6.8	27.6	1.4	17.6	8.5	11.3	26.8	100.0
	6.3	9.3	7.6	8.9	15.7	28.3	23.9	100.0
Earning a living To and from work Related business Subtotal	7.1	9.2	7.7	8.8	13.3	24.4	29.5	100.0
	13.5	14.2	13.6	14.6	14.9	15.2	14.0	100.0
	43.2	42.4	46.9	44.6	39.8	16.1	6.7	33.7
Family business Shopping Medical and dental Other Subtotal	12.8	10.2	7.4	10.4	5.9	2.2	2.5	7.9
	56.0	52.6	54.3	52.0	45.7	18.3	9.2	41.6
	6.9	5.2	6.4	7.8	8.9	12.8	3.5	7.5
Educational, civic and religious Social and recreational Visiting friends and relatives Pleasure driving Vacations Other Subtotal	2.0	2.9	2.1	1.4	1.7	0.8	0.2	1.6
	11.0	10.0	11.7	11.9	9.9	9.6	7.9	10.2
	19.9	18.1	20.2	21.1	20.5	23.2	11.6	19.3
ALL purposes	4.3	6.1	5.0	5.3	3.6	1.8	8.6	4.9
	7.3	5.4	8.6	5.5	9.9	17.9	29.2	12.1
	1.7	1.0	1.2	1.9	1.7	4.6	8.9	3.1
Other	1.2	4.9	0.2	3.0	1.4	1.8	4.7	2.5
	7.0	10.0	8.5	9.3	16.0	28.4	26.0	16.3
	17.2	21.3	18.5	19.7	29.0	52.7	68.8	33.0
All purposes Average number of daily vehicle-miles Percent of weekly vehicle-miles	2.6	1.9	2.0	1.9	1.2	4.0	1.8	1.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	2,017,749	2,100,059	2,029,721	2,170,631	2,219,354	2,259,810	2,090,158	14,883,482
	13.5	14.2	13.6	14.6	14.9	15.2	14.0	100.0

1/ Represents average number of weekly automobile miles of travel

SOURCE: Based upon unpublished table T-7 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-12. Average trip length (miles) by trip purpose and day of the week

Trip purpose	Day of the week							Average all days
	Mon-day	Tues-day	Wednes-day	Thurs-day	Fri-day	Satur-day	Sun-day	
	Trip length - miles							
Earning a living	9.8	9.4	9.2	9.4	9.5	8.7	9.4	9.4
Home-to-work	17.8	16.4	15.2	17.0	13.3	18.3	11.6	16.0
Related business	11.0	10.3	9.7	10.4	9.9	10.2	9.9	10.2
Subtotal								
Family business	4.2	3.5	4.3	4.6	4.3	5.2	3.7	4.4
Shopping	6.6	11.0	9.8	5.7	8.8	7.5	12.1	8.3
Medical and dental	6.2	5.7	6.9	7.3	5.7	6.7	8.3	6.5
Other	5.4	5.2	5.9	5.9	5.1	5.8	6.1	5.6
Subtotal								
Civic, educational and religious	4.7	5.7	4.2	6.0	5.2	4.8	3.8	4.7
Social and recreational	9.8	6.0	9.7	7.8	11.5	16.5	16.3	12.0
Visiting friends and relatives	24.4	13.1	11.9	16.6	17.1	22.9	22.0	19.6
Pleasure driving	*	*	*	*	*	*	*	160.0
Vacation	9.1	9.3	8.0	9.1	10.4	13.6	15.3	11.5
Other	10.9	10.4	9.0	10.5	11.6	15.6	17.6	13.0
Subtotal								
Average daily trip length	8.6	8.4	8.0	8.6	8.3	10.1	10.9	8.9

\*Data insufficient for analysis

SOURCE: Based on unpublished table T-7 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-13. --Percent of automobile trips by trip purpose and hour of day trip began

Trip purpose	Hour of the day trip began <sup>2/</sup>						All trips	
	A.M.			P.M.				
	4:00-5:00	6:00-8:00	9:00-12:00	1:00-3:00	4:00-6:00	7:00-9:00		10:00-12:00
								1:00-3:00
	Trip purpose throughout the day							
Earning a living	2.3	34.2	10.0	13.9	28.1	4.6	5.5	1.4
Home-to-work	0.5	9.3	30.2	23.3	20.9	9.7	4.9	0.7
Related business								
Family business	0.1	1.7	26.4	25.1	26.5	16.2	1.8	0.2
Shopping	0.2	4.5	36.0	30.3	19.7	6.6	2.4	0.3
Medical and dental	0.4	7.9	27.4	20.1	25.0	13.3	5.4	0.5
Other								
Civic, educational and religious	0.1	24.7	31.4	14.9	13.7	12.0	3.0	0.2
Social and recreational								
Visiting friends and relatives	0.2	3.0	15.9	18.7	25.9	26.1	9.1	1.1
Pleasure driving	*	2.3	12.9	20.7	27.4	79.0	8.4	3.3
Vacations	3.5	13.2	19.3	15.4	25.6	29.3	17.4	3.4
Other	0.5	2.2	11.6	13.9	21.8	29.3	17.4	3.3
All purposes	1.0	15.7	19.4	17.9	24.7	13.9	6.4	1.0
	Trip purpose by each hour of day							
Earning a living	79.6	69.4	16.4	24.8	36.3	11.0	27.3	33.2
Home-to-work	2.2	2.8	6.8	5.7	3.7	3.1	3.4	3.0
Related business	81.8	72.2	23.2	30.5	40.0	14.1	30.7	36.2
Subtotal								
Family business	1.7	1.6	22.3	21.5	16.2	17.7	23.8	3.8
Shopping	0.3	0.5	3.2	2.9	1.4	0.8	0.6	0.5
Medical and dental	5.6	7.0	19.8	15.9	14.3	13.4	11.8	6.8
Other	7.6	9.1	45.3	40.3	32.0	31.9	36.2	11.1
Subtotal								
Civic, educational and religious	0.9	14.4	14.9	7.7	5.1	8.0	4.4	1.4
Social and recreational								
Visiting friends and relatives	2.2	1.6	7.4	9.4	9.4	16.9	12.6	10.6
Pleasure driving	*	0.3	0.9	1.6	1.6	2.6	1.8	3.1
Vacations	0.5	0.1	0.1	0.3	0.1	0.1	0.3	0.2
Other	5.5	1.6	7.2	9.3	10.6	29.1	14.0	36.9
Subtotal	8.2	3.5	16.6	20.4	21.7	44.7	28.6	50.8
Other	1.5	0.8	0.0	1.1	1.2	1.3	0.1	0.5
All purposes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\*Data insufficient for analysis

<sup>2/</sup> Calculated from the hour to 59 minutes past the hour

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

<sup>1/</sup> 87,284,000 trips

Table A-14. --Percent of vehicle-miles of travel by trip purpose and hour of day trip began

Trip purpose	Hour of the day trip began 2/						All vehicle travel		
	A.M.			P.M.					
	4:00-5:00	6:00-8:00	9:00-12:00	1:00-3:00	4:00-6:00	7:00-9:00		10:00-12:00	1:00-3:00
	Trip purpose throughout the day								
Earning a living	3.7	36.0	8.3	13.2	27.4	5.3	5.0	1.1	100.0
Home-to-work	2.2	14.9	27.7	24.4	17.1	8.3	5.2	0.2	100.0
Related business									
Family business	0.1	1.9	29.3	28.1	24.8	13.8	1.8	0.2	100.0
Shopping	*	12.0	34.7	20.3	21.8	7.3	3.9	*	100.0
Medical and dental	2.0	8.3	25.4	22.3	24.4	13.2	4.2	0.2	100.0
Other									
Civic, educational and religious	0.1	22.6	25.7	15.9	18.4	12.4	4.5	0.4	100.0
Social and recreational	8.2	18.6	34.4	6.7	28.0	1.8	0.5	1.8	100.0
Vacations	1.7	7.1	22.4	15.4	25.3	19.5	7.6	1.0	100.0
Visiting friends and relatives	0.0	4.1	21.7	24.0	26.8	16.2	4.8	2.4	100.0
Pleasure driving	1.7	7.9	13.5	15.9	22.2	21.0	14.5	3.3	100.0
Other									
All purposes	2.3	18.3	18.2	17.3	24.8	11.7	6.1	1.3	100.0
	Trip purpose by each hour of day								
Earning a living	32.5	65.9	15.4	25.7	37.6	15.0	26.7	29.9	33.7
Home-to-work	7.5	6.4	12.1	11.2	5.6	5.5	6.6	1.0	7.9
Related business	60.5	72.3	27.5	36.9	43.2	20.5	33.3	30.9	41.6
Subtotal									
Family business	0.3	0.7	12.0	12.2	7.6	8.7	2.1	1.5	7.5
Shopping	*	1.1	3.1	1.9	1.4	1.0	1.0	0.1	1.6
Medical and dental	8.9	4.7	14.4	13.3	10.2	11.4	6.9	2.1	10.2
Other	9.2	6.5	29.5	27.4	19.2	21.1	10.0	3.7	19.3
Subtotal									
Civic, educational and religious	0.2	6.0	6.8	4.5	3.6	5.1	3.5	1.5	4.9
Social and recreational	8.8	2.5	4.8	1.0	2.9	0.4	0.2	3.7	2.5
Vacations	3.7	4.7	15.0	10.8	12.5	19.9	14.6	10.1	12.1
Visiting friends and relatives	0.0	0.7	3.7	4.3	3.4	4.2	2.4	6.0	3.1
Pleasure driving	11.3	6.7	11.4	14.0	13.8	27.1	35.2	42.7	15.3
Other	28.7	14.0	34.9	30.1	32.6	21.6	22.4	62.5	33.0
Subtotal	1.93	0.6	1.3	1.1	1.4	1.7	0.8	1.4	1.2
All purposes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ 770,940,000 vehicle-miles of travel 2/ Calculated from the hour to 59 minutes past the hour \* Data insufficient for analysis  
 SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-15.-- Percent of automobile trips by trip purpose and household car ownership

Trip purpose	Automobile ownership per household				
	One	Two	Three-or-more	None	All households
Trip purpose within automobile ownership					
Earning a living					
Home-to-work	30.7	32.6	34.0	31.1	31.9
Related business	4.0	5.0	3.6	4.0	4.3
Subtotal	34.7	37.6	37.6	35.1	36.2
Family business					
Shopping	16.5	15.0	11.7	13.5	15.2
Medical and dental	2.0	1.6	1.2	2.7	1.8
Other	14.0	14.1	16.2	10.8	14.0
Subtotal	32.5	30.7	27.1	27.0	31.0
Civic, educational and religious	8.3	9.8	11.1	9.8	9.3
Social and recreational					
Visiting friends and relatives	10.7	7.4	7.0	11.9	8.9
Pleasure driving	1.3	1.3	1.7	2.3	1.4
Vacation	*	*	*	*	0.1
Other	11.4	11.9	14.3	12.9	12.0
Subtotal	23.4	20.6	23.0	27.1	22.4
Other	1.1	1.3	1.2	1.0	1.1
All purposes	100.0	100.0	100.0	100.0	100.0
Trip purpose by automobile ownership					
Earning a living					
Home-to-work	40.6	44.9	11.0	3.5	100.0
Related business	38.9	49.5	8.4	3.2	100.0
Subtotal	40.4	45.4	11.7	2.5	100.0
Family business					
Shopping	45.4	43.1	7.9	3.3	100.0
Medical and dental	46.7	40.8	6.9	5.6	100.0
Other	42.7	44.2	10.5	2.6	100.0
Subtotal	44.4	43.5	9.0	3.1	100.0
Civic, educational and religious	37.8	46.1	12.4	3.7	100.0
Social and recreational					
Visiting friends and relatives	50.9	36.2	8.1	4.8	100.0
Pleasure driving	39.6	41.7	12.8	5.9	100.0
Vacation	27.9	44.8	26.0	1.3	100.0
Other	40.0	43.7	12.4	3.9	100.0
Subtotal	44.2	40.6	10.8	4.4	100.0
All purposes	42.3	43.8	10.3	3.6	100.0 <sup>1/</sup>

\*Data insufficient for analysis.

<sup>1/</sup> Approximately 87,284,000,000

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Study, conducted by the Bureau of the Census for FHA, 1969-1970.

Table A-16.--Percent of vehicle-miles of travel by trip purpose and household automobile ownership

Trip purpose	Automobile ownership per household				All households
	One	Two	Three or more	None	
<b>Trip purpose within automobile ownership</b>					
Earning a living	31.8	34.9	36.8	28.9	33.7
To and from work	7.1	8.9	7.4	5.8	7.9
Related business	38.9	43.8	44.2	34.7	41.6
Subtotal					
Family business	2.0	1.4	1.1	1.5	1.6
Medical and dental	8.2	7.4	5.2	7.8	7.5
Shopping	11.3	9.9	8.8	9.1	10.2
Other	21.5	18.7	15.1	18.4	19.3
Subtotal					
Civic, educational and religious	4.0	5.7	4.9	4.9	4.9
Social and recreational	2.2	2.9	2.2	1.4	2.5
Vacation	14.4	10.6	8.3	14.5	12.1
Visiting friends and relatives	3.3	2.6	2.5	8.3	3.1
Pleasure driving	14.6	14.4	21.7	16.3	15.3
Other	34.5	30.5	34.7	40.5	33.0
Subtotal					
Other	1.1	1.3	1.1	1.5	1.2
ALL purposes	100.0	100.0	100.0	100.0	100.0
<b>Trip purpose by automobile ownership</b>					
Earning a living	38.2	47.1	12.2	2.5	100.0
To and from work	36.3	51.2	10.5	2.0	100.0
Related business	37.8	47.9	11.9	2.4	100.0
Subtotal					
Family business	49.5	40.3	7.5	2.7	100.0
Medical and dental	44.6	44.0	7.7	3.1	100.0
Shopping	44.3	43.6	9.5	2.6	100.0
Other	44.9	43.7	8.7	2.7	100.0
Subtotal					
Civic, educational and religious	33.1	52.8	11.2	2.9	100.0
Social and recreational	35.8	52.9	9.7	1.6	100.0
Vacation	48.5	40.3	7.7	3.5	100.0
Visiting friends and relatives	44.2	38.4	9.3	8.1	100.0
Pleasure driving	38.6	42.5	15.9	3.0	100.0
Other	35.9	50.4	10.2	3.5	100.0
Subtotal					
ALL purposes	40.5	45.4	11.2	2.9	100.0 <sup>1/</sup>

<sup>1/</sup> Approximately 770,940,000 vehicle-miles of travel

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-17. --Trip length (miles) by trip purpose and household automobile ownership

Trip purpose	Automobile ownership per household				
	One	Two	Three-or-more Miles	None	All households
Earning a living	8.8	9.9	10.4	6.7	9.4
Home-to-work	14.9	16.6	20.0	10.7	16.0
Related business	9.5	10.7	11.4	7.1	10.2
Subtotal					
Family business	4.3	4.5	4.3	4.2	4.4
Shopping	8.8	8.1	9.0	4.1	8.3
Medical and dental	6.8	6.5	6.0	6.1	6.5
Other	5.6	5.6	8.7	5.0	5.6
Subtotal					
Civic, educational and religious	4.1	5.4	4.3	3.6	4.7
Social and recreational					
Visiting friends and relatives	11.4	13.4	11.4	8.8	12.0
Pleasure driving	21.9	18.0	14.3	26.6	19.6
Vacation	211.8	195.0	61.4	204.0	160.0
Other	11.0	11.1	14.6	9.2	11.5
Subtotal	12.6	13.6	14.3	10.8	13.0
All purposes	8.5	9.2	9.6	7.2	8.9

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-18 Annual and daily automobile trips and vehicle-miles per household by trip purpose and automobile ownership

Trip purpose	Car(s) per household						All households	
	One		Two		Three-or-more			
	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily
	Trip rate per household							
Earning a living								
Home-to-work	374	1.0	757	2.1	1,055	2.9	444	1.2
Related business	49	0.1	115	0.3	111	0.3	62	0.2
Subtotal	423	1.1	872	2.4	1,166	3.2	506	1.4
Family business								
Shopping	201	0.5	348	1.0	363	1.0	213	0.6
Medical and dental	24	0.1	38	0.1	36	0.1	24	0.1
Other	172	0.5	328	0.9	442	1.2	195	0.5
Subtotal	397	1.1	714	2.0	841	2.3	432	1.2
Civic, educational and religious	101	0.3	227	0.6	346	1.0	130	0.4
Social and recreational								
Visiting friends and relatives	132	0.4	171	0.5	218	0.6	125	0.3
Pleasure rides	16	*	31	0.1	54	0.1	19	0.1
Vacations	*	*	*	*	*	*	2	*
Other	137	0.4	275	0.8	445	1.2	166	0.4
Subtotal	285	0.8	477	1.4	718	1.9	312	0.8
Other and unknown	13	*	27	0.1	31	0.1	16	*
All purposes	1,219	3.3	2,317	6.3	3,102	8.5	1,396	3.8
	Vehicle-miles of travel per household							
Earning a living								
Home-to-work	3,307	9.1	7,466	20.5	11,020	30.2	4,183	11.5
Related business	736	2.0	1,905	5.2	2,224	6.1	983	2.7
Subtotal	4,043	11.1	9,371	25.7	13,244	36.3	5,166	14.2
Family business								
Shopping	857	2.3	1,572	4.3	1,548	4.2	929	2.6
Medical and dental	206	0.6	308	0.8	326	0.9	202	0.5
Other	1,178	3.2	2,126	5.8	2,644	7.2	1,270	3.5
Subtotal	2,241	6.1	4,006	10.9	4,518	12.3	2,401	6.6
Civic, educational and religious	420	1.2	1,223	3.4	1,485	4.1	612	1.6
Social and recreational								
Visiting friends and relatives	1,500	4.1	2,288	6.3	2,491	6.8	1,497	4.1
Pleasure rides	348	1.0	555	1.5	763	2.1	381	1.0
Vacations	230	0.6	622	1.7	649	1.8	320	0.9
Other	1,513	4.1	3,053	8.4	6,493	17.8	1,896	5.2
Subtotal	3,591	9.8	6,518	17.9	10,396	28.5	4,094	11.2
Other and unknown	111	0.3	287	0.8	331	0.9	150	0.4
All purposes	10,406	28.5	21,405	58.6	29,974	82.1	12,423	34.0

\*Data insufficient for analysis

Source: Data from unpublished tables T-5 and H-18 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.



Table A-19 --Percent of automobile trips by trip purpose,  
trip length(miles) and household automobile ownership

Household automobile ownership by trip purpose	Trip length - miles					Total
	5 and less	6-10	11-15	16-20	21 and over	
<b>Earning a living</b>						
One	52.6	21.5	10.6	6.2	9.1	100.0
Two	50.9	20.2	11.2	7.0	10.7	100.0
Three-or-more	51.8	16.9	11.0	6.2	14.1	100.0
All households	51.8	20.1	10.8	6.5	10.8	100.0
<b>Family business</b>						
One	72.8	15.6	5.4	2.3	3.9	100.0
Two	74.9	13.4	6.3	2.1	3.3	100.0
Three-or-more	75.4	12.9	4.6	2.1	5.0	100.0
All households	74.2	14.3	5.6	2.2	3.7	100.0
<b>Civic, educational and religious</b>						
One	<b>79.8</b>	12.3	4.5	1.2	2.2	100.0
Two	<b>77.3</b>	11.9	4.6	2.4	3.8	100.0
Three-or-more	<b>79.5</b>	11.6	4.6	1.5	2.8	100.0
All households	<b>78.8</b>	12.0	4.4	1.8	3.0	100.0
<b>Social and recreational</b>						
One	56.2	16.4	9.8	5.1	12.5	100.0
Two	57.3	17.6	7.5	4.9	12.7	100.0
Three-or-more	53.3	18.9	10.6	3.1	14.1	100.0
All households	56.6	17.1	8.8	4.8	12.7	100.0
<b>All purposes</b>						
One	62.2	17.7	8.2	4.3	7.6	100.0
Two	61.9	14.7	8.3	4.6	10.5	100.0
Three-or-more	61.7	15.7	8.4	3.9	10.3	100.0
All households	62.4	16.8	8.2	4.3	8.3	100.0

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

Table A-20. --Percent of vehicle-miles of travel by trip purpose,  
trip length (miles) and household automobile ownership

Household automobile ownership by trip purpose	Trip length - miles					All	Average trip length (miles)
	5 and less	6-10	11-15	16-20	21 and over		
Earning a living							
One	13.7	18.4	14.7	12.1	41.1	100.0	8.8
Two	11.9	15.3	14.1	12.1	46.6	100.0	9.9
Three-or-more	11.5	12.3	13.0	10.3	52.9	100.0	10.9
All households	12.6	16.1	14.1	11.8	45.4	100.0	10.2
Family business							
One	25.3	22.0	12.7	8.0	32.0	100.0	5.6
Two	29.0	19.0	15.1	7.0	29.9	100.0	5.6
Three-or-more	28.3	18.9	11.4	7.2	34.2	100.0	8.7
All households	27.6	20.4	13.8	7.5	30.7	100.0	5.6
Civic, educational and religious							
One	35.7	23.2	14.3	5.4	21.4	100.0	4.1
Two	31.6	17.8	11.1	8.3	31.2	100.0	5.4
Three-or-more	38.7	21.6	14.2	6.2	19.3	100.0	4.3
All households	35.0	20.3	12.2	6.8	25.7	100.0	4.7
Social and recreational							
One	10.2	10.6	10.7	7.7	60.8	100.0	12.6
Two	10.1	10.8	7.5	6.9	64.7	100.0	13.6
Three-or-more	8.8	10.5	8.0	11.3	61.4	100.0	14.3
All households	10.1	10.7	9.3	6.9	63.0	100.0	13.0
All purposes							
One	15.6	16.7	13.0	9.5	45.2	100.0	8.5
Two	15.7	14.7	12.1	9.3	48.2	100.0	9.2
Three-or-more	14.5	13.3	11.8	7.5	52.9	100.0	9.6
All households	15.7	15.4	12.4	9.1	47.4	100.0	8.9

SOURCE: Based upon unpublished table T-5 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-1970.

## APPENDIX B

### Sample base for Nationwide Personal Transportation Survey

The following are the major series of tables and the sample base for tables developed from the survey. Each of the tables in any of these reports will indicate a reference source from which the sample base can be determined.

1. H-series, E-series, and T-9 through T-16

These tables relate to data collected in Sections I through V of the questionnaire. The tables are based upon a sample of approximately 6,000 households, approximately 3,000 from panel 1 interviewed in April, 1969 and approximately 3,000 from panel 2 interviewed in August, 1969. Each of these panels were expanded to national estimates. For purposes of all tables referred to in any of these reports the expanded data from the two panels were averaged.

2. P-series and T-1 through T-8

These tables relate to data collected in Section VI. Data from four interviews at the identical households in panel 1, (approximately 3,000 households were interviewed in April, July, October, 1969 and January, 1970) were combined and expanded to represent annual estimates of trips and travel by automobile or other forms of public transportation.

## APPENDIX B

### Major sections of questionnaire

The following are the main sections of the questionnaire:

1. The data reported in items a through t above Section I of the questionnaire form were transcribed from the control card.
2. Section I - Automobile Record.
3. Section II - Shopping and nearness to public transportation to main business district by residents of Standard Metropolitan Statistical Areas.
4. Section III - Travel to work for all employed persons 16 years or older.
5. Section IV - Driver information or estimated annual miles driven by licensed drivers.
6. Section V - Travel to school for persons between 5 and 18 years of age and attending school. For panel 2 of the households interviewed in August 1969, the interviewer asked for the travel to school information for the preceding May.
7. Section VI - Travel day report. All one-way trips by motor vehicle or some form of public transportation taken by persons 5 years of age or older were reported for a pre-assigned reference day. The reference days were all in a one-week period in each of the months of interviewing and all weekdays and weekends were represented. Generally, the interviewer visited all households the first weekday after the reference day in order to minimize memory errors.
8. Section VII - Overnight travel record of all trips lasting one or more nights during the 7 days ending the day before the preassigned travel day. Insufficient data were collected in this section to permit detailed analyses.

APPENDIX B

**NOTICE** - All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purposes.

**BUDGET BUREAU NO. 41-569011**  
**APPROVAL EXPIRES DECEMBER 1970**

**FORM NPT-2**  
(7-10-69)

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
ACTING AS COLLECTING AGENT FOR THE  
U.S. DEPARTMENT OF TRANSPORTATION

**HOUSEHOLD QUESTIONNAIRE - AUGUST 1969**

**NATIONWIDE PERSONAL TRANSPORTATION SURVEY**

a. Ident. Code	b. Household No.	c. Control No.				
		PSU	Rot.	Segment	Serial	Scr.
d. Type of structure		e. Race		f. SMSA	g. Place	h. State
i. Subsample		j. Designated travel day		k. No. of hhd. members (all ages)		l. Number of automobiles
		Day of week		Mo./day		
m. Automobile				n. Principal user Line No.	o. (If no automobile)	
Auto No.	Year	Make	Office use		1 <input type="checkbox"/> Auto available	
					2 <input type="checkbox"/> Not available	
					p. Income	
					q. Interviewer's code	
				r. OFFICE USE		
s. Date of interview		1. Noninterview reason		3 <input type="checkbox"/> Ref.		5 <input type="checkbox"/> Other type - Specify <u>7</u>
		1 <input type="checkbox"/> NOH 2 <input type="checkbox"/> TA		4 <input type="checkbox"/> Other Type A		

(Fill a, b, c, f, g, h, i, j, q.)

**Section I - AUTOMOBILE RECORD**

Now I have some questions about your - (first, second, etc., automobile)

	Auto No.	Auto No. <u>2</u>	Auto No.
1. Is it owned by somebody living here?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to Q. 3)	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to Q. 3)	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to Q. 3)
2a. Was it purchased new or used?	1 <input type="checkbox"/> New 2 <input type="checkbox"/> Used	1 <input type="checkbox"/> New 2 <input type="checkbox"/> Used	1 <input type="checkbox"/> New 2 <input type="checkbox"/> Used
b. In what month and year was it bought? (Examples: 10/67, 04/68)	Month Year	Month Year	Month Year
3. About how many thousand miles was it driven during the past 12 months?	Miles (Thousands)	Miles (Thousands)	Miles (Thousands)
4. Is it used at least once a week in going from home to work?	1 <input type="checkbox"/> Yes - Entire trip 2 <input type="checkbox"/> Yes - Part-way 3 <input type="checkbox"/> No (Go to next auto or Sec. II)	1 <input type="checkbox"/> Yes - Entire trip 2 <input type="checkbox"/> Yes - Part-way 3 <input type="checkbox"/> No (Go to next auto or Sec. II)	1 <input type="checkbox"/> Yes - Entire trip 2 <input type="checkbox"/> Yes - Part-way 3 <input type="checkbox"/> No (Go to next auto or Sec. II)
5. How many people are usually in the automobile going to work, including the driver?	Number	Number	Number
<p><b>CODE KEY</b> →</p> <p>1 - Commercial parking garage or lot 2 - Employer provided space 3 - Fringe parking 4 - Other lot or garage</p> <p>5 - On the street 6 - No all day parking used 7 - Other</p>			
6a. What type of parking facility is usually used for the trip to work - the employer's lot, a commercial lot, on the street, or what?			
If code 6 go to next auto or Sec. II			
b. Is there a cost for parking?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to next auto or Sec. II)	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to next auto or Sec. II)	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Go to next auto or Sec. II)
c. How much?	\$ 1 <input type="checkbox"/> Day 2 <input type="checkbox"/> Week 3 <input type="checkbox"/> Month	\$ 1 <input type="checkbox"/> Day 2 <input type="checkbox"/> Week 3 <input type="checkbox"/> Month	\$ 1 <input type="checkbox"/> Day 2 <input type="checkbox"/> Week 3 <input type="checkbox"/> Month
d. Does . . . pay by putting coins into a meter?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No

**Section II - SHOPPING**

ASK for SMSA residents only - 1 or 2 as second digit of identification code

Now we are interested in where people shop - (Ask 1 and 2 for (1) wife or (2) female head or (3) male head)

1. During the past 3 months has . . . gone to the main business district of . . . principally to shop?	1 <input type="checkbox"/> Yes → How many times? . . . (Go to Q. 3) 2 <input type="checkbox"/> No						
2. What were the reasons for not shopping there? (Mark all boxes that apply)	<table border="0"> <tr> <td>1 <input type="checkbox"/> Goods available locally</td> <td>4 <input type="checkbox"/> Difficulty of driving in congested area</td> </tr> <tr> <td>2 <input type="checkbox"/> Too far away</td> <td>5 <input type="checkbox"/> No automobile</td> </tr> <tr> <td>3 <input type="checkbox"/> Difficulty of parking</td> <td>6 <input type="checkbox"/> Other - Specify →</td> </tr> </table>	1 <input type="checkbox"/> Goods available locally	4 <input type="checkbox"/> Difficulty of driving in congested area	2 <input type="checkbox"/> Too far away	5 <input type="checkbox"/> No automobile	3 <input type="checkbox"/> Difficulty of parking	6 <input type="checkbox"/> Other - Specify →
1 <input type="checkbox"/> Goods available locally	4 <input type="checkbox"/> Difficulty of driving in congested area						
2 <input type="checkbox"/> Too far away	5 <input type="checkbox"/> No automobile						
3 <input type="checkbox"/> Difficulty of parking	6 <input type="checkbox"/> Other - Specify →						
3. How far is it from home to the nearest public transportation line to go to the main business district of . . . ?	<table border="0"> <tr> <td>1 <input type="checkbox"/> Less than one block</td> <td>4 <input type="checkbox"/> Over 6 blocks (over 1/2 mile)</td> </tr> <tr> <td>2 <input type="checkbox"/> 1-2 blocks (less than 1/4 mile)</td> <td>5 <input type="checkbox"/> No public transportation available</td> </tr> <tr> <td>3 <input type="checkbox"/> 3-6 blocks (1/4 - 1/2 mile)</td> <td>6 <input type="checkbox"/> Lives in main business district</td> </tr> </table>	1 <input type="checkbox"/> Less than one block	4 <input type="checkbox"/> Over 6 blocks (over 1/2 mile)	2 <input type="checkbox"/> 1-2 blocks (less than 1/4 mile)	5 <input type="checkbox"/> No public transportation available	3 <input type="checkbox"/> 3-6 blocks (1/4 - 1/2 mile)	6 <input type="checkbox"/> Lives in main business district
1 <input type="checkbox"/> Less than one block	4 <input type="checkbox"/> Over 6 blocks (over 1/2 mile)						
2 <input type="checkbox"/> 1-2 blocks (less than 1/4 mile)	5 <input type="checkbox"/> No public transportation available						
3 <input type="checkbox"/> 3-6 blocks (1/4 - 1/2 mile)	6 <input type="checkbox"/> Lives in main business district						

Note: Fill remaining pages for household members 5 years old or over.

**APPENDIX B**

**Section III - TRAVEL TO WORK**

<p>1. Line No. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span></p>	<p><b>2. CHECK ITEM</b></p> <p>1 <input type="checkbox"/> This person is 16 years old or older and has an entry in Control Card question 16b. (Fill in Sec. III, IV, and V as applicable)</p> <p>X <input type="checkbox"/> All others (Fill in Sec. IV and V as applicable)</p>
<p>We are interested in where people work and how they get to work.</p> <p>3. Is the place where . . . works located in a city?</p>	<p>1 <input type="checkbox"/> Yes → What city? _____</p> <p>2 <input type="checkbox"/> No</p> <p>3 <input type="checkbox"/> Don't know State? _____</p>
<p>4. How far is it from home to the place where . . . works? (Actual travel distance)</p>	<p>Miles</p> <p>(Enter nearest full mile)</p> <p>1X <input type="checkbox"/> No fixed place } (Go to Sec. IV)</p> <p>2X <input type="checkbox"/> At home</p> <p>3X <input type="checkbox"/> Less than 1/2 mile (5 blocks)</p>
<p>5. How much time is usually required for . . . to get to work from the time he leaves until he arrives at work?</p>	<p>Minutes</p>
<p>6. How does . . . usually get to work?</p> <p>(Mark all appropriate boxes)</p>	<p>1 <input type="checkbox"/> Bus or street car</p> <p>2 <input type="checkbox"/> Commuter train, subway, elevated, etc.</p> <p>3 <input type="checkbox"/> Automobile - with other persons</p> <p>4 <input type="checkbox"/> Automobile - alone</p> <p>5 <input type="checkbox"/> Truck</p> <p>6 <input type="checkbox"/> Motorcycle</p> <p>7 <input type="checkbox"/> Walk only (Go to Q. 10a)</p> <p>8 <input type="checkbox"/> Other - including bicycle - Specify <u>7</u></p>
<p>7. How far is it from home to the nearest public transportation line that . . . uses (could use) to get to his place of work?</p>	<p>1 <input type="checkbox"/> Less than 1 block</p> <p>2 <input type="checkbox"/> 1 to 2 blocks (less than 1/4 mile)</p> <p>3 <input type="checkbox"/> 3 to 6 blocks (1/2 to 3/4 mile)</p> <p>4 <input type="checkbox"/> Over 6 blocks (over 1/2 mile)</p> <p>5 <input type="checkbox"/> None available } (Go to Q. 10a)</p>
<p>(Ask if boxes 1 and/or 2 - is not marked in Q. 6)</p> <p>8. What is the reason . . . does not use public transportation to go to work? Anything else? (Mark all boxes that apply)</p>	<p>1 <input type="checkbox"/> None available</p> <p>2 <input type="checkbox"/> Not convenient to get to</p> <p>3 <input type="checkbox"/> Not convenient to place of work</p> <p>4 <input type="checkbox"/> Too many transfers</p> <p>5 <input type="checkbox"/> Too expensive</p> <p>6 <input type="checkbox"/> Too crowded or uncomfortable</p> <p>7 <input type="checkbox"/> Takes too long</p> <p>8 <input type="checkbox"/> Need auto for work</p> <p>9 <input type="checkbox"/> Other - Specify <u>7</u></p> <p align="center">(Go to 10a)</p>
<p>(Ask if either box 1 or 2 - is marked in Q. 6)</p> <p>9. What is the reason . . . uses public transportation to get to work? Anything else? (Mark all boxes that apply)</p>	<p>1 <input type="checkbox"/> No driver's license</p> <p>2 <input type="checkbox"/> No car available</p> <p>3 <input type="checkbox"/> No car pool available</p> <p>4 <input type="checkbox"/> Cheaper than auto</p> <p>5 <input type="checkbox"/> Safer than auto</p> <p>6 <input type="checkbox"/> No parking problems</p> <p>7 <input type="checkbox"/> No driving strain</p> <p>8 <input type="checkbox"/> Faster</p> <p>9 <input type="checkbox"/> Other - Specify <u>7</u></p>
<p>(Ask for persons 21 years old or older)</p> <p>10a. Does . . . work at same location as 5 years ago?</p>	<p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p> <p>3 <input type="checkbox"/> Not working 5 years ago (Go to Sec. IV)</p>
<p>b. Does . . . live at same location as 5 years ago?</p>	<p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p>
<p>c. Compared with the time it took . . . to get to work 5 years ago, is the time to work:</p>	<p>1 <input type="checkbox"/> About the same as 5 years ago</p> <p>2 <input type="checkbox"/> At least 10 minutes more</p> <p>3 <input type="checkbox"/> At least 10 minutes less</p>

**Section IV - DRIVER INFORMATION**

<p>(Ask for licensed drivers only)</p> <p>1. About how many thousands of miles did . . . drive during the past 12 months, including driving as part of work?</p>	<p>1 <input type="checkbox"/> None</p> <p>2 <input type="checkbox"/> Under 5,000</p> <p>3 <input type="checkbox"/> 5,000 - 9,999</p> <p>4 <input type="checkbox"/> 10,000 - 14,999</p> <p>5 <input type="checkbox"/> 15,000 - 19,999</p> <p>6 <input type="checkbox"/> 20,000 - 24,999</p> <p>7 <input type="checkbox"/> 25,000 - 29,999</p> <p>8 <input type="checkbox"/> 30,000 and over</p>
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**Section V - TRAVEL TO SCHOOL**

<p>(Ask Sec. V for persons 5-18 years old)</p> <p>New I would like to ask some questions about transportation to school.</p> <p>1. Last May was . . . attending or enrolled in school?</p>	<p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No (Go to Sec. VI)</p>
<p>2. Was it a public or private school?</p>	<p>1 <input type="checkbox"/> Public</p> <p>2 <input type="checkbox"/> Private</p>
<p>3. What grade was . . . attending?</p>	<p>Grade</p> <p>Enter "0" for kindergarten or 1-12, 13+</p>
<p>4. About how many miles was it from home to . . . 's school? (If less than one mile enter "0")</p>	<p>Miles</p>
<p>5. About how long did it take . . . to get from home to school?</p>	<p>Minutes</p>
<p>6. How did . . . usually get to school?</p> <p>(Mark only one box)</p>	<p>1 <input type="checkbox"/> School bus - No charge</p> <p>2 <input type="checkbox"/> Public transportation - No charge } (Go to Sec. VI)</p> <p>3 <input type="checkbox"/> School bus - Charge</p> <p>4 <input type="checkbox"/> Public transportation - Charge</p> <p>5 <input type="checkbox"/> Walk, bicycle</p> <p>6 <input type="checkbox"/> Automobile - Driver</p> <p>7 <input type="checkbox"/> Automobile - Passenger</p> <p>8 <input type="checkbox"/> Motorcycle</p> <p>9 <input type="checkbox"/> Other</p> <p align="right">} (Go to Q. 7)</p>
<p>7. Was free school bus or free public transportation available?</p>	<p>1 <input type="checkbox"/> Yes</p> <p>2 <input type="checkbox"/> No</p>

APPENDIX B

Section VI - TRAVEL DAY REPORT						
a. Line No.	b. Age	c. Sex 1 <input type="checkbox"/> Male 2 <input type="checkbox"/> Female	d. Employment status (C.C. 16a) 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	e. Occupation (C.C. 16b)	f. Retired Code (C.C. 17)	g. Licensed driver (C.C. 18) 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
<p>Now I have some questions about the trips taken on _____. A trip is anytime you went from one place to another by motor vehicle or some form of public transportation. For example, going to work by automobile would be one trip, going to lunch by automobile would be a second trip, returning to work from lunch would be a third trip.</p> <p>Reference day is from 4:00 a.m. to 3:59 a.m. the following day</p>						
1. Did . . . go any place at anytime on _____?		1 <input type="checkbox"/> Yes - One or more trips not previously reported (Fill columns) 2 <input type="checkbox"/> Yes - All previously reported 3 <input type="checkbox"/> No				
2. At what time did . . . start the (last, next) trip he took on _____?		Trip 1 1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	Trip 2 1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	Trip 3 1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	Trip 4 1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	
3. How far is it from where . . . started to where he went?		Miles 0 <input type="checkbox"/> Less than 1/2 mile (5 blocks)	Miles 0 <input type="checkbox"/> Less than 1/2 mile (5 blocks)	Miles 0 <input type="checkbox"/> Less than 1/2 mile (5 blocks)	Miles 0 <input type="checkbox"/> Less than 1/2 mile (5 blocks)	
4. How long did it take to get there?		1 <input type="checkbox"/> 15 min. or less 2 <input type="checkbox"/> 16-30 min. 3 <input type="checkbox"/> 31-45 min. 4 <input type="checkbox"/> 46 min.-1 hr. 5 <input type="checkbox"/> Bet. 1 and 2 hrs. 6 <input type="checkbox"/> 2 hrs. or more	1 <input type="checkbox"/> 15 min. or less 2 <input type="checkbox"/> 16-30 min. 3 <input type="checkbox"/> 31-45 min. 4 <input type="checkbox"/> 46 min.-1 hr. 5 <input type="checkbox"/> Bet. 1 and 2 hrs. 6 <input type="checkbox"/> 2 hrs. or more	1 <input type="checkbox"/> 15 min. or less 2 <input type="checkbox"/> 16-30 min. 3 <input type="checkbox"/> 31-45 min. 4 <input type="checkbox"/> 46 min.-1 hr. 5 <input type="checkbox"/> Bet. 1 and 2 hrs. 6 <input type="checkbox"/> 2 hrs. or more	1 <input type="checkbox"/> 15 min. or less 2 <input type="checkbox"/> 16-30 min. 3 <input type="checkbox"/> 31-45 min. 4 <input type="checkbox"/> 46 min.-1 hr. 5 <input type="checkbox"/> Bet. 1 and 2 hrs. 6 <input type="checkbox"/> 2 hrs. or more	
5. What was the main reason for this trip? <i>(If "return home" enter the main purpose of the outgoing trip(s), plus "R.H.") (Enter one code.)</i>		CODE KEY → 1. To work 2. Business, other than to work 3. Shopping 4. Other family or personal business 5. To school or church 6. To doctor or dentist 7. Vacation 8. Visit friends or relatives 9. Pleasure driving 10. Other social or recreational 11. Other Return home (reclassification required)				
6. In addition to . . . did anyone else living here go on this trip? (List line numbers of other household members 5 years old or older who went on this trip.)		0 <input type="checkbox"/> No others Line numbers	0 <input type="checkbox"/> No others Line numbers	0 <input type="checkbox"/> No others Line numbers	0 <input type="checkbox"/> No others Line numbers	
7. What means of transportation were used for this trip? <i>(If more than one, circle major means.)</i>		CODE KEY → 1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motor bike 10. Truck (including pick-up) 11. Other				
8. Was public transportation for this trip available within 6 blocks (1/2 mile)?		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Don't know	
9. What automobile was used? <i>(Transcribe automobile number from C.C.)</i>		Automobile No. _____ or 9 <input type="checkbox"/> Not an auto listed on the C.C.	Automobile No. _____ or 9 <input type="checkbox"/> Not an auto listed on the C.C.	Automobile No. _____ or 9 <input type="checkbox"/> Not an auto listed on the C.C.	Automobile No. _____ or 9 <input type="checkbox"/> Not an auto listed on the C.C.	
10. Who drove the automobile for this trip?		Line No. _____ 99 <input type="checkbox"/> Not a household member	Line No. _____ 99 <input type="checkbox"/> Not a household member	Line No. _____ 99 <input type="checkbox"/> Not a household member	Line No. _____ 99 <input type="checkbox"/> Not a household member	
11. Was parking free for this trip?		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Did not park 4 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Did not park 4 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Did not park 4 <input type="checkbox"/> Don't know	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Did not park 4 <input type="checkbox"/> Don't know	
12. How many people were in the automobile including the driver? <i>(Include children under 5 and non-household members.)</i>		_____ Number 0 <input type="checkbox"/> Don't know	_____ Number 0 <input type="checkbox"/> Don't know	_____ Number 0 <input type="checkbox"/> Don't know	_____ Number 0 <input type="checkbox"/> Don't know	
13. Did . . . go anywhere else on _____?		1 <input type="checkbox"/> Yes - One or more trips not recorded (Go to next column) 2 <input type="checkbox"/> Yes - All trips recorded } Go to Q. 14a 3 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes - One or more trips not recorded (Go to next column) 2 <input type="checkbox"/> Yes - All trips recorded } Go to Q. 14a 3 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes - One or more trips not recorded (Go to next column) 2 <input type="checkbox"/> Yes - All trips recorded } Go to Q. 14a 3 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes - One or more trips not recorded (Go to next column) 2 <input type="checkbox"/> Yes - All trips recorded } Go to Q. 14a 3 <input type="checkbox"/> No	
14a. During the 7 days ending (the day before travel day) did . . . return home from a trip after being away from home one or more nights?		1 <input type="checkbox"/> Yes - One or more trips not previously reported (Go to 14b) 2 <input type="checkbox"/> Yes - All trips previously reported 3 <input type="checkbox"/> No				
b. How many such trips ended during the 7 days?		Number _____ (Go to Sec. VII)				
Fill Sections III-VI for next person 5 years old or older						

APPENDIX B

Section VII - OVERNIGHT TRAVEL			
OUTBOUND TRIP	Trip 1	Trip 2	Trip 3
	Line No. 9	Line No. 10	Line No. 11
1. How many miles is it from home to where . . . went? (To farthest point)	Miles	Miles	Miles
2. How much time did . . . spend getting there? (Total time from home to farthest point, not just travel time) (Enter nearest full hour or day)	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days
3. What time of day did the trip start?	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.
4. On what day of the week did the trip start?	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.
5. What was the main reason for the trip? (Enter code)	Code Key →		
	1. To work 2. Business - Other than to work 3. Shopping 4. Other family or personal business 5. To school or church 6. To doctor or dentist 7. Vacation 8. Visit friends or relatives 9. Pleasure driving 10. Other social or recreational 11. Other		
6. What means of transportation were used? (Enter codes) <i>(Include all means such as transportation to and from terminals as well as major means, circle major means.)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
7. What automobile was used? <i>(Transcribe automobile number from C.C.)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
8. Who drove the automobile? <i>(If more than one driver, enter the line number of the person who drove the most miles)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
9. How many people were in the automobile, including the driver? <i>(Include children under 5 and non-household members)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
10. How many nights were you away from home?	Trip 1	Trip 2	Trip 3
11. How much time did . . . spend on the return trip? (Enter nearest full hour or day)	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days	1 <input type="checkbox"/> Hours 2 <input type="checkbox"/> Days
12. What time of day did . . . start on the return trip?	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.	1 <input type="checkbox"/> a.m. 2 <input type="checkbox"/> p.m.
13. On what day of the week did . . . start on the return trip?	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.	1 <input type="checkbox"/> Sun. 5 <input type="checkbox"/> Thurs. 2 <input type="checkbox"/> Mon. 6 <input type="checkbox"/> Fri. 3 <input type="checkbox"/> Tues. 7 <input type="checkbox"/> Sat. 4 <input type="checkbox"/> Wed.
14. What means of transportation were used? (Enter codes) <i>(Include all means such as transportation to and from terminals as well as major means, circle major means.)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
15. Who drove the automobile? <i>(If more than one driver, enter the Line No. of the person who drove the most miles)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
16. How many people were in the automobile on the return trip, including the driver? <i>(Include children under 5 and nonhousehold members)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		
17. In addition to . . . , did anyone else living here go on this trip both outbound and return? <i>(If outbound or return only, enter the trip in a separate column.)</i> <i>(List line numbers of other household members 5 years old or older who went on this round trip)</i>	Code Key →		
	1. School bus 2. Other bus and/or street car 3. Elevated or subway 4. Other train 5. Airplane 6. Taxi 7. Automobile - Driver 8. Automobile - Passenger 9. Motorcycle or motorbike 10. Truck (including pick-up) 11. Other		



## APPENDIX C

Table I.A.-1. -- Estimated Standard Errors for Estimates for All  
Persons or White Persons 5 Years or Older

Estimated Total (000)	Estimated Standard Error (1 sigma) (000)
100	68
150	83
200	96
250	107
300	118
500	152
750	185
1,000	214
1,500	261
2,000	300
4,000	420
5,000	466
6,000	507
7,500	562
10,000	638
12,500	702
15,000	755
20,000	840
25,000	903
35,000	975
50,000	976

APPENDIX C

Table I.A.-2. -- Estimated Standard Errors for Percentages For All Persons or White Persons 5 Years or Older

Base of Percentage (000)	1 or 99%	5 or 95%	10 or 90%	20 or 80%	25 or 75%	50%
300	-	-	-	15.7	17.0	19.6
500	-	-	9.1	12.2	13.2	15.2
750	-	5.4	7.4	9.9	10.7	12.4
1,000	-	4.7	6.4	8.6	9.3	10.7
1,500	1.7	3.8	5.3	7.0	7.6	8.8
2,000	1.5	3.3	4.6	6.1	6.6	7.8
4,000	1.1	2.3	3.2	4.3	4.7	5.4
5,000	1.0	2.1	2.9	3.8	4.2	4.8
6,000	.9	1.9	2.6	3.5	3.8	4.4
7,500	.8	1.7	2.4	3.1	3.4	3.9
10,000	.7	1.5	2.0	2.7	2.9	3.4
12,500	.6	1.3	1.8	2.4	2.6	3.0
15,000	.6	1.2	1.7	2.2	2.1	2.8
20,000	.5	1.0	1.4	1.9	1.9	2.4
25,000	.4	.9	1.3	1.7	1.3	2.1
50,000	.3	.7	.9	1.2	1.1	1.5
75,000	.2	.5	.7	1.0	.9	1.2
100,000	.2	.5	.6	.9	.8	1.1
125,000	.2	.4	.6	.8	.8	1.0
150,000	.2	.4	.5	.7	.7	.9
179,000	.2	.4	.5	.6		.8

APPENDIX C

Table II.A.-1. -- Estimated Standard Errors For Estimates For Households

Estimated Total (000)	Estimated Standard Error (1 sigma) (000)
25	25
50	29
100	40
150	49
200	57
250	64
300	70
500	90
750	110
1,000	127
1,500	155
2,000	178
3,000	217
5,000	276
7,500	333
10,000	378
15,000	447
20,000	496
25,000	532
30,000	556
35,000	571

APPENDIX C

Table II.A.-2. -- Estimated Standard Errors For Percentages For Households

Base of Percentage (000)	Estimated Percentage					
	1 or 99%	5 or 95%	10 or 90%	20 or 80%	25 or 75%	50%
100	-	-	-	16.1	17.5	20.2
150	-	-	9.9	13.2	14.3	16.5
200	-	-	8.6	11.4	12.4	14.3
250	-	5.6	7.6	10.2	11.0	12.8
300	-	5.1	7.0	9.3	10.1	11.6
500	1.8	3.9	5.4	7.2	7.8	9.0
750	1.5	3.2	4.4	5.9	6.4	7.4
1,000	1.3	2.8	3.8	5.1	5.5	6.4
1,500	1.0	2.3	3.1	4.2	4.5	5.2
2,000	.9	2.0	2.7	3.6	3.9	4.5
3,000	.7	1.6	2.2	2.9	3.2	3.7
5,000	.6	1.2	1.7	2.3	2.5	2.8
7,500	.5	1.0	1.4	1.9	2.0	2.3
10,000	.4	.9	1.2	1.6	1.7	2.0
15,000	.3	.7	1.0	1.3	1.4	1.6
20,000	.3	.6	.9	1.1	1.2	1.4
25,000	.3	.6	.8	1.0	1.1	1.3
30,000	.2	.5	.7	.9	1.0	1.2
35,000	.2	.5	.6	.9	.9	1.1
50,000	.2	.4	.5	.7	.8	.9
63,000	.2	.4	.5	.6	.7	.8

## APPENDIX C

Table III.A.-1. Estimated Standard Errors for Estimates  
for All Vehicles and Vehicles Owned by White Persons

Estimated Total (000)	Estimated Standard Error (1 Sigma) (000)
25	19
50	26
100	37
150	46
200	53
250	59
300	65
500	84
750	102
1,000	118
1,500	144
2,000	166
3,000	203
5,000	261
7,500	318
10,000	365
15,000	442
20,000	505
25,000	557
30,000	603
35,000	643
50,000	737
73,000	830

APPENDIX C

Table III.A.-2. -- Estimated Standard Errors for Percentages  
For All Vehicles and Vehicles Owned by All Persons

Base of Percentage (000)	Estimated Percentage					
	1 or 99%	5 or 95%	10 or 90%	20 or 80%	25 or 75%	50%
100	-	-	11.2	15.0	16.2	18.7
150	-	-	9.2	12.2	13.2	15.3
200	-	5.8	7.9	10.6	11.1	13.2
250	-	5.1	7.1	9.4	10.2	11.8
300	-	4.7	6.5	8.6	9.3	10.8
500	1.7	3.6	5.0	6.7	7.2	8.4
750	1.4	3.0	4.1	5.5	5.9	6.8
1,000	1.2	2.6	3.5	4.7	5.1	5.9
1,500	1.0	2.1	2.9	3.9	4.2	4.8
2,000	.8	1.8	2.5	3.3	3.6	4.2
3,000	.7	1.5	2.0	2.7	3.0	3.4
5,000	.5	1.2	1.6	2.1	2.3	2.6
7,500	.4	.9	1.3	1.7	1.9	2.2
10,000	.4	.8	1.1	1.5	1.6	1.9
15,000	.3	.7	.9	1.2	1.3	1.5
20,000	.3	.6	.8	1.1	1.2	1.3
25,000	.2	.5	.7	.9	1.0	1.2
30,000	.2	.5	.6	.9	.9	1.1
35,000	.2	.4	.6	.8	.9	1.0
50,000	.2	.4	.5	.7	.7	.8
73,000	.1	.3	.4	.6	.6	.7

APPENDIX C

TABLE IV-1 Estimated Standard Errors for Number of Vehicle Trips for One Day When Single Auto is Only Means

Estimated Total (000)	Estimated Standard Error (1 sigma) (000)
100	95
250	150
500	213
750	261
1,000	302
2,500	479
5,000	683
10,000	982
15,000	1,222
25,000	1,625
50,000	2,459
75,000	3,197
100,000	3,893
125,000	4,567
150,000	5,228
175,000	5,879
200,000	6,524
225,000	7,164
235,000	7,420
255,000	7,802

APPENDIX C

TABLE IV.-2 Estimated Standard Errors for Percentages of Vehicle Trips for One Week When Single Auto Is Only Means

Base of Percentage (000)	Estimated Percentage					
	1 or 99%	5 or 95%	10 or 90%	20 or 80%	25 or 75%	50%
100	-	-	-	17.0	18.4	21.2
750	-	-	10.4	13.9	15.0	17.3
1,000	-	-	9.0	12.0	13.0	15.0
2,500	-	4.1	5.7	7.6	8.2	9.5
5,000	1.3	2.9	4.0	5.4	5.8	6.7
10,000	.9	2.1	2.9	3.8	4.1	4.8
15,000	.8	1.7	2.3	3.1	3.4	3.9
25,000	.6	1.3	1.8	2.4	2.6	3.0
50,000	.4	.9	1.3	1.7	1.8	2.1
75,000	.3	.8	1.0	1.4	1.5	1.7
100,000	.3	.7	.9	1.2	1.3	1.5
125,000	.3	.6	.8	1.1	1.2	1.3
150,000	.2	.5	.7	1.0	1.1	1.2
175,000	.2	.5	.7	.9	1.0	1.1
200,000	.2	.4	.6	.8	.9	1.1
225,000	.2	.4	.6	.8	.9	1.0
235,000	.2	.4	.6	.8	.8	1.0
255,000	.2	.4	.6	.8	.8	.9



## APPENDIX C

TABLE VI.-A.1 Estimated Standard Errors for Number of Total Person Trips for One Day

Estimated Total (000)	Estimated Standard Error (1 sigma) (000)
150	140
200	163
250	182
500	257
750	315
1,000	363
1,500	445
2,500	574
5,000	812
7,500	995
10,000	1,150
25,000	1,815
50,000	2,564
75,000	3,137
100,000	3,618
150,000	4,421
200,000	5,094
250,000	5,683
300,000	6,211
350,000	6,694
400,000	7,140
450,000	7,557

APPENDIX C

TABLE VI.-A.2 Estimated Standard Errors for Percentages of Total Person Trips for One Day

Base of Percentage (000)	Estimated Percentage					
	1 or 99%	5 or 95%	10 or 90%	20 or 80%	25 or 75%	50%
500	-	-	-	20.6	22.2	25.7
750	-	-	12.6	16.8	18.1	21.0
1,000	-	7.9	10.9	14.5	15.7	18.2
1,500	-	6.5	8.9	11.9	12.8	14.8
2,500	2.3	5.0	6.9	9.2	10.0	11.5
5,000	1.6	3.5	4.9	6.5	7.0	8.1
7,500	1.3	2.9	4.0	5.3	5.7	6.6
10,000	1.1	2.5	3.4	4.6	5.0	5.7
25,000	.7	1.6	2.2	2.9	3.1	3.6
50,000	.5	1.1	1.5	2.1	2.2	2.6
75,000	.4	.9	1.3	1.7	1.8	2.1
100,000	.4	.8	1.1	1.5	1.6	1.8
150,000	.3	.6	.9	1.2	1.3	1.5
200,000	.3	.6	.8	1.0	1.1	1.3
250,000	.2	.5	.7	.9	1.0	1.1
300,000	.2	.5	.6	.8	.9	1.0
350,000	.2	.4	.6	.8	.8	1.0
400,000	.2	.4	.5	.7	.8	.9
450,000	.2	.4	.5	.7	.8	.9

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