



NATIONWIDE PERSONAL TRANSPORTATION STUDY

Home-to-Work Trips and Travel

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Reported by:

Paul V. Svercl and Ruth H. Asin
Program Management Division
Office of Highway Planning

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20591

INTRODUCTION

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

DESCRIPTION OF DATA

This report presents characteristics of home-to-work travel (in both directions) by various modes of transportation and by population size-group of the workers' place of residence.

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

HIGHLIGHTS

- . Workers tend to live in a place in the same population size-group as their place of employment, and, as the size of the population-group increases, the number of persons working outside the incorporated place decreases.
- . More than half, 53 percent, of all workers live 5 miles or less from their place of employment and arrive at their jobs in 15 minutes or less.
- . Almost 83 percent of all person work trips are made by automobile and almost 4 out of 5 are in single-occupant cars.
- . Almost 90 percent of all home-to-work automobile trips and travel are made from Monday through Friday.
- . The automobile is the predominant mode of transportation for home-to-work commuting, and about three-fourths of all workers use the automobile for all or part of their work trip. A little less than 10 percent use public transportation for at least part of their trip; the remainder use other means, walk or work at home.
- . Workers who use private transportation facilities such as the automobile usually commute the longer distances to work and arrive at work in less time than those using public transportation.
- . The average home-to-work person trip length is 9.9 miles by all modes of transportation and 9.4 miles by automobile.

Some form of public transit is available within two blocks of the homes of 28 percent of all workers, and more than 47 percent live six blocks or more from public transportation; on the other hand, one out of two workers indicate that they have no public transportation available.

Travel from home-to work accounts for almost one-third of all automobile trips and vehicle-miles of travel.

Two-thirds of all automobile trips and vehicle miles for home-to-work purposes are made between 6:00 a.m. - 9:00 a.m., and 3:00 p.m. - 6:00 p.m.

Home-to-work automobile trips are predominantly of short length, with approximately 52 percent being 5 miles or less and almost three-fourths, 10 miles or less.

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 B. A copy of the questionnaire is also found in Appendix B.

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, II.A.-1, II.A.-2, III.A.-2, IV.-2, V.A.-2, and VI.A.-2 in Appendix C 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. WORKERS AND THEIR HOME-TO-WORK TRAVEL

Distribution of workers

By place of residence and place of employment

Seventy percent of all workers reside in incorporated places (figure 1). Workers tend to live in the same population size-group as their place of employment, and as the population of the place of residence increases, the number of workers commuting outside the place decreases.

Table 1.--Percent of employed persons^{1/} classified by place of employment and place of residence.*

Place of residence		Place of employment		
Population size-groups	Distribution of workers	Unincorporated areas	Incorporated places	Unknown
Unincorporated areas	30.0	44.3	55.4	0.3
Incorporated places				
Under 5,000	10.0	40.9	57.9	1.2
5,000 - 24,999	17.8	24.7	74.3	1.0
25,000 - 49,999	7.0	17.7	80.8	1.5
50,000 - 99,999	8.0	15.6	83.4	1.0
100,000 - 999,999	18.4	8.7	90.4	0.9
1,000,000 and over	8.8	8.4	90.4	1.2
All incorporated places	70.0	19.0	79.9	1.1
All areas and places	100.0	26.4	73.6	0

^{1/} Does not include persons who worked at home and persons who worked at no fixed address.

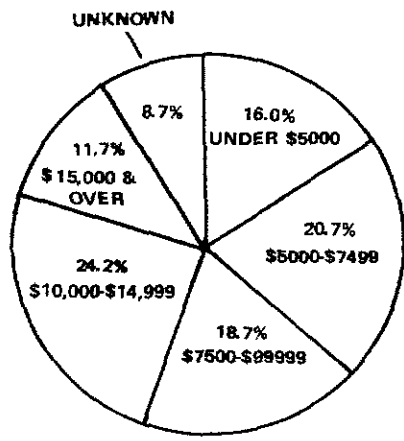
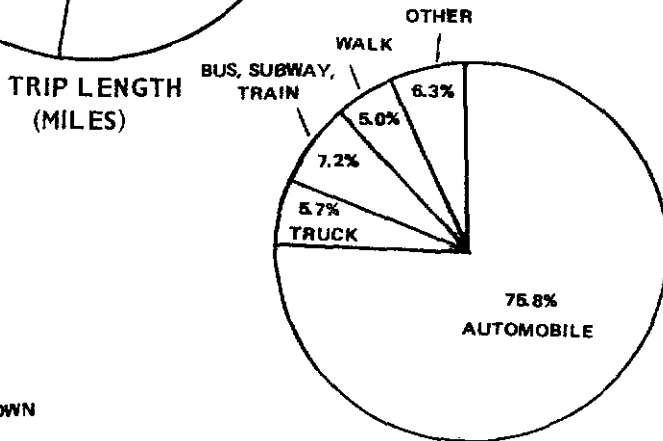
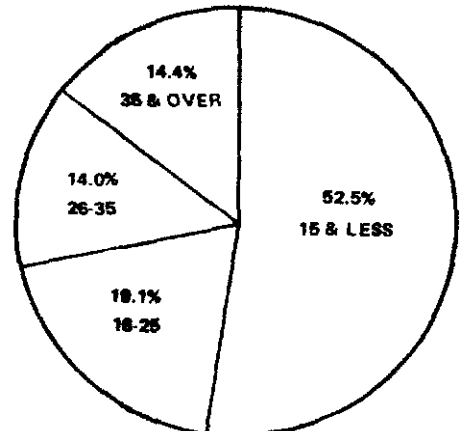
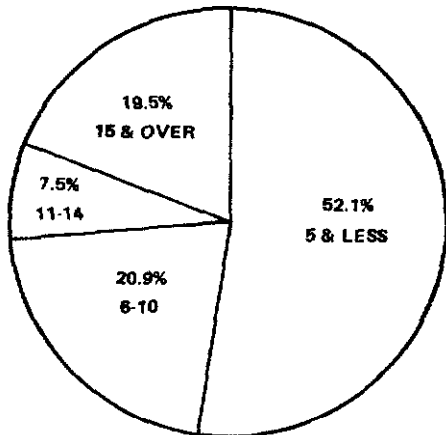
* See table A-1, Appendix A, for more detailed information.

By SMSA population groups and place of employment

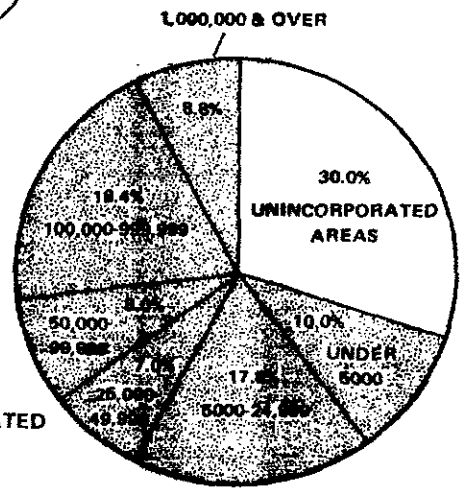
As table A-2 of Appendix A indicates, about 7 (47,091,000) out of every 10 (67,325,000) workers lived in an SMSA and 26.0 percent of all SMSA residents lived in areas of 3,000,000 and over population. Almost 78.9 percent of SMSA employed persons worked in incorporated places and approximately 20.0 percent worked in unincorporated areas.

FIGURE 1

CHARACTERISTICS OF WORKERS IN HOME-TO-WORK TRAVEL



MEANS OF
TRANSPORTATION



PLACE OF
RESIDENCE

Distribution of home-to-work travel

By trip length

More than half of all workers, 52.1 percent, live 5 miles or less from their jobs; and 19.5 percent travel the longer distances of 15 miles or more from work. Workers residing in incorporated places generally commute shorter distances to work than do workers of unincorporated areas (figure 2); and workers from incorporated places of less than 100,000 generally work closer to their place of residence than workers from places of 1,000,000 and over. Specifically, from 55.9 to 61.2 percent of all workers in places under 100,000 travel 5 miles or less to work; while **only 44.1 percent of workers in places of 1,000,000 and over live this close** to their place of employment. For the longest work trip of 25 miles or more, the highest percentage (11.3 percent) of workers traveling this distance live in unincorporated areas.

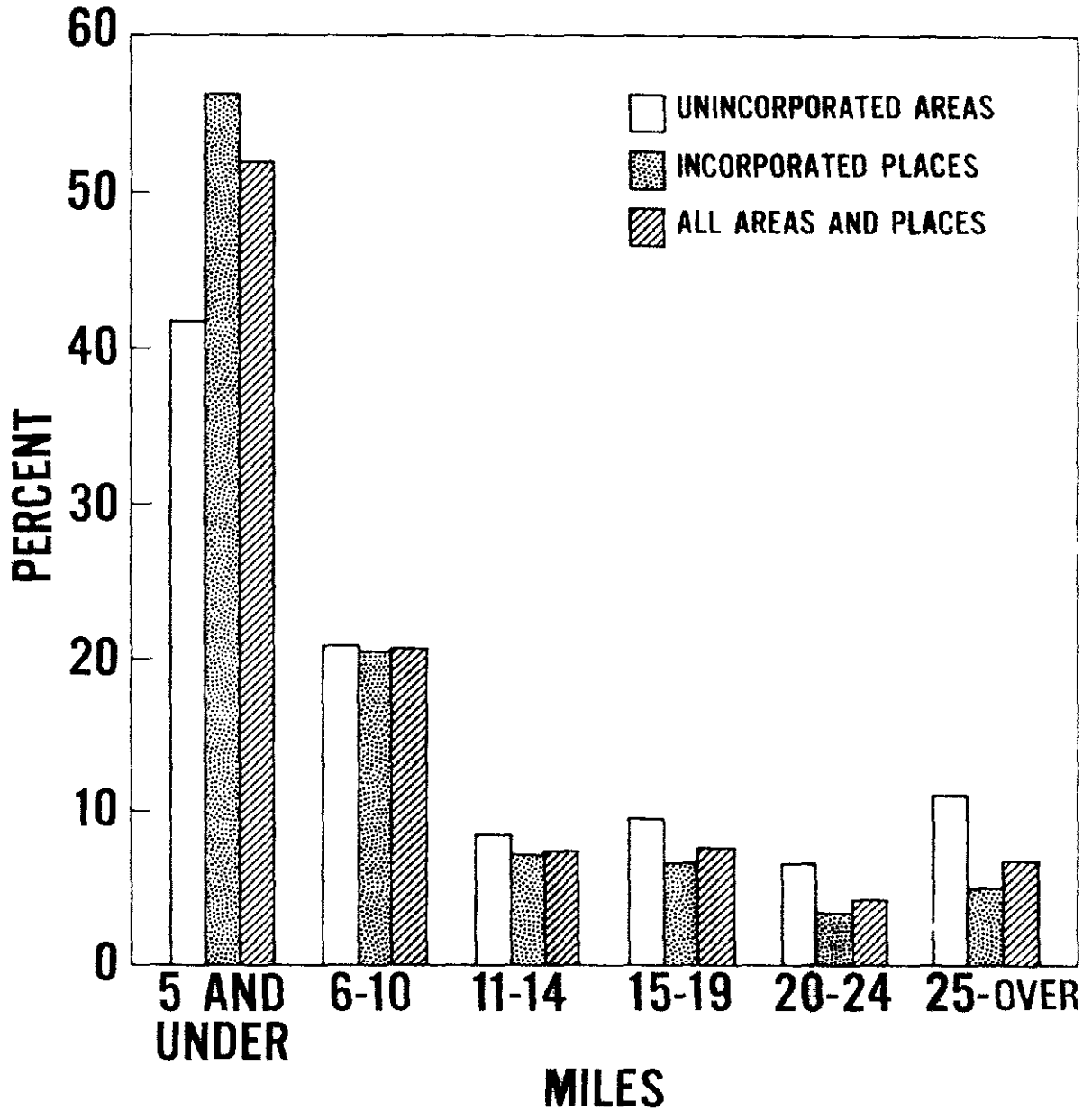
Table 2.--Percent of workers^{1/} classified by home-to-work trip length and place of residence.*

Home-to-work trip length	Place of residence								All workers
	Unincorporated areas	Incorporated places							
		Under 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All places	
Miles 5 or less	41.8	56.2	55.9	59.1	61.2	60.3	44.1	56.5	52.1
6 - 10	21.1	12.2	17.1	18.9	20.0	23.5	30.1	20.6	20.9
11 - 14	8.5	6.5	8.0	8.2	5.7	6.1	8.8	7.1	7.5
15 - 19	9.7	8.5	7.0	5.9	7.1	5.3	7.8	6.8	7.7
20 - 24	6.8	6.4	4.0	3.1	2.0	2.1	3.7	3.5	4.5
25 - 99	11.3	9.8	7.3	4.5	3.2	2.3	5.2	5.1	6.9
Not reported	0.8	0.4	0.7	0.3	0.8	0.4	0.3	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^{1/} Excludes those who work at home or at no fixed address.

* See table A-3, Appendix A, for more detailed information.

FIGURE 2.
PERCENT OF WORKERS
BY PLACE OF RESIDENCE
AND HOME-TO-WORK TRIP LENGTH



By travel time

More than half of all workers, 52.5 percent, arrived at their jobs in 15 minutes or less, 71.6 percent arrived in less than 26 minutes, and 14.4 percent took 36 minutes or longer to commute from home-to-work (table A-4, Appendix A).

The average travel time for workers from unincorporated areas (23 minutes) and incorporated places (21 minutes) did not vary significantly from the average travel time for workers from all areas and places (22 minutes). However, as also shown in table A-5 of Appendix A, workers from places of 1,000,000 and over spent an average of 10 minutes more traveling than all other population groups.

Table 3.--Percent of employed persons^{1/} by place of residence and commuting time to work.*

Population place of residence	Home-to-work commuting time - minutes					Average for all workers (Minutes)
	15 & less	16-25	26-35	36 & more	All	
Unincorporated areas	50.9	19.1	13.3	16.7	100.0	23
Incorporated places						
Under 5,000	60.3	16.8	12.9	10.0	100.0	18
5,000-24,999	58.4	16.2	13.3	12.1	100.0	19
25,000-49,999	61.1	17.1	11.8	10.0	100.0	19
50,000-99,999	56.4	21.5	10.7	11.4	100.0	20
100,000-999,999	51.3	22.8	16.0	9.9	100.0	21
1,000,000 and over	28.5	18.5	20.5	32.5	100.0	32
All incorporated places	53.2	19.0	14.4	13.4	100.0	21
All areas and places	52.5	19.1	14.0	14.4	100.0	22

^{1/} Does not include workers that work at home or at no fixed address.

* See table A-4, Appendix A, for more detailed information.

By travel time and income groups

The average commuting time for each income group did not vary appreciably from the average home-to-work travel time of 22 minutes for all workers. Workers from households with incomes of \$15,000 and over averaged 25 minutes commuting; travel time for workers from households at all other income levels ranged from 19 to 23 minutes.

Table 4.--Average home-to-work commuting time
by household income.*

<u>Annual household income</u>	<u>Average commuting time to work (minutes)</u>
Under \$3,000	20
\$3,000 - \$3,999	19
\$4,000 - \$4,999	22
\$5,000 - \$5,999	23
\$6,000 - \$7,499	20
\$7,500 - \$9,999	21
\$10,000 - \$14,999	22
\$15,000 and over	25
All income groups	22

* See table A-6, Appendix A, for more detailed information.

Commuting trends

Data as shown in table A-7 of Appendix A indicate that home-to-work travel time has not changed by at least 10 minutes for 58.6 percent of the workers; for approximately 20.8 percent of the workers there has been an increase in travel time of 10 minutes and more, and for 17.8 percent of the workers there has been a decrease in travel time of 10 minutes and more from 5 years ago. Data were not available for the remaining 2.8 percent.

While travel time has not changed by at least 10 minutes for more than half of the workers, there has been a shift in place of residence and/or employment. Specifically, approximately 14.7 percent of the workers changed their place of residence but not their place of employment, almost 15.7 percent changed their place of employment but not their place of residence, and 27.6 percent changed both.

About 42.0 percent of the workers worked and lived in the same location as 5 years ago. For about 86.6 percent of these workers, the difference in travel time to work from 5 years ago was less than 10 minutes, for about 6.9 percent there was an increase of 10 minutes and more, and for 5.0 percent there was a decrease of 10 minutes and more.

Characteristics of person trips, person miles of travel and trip length by mode, purpose and time of day

By all modes

Home-to-work person trips and person miles of travel tend to be concentrated during certain hours of the day (table A-8, Appendix A). The peak hours for home-to-work trips are between 6:00 a.m. - 9:00 a.m. and 3:00 p.m. - 6:00 p.m., when approximately two-thirds of all home-to-work trips are made. Throughout the day, trips made for home-to-work purposes comprise 26.3 percent of trips for all purposes.

Person miles of travel associated with home-to-work trips follow the same pattern, and almost two-thirds (66.2 percent) of the home-to-work person miles of travel are made during these hours. Throughout the day, person miles of travel for home-to-work purposes comprise 26.6 percent of miles of travel for all trip purposes. The percent distribution of home-to-work person trips and person miles of travel by purpose and time of day is shown in figures 3, 4 and 5.

Home-to-work trip lengths by all modes are generally longest from 4:00 a.m. - 6:00 a.m., shortest at 12 noon, and average 9.9 miles (table A-9, Appendix A).

FIGURE 3.
**PERCENT OF PERSON TRIPS
 BY PURPOSE AND HOUR OF DAY TRIP BEGAN**

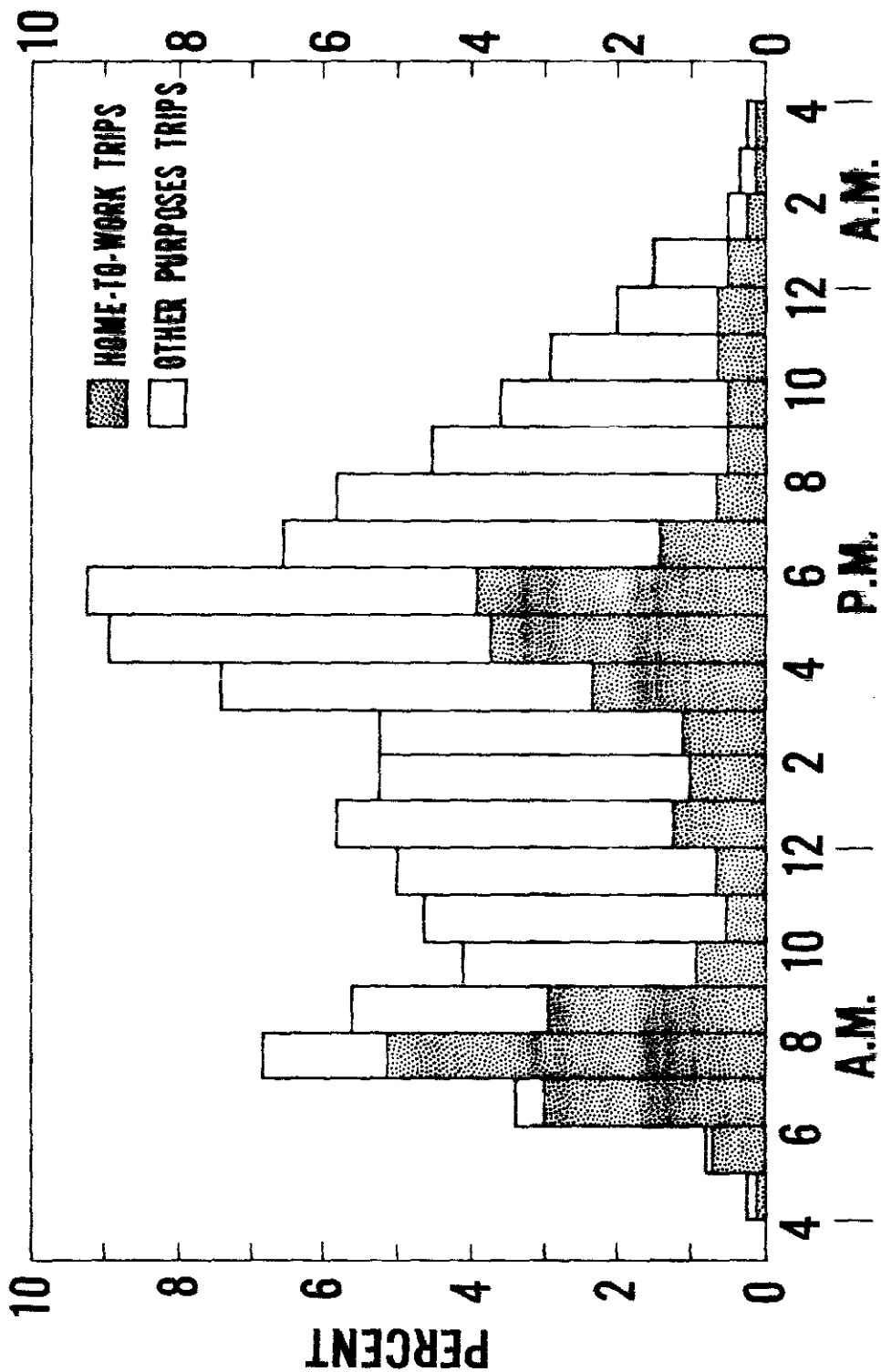


FIGURE 4.
PERCENT OF PERSON MILES OF TRAVEL
BY PURPOSE AND HOUR OF DAY TRIP BEGAN

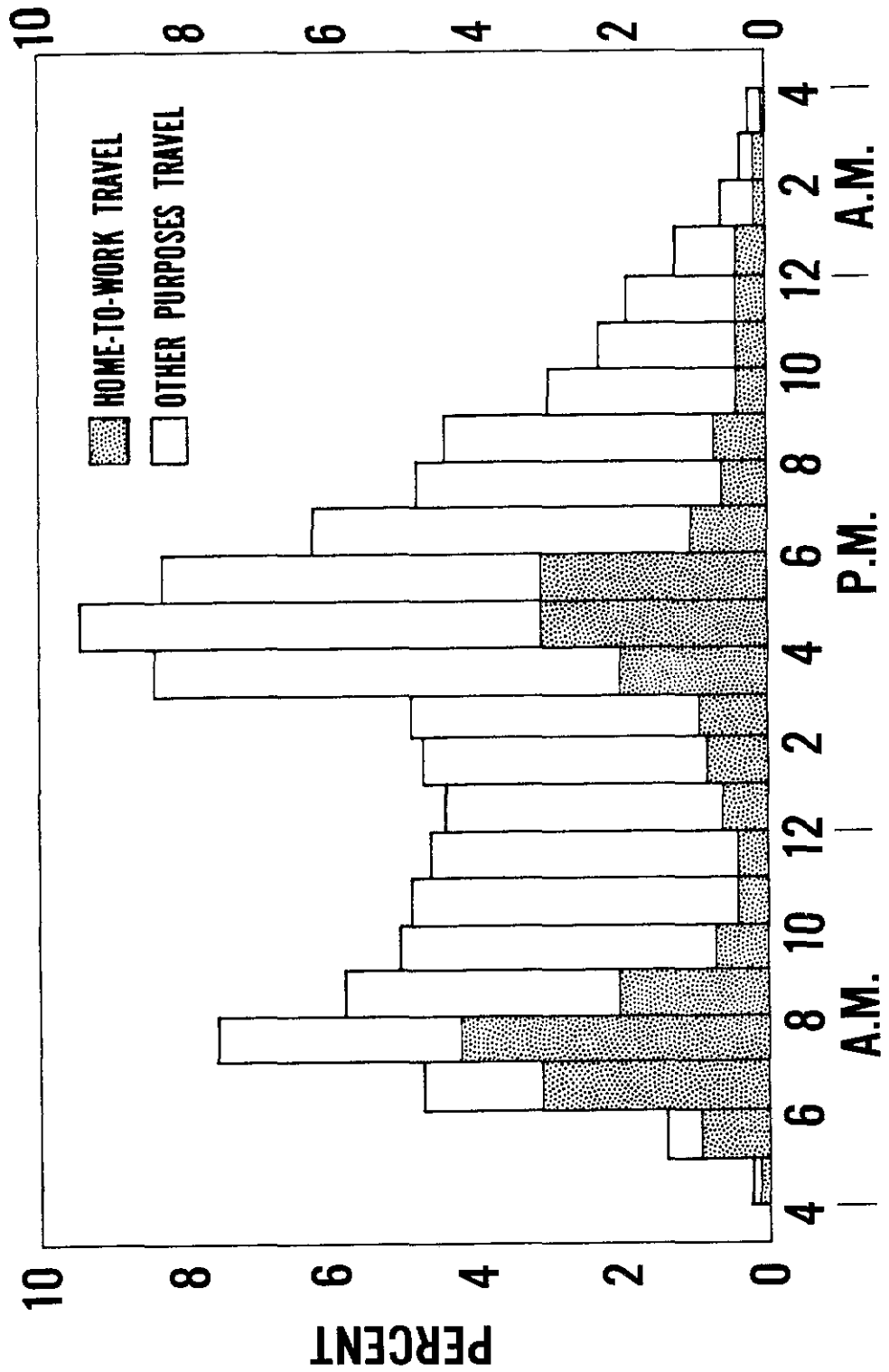
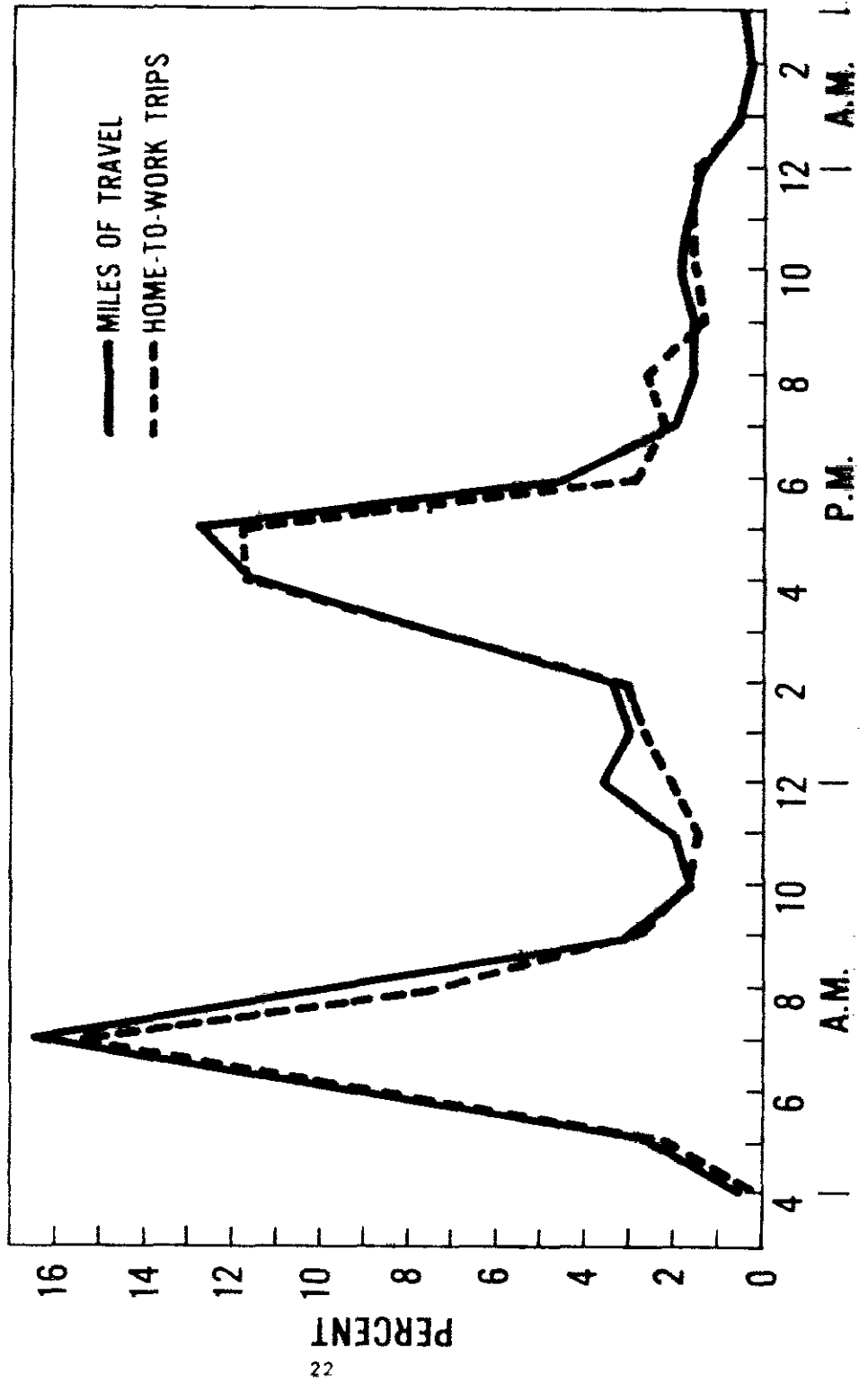


FIGURE 5.

PERCENT OF PERSON HOME-TO-WORK TRIPS AND
PERSON MILES OF TRAVEL BY HOUR OF DAY TRIP BEGAN



The average home-to-work trip length by automobile was 9.4 miles. Trip lengths were generally longest in unincorporated areas (11.1 miles) and incorporated places of 1,000,000 and over (14.1 miles). The average home-to-work trip length by bus and streetcar was 8.7 miles; bus and streetcar trip lengths were longest in incorporated places of under 5,000 (27.7 miles) and in unincorporated areas (15.4 miles).

Table 6.--Employed persons average home-to-work trip length by automobile and place of residence.*

Place of residence	Average trip length	
	Automobile	Bus and streetcar Miles
Unincorporated areas	11.1	15.4
Incorporated places		
Under 5,000	7.9	27.7
5,000 - 24,999	7.8	11.2
25,000 - 49,999	7.9	1/
50,000 - 99,999	7.8	5.1
100,000 - 999,999	7.6	6.4
1,000,000 and over	14.1	6.6
All incorporated places	8.4	8.3
All areas and places	9.4	8.7

1/ Statistically insignificant.

* See table A-11, Appendix A, for more detailed information.

SMSA population groups

The distribution of home-to-work person trips and person miles of travel made by automobile in SMSA's was about the same as in all areas and places; person trips and miles of travel by automobile were highest in SMSA's of under 500,000 and lowest in SMSA's of 3,000,000 and over. Person trips and person miles of travel by public transportation were highest in SMSA's of 3,000,000 and over; and almost 11.3 percent of all person trips and 12.2 percent of all person miles of travel in SMSA's were made by public transportation.

Table 7.--Percent of employed persons^{1/} home-to-work person trips and miles of travel by mode of transportation and SMSA population groups.*

SMSA population groups	Mode of transportation				
	Automobile			Public transportation	Other
	Driver	Passenger	Total		
	Person trips				
Under 250,000	67.6	18.7	86.3	3.6	10.1
250,000-499,999	68.8	20.5	89.3	5.1	5.6
500,000-999,999	64.3	21.2	85.5	7.8	6.7
1,000,000-1,999,999	65.8	17.6	83.4	12.5	4.1
2,000,000-2,999,999	65.5	19.2	84.7	12.6	2.7
3,000,000 and over	63.4	13.2	76.6	19.8	3.6
All SMSA's	65.6	17.8	83.4	11.3	5.3
	Person miles of travel				
Under 250,000	63.1	19.2	82.3	4.4	13.3
250,000-499,999	69.7	15.6	85.3	7.0	7.7
500,000-999,999	61.1	17.3	78.4	6.5	15.1
1,000,000-1,999,999	63.8	15.7	79.5	13.9	6.6
2,000,000-2,999,999	69.7	14.5	84.2	13.2	2.6
3,000,000 and over	59.7	17.4	77.1	19.0	3.9
All SMSA's	63.6	16.7	80.3	12.2	7.5

^{1/} Does not include persons who worked at home or at no fixed address.

* See table A-12, Appendix A, for more detailed information.

The average automobile trip length was longest in SMSA's of 3,000,000 and over (11.3 miles); the shortest trip length was in SMSA's of under 250,000 (7.4 miles). The average bus and streetcar trip length was longest in SMSA's of under 250,000 (10.0 miles) and shortest in SMSA's of 250,000-499,999 (4.3 miles).

Table 8.--Employed persons^{1/} average home-to-work trip length by mode and SMSA population groups.*

SMSA population groups	Mode of transportation	
	Automobile	Bus and streetcar
	Miles	
Under 250,000	7.4	10.0
250,000-499,999	10.1	4.3
500,000-999,999	8.1	7.0
1,000,000-1,999,999	8.4	6.3
2,000,000-2,999,999	9.7	8.3
3,000,000 and over	11.3	6.5
All SMSA's	9.3	6.8

^{1/} Does not include persons who worked at home or at no fixed address.

* See table A-13, Appendix A, for more detailed information.

II. CHARACTERISTICS OF MODES OF TRANSPORTATION

Modes of transportation to work

The modes of travel from home-to-work are influenced by many factors such as distance, time, convenience, availability of public transportation, income, age and occupation of worker. In 1969-1970, about 96 percent of all gainfully employed workers commuted to work; the remaining 4 percent worked at home.

Below is a summary of the most widely used means of transportation for the home-to-work trip.

Table 9.--Percent of employed persons classified by major mode of home-to-work transportation.*

Mode of transportation	Percent distribution
Automobile	67.4
Driver	48.4
Passenger	19.0
Public transportation	7.2
Truck	5.7
Walking	5.0
Automobile and public transportation and other	2.9
All other	11.8
Total	100.0

* See table A-14, Appendix A, for more detailed information.

Relationship to annual household income

An analysis of transportation modes used by different income groups gives some indication as to what modes many people chose to ride to work. Data gathered indicate that as income increases the choice of the automobile as the mode of transportation from home-to-work increases. Approximately 75.2 percent of households with incomes of \$15,000 and over annually used the automobile for home-to-work transportation. On the other hand, less than half (45.7 percent) of the households with incomes of less than \$4,000 annually commute to work by automobile.

Table 10.--Percent of employed persons in each household income group by mode of home-to-work transportation.*

Annual household income	Mode of transportation						
	Automobile			Public transportation	Combination of public trans. & auto & other	Walking	Other
	Driver	Passenger	Total				
Under \$3,000	25.6	20.1	45.7	12.8	1.5	11.9	28.1
\$3,000-3,999	29.7	18.8	48.5	12.5	2.1	12.7	24.2
\$4,000-4,999	34.7	21.4	56.1	11.6	1.9	7.0	23.4
\$5,000-5,999	45.2	18.5	63.7	9.4	1.3	5.5	20.1
\$6,000-7,499	46.4	20.8	67.2	6.9	3.1	5.3	17.5
\$7,500-9,999	49.8	20.5	70.3	5.9	2.4	4.5	16.9
\$10,000-14,999	54.9	19.2	74.1	5.1	3.3	2.9	14.6
\$15,000 and over	58.8	16.4	75.2	6.5	4.5	3.3	10.5
All	48.4	19.0	67.4	7.2	2.9	5.0	17.4

* See table A-14, Appendix A, for more detailed information.

In 1969, approximately 5.5 percent of all home-to-work trips were made by persons having no automobile available (table A-15, Appendix A). Where household income was less than \$4,000 and more than \$15,000, more than half of the trips were made by automobile (passengers), truck and other private motor vehicles; where household income was between \$4,000-\$14,999, more than half of the trips were made by public transportation.

Relationship to occupation

The automobile was the principal means of transportation to-and-from work for all occupational groups, excluding farmers and farm managers who worked at home. More than 7 out of 10 higher salaried workers in the professional and semiprofessional group, as well as workers in the protective services group and store and office clerks and salesmen, used the automobile more than all other transportation modes for home-to-work purposes. Excluding farmers and farm managers, the percent of personal service workers who commuted to-and-from work by automobile was the lowest of all occupational groups, probably due to their economic status; a high percent of these workers used public transportation and walked to-and-from work more frequently than other occupational groups.

Table 11.--Percent of employed persons by modes of home-to-work transportation within each occupational group.*

Occupational group	Mode of transportation					
	Automobile			Public transportation	Walking	Other
	Driver	Passenger	Total			
Professional and semiprofessional	63.2	17.2	80.4	4.5	2.8	12.3
Farmers and farm managers	8.9	1.3	10.2	<u>1/</u>	<u>1/</u>	89.8
Other proprietors, managers and officials	52.9	14.0	66.9	2.5	3.3	27.3
Store and office clerks and salesmen	50.2	20.9	71.1	9.8	5.8	13.3
Craftsmen, firemen, skilled laborers, etc.	45.0	19.1	64.1	3.1	3.5	29.3
Operators, semiskilled and unskilled workers and laborers	44.4	23.1	67.5	8.4	5.5	18.6
Protective services	61.8	11.6	73.4	5.1	6.4	15.1
Personal service workers	36.7	21.0	57.7	15.2	9.1	18.0
All workers	48.4	19.0	67.4	7.2	5.0	20.4

1/ Statistically insignificant.

* See table A-16, Appendix A, for more detailed information.

Relationship to age of worker

Except for the 16-17 year age group, more than 70 percent of all workers under 40 years of age used the automobile for home-to-work transportation, and almost two-thirds of these workers made the trip in single-occupant cars. In the 16-17 year age group, more than 60 percent (63.6) of the workers rode to work in the automobile, largely as passengers, and more than 1 out of 6 walked. Workers 40 years of age and older preferred the automobile for home-to-work commuting, although the use of the automobile decreased with increasing age. The use of public transportation was greatest by workers 70 years of age and older.

Table 12.--Percent of employed persons 16 years of age and older by modes of home-to-work transportation within age-groups.*

Age groups	Mode of transportation					
	Automobile			Public transportation	Walk	Other
	Driver	Passenger	Total			
16 - 17	30.7	32.9	63.6	9.1	15.2	12.1
18 - 21	48.9	23.7	72.6	8.6	6.2	12.6
21 - 25	48.0	23.9	71.9	9.2	4.4	14.5
26 - 29	51.7	20.9	72.6	6.2	2.3	18.9
30 - 34	55.9	15.2	71.1	5.4	3.6	19.9
35 - 39	53.7	17.2	70.9	5.4	4.0	19.7
40 - 49	52.0	16.0	68.0	6.7	4.5	20.8
50 - 59	43.9	19.8	63.7	6.9	5.2	24.2
60 - 69	39.0	18.0	57.0	9.5	7.7	25.8
70 and older	27.7	12.0	39.7	13.1	7.4	39.8
All workers	48.4	19.0	67.4	7.2	5.0	20.4

* See table A-17, Appendix A, for more detailed information.

Home-to-work travel by type of transportation used in SMSA population groups

Commuting distances

The choice of transportation modes (i.e., public or private) by workers is related to many factors including distance to be traveled from home-to-work and time required to get to work. A comparison of home-to-work distances traveled by workers in SMSA's indicates that workers who use public transportation usually travel less than 10 miles; when the distance exceeds 10 miles, a greater percentage use private motor vehicles.

Table 13.--Percent of employed persons by home-to-work trip length and mode of transportation used - SMSA population groups.*

Home-to-work trip length	SMSA population groups						All
	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	
	Private transportation only ^{1/}						
Miles							
5 and less	55.2	51.8	49.6	39.9	39.2	41.6	46.2
6 - 10	25.3	24.5	26.5	27.4	26.7	25.0	26.0
11 - 14	4.6	7.2	7.8	12.3	10.4	9.2	8.6
15 and over	14.9	16.5	16.1	20.4	23.7	24.2	19.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Public transportation only ^{2/}						
5 and less	79.9	75.6	66.8	58.3	57.2	41.8	53.8
6 - 10	10.2	12.8	28.7	31.8	20.0	32.4	28.3
11 - 14	**	**	2.0	8.7	8.7	6.4	5.9
15 and over	9.9	11.6	2.5	1.2	14.1	19.4	12.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^{1/} Automobile, truck or motorcycle.

** Statistically insignificant.

^{2/} Bus, streetcar, subway.

* See tables A-18 and A-19, Appendix A, for more detailed information.

Commuting time

Regardless of distance, workers in SMSA's who use private transportation arrive at work in less time than those using public transportation (figure 6).

Table 14.--Average commuting time for specified trip lengths by mode of transportation used.*

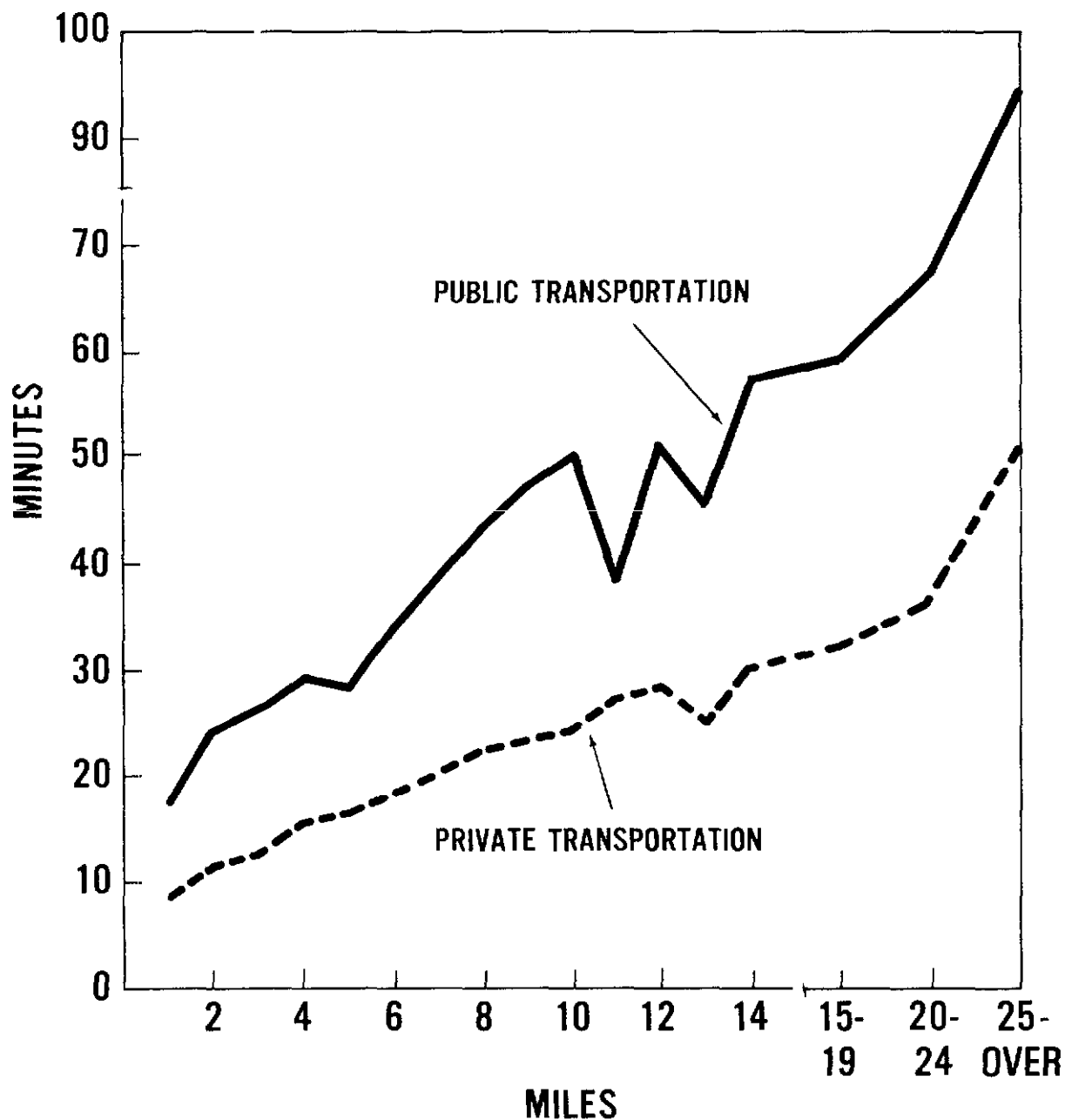
Home-to-work trip length	Mode	
	Private transportation ^{1/}	Public transportation ^{2/}
Miles	Average commuting time - minutes	
5	16	28
10	24	50
14	30	57
15 - 19	32	59
20 - 24	36	67
25 & over	50	94
Average	21	37

^{1/} Automobile, truck or motorcycle.

^{2/} Bus, streetcar, subway.

* See tables A-20 and A-21, Appendix A, for more detailed information.

FIGURE 6.
AVERAGE HOME-TO-WORK COMMUTING TIME
IN SMSA's BY TRIP LENGTH AND TYPE OF
TRANSPORTATION USED



In each SMSA population group, the average commuting time by public transportation exceeded the average commuting time by private motor vehicles; travel time by either mode of transportation was longest in SMSA's of 3,000,000 and over.

Table 15.--Average home-to-work commuting time and mode of transportation used* - SMSA population groups.

Mode of transportation	SMSA population 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	
Average commuting time - minutes							
Private motor vehicles ^{1/}	18	19	20	21	24	23	21
Public transportation ^{2/}	29	32	29	36	32	43	37

^{1/} Automobile, taxi or motorcycle.

^{2/} Bus, streetcar, subway.

* See tables A-20 and A-21, Appendix A, for more detailed information.

Income groups

There appears to be little relationship between income and travel time by public or private transportation. However, commuting time for the lowest (under \$3,000) and the highest (\$15,000 and over) income brackets is almost two and one-half times longer by public transportation than by private transportation. Travel time by public transportation varies from a low of 28 minutes to a high of 49 minutes; travel time by private transportation varies from 18 minutes to 22 minutes.

Table 16.--Average home-to-work commuting time by mode of transportation and annual household income.*

Annual household income	Mode of transportation	
	Private ^{1/}	Public ^{2/}
	Average commuting time - minutes	
Under \$3,000	18	42
\$3,000-\$3,999	18	28
\$4,000-\$4,999	20	34
\$5,000-\$5,999	22	44
\$6,000-\$7,499	19	32
\$7,500-\$9,999	20	33
\$10,000-\$14,999	20	38
\$15,000 and over	21	49
All income groups	20	38

^{1/} Automobile, taxi or motorcycle.

^{2/} Bus, streetcar, subway.

* See table A-22, Appendix A, for more detailed information.

Distance to nearest public transportation

As indicated previously, the use of the automobile and other private motor vehicles rather than public transportation as the mode of transportation used most frequently to get to work depends upon many factors. Perhaps the most important consideration is the availability and accessibility of public transportation. More than half (51.7 percent) of all commuters indicated that public transportation is not available. The ratio increases to 58.1 percent for workers who use private motor vehicles for home-to-work commutation. The distance to the nearest public transportation facilities influences to some extent the workers' choice of transportation to work. About 98.9 percent of public transportation users considered public transportation to be available to them, and less than 1 percent considered that they had no public transportation available to work.

Table 17.--Percent of employed persons by place of residence, availability^{1/} of public transportation to work, and means of transportation used.*

Place of residence	Public transportation		
	Not available	Available	Not reported
	Users of all modes		
Unincorporated areas	71.3	27.3	1.4
Incorporated places			
Under 5,000	87.5	11.2	1.3
1,000,000 and over	5.3	94.1	0.6
All incorporated places	43.1	56.0	0.9
All areas and places	51.7	47.2	1.1
	Users of private transportation		
Unincorporated areas	73.4	25.3	1.3
Incorporated places			
Under 5,000	89.3	9.3	1.4
1,000,000 and over	11.0	87.8	1.2
All incorporated places	50.5	48.5	1.0
All areas and places	58.1	40.8	1.1
	Users of public transportation		
Unincorporated areas	**	95.8	4.2
Incorporated places			
Under 5,000	**	100.0	**
1,000,000 and over	**	100.0	**
All incorporated places	0.6	99.1	0.3
All areas and places	0.5	98.9	0.6

^{1/} The availability of public transportation was left solely to the discretion of the respondent; no attempt was made to differentiate between "public transportation greater than six blocks" and "public transportation not available."

** Data insufficient for analysis.

* See table A-23, Appendix A, for more detailed information.

Several reasons were given by workers who did not use public transportation; these included: (1) it took too long; (2) it was not convenient to the place of work; (3) it involved too many transfers. The reasons followed a similar pattern for each population group. Reasons given by workers who did use public transportation to work varied some by size of place. Generally, they agreed on two reasons: (1) they had no car available to them; and (2) they had no driver's license. In the larger areas, workers preferred public transportation because: (1) it was cheaper than the automobile; and (2) it did not present any parking problems.

III. CHARACTERISTICS OF AUTOMOBILE TRANSPORTATION

Automobile trips, vehicle miles of travel and average trip length

By day of the week

Almost 90 percent of all home-to-work automobile trips and vehicle-miles of travel are made from Monday through Friday (figure 7), and constitute about one-third of all vehicle trips and vehicle-miles of travel for all trip purposes (tables A-24 and A-25, Appendix A). The average home-to-work automobile trip length is 9.4 miles and except for Saturday is longer each day than all purpose trip lengths (table A-26, Appendix A). Home-to-work trip lengths are longest on Monday and shortest on Saturday.

Table 18.--Percent of home-to-work automobile trips, vehicle-miles of travel and average trip length by day of the week.*

Day of the week	Home-to-work		
	Automobile trips	Vehicle-miles of travel	Average trip length
Monday	16.6	17.3	Miles 9.8
Tuesday	17.9	17.9	9.4
Wednesday	19.4	19.0	9.2
Thursday	17.9	18.4	9.5
Friday	17.6	17.6	9.5
Saturday	7.8	7.1	8.7
Sunday	2.8	2.7	9.4
Total	100.0 ^{1/}	100.0 ^{2/}	-
Average	-	-	9.4

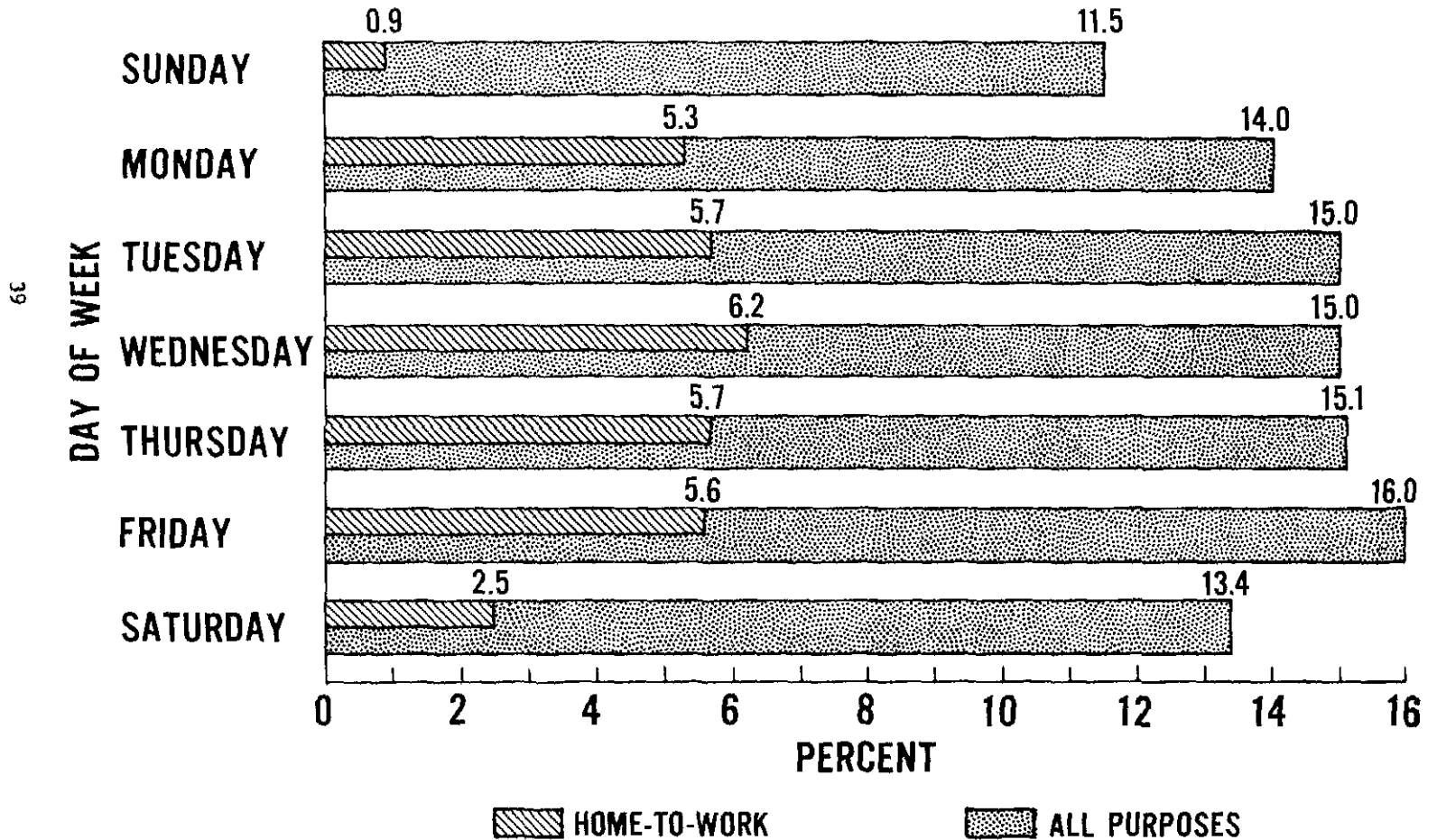
^{1/} Home-to-work trips comprised 31.9 percent of all purposes trips, of which 5.3 percent were made on Monday, 5.7 percent on Tuesday, 6.2 percent on Wednesday, 5.7 percent on Thursday, 5.6 percent on Friday, 2.5 percent on Saturday, and 2.8 percent on Sunday. on.

^{2/} Vehicle-miles of travel for home-to-work purposes comprised 33.6 percent of all purposes travel, of which 5.8 percent were traveled on Monday, 6.0 percent on Tuesday, 6.4 percent on Wednesday, 6.2 percent on Thursday, 5.9 percent on Friday, 2.4 percent on Saturday, and .9 percent on Sunday.

* See tables A-24, A-25, and A-26, Appendix A, for more detailed information.

FIGURE 7.

PERCENT OF AUTOMOBILE TRIPS BY PURPOSE AND DAY OF WEEK



By hour of the day

Approximately two-thirds (66.0 percent) of home-to-work automobile trips and almost half (47.4 percent) of the vehicle-miles of travel are made during the morning (6:00 a.m. - 9:00 a.m.) and evening (3:00 p.m. - 6:00 p.m.) peak traffic hours (table A-27, Appendix A, and figure 8). Home-to-work automobile trip lengths show wide variations during the day, and are generally shorter than all purpose trip lengths during the morning peak traffic hours and longer during the evening peak traffic hours (table A-28, Appendix A, and figure 9).

Automobile trip lengths by place of residence

Home-to-work automobile trips are predominantly of short length, with 52.2 percent 5 miles or less and almost three-fourths (72.6 percent) 10 miles or less (table A-29, Appendix A). The average one-way trip length is 9.4 miles; the shortest trip length is in incorporated places of 100,000-999,999 (7.8 miles); the longest trip length is in places of 1,000,000 and over (13.2 miles).

Table 19.--Percent of home-to-work automobile trips
by trip length and place of residence.*

One-way trip length	Place of residence									
	Unincorp. areas	Incorporated places							All incorp. places	All areas and places
		Under 5,000	5,000- 24,999	25,000- 49,999	50,000- 99,999	100,000- 999,999	1,000,000 and over			
Miles										
5 and less	42.1	59.2	56.6	63.4	63.1	56.9	43.9	57.2	52.2	
6 - 10	22.7	13.0	17.6	14.4	19.5	23.4	26.2	19.3	20.4	
11 - 15	13.5	9.5	10.9	10.3	7.3	9.2	10.3	9.8	11.1	
16 - 20	8.6	7.1	7.2	3.3	2.4	6.1	7.1	6.0	6.8	
21 and over	13.1	11.2	7.7	8.6	7.7	4.4	12.5	7.7	9.5	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Average trip length (miles)	11.0	8.4	8.2	8.6	8.0	7.8	13.2	8.6	9.4	

* See table A-29, Appendix A, for more detailed information.

FIGURE 8.
PERCENT OF AUTOMOBILE TRIPS
BY PURPOSE AND HOUR OF DAY TRIP BEGAN

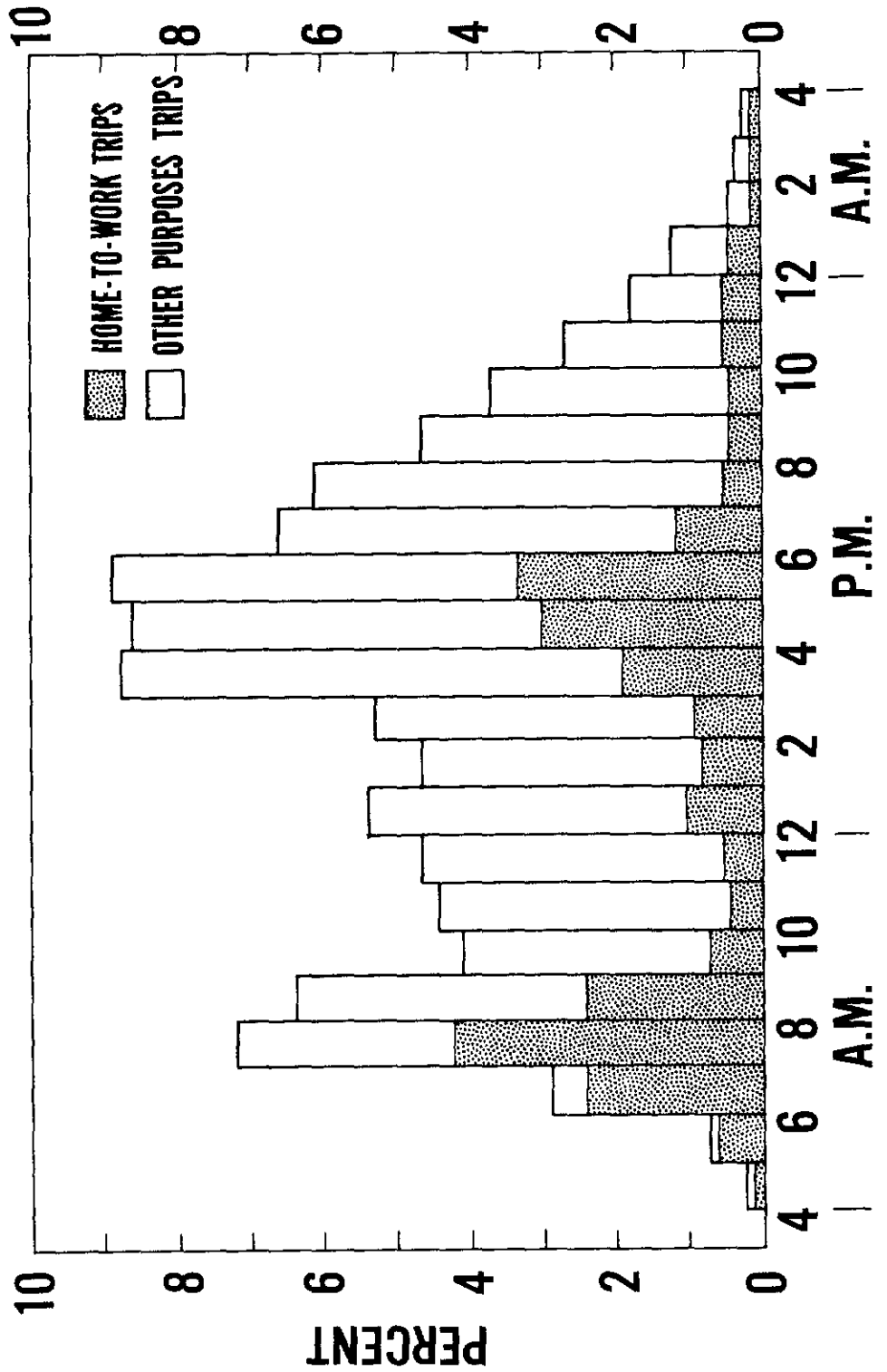
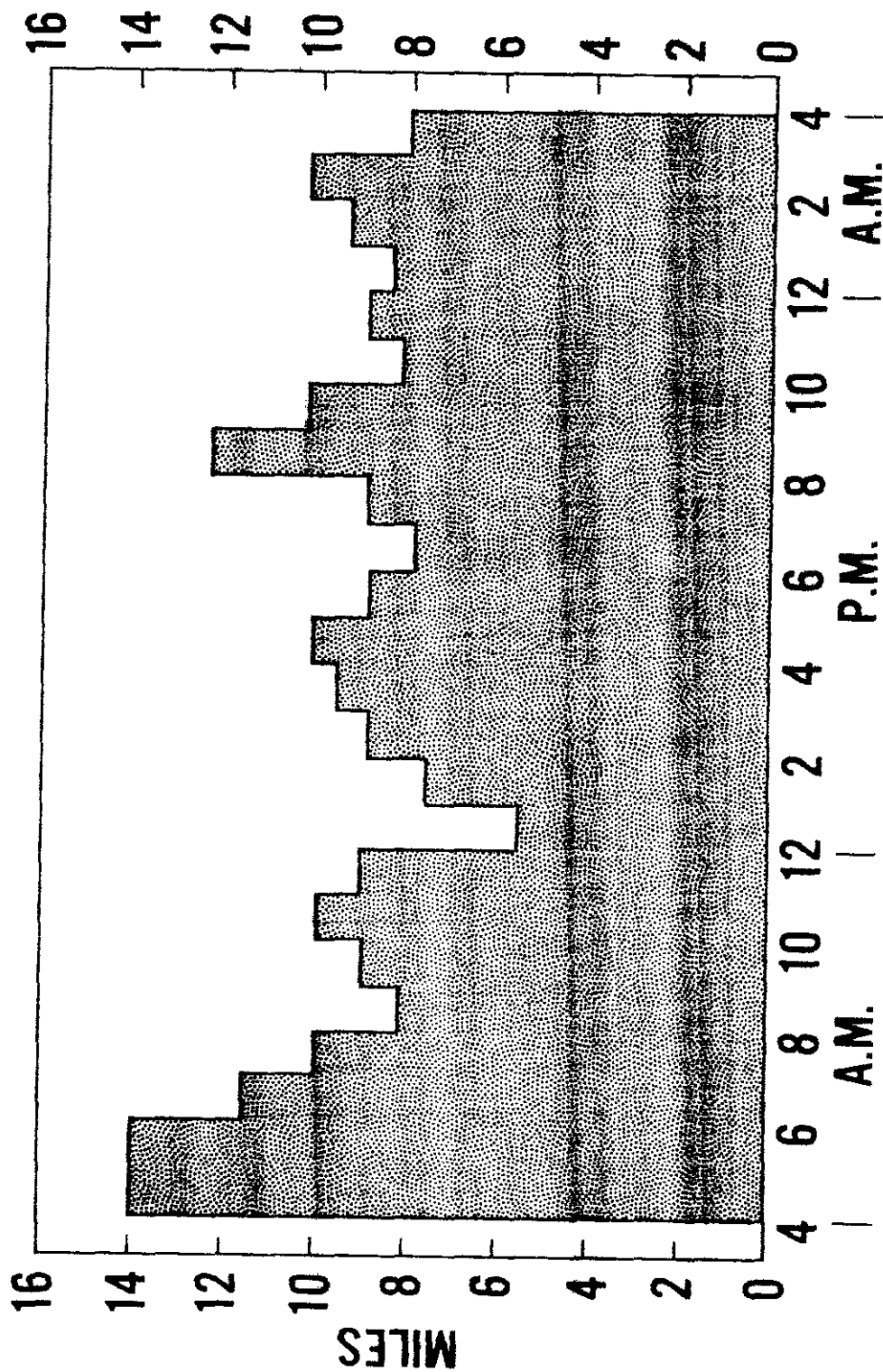


FIGURE 9.
AVERAGE HOME-TO-WORK TRIP LENGTH
BY HOUR OF DAY



Vehicle-miles of travel by place of residence

In places of 1,000,000 and over, more than half (53.5 percent) of all home-to-work vehicle-miles of travel is generated by workers who commute 21 miles and over to work; in all other places of residence, more than half of all home-to-work vehicle-miles of travel is generated by workers who travel 20 miles and less.

Table 20.--Percent of home-to-work vehicle-miles of travel by one-way trip length and place of residence.*

One-way trip length	Place of residence					
	Unincorporated areas	Incorporated places			All incorporated places	All areas & places
		Less than 5,000	100,000-999,999	1,000,000 and over		
Miles 5 and less	10.2	11.2	21.3	8.5	16.3	13.9
6 - 10	16.7	12.1	24.6	16.8	18.4	17.8
11 - 15	16.2	15.3	15.8	10.7	15.3	15.7
16 - 20	14.6	15.6	14.4	10.5	13.0	13.1
21 and over	42.3	45.8	23.9	53.5	37.0	39.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

* See table A-30, Appendix A, for more detailed information.

Relationship of car ownership to home-to-work automobile trips, vehicle-miles of travel and trip length

Two-car households, which comprised 26.4 percent of households in the United States in 1969, were responsible for the greatest number of home-to-work automobile trips, 44.9 percent. Single-car households, which constituted 48.4 percent of the total, made 40.6 percent of the automobile work trips, and households with three-or-more cars (4.6 percent of the household population) made 11 percent of the automobile work trips. Households which did not own a car (20.6 percent of the total) made 3.5 percent of the automobile trips, largely as passengers. The distribution of vehicle-miles of travel by automobile ownership followed the same pattern. Home-to-work trip lengths increased as the number of cars per household increased, from 8.8 miles for single-car households to 10.4 miles for three-or-more car households. Households which did not own a car, traveled the shortest distance from home-to-work, 6.7 miles.

Table 21.--Percent of home-to-work automobile trips, vehicle-miles of travel and trip length, by household automobile ownership.*

Automobile ownership		Percent of home-to-work automobile travel		Trip length (miles)
Number of cars	Distribution of households	Trips	Vehicle-miles of travel	
One	48.4	40.6	38.2	8.8
Two	26.4	44.9	47.1	9.9
Three-or-more	4.6	11.0	12.2	10.4
Total with cars	79.4 ^{1/}	96.5	97.5	9.4
None	20.6	3.5	2.5	6.7
All households	100.0	100.0	100.0	9.4

^{1/} Of all car-owing households, one-car households represent 61.0 percent, two-car households represent 33.3 percent, and households with three-or-more cars represent 5.7 percent.

* See tables A-31, A-32, and A-33, Appendix A, for more detailed information.

Automobile occupancy

By trip purpose

As indicated in table A-34 of Appendix A, occupancy is slightly lower for home-to-work trips than for all trip purposes. Almost three-fourths (73.5 percent) of all home-to-work trips are made in single-occupant cars compared to 50.1 percent for all trip purposes.

By day of the week

Car occupancy for home-to-work trips varies little during the week from the average of 1.4 occupants per trip (table A-35, Appendix A). Occupancy is highest on Friday (1.5 occupants) and lowest on Sunday (1.3 occupants); for all other days of the week, occupancy is maintained at 1.4.

Car occupancy for all trip purposes shows greater variation during the week from the average of 1.9 occupants per trip; it is highest on Sunday (2.4 occupants) and lowest on Monday through Thursday (1.8 occupants).

By trip length

For home-to-work trips, automobile occupancy increased slightly with increasing trip length beyond 15 miles. Occupancy increased from 1.3 occupants for trips of less than half-a-mile to 1.5 occupants for 16- to 20-mile trips and then increased slightly to 1.6 occupants for trips longer than 40 miles (table A-36, Appendix A).

By place of residence

Automobile occupancy for home-to-work trips was 1.4 occupants and showed no variation by place of residence (table A-37, Appendix A). Automobile occupancy for residents of SMSA's of 3,000,000 and over declined slightly to 1.3 occupants (table A-38, Appendix A).

Parking

Persons interviewed in this survey were asked to indicate the type of parking facility used and the charge, if any, for the home-to-work automobile trip. The choice of facilities included: (1) commercial parking garage or lot; (2) employer provided space; (3) fringe parking; (4) other lots or garages; (5) on the street parking; (6) no all-day parking used; and (7) other. The responses to these questions are summarized below.

Table 22.--Percent of automobiles by type of parking facility used in home-to-work travel and by charge.*

Type of parking facility	Parking charge		Distribution of parking facilities used
	Yes	No	
Commercial parking	63.1	2.3	6.0
Employer-provided spaces	11.3	79.6	75.6
Fringe parking	0.0	0.6	0.5
Other lots	8.5	2.8	3.1
On the street	14.6	12.0	12.1
No all-day parking used	0.5	0.9	0.9
All other	2.0	1.8	1.8
Total	100.0	100.0	100.0
Percent of total	7.3	92.7	100.0

* See table A-39, Appendix A, for more detailed information.

Summary

1. Seventy percent of employed persons reside in incorporated places. Employed persons tend to live in the same population-group as their place of employment, and, as the population-size of the place of residence increases, the number of workers commuting outside the place decreases. Approximately 53 percent of all employed workers live 5 miles or less from their place of employment and arrive at their jobs in 15 minutes or less. Although workers residing in incorporated places generally commute shorter distances to work than do residents of unincorporated areas, there is no significant difference in travel time for both groups. However, workers residing in incorporated places of 1,000,000 and over generally travel longer distances, and the average travel time is 10 minutes longer than average for all other population-size groups.
2. Home-to-work travel time has not changed from 5 years ago by at least 10 minutes for 58.6 percent of the workers. However, while travel time has not changed by at least 10 minutes, there has been a shift in place of residence and/or employment from 5 years ago, with 15 percent of workers 21 years of age and older changing their place of residence during this period, almost 16 percent changing their place of employment, and approximately 28 percent changing both; approximately 42 percent changed neither.
3. Some form of public transportation is available within two blocks of the homes of 28 percent of all workers, and approximately 47.2 percent live within six blocks or more of public transportation. On the other hand, one out of two workers indicate that they have no public transportation available.
4. Half of the employed persons in 1969 were under 40 years of age, and, except for the 16-17 year age group, more than three-fourths of them used the automobile for the work trip, and almost two-thirds made the trip in single-occupant cars. Employed persons 16-17 years of age carpooled, used public transportation and walked. Employed persons over 40 prefer the automobile, although the percentage decreases with increasing age; the use of public transportation is highest for employed persons 70 years of age and older.
5. Home-to-work person trips and person miles of travel made by all modes of transportation constitute approximately 26 percent of all purpose person trips and miles of travel. Person trip lengths made by all modes of transportation average 9.9 miles for home-to-work purposes.
6. The automobile is the predominant mode of transportation used for home-to-work commutation, and about three-fourths of all workers use the automobile for all or part of their work trip, 10 percent use public transportation for at least part of their trip, and the remainder use other means, walk, or work at home.

7. Workers who use private transportation facilities such as the automobile usually commute the longer distances to work and arrive at work in less time than those using public transportation.

8. Almost 83 percent of all person work trips are made by automobile, and almost 4 out of 5 of these are made in single-occupant cars. The average home-to-work person trip length is 9.9 miles by all transportation modes and 9.4 miles by automobile.

9. Almost 90 percent of all home-to-work automobile trips and vehicle-miles of travel are made from Monday through Friday. Two-thirds of all automobile trips and vehicle-miles of travel for home-to-work purposes are made between 6:00 a.m. - 9:00 a.m. and 3:00 p.m. - 6:00 p.m. Travel from home to work by automobile accounts for almost one-third of all purpose automobile trips and vehicle-miles of travel. The average vehicle (automobile) trip length is 8.9 miles for all trip purposes compared to 9.4 miles for home-to-work purposes.

10. Two-car households are responsible for the greatest number of home-to-work trips, about 45 percent; single-car households make 40 percent of the work trips, and three-or-more car households made 11 percent of the trips; households which do not own cars made 4 percent of the trips as automobile passenger. The average trip length increases as the number of cars owned per household increases.

APPENDIX A

	<u>Page</u>
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APPENDIX A

Table A-1.--Percent of employed persons^{1/} by place of residence and place of employment.

Place of residence	Place of employment										Total	Distribution of workers	
	Unincorporated areas	Incorporated places											Unknown
		Under 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All places					
Unincorporated areas	44.3	6.2	19.0	4.6	6.2	16.0	3.4	55.4	0.3	100.0	30.0	20,053	
Incorporated places													
Under 5,000	40.9	20.6	14.8	7.2	6.3	7.8	1.2	57.9	1.2	100.0	10.0	6,727	
5,000 - 24,999	24.7	2.3	41.5	3.5	7.0	14.9	5.1	74.3	1.0	100.0	17.8	12,016	
25,000 - 49,999	17.7	0.6	10.2	40.3	4.2	17.8	7.7	80.8	1.5	100.0	7.0	4,753	
50,000 - 99,999	15.6	1.5	6.4	4.8	46.0	13.8	10.9	83.4	1.0	100.0	8.0	5,445	
100,000 - 999,999	8.7	0.9	3.9	1.6	3.9	75.9	4.2	90.4	0.9	100.0	18.4	12,395	
1,000,000 and over	8.4	0.4	1.9	1.7	2.8	2.1	81.5	90.4	1.2	100.0	8.8	5,936	
Subtotal	19.0	4.0	15.7	7.1	9.8	28.4	14.9	79.9	1.1	100.0	70.0	47,272	
All areas and places	26.3	4.6	16.7	6.4	8.7	24.8	11.4	72.6	1.1	100.0	100.0	67,325	

^{1/}Excludes persons who work at home or at no fixed address.

SOURCE: Data from unpublished table B-14 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-2.--Percent of employed persons^{1/} by place of employment and SMSA population groups.

SMSA population groups	Place of employment				Distribution of workers	
	Located in a city	Not located in a city	Not available	All places		
Less than 250,000	76.7	22.3	1.0	100.0	15.0	(000) 7,041
250,000- 499,999	79.8	19.0	1.2	100.0	13.9	6,524
500,000- 999,999	82.1	17.5	0.4	100.0	15.5	7,310
1,000,000-1,999,999	84.8	14.2	1.0	100.0	18.0	8,457
2,000,000-2,999,999	71.1	26.7	2.2	100.0	11.6	5,529
3,000,000 and over	77.3	21.6	1.1	100.0	26.0	12,230
Total	78.9	20.0	1.1	100.0	100.0	47,091

^{1/} Excludes persons who work at home or at no fixed address.

SOURCE: Data from unpublished table H-14 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for Federal Highway Administration, 1969-70.

Table A-3.--Percent of workers^{1/} by home-to-work trip length and place of residence.

Home-to-work trip length Miles	Unincorporated areas	Incorporated places							All areas and places	
		Less than 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All places	All places	
Less than 1/2	4.2	19.6	8.5	9.8	6.0	6.9	6.0	6.0	8.6	7.3
1	8.6	12.6	17.8	17.0	13.6	10.8	7.9	7.9	12.8	11.6
2	8.7	8.7	11.5	12.1	11.9	11.6	8.7	8.7	11.1	10.4
3	6.5	4.6	8.4	8.8	12.5	10.2	6.3	6.3	9.0	8.2
4	6.0	4.7	4.3	6.0	7.7	7.3	5.9	5.9	6.1	6.1
5	7.8	6.0	5.4	5.4	9.5	13.5	9.3	9.3	8.9	8.5
5 and under	41.8	56.2	55.9	59.1	61.2	60.3	44.1	44.1	56.5	52.1
6	4.1	2.2	3.4	2.2	3.8	5.8	4.3	4.3	3.9	4.0
7	3.7	2.3	3.2	3.4	4.0	4.2	4.8	4.8	3.8	3.8
8	5.1	3.2	3.0	4.3	5.6	3.3	5.5	5.5	4.0	4.3
9	2.7	1.1	2.1	3.0	1.3	1.2	1.4	1.4	1.6	2.0
10	5.5	3.4	5.4	6.0	5.3	9.0	14.1	14.1	7.3	6.8
6-10	21.1	12.2	17.1	18.9	20.0	23.5	30.1	30.1	20.6	20.9
11	1.8	0.4	2.0	1.5	0.5	1.1	1.2	1.2	1.2	1.4
12	4.0	2.9	3.0	3.4	3.1	3.1	4.6	4.6	3.2	3.4
13	1.4	0.9	2.1	1.6	0.6	0.6	1.5	1.5	1.3	1.3
14	1.3	2.3	0.9	1.7	1.5	1.3	1.5	1.5	1.4	1.4
11-14	8.5	6.5	8.0	8.2	5.7	6.1	8.8	8.8	7.1	7.5
15-19	9.7	8.5	7.0	5.9	7.1	5.3	7.8	7.8	6.8	7.7
20-24	6.8	6.4	4.0	3.1	2.0	2.1	3.7	3.7	3.5	4.5
25 & over	11.3	9.8	7.3	4.5	3.2	2.3	5.2	5.2	5.1	6.9
Not reported	0.8	0.4	0.7	0.3	0.8	0.4	0.3	0.3	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base (000)	20,053	6,727	12,016	4,753	5,445	12,395	5,936	5,936	47,272	67,325

^{1/} Excludes persons who work at home or at no fixed address.

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for Federal Highway Administration, 1969-70.

Table A-4.--Percent of employed persons^{1/} by place of residence and home-to-work commuting time.

Place of residence	Home-to-work commuting time - minutes										All	Average time Minutes	All workers (000)	
														66 & Over
	Under 5	6-15	16-25	26-35	36-45	46-55	56-65							
Unincorporated areas	13.8	37.1	19.1	13.3	8.6	1.0	3.9	3.2	100.0	23	29.7	19,634		
Incorporated places	31.5	28.8	16.8	12.9	5.5	0.4	2.1	2.0	100.0	18	10.1	6,653		
Under 5,000	20.5	37.9	16.2	13.3	6.4	0.5	4.2	1.0	100.0	19	17.5	11,582		
5,000 - 24,999	16.0	45.1	17.1	11.8	4.9	1.1	1.4	2.6	100.0	19	7.0	4,640		
25,000 - 49,999	10.6	45.8	21.5	10.7	6.1	1.2	2.8	1.3	100.0	20	8.2	5,435		
50,000 - 99,999	12.7	38.6	22.8	16.0	6.6	0.2	1.9	1.2	100.0	21	18.7	12,341		
100,000-999,999	6.6	21.9	18.5	20.5	14.6	1.3	11.8	4.8	100.0	32	8.7	5,726		
1,000,000 and over	16.7	36.5	19.0	14.4	7.1	0.7	3.7	1.9	100.0	21	70.3	46,377		
All places	15.8	36.7	19.1	14.0	7.6	0.7	3.8	2.3	100.0	22	100.0	66,011		

^{1/} Excludes persons who work at home or at no fixed address.

SOURCE: Data from unpublished table H-6 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-5.--Average commuting time to work by trip length and place of residence.

Home-to-work trip length	Place of residence										Average commuting time	
	Unincorporated areas	Incorporated places with population of:										
		Under 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All places				
Miles	Average commuting time to work - minutes											
Less than $\frac{1}{2}$	6	6	9	8	6	8	9	6	6	9	7	7
1	7	6	9	8	8	9	9	11	15	15	9	9
2	10	8	12	15	15	15	15	15	18	18	13	12
3	12	11	12	14	16	16	16	16	22	22	14	14
4	13	14	16	16	19	16	16	19	21	21	17	16
5	15	16	17	20	20	20	20	20	23	23	19	18
6	15	18	23	16	20	16	16	20	29	29	21	19
7	19	19	14	22	21	22	21	21	27	27	21	20
8	19	19	20	22	27	22	22	27	35	35	25	23
9	22	22	23	27	35	27	27	35	37	37	27	25
10	22	19	27	27	29	27	27	29	41	41	30	28
11	20	23	26	18	29	18	18	29	36	36	29	25
12	25	23	29	32	30	32	29	30	41	41	31	29
13	25	23	26	40	25	40	26	25	40	40	28	27
14	32	24	33	32	38	32	32	38	58	58	34	34
15-19	30	26	32	35	34	35	35	34	58	58	36	34
20-24	38	31	41	46	34	46	34	34	47	47	37	37
25 and over	60	55	62	58	45	58	45	45	61	61	54	57
All	23	18	19	20	21	20	21	21	32	32	21	22

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for Federal Highway Administration, 1969-70.

Table A-6.--Percent of employed persons^{1/} by annual household income and home-to-work commuting time.

Annual household income	Home-to-work commuting time - minutes									Number of workers	Average time
	1-5	6-15	16-25	26-35	36-45	46-55	56-65	66 and over	Total		
Under \$3,000	24.6	37.4	10.8	13.7	6.2	0.9	3.2	3.2	100.0	(000) 3,360	(Minutes) 20
\$3,000- \$3,999	20.6	37.1	20.4	11.4	5.2	0.9	2.8	1.6	100.0	3,117	19
\$4,000- \$4,999	15.6	39.7	15.8	13.0	7.1	*	6.3	2.5	100.0	2,991	22
\$5,000- \$5,999	15.4	34.4	16.9	16.1	8.1	0.2	5.7	3.2	100.0	5,097	23
\$6,000- \$7,499	17.1	40.0	18.5	13.6	6.1	0.8	2.8	1.1	100.0	8,503	20
\$7,500- \$9,999	14.5	36.7	19.7	16.6	7.1	0.9	3.2	1.3	100.0	12,929	21
\$10,000-\$14,999	16.3	36.6	19.3	13.1	8.0	0.7	3.4	2.6	100.0	16,439	22
\$15,000 and over	12.8	34.6	20.2	12.7	9.9	0.9	5.6	3.3	100.0	8,137	25
Not reported	12.2	33.9	23.5	14.3	8.4	0.7	3.9	3.1	100.0	5,438	23
All income groups	15.8	36.6	19.0	14.1	7.6	0.8	3.8	2.2	100.0	66,011	22

^{1/} Excludes persons who work at home or at no fixed address.

* Statistically insignificant.

SOURCE: Data from unpublished table H-6 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-7.--Percent of employed persons^{1/} 21 years of age and older by difference in home-to-work commuting time from five years ago.

Change in employment and/or residence	Difference in commuting time			Total	Distribution of workers (000)
	Same ^{2/}	Increase of at least 10 minutes	Decrease of at least 10 minutes		
Employment Residence	86.6	6.9	5.0	1.5	42.0
Employment Residence	52.6	24.8	21.9	0.7	14.7
Employment Residence	36.9	31.0	30.3	1.8	15.7
Employment Residence	31.7	33.8	28.1	6.4	27.6
Total	58.6	20.8	17.8	2.8	100.0

^{1/} Excludes persons not working 5 years ago, and persons who work at home or at no fixed address.
^{2/} Includes increases and decreases of up to 10 minutes.

SOURCE: Data from unpublished table H-9 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-8.--Percent of person trips and person miles of travel
by trip purpose and hour of day trip began.

Hour of day trip began	Person trips			Person miles of travel		
	All purposes including home-to-work	Home-to-work		All purposes including home-to-work	Home-to-work	
		Percent of all purposes (daily)	Percent of all purposes (hourly)		Percent of all purposes (daily)	Percent of all purposes (hourly)
4 a.m.	0.2	0.1	50.5	1.1	0.2	16.1
5	0.7	0.6	83.0	1.4	0.9	61.7
6	2.9	2.4	82.3	4.7	3.1	66.4
7	7.2	4.2	57.9	7.5	4.3	56.2
8	6.4	2.4	37.5	5.8	2.0	34.2
9	4.1	0.7	17.8	5.0	0.7	15.0
10	4.4	0.4	9.1	4.9	0.4	8.7
11	4.7	0.5	9.5	4.6	0.4	8.7
12 Noon	5.4	1.0	17.7	4.4	0.6	13.0
1 p.m.	4.7	0.8	16.5	4.7	0.8	16.2
2	5.3	0.9	16.0	4.9	0.9	17.6
3	8.8	1.9	21.8	8.4	2.0	24.3
4	8.6	3.0	35.2	9.4	3.1	32.8
5	8.9	3.3	37.2	8.3	3.1	37.9
6	6.6	1.1	17.5	6.2	1.0	16.1
7	6.1	0.5	8.5	4.8	0.6	11.6
8	4.7	0.4	8.1	4.4	0.7	16.7
9	3.7	0.4	10.8	3.0	0.4	12.5
10	2.7	0.5	18.4	2.3	0.4	17.6
11	1.8	0.5	25.8	1.9	0.4	22.8
12 Midnight	1.2	0.4	31.5	1.2	0.4	34.3
1 a.m.	0.4	0.1	27.1	0.6	0.1	34.0
2	0.3	0.1	24.1	0.3	0.1	19.7
3	0.2	0.1	50.0	0.2	*	*
Total	100.0	26.3		100.0	26.6	
All (000)	144,007,337	37,635,838		1,400,946,000	372,835,249	

* Statistically insignificant.

SOURCE: Data from unpublished table P-7 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-9.--Average trip length by all modes of transportation combined.

Hour of day trip began	Trip purpose	
	All purposes	Home-to-work
	Miles	
4 a.m.	*	19.2
5	19.6	14.6
6	15.7	12.7
7	10.2	9.9
8	8.9	8.0
9	11.9	10.0
10	11.0	10.5
11	9.3	8.4
12 Noon	8.0	5.9
1 p.m.	9.6	9.4
2	8.9	9.8
3	9.3	10.3
4	10.7	10.0
5	9.0	9.2
6	9.2	8.4
7	7.7	10.5
8	9.1	9.9
9	8.0	9.2
10	8.3	7.9
11	10.2	9.1
12 M	9.2	10.0
1 a.m.	12.2	9.4
2	12.5	10.2
3	9.6	9.2
All hours	9.7	9.9

* Statistically insignificant.

SOURCE: Data from unpublished table P-7 of the Nationwide Personal Transportation Study conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-10.--Percent of employed persons^{1/} home-to-work trips and person miles of travel by major mode of transportation and place of residence.

Place of residence	Mode of home-to-work transportation											Distribution (000)			
	Public transportation					Private motor vehicles									
	School bus	Other bus & streetcar	Subway	Train	Taxi	Subtotal 2/	Automobile Driver	Automobile Passenger	Motor-cycle	Truck	All other		Subtotal	Total	
Person trips															
All unincorporated areas	0.6	0.8	NA	1.1	0.1	2.6	65.0	18.8	0.2	12.9	0.5	97.4	100.0	33.7	12,687
Incorporated places	1.1	1.7	NA	0.3	*	3.1	64.0	18.4	*	13.7	0.8	96.9	100.0	7.7	2,888
Under 5,000	0.4	3.0	NA	0.4	0.2	4.0	69.4	20.2	*	6.2	0.2	96.0	100.0	20.2	7,593
5,000 - 24,999	2.2	4.5	NA	1.2	0.3	8.2	67.0	16.5	0.8	7.1	0.4	91.8	100.0	6.3	2,370
25,000 - 49,999	0.3	7.9	NA	0.5	0.5	9.2	68.8	18.5	*	3.5	*	90.8	100.0	7.3	2,746
50,000 - 99,999	0.1	12.8	NA	*	*	13.2	61.9	19.8	0.3	4.5	0.3	86.8	100.0	16.4	6,180
100,000 - 999,999	0.8	15.7	17.7	1.6	1.8	37.6	49.5	11.5	*	1.4	*	62.4	100.0	8.4	3,174
1,000,000 and over	0.6	7.6	2.4	0.4	0.4	11.4	64.1	18.2	0.2	5.8	0.3	88.6	100.0	66.3	24,951
Subtotal															
All areas and places	0.6	5.3	1.6	0.6	0.3	8.4	64.4	18.3	0.2	8.1	0.6	91.6	100.0	100.0	37,638
Person miles of travel															
All unincorporated areas	0.4	1.0	NA	2.8	0.1	4.3	60.0	19.6	0.3	15.7	0.1	95.7	100.0	39.8	148,360
Incorporated places	0.3	5.0	NA	2.7	*	8.0	56.4	13.5	*	21.9	0.2	92.0	100.0	7.3	26,949
Under 5,000	0.6	4.0	NA	1.1	*	5.7	68.3	16.5	*	9.4	0.1	94.3	100.0	16.8	62,427
5,000 - 24,999	2.2	11.3	NA	3.5	0.6	17.6	62.6	13.1	0.5	6.0	0.2	82.4	100.0	5.5	20,625
25,000 - 49,999	0.3	5.0	NA	0.5	0.2	8.9	71.0	14.6	*	5.5	*	91.1	100.0	5.8	21,780
50,000 - 99,999	*	9.8	NA	*	0.1	15.7	57.9	15.9	0.1	10.3	0.1	84.3	100.0	13.9	51,799
100,000 - 999,999	0.9	8.1	16.8	3.8	0.5	30.1	42.7	24.7	*	2.5	*	69.9	100.0	10.9	40,518
1,000,000 and over	0.6	7.0	3.1	1.5	0.2	14.0	59.6	17.0	0.1	9.2	0.1	86.0	100.0	60.2	224,098
Subtotal															
All areas and places	0.5	4.6	2.0	2.0	0.1	10.2	59.7	18.1	0.1	11.8	0.1	89.8	100.0	100.0	372,458

* Data insufficient for analysis.

NA - Not Applicable

1/ Excludes persons who work at home or at no fixed address.

2/ Less than .05 percent of person trips and 1.0 percent of person miles of travel were made by airplane; these percent probably include some trips made by private plane. However, in the 50,000-99,999 and 100,000-999,999 population groups, person miles of travel by airplane constituted 2.9 and 6.8 percent respectively.

SOURCE: Data from unpublished table P-6 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-11.--Average home-to-work person trip length by place of residence and major mode of transportation.

Place of residence	Public transportation ^{2/}					Private transportation				All modes
	School bus	Other bus & streetcar	Subway	Train	Taxi	Automobile	Motorcycle	Truck	All other	
	Average trip length - miles									
All unincorporated areas	7.6	15.4	NA	32.2	4.4	11.1	17.7	14.3	1.1	11.7
Incorporated places										
Under 5,000	3.0	27.7	NA	94.8 ^{1/}	4.0	7.9	*	14.9	2.3	9.3
5,000 - 24,999	11.0	11.2	NA	22.4	1.2	7.8	3.0	12.6	1.3	8.2
25,000 - 49,999	8.7	*	NA	34.0	*	7.9	6.3	7.3	3.0	8.7
50,000 - 99,999	6.7	5.1	NA	*	2.9	7.8	2.3	12.5	*	7.9
100,000 - 999,999	2.0	6.4	NA	*	11.4	7.6	4.0	19.1	2.7	8.4
1,000,000 and over	13.9	6.6	12.1	32.5	3.5	14.1	*	22.5	*	12.8
Subtotal	8.5	8.3	12.1	29.5	4.5	8.4	4.0	14.2	2.3	10.0
All areas and places	8.2	8.7	12.1	31.1	4.5	9.4	9.2	14.2	1.7	9.9

* Statistically insignificant.

NA - Not Applicable

^{1/} Due to limited size of sample.

^{2/} Of those that showed travel by airplane, the average trip length was 193.8 miles.

SOURCE: Data from unpublished table P-6 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-12.--Percent of employed persons^{1/} home-to-work trips, person miles of travel, by major mode of home-to-work transportation and SMSA population groups.

SMSA population	Mode of home-to-work transportation											Distribution (000,000)			
	Public transportation ^{2/}					Private motor vehicles									
	School bus	Other bus & streetcar	Subway	Train	Taxi	Subtotal	Automobile Driver	Automobile Passenger	Motor-cycle	Truck	All other		Subtotal	Total	
	Person trips														
Under 250,000	0.2	3.0	NA	*	0.3	3.6	67.6	18.7	0.2	9.3	0.6	96.4	100.0	15.0	4,041
250,000 - 499,999	0.3	4.5	NA	*	0.1	5.1	68.8	20.5	0.1	5.3	0.2	94.9	100.0	13.9	3,960
500,000 - 999,999	0.2	7.4	NA	*	0.2	7.8	64.3	21.2	0.6	6.1	*	92.2	100.0	15.4	4,010
1,000,000 - 1,999,999	0.8	10.9	NA	0.3	0.2	12.5	65.8	17.6	0.1	3.8	0.2	87.5	100.0	18.2	4,499
2,000,000 - 2,999,999	1.3	10.0	NA	1.1	0.2	12.6	65.5	19.2	*	2.7	*	87.4	100.0	11.6	2,645
3,000,000 and over	0.9	7.7	9.0	1.4	0.8	19.8	63.4	13.5	0.1	3.2	*	80.2	100.0	25.9	7,054
All SMSA's	0.6	7.2	2.5	0.5	0.4	11.3	65.6	17.8	0.2	4.9	0.2	88.7	100.0	100.0	26,209
	Person miles of travel														
Under 250,000	0.2	4.0	NA	*	0.1	4.4	63.1	19.2	0.1	12.9	0.3	95.6	100.0	12.3	31,184
250,000 - 499,999	0.2	1.8	NA	*	*	7.0	69.7	15.6	*	7.6	0.1	93.0	100.0	16.5	41,971
500,000 - 999,999	0.2	5.9	NA	*	0.4	6.5	61.1	17.3	0.3	14.8	*	93.5	100.0	13.9	35,347
1,000,000 - 1,999,999	0.8	7.7	NA	1.3	0.1	13.9	63.8	15.7	0.1	6.5	*	86.1	100.0	15.6	39,580
2,000,000 - 2,999,999	0.8	8.5	NA	3.8	0.1	13.2	69.7	14.5	*	2.6	*	86.8	100.0	10.2	25,865
3,000,000 and over	0.9	4.4	10.9	2.6	0.2	19.0	59.7	17.4	0.2	3.7	*	81.0	100.0	31.5	79,856
All SMSA's	0.6	5.1	3.5	1.4	0.2	12.2	63.6	16.7	0.1	7.3	0.1	87.8	100.0	100.0	253,803

* Statistically insignificant.

NA - Not Applicable

^{1/} Excludes persons who work at home or at no fixed address.

^{2/} Approximately 0.1 percent of person trips and 1.4 percent of person miles of travel were made by airplane; these percent probably include some trips made by private plane.

SOURCE: Data from unpublished table P-6 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-13.--Average home-to-work trip length by major mode of transportation and SMSA population groups.

SMSA population groups	Public transportation ^{1/}					Private transportation				Average trip length
	School bus	Other bus & streetcar	Subway	Train	Taxi	Automobile	Motor-cycle	Truck	All other	
	Average trip length (miles)									
Under 250,000	10.0	10.0	NA	*	3.4	7.4	7.0	10.7	3.0	7.7
250,000 - 499,999	8.0	4.3	NA	*	2.0	10.1	4.0	15.2	3.5	10.6
500,000 - 999,999	9.4	7.0	NA	*	13.7	8.1	4.8	21.4	*	8.8
1,000,000 - 1,999,999	8.3	6.3	NA	38.9	6.3	8.4	6.0	15.0	1.4	8.8
2,000,000 - 2,999,999	5.7	8.3	NA	35.7	5.5	9.7	*	9.4	*	9.8
3,000,000 and over	11.2	6.5	13.7	21.5	3.5	11.3	20.0	13.3	3.0	11.3
All SMSA's	9.0	6.8	13.7	25.6	4.8	9.3	7.4	14.4	2.7	9.7

* Statistically insignificant.

NA - Not Applicable

^{1/} Of these that showed travel by airplane, the average trip length was 193.8 miles.

SOURCE: Data from unpublished table P-6 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

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Table A-14.—Percent of employed persons by mode of home-to-work transportation and annual household income.

Annual household income	Mode of home-to-work transportation														Distribution of workers (000)			
	Private motor vehicles				Public transportation				Combined modes				All other					
	Truck	Motorcycle	Automobile		Bus or streetcar	Trolley	Subtotal	Auto and public transportation	Other transportation	Walking	Other including bicycle	Work at no fixed place	Work at home	Not available				
			Driver	Passenger														
	By mode of transportation																	
	Within each income group																	
Less than \$3,000	4.4	0.0	3.0	6.0	4.0	12.7	1.2	10.3	1.3	4.3	2.9	13.8	29.6	8.8	14.5	10.9	5.8	4,399
\$3,000-\$3,999	4.2	0.0	3.2	5.2	3.8	10.8	2.5	9.1	2.8	4.7	3.8	13.4	5.9	5.6	12.2	11.5	5.2	3,574
\$4,000-\$4,999	3.9	0.0	3.6	5.6	4.1	9.2	3.7	8.0	2.8	3.5	3.2	7.1	0.0	8.1	11.4	1.1	5.0	3,797
\$5,000-\$5,999	8.6	9.7	7.4	7.7	7.6	8.8	15.5	10.2	0.0	6.9	3.7	6.9	11.0	8.3	10.3	9.8	7.9	6,003
\$6,000-\$7,499	15.6	19.8	12.2	13.8	12.9	12.3	11.1	12.0	15.8	12.3	13.9	13.4	16.8	11.3	11.3	10.5	12.8	9,638
\$7,500-\$9,999	27.7	32.0	19.6	20.1	20.2	15.4	14.2	15.2	11.9	18.8	15.7	16.7	12.2	17.5	9.4	12.7	18.7	14,227
\$10,000-\$14,999	23.3	28.3	27.4	24.3	26.3	16.3	18.2	16.7	35.8	21.3	28.0	14.0	24.5	22.4	13.5	20.2	24.2	18,284
\$15,000 and over	7.3	10.2	14.3	10.0	12.6	7.9	20.2	10.5	18.8	18.9	18.8	7.7	0.0	7.6	6.6	7.0	11.7	8,889
Not applicable	5.0	0.0	9.5	7.3	8.5	6.6	13.4	8.0	10.8	9.3	10.0	5.0	0.0	10.4	10.8	16.3	8.7	6,547
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	75,758
Less than \$3,000	4.3	0.0	25.6	20.1	50.0	12.5	0.3	12.8	0.3	1.2	1.5	11.9	1.6	8.1	11.2	2.9	100.0	4,399
\$3,000-\$3,999	4.4	0.0	29.7	18.8	52.9	11.8	0.7	12.5	0.7	1.4	2.1	12.7	0.3	5.6	10.4	3.5	100.0	3,974
\$4,000-\$4,999	4.4	0.0	34.7	21.4	60.5	10.4	1.2	11.6	0.8	1.1	1.9	7.0	0.0	8.5	10.1	0.4	100.0	3,797
\$5,000-\$5,999	6.1	0.2	45.2	18.5	70.0	6.4	3.0	9.4	0.0	1.3	1.3	5.5	0.5	5.6	5.8	1.9	100.0	6,003
\$6,000-\$7,499	6.9	0.3	46.4	20.8	74.4	5.6	1.3	6.9	1.6	1.5	3.1	5.3	0.4	4.7	3.9	1.3	100.0	9,638
\$7,500-\$9,999	8.3	0.3	49.8	20.5	78.9	4.7	1.2	5.9	0.9	1.5	2.4	4.5	0.1	4.9	2.2	1.1	100.0	14,227
\$10,000-\$14,999	5.4	0.2	54.9	19.2	79.7	3.9	1.2	5.1	2.0	1.3	3.3	2.9	0.3	4.9	2.5	1.3	100.0	18,284
\$15,000 and over	3.5	0.1	58.8	16.4	78.8	3.8	2.7	6.5	2.0	2.5	4.5	3.3	0.0	3.4	2.5	1.0	100.0	8,889
Not applicable	3.2	0.0	53.1	7.3	63.6	4.3	2.4	6.7	1.7	9.3	11.0	2.9	0.0	6.3	5.6	3.9	100.0	6,547
Distribution of users	5.7	0.2	48.4	19.0	73.3	5.7	1.5	7.2	1.3	1.4	2.9	5.0	0.3	5.3	4.4	1.6	100.0	
Distribution of workers (000)	4,283	135	36,630	14,467	55,515	4,333	1,166	5,498	1,000	1,162	2,162	3,768	228	4,010	3,376	1,200		75,758

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

Table A-15.--Distribution of home-to-work person trips by persons having no automobile available^{1/}, by annual household income and major mode of transportation used.

Household income group	Major mode of home-to-work transportation							All modes
	Public transportation			Private transportation			Other	
	Bus and streetcar	Train and subway	Total	Automobile (passenger) and taxi	Truck			
Under \$3,000	33.6	7.3	40.9	41.1	16.9	1.1	100.0	
\$3,000 - \$3,999	28.6	4.2	32.8	42.9	18.8	5.5	100.0	
\$4,000 - \$4,999	35.7	19.6	55.3	30.2	11.4	3.1	100.0	
\$5,000 - \$5,999	54.5	6.9	61.4	34.2	4.0	0.4	100.0	
\$6,000 - \$7,499	50.3	8.1	58.4	36.8	3.2	1.6	100.0	
\$7,500 - \$9,999	41.3	29.0	70.3	10.2	10.9	8.6	100.0	
\$10,000 - \$14,999	49.5	29.6	79.1	*	20.9	*	100.0	
\$15,000 - and over	41.6	6.0	47.6	37.5	6.4	8.5	100.0	
All income groups	40.4	10.4	50.8	35.1	12.0	2.1	100.0 **	

^{1/} In addition, no member of the household owns a car.

* Statistically insignificant.

** Represents 5.5 percent (2,057,254,000) of all work-to-home trips (37,638,363,000).

SOURCE: Data from unpublished table P-4 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-16.--Percent of employed persons^{1/} by mode of home-to-work transportation and occupation

Occupation	Mode of transportation										Distribution of workers (000)			
	Private motor vehicles					Public transportation						All other including work at home	Total	
	Truck	Automobile		Other including motorcycle	Subtotal	Bus & street-car	Train	Subtotal	Combination of modes - auto and public transportation	Walk				
		Driver	Passenger											
Professional and semi-professional	2.3	63.2	17.2	0.1	82.8	2.5	2.0	4.5	3.5	2.8	6.4	100.0	15.4	11,685
Farmers and farm managers	5.8	8.9	1.3	*	16.0	*	*	*	0.6	*	83.4**	100.0	2.7	2,035
Other proprietors, managers and officials	9.5	52.9	14.0	*	76.4	1.3	1.2	2.5	4.6	3.3	13.2	100.0	8.6	6,526
Store and office clerks and salesmen	1.5	50.2	20.9	0.1	72.7	7.6	2.2	9.8	3.2	5.8	8.5	100.0	22.9	17,356
Craftsmen, foremen, skilled laborers, etc.	12.2	45.0	19.1	0.4	76.7	2.1	1.0	3.1	2.7	3.5	14.0	100.0	13.8	10,460
Operators, semiskilled and unskilled workers and laborers	8.2	44.4	23.1	0.3	76.0	7.2	1.2	8.4	1.8	5.5	8.3	100.0	23.4	17,700
Protective services	6.5	61.8	11.6	*	79.9	2.9	2.2	5.1	3.7	6.4	4.9	100.0	2.4	1,874
Personal services workers	1.8	36.7	21.0	0.2	59.7	13.8	1.4	15.2	2.7	9.1	13.3	100.0	9.5	7,208
Other occupations	1.1	*	60.7	9.0	70.8	8.2	1.7	9.9	2.7	10.8	5.8	100.0	1.3	914
All workers	5.7	48.4	19.0	0.2	73.3	5.7	1.5	7.2	1.3	5.0	13.2	100.0	100.0	75,758

^{1/} Includes persons working at home or at no fixed address.

* Statistically insignificant.

** Includes 1.3 million (or 78.8 percent) who work at home.

SOURCE: Data from unpublished table H-4 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-17. -- Age distribution of employed persons/ and mode of home-to-work transportation.

Age	Mode of home-to-work transportation										Total	Distribution of workers (000)		
	Private motor vehicles					Public transportation								
	Truck	Automobile		Other including motorcycle	Subtotal	Bus & street-car	Train	Subtotal	Combination of modes - auto and public transportation	Walk			Other	
	Driver	Passenger												
16-17	*	30.7	32.9	*	63.6	7.9	9.8	8.7	*	15.2	12.5	100.0	2.2	1,730
18-20	1.6	48.9	23.7	0.9	75.1	7.7	0.9	8.6	2.2	6.2	7.9	100.0	6.5	4,889
21-25	3.1	48.0	23.9	0.6	75.6	6.9	2.3	9.2	2.2	4.4	8.6	100.0	12.2	9,243
26-29	7.0	51.7	20.9	0.2	79.8	4.7	1.5	6.2	1.9	2.3	9.8	100.0	8.9	6,770
30-34	7.7	55.9	15.2	0.2	79.0	4.2	1.2	5.4	3.2	3.6	8.8	100.0	9.4	7,142
35-39	6.7	53.7	17.2	0.4	78.0	4.3	1.1	5.4	2.9	4.0	9.7	100.0	9.8	7,372
40-49	7.6	52.0	16.0	*	75.6	5.5	1.2	6.7	3.7	4.5	9.5	100.0	22.7	17,214
50-59	6.0	43.9	19.8	0.1	69.8	5.0	1.9	6.9	3.0	5.2	15.1	100.0	18.1	13,716
60-69	3.2	39.0	18.0	*	60.2	7.6	1.9	9.5	3.1	7.7	19.5	100.0	18.6	6,544
70 and older	1.9	27.7	12.0	*	41.6	9.6	3.5	13.1	1.1	7.4	36.8	100.0	1.6	1,138
All workers	5.7	48.4	19.0	0.2	73.3	5.7	1.5	7.2	1.3	5.0	13.2	100.0	100.0	75,758

1/ Includes persons working at home or at no fixed address.

* Statistically insignificant.

SOURCE: Data from unpublished table H-4 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-18. ---Percent of employed persons^{1/} using private transportation only by trip length and SMSA population groups.

Home-to-work trip length	SMSA population 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	
Miles	Private transportation only ^{2/}						
Less than 1/2	3.1	2.3	2.2	3.1	0.6	1.2	2.1
1	9.3	8.1	11.9	4.1	7.5	7.8	8.1
2	11.9	14.1	10.6	6.7	4.9	8.2	9.5
3	11.9	7.9	10.8	10.6	7.6	6.0	9.1
4	9.7	8.6	3.8	5.3	6.4	7.8	6.9
5	9.5	10.8	10.3	10.1	12.2	10.6	10.5
6	5.4	4.2	6.6	3.7	3.3	5.2	4.8
7	5.4	5.2	4.3	6.1	6.0	5.3	5.4
8	5.1	6.1	3.9	4.3	7.2	4.7	5.1
9	4.1	3.0	1.6	2.9	1.7	1.8	2.5
10	5.3	6.0	10.1	10.4	8.5	8.0	8.2
11	1.1	0.5	1.6	1.6	3.3	1.4	1.5
12	2.5	4.8	4.0	4.9	2.9	5.0	4.1
13	0.4	0.7	1.1	3.7	1.9	1.2	1.5
14	0.6	1.2	1.1	2.1	2.3	1.6	1.5
15 - 19	6.0	8.8	6.5	11.5	9.3	9.9	8.7
20 - 24	4.3	1.7	5.7	5.3	5.2	7.0	5.0
25 and over	3.5	6.0	3.7	3.6	8.5	6.9	5.3
Unknown	0.9	0.0	0.2	0.0	0.7	0.4	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0*

^{1/}Excludes persons who work at home or at no fixed address.

^{2/}Automobile, taxi, and motorcycle.

* Represents 36,189,000 persons.

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-19. Percent of employed persons^{1/} using public transportation only by trip length and SMSA population groups.

Home-to-work trip length	SMSA population 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	
Miles	Public transportation only ^{2/}						
Less than $\frac{1}{2}$	0.0	0.0	4.6	1.2	0.0	1.7	1.6
1	0.0	3.9	13.1	4.8	8.7	6.5	6.6
2	30.0	22.0	15.6	9.6	8.6	12.2	13.2
3	21.5	12.2	15.5	11.6	16.7	8.6	11.7
4	11.2	12.1	6.6	15.5	5.2	5.8	8.6
5	17.2	25.4	11.4	15.6	18.0	7.0	12.1
6	0.0	4.4	6.7	6.2	5.6	5.1	5.3
7	0.0	0.0	2.1	4.9	2.8	4.5	3.6
8	0.0	4.4	4.5	6.5	0.0	6.0	5.0
9	10.2	4.0	0.0	1.3	5.8	1.6	2.3
10	0.0	0.0	15.4	12.9	5.8	15.2	12.1
11	0.0	0.0	0.0	1.2	0.0	1.7	1.1
12	0.0	0.0	2.0	6.2	0.0	2.3	2.6
13	0.0	0.0	0.0	1.3	0.0	1.2	0.8
14	0.0	0.0	0.0	0.0	8.7	1.2	1.4
15 - 19	0.0	7.9	2.5	0.0	8.6	9.3	5.9
20 - 24	9.9	0.0	0.0	0.0	2.7	2.4	1.8
25 and over	0.0	3.7	0.0	1.2	2.8	7.1	4.0
Unknown	0.0	0.0	0.0	0.0	0.0	0.6	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0*

^{1/} Excludes persons who work at home or at no fixed address.
^{2/} Bus, streetcar or subway.

* Represents 5,215,000 persons.

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey, conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-20.--Average home-to-work commuting time for workers using private transportation^{1/} by trip length and SMSA population groups.

Home-to-work trip length	SMSA population groups							Percent of all workers
	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	Total	
	Average commuting time by private transportation - minutes							
Miles Under 1/2	6	5	7	5	4	8	6	2.1
1	9	8	8	9	7	7	8	8.1
2	11	10	11	10	10	11	11	9.5
3	12	12	15	11	12	12	12	9.1
4	13	15	15	14	13	17	15	6.9
5	16	16	17	17	18	16	16	10.5
6	18	16	16	21	22	18	18	4.8
7	21	21	19	18	21	19	20	5.4
8	20	21	21	22	22	24	22	5.1
9	20	22	25	23	24	28	23	2.5
10	23	21	23	23	27	26	24	8.2
11	24	33	25	23	32	28	27	1.5
12	24	24	31	29	28	32	28	4.3
13	20	19	25	26	24	26	25	1.5
14	23	27	32	32	25	32	30	1.5
15-19	28	30	33	31	35	32	32	8.7
20-24	31	32	35	36	45	37	36	5.0
25 & over	53	49	58	43	49	52	50	5.3
All	18	19	20	21	24	23	21	100.0*

^{1/} Automobile, taxi or motorcycle.

* 36,200,000 persons.

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-21.--Average home-to-work commuting time for workers using public transportation^{1/}, by trip length and SMSA population groups.

Home-to-work trip length	SMSA population groups							Percent of all workers
	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	Total	
Average commuting time by public transportation - minutes								
Miles								
Under 1/2	*	*	10	*	*	25	25	1.6
1	*	15	19	17	8	18	17	6.6
2	18	36	16	21	15	29	24	13.3
3	22	43	24	25	22	27	26	11.7
4	30	21	25	29	37	31	29	8.6
5	35	31	29	28	20	27	28	12.2
6	*	30	28	38	30	35	34	5.3
7	*	*	20	36	15	29	29	3.6
8	*	30	45	48	*	41	43	5.0
9	37	45	*		37	35	47	2.3
10	*	*	54	53	38	49	50	12.2
11	*	*	*	45	*	35	38	1.1
12	*	*	*	45	*	50	51	2.6
13	*	*	*	60	*	38	45	0.8
14	*	*	*	*	62	50	57	1.4
15-19	*	20	35	*	75	63	59	5.9
20-24	60	*	*	*	*	79	67	1.8
25& over	*	60	*	90	60	99	94	4.0
All	29	32	29	36	32	43	37	100.0**

^{1/} Bus, streetcar or subway.

* Statistically insignificant.

** 5,200,000 persons.

SOURCE: Data from unpublished table H-7 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-22.--Percent of employed persons^{1/} by annual household income, home-to-work commuting time and mode of transportation used.

Annual household income	Commuting time to work - minutes										Average time (minutes)
	Under 5	6 - 15	16 - 25	26 - 35	36 - 45	46 - 55	56 - 65	66 and over	All		
	By private transportation ^{2/}										
Under \$3,000	21.6	43.2	12.8	15.0	4.4	*	1.8	1.2	100.0	18	
\$3,000 - \$3,999	16.7	42.5	21.1	10.3	5.0	1.4	2.4	0.6	109.9	18	
\$4,000 - \$4,999	15.1	44.5	16.1	12.5	5.7	*	3.9	2.2	100.0	20	
\$5,000 - \$5,999	13.8	38.3	18.6	16.3	7.1	0.3	3.7	1.9	100.0	22	
\$6,000 - \$7,499	17.0	42.9	18.2	12.8	5.2	0.6	2.3	1.0	190.0	19	
\$7,500 - \$9,999	13.8	38.9	21.0	16.6	5.9	0.7	2.4	0.7	100.0	20	
\$10,000 - \$14,999	16.0	39.1	20.8	13.0	6.5	0.6	2.5	1.5	100.0	20	
\$15,000 and over	13.3	38.5	19.9	14.0	9.3	0.8	3.4	0.8	100.0	21	
All income groups	15.0	39.8	20.1	14.1	6.5	0.6	2.7	1.2	100.0	20	
	By public transportation ^{3/}										
Under \$3,000	2.7	10.9	15.3	19.9	20.2	5.4	12.3	13.3	100.0	42	
\$3,000 - \$3,999	*	24.2	29.7	29.7	8.7	*	5.0	2.7	100.0	28	
\$4,000 - \$4,999	*	24.0	24.2	17.0	14.1	*	14.1	6.6	100.0	34	
\$5,000 - \$5,999	2.3	15.4	9.6	19.2	19.3	*	19.1	15.1	100.0	44	
\$6,000 - \$7,499	2.1	18.2	22.9	28.4	15.9	1.9	6.2	4.4	100.0	32	
\$7,500 - \$9,999	5.2	16.3	16.3	28.5	19.4	3.6	4.9	5.8	100.9	33	
\$10,000 - \$14,999	3.1	18.1	10.8	26.1	23.4	1.6	7.9	9.0	100.0	38	
\$15,000 and over	*	4.1	30.8	9.8	14.1	4.8	21.7	14.7	100.0	49	
All income groups	2.1	16.0	18.2	23.1	17.6	2.4	11.0	9.6	100.0	38	

^{1/} Excludes persons who work at home or at no fixed address.

^{2/} Automobile, truck.

^{3/} Bus, streetcar, train, and subway.

* Statistically insignificant.

SOURCE: Data from unpublished table H-6 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-23.--Percent of employed persons^{1/} by mode of travel to work according to place of residence and distance to nearest public transportation.

Place of residence	Distance to nearest public transportation system to work							Distribution of workers
	Less than 1 block	1-2 blocks	3-6 blocks	Over 6 blocks	No public transit available	Not reported	Total	
Users of all modes								
Unincorporated areas	4.3	5.3	4.0	13.7	71.3	1.4	100.0	30.5
Incorporated places								
Under 5,000	1.7	3.8	3.0	2.7	87.5	1.3	100.0	9.7
5,000 - 24,999	7.0	11.5	7.9	8.6	63.8	1.2	100.0	17.4
25,000 - 49,999	7.2	14.4	12.8	16.8	46.9	1.9	100.0	7.0
50,000 - 99,999	21.0	20.4	16.3	7.2	34.8	0.3	100.0	8.3
100,000 - 999,999	24.6	35.4	12.4	6.9	20.1	0.6	100.0	18.3
1,000,000 and over	22.0	39.2	28.1	4.8	5.3	0.6	100.0	8.8
All incorporated places	14.5	21.5	12.5	7.5	43.1	0.9	100.0	69.5
All areas and places	11.4	16.6	9.8	9.4	51.7	1.1	100.0	100.0
Users of private transportation - automobile and truck								
Unincorporated areas	3.4	4.9	3.8	13.2	73.4	1.3	100.0	33.3
Incorporated places								
Under 5,000	1.1	3.7	2.7	1.8	89.3	1.4	100.0	10.6
5,000 - 24,999	6.1	9.7	7.0	7.9	68.2	1.1	100.0	18.4
25,000 - 49,999	7.5	12.4	10.0	16.5	51.5	2.1	100.0	7.2
50,000 - 99,999	18.6	19.7	15.4	7.5	38.5	0.3	100.0	8.5
100,000 - 999,999	21.3	34.0	12.1	8.2	23.9	0.5	100.0	17.2
1,000,000 and over	20.0	35.5	24.9	7.4	11.0	1.2	100.0	4.8
All incorporated places	11.9	18.5	10.3	7.8	50.5	1.0	100.0	66.7
All areas and places	9.1	13.9	8.1	9.7	58.1	1.1	100.0	100.0
Users of public transportation - bus, streetcar, subway, train								
Unincorporated areas	53.5	17.2	3.8	21.3	*	4.2	100.0	5.8
Incorporated places								
Under 5,000	74.0	*	26.0	*	*	*	100.0	1.0
5,000 - 24,999	25.4	38.9	24.4	11.3	*	*	100.0	8.7
25,000 - 49,999	4.7	47.1	38.1	10.1	*	*	100.0	5.0
50,000 - 99,999	37.6	31.0	21.9	6.3	3.2	*	100.0	7.9
100,000 - 999,999	42.0	41.3	13.6	1.5	0.7	0.9	100.0	33.9
1,000,000 and over	25.3	38.7	33.0	3.0	*	*	100.0	37.7
All incorporated places	31.8	39.0	24.5	3.8	0.6	0.3	100.0	94.2
All areas and places	33.0	37.8	23.3	4.8	0.5	0.6	100.0	100.0 ^{2/}

^{1/} Excludes persons who work at home or at no fixed address.

^{2/} Includes 64,100,000 employed workers: 58,500,000 workers use private transportation and 5,600,000 use public transportation.

* Data insufficient for analysis.

SOURCE: Data from unpublished table H-8 of the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-24.--Percent of automobile trips and vehicle-miles of travel by trip purpose and day of the week.

Day of the week	Percent of automobile trips		Percent of vehicle miles of travel	
	All purposes	Home-to-work purposes	All purposes	Home-to-work purposes
Monday	14.0	16.6	13.6	17.3
Tuesday	15.0	17.9	14.1	17.9
Wednesday	15.0	19.4	13.6	19.0
Thursday	15.1	17.9	14.6	18.4
Friday	16.0	17.6	14.9	17.6
Saturday	13.4	7.8	15.2	7.1
Sunday	11.5	2.8	14.0	2.7
Total	100.0	100.0	100.0	100.0
Average per week (000)	1,669,718 ^{1/}	531,895	14,883,934	5,006,121

^{1/} Includes 18,601(000)trips for which purposes were not reported.

SOURCE: Data from unpublished table T-7 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-25.--Percent of home-to-work automobile trips
by day of the week.

Day of the week	Home-to-work trips as a percent of all purposes trips made daily	Average number of all purposes trips made daily (000)
Monday	37.9	233,298
Tuesday	37.8	250,365
Wednesday	41.1	251,735
Thursday	38.0	251,320
Friday	34.8	266,647
Saturday	18.6	224,037
Sunday	7.7	192,316
Percent of home- to-work trips	31.9	
Weekly trips		1,669,718

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, 1969-70.

Table A-26.--Average automobile trip length by trip purpose and day of the week.

Day of the week	Trip purpose	
	All purposes	Home-to-work
	Miles	
Monday	8.6	9.8
Tuesday	8.4	9.4
Wednesday	8.0	9.2
Thursday	8.6	9.5
Friday	8.3	9.5
Saturday	10.1	8.7
Sunday	10.9	9.4
Average trip length	8.9	9.4

SOURCE: Data from unpublished table T-7 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-27.--Percent of automobile trips and vehicle-miles of travel by trip purpose and hour of day trip began.

Hour of day trip began	All purposes including home-to-work		Automobile trips		Vehicle-miles of travel		
	All purposes including home-to-work	Percent of all purposes (daily)	Home-to-work	Percent of all purposes (hourly)	All purposes including home-to-work	Home-to-work	
						Percent of all purposes (daily)	Percent of all purposes (hourly)
4 a.m.	0.2	0.1		54.8	0.7	0.1	23.7
5	0.8	0.7		85.5	1.6	1.0	65.0
6	3.4	3.0		87.5	4.8	3.8	79.3
7	6.8	5.1		75.5	7.9	5.7	72.5
8	5.6	2.9		50.8	5.7	2.6	45.4
9	4.1	0.9		21.1	4.3	0.9	19.9
10	4.6	0.5		10.9	4.8	0.6	11.6
11	5.0	0.6		12.2	4.7	0.6	12.9
12 Noon	5.8	1.2		21.1	4.4	0.8	17.6
1 p.m.	5.2	1.0		19.3	5.1	0.9	17.0
2	5.2	1.1		20.5	4.7	1.1	23.1
3	7.4	2.4		31.5	7.7	2.5	33.0
4	8.9	3.7		41.0	10.0	4.2	41.4
5	9.2	3.9		42.5	8.6	3.9	45.0
6	6.5	1.4		12.7	5.9	1.2	20.5
7	5.8	0.6		10.0	4.7	0.6	12.3
8	4.5	0.5		10.0	3.9	0.6	15.9
9	3.6	0.5		13.8	3.1	0.5	17.8
10	2.9	0.6		21.8	2.6	0.6	21.8
11	2.0	0.5		29.4	2.2	0.6	27.1
12 Midnight	1.5	0.4		35.2	1.4	0.5	34.6
1 a.m.	0.5	0.1		28.7	0.6	0.1	24.4
2	0.3	0.1		26.9	0.4	0.1	26.1
3	0.2	31.9		53.8	0.2	0.1	58.2
Total	100.0	31.8			100.0	33.6	
All (000)	86,413,000	26,514,000			770,750,000	253,933,000	

SOURCE: Data from 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-28.--Average Automobile trip length by trip purpose and hour of day trip began.

Hour of day trip began	Trip purpose	
	Home-to-work	All purposes
	Miles	
4 a.m.	14.0	32.4
5	14.0	18.4
6	11.6	12.8
7	10.0	10.4
8	8.1	9.0
9	9.0	9.5
10	10.0	9.4
11	8.0	8.3
12 noon	5.6	6.7
1 p.m.	7.7	8.8
2	8.8	7.8
3	9.6	9.2
4	10.1	10.0
5	8.8	8.4
6	7.9	8.0
7	8.9	7.3
8	12.4	7.8
9	10.2	7.9
10	8.1	8.1
11	8.9	9.7
12 midnight	8.4	8.5
1 a.m.	9.4	11.0
2	10.3	10.6
3	8.1	7.5
All	9.4	8.9

SOURCE: Data from 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-29.--Percent of home-to-work automobile trips by trip length and place of residence.

Home-to-work trip length	Place of residence										All areas and places	
	Unincorporated areas	Incorporated places								All incorporated places		
		Under 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All incorporated places				
Miles												
Less than 1/2	3.3	17.3	6.4	4.6	4.1	4.0	5.6	6.6	5.5			
1	7.7	18.2	16.5	14.4	12.3	9.1	9.3	13.5	11.5			
2	9.6	7.9	12.9	12.1	12.3	8.9	8.0	10.7	10.3			
3	7.7	7.7	8.1	14.3	15.9	13.1	6.2	10.6	9.7			
4	5.8	3.0	5.0	9.5	9.1	8.5	5.5	6.6	6.4			
5	8.0	5.1	7.7	8.5	9.4	13.3	9.3	9.2	8.8			
5 and less	42.1	59.2	56.6	63.4	63.1	56.9	43.9	57.2	52.2			
6-10	22.7	13.0	17.6	14.4	19.5	23.4	26.2	19.3	20.4			
11-15	13.5	9.5	10.9	10.3	7.3	9.2	10.3	9.8	11.1			
16-20	8.6	7.1	7.2	3.3	2.4	6.1	7.1	6.0	6.8			
21-30	7.9	7.1	4.4	5.6	3.7	2.4	8.5	4.6	5.8			
31-40	3.4	1.9	1.7	1.7	1.9	0.7	1.9	1.5	2.1			
41-50	1.1	1.4	0.8	0.2	1.1	0.5	0.7	0.8	0.9			
51-99	0.5	0.6	0.5	0.6	0.3	0.4	0.5	0.5	0.5			
100 and more	0.2	0.2	0.3	0.5	0.7	0.4	0.9	0.3	0.2			
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Total number of trips (000)	9,438,116	2,100,074	5,995,811	1,807,190	2,130,909	4,536,085	1,813,830	18,383,899	27,822,015			
Distribution of trips	33.9	7.6	21.6	6.5	7.7	16.3	6.5	66.1	100.0			
Average trip length (miles)	11.0	8.4	8.2	8.6	8.0	7.8	13.2	8.6	9.4			

SOURCE: Data based on unpublished table T-4 from the Nationwide Personal Transportation Study conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-30.--Percent of home-to-work vehicle-miles of travel by trip length and place of residence.

Home-to-work trip length	Place of residence										All areas and places	
	Unincorporated areas	Incorporated places								All incorporated places		
		Less than 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over					
Miles Less than ½	0	0	0	0	0	0	0	0	0	0	-	0
1	0.7	2.1	2.0	1.8	1.5	1.1	0.7	1.6	1.2	1.2	1.6	1.2
2	1.7	1.9	3.1	3.0	3.0	2.3	1.2	2.5	2.2	2.2	2.5	2.2
3	2.1	2.7	3.0	5.5	6.0	5.0	1.4	3.7	3.1	3.1	3.7	3.1
4	2.1	1.4	2.4	4.8	4.6	4.4	1.6	3.1	2.7	2.7	3.1	2.7
5	3.6	3.1	4.7	5.4	5.9	8.5	3.6	5.4	4.7	4.7	5.4	4.7
5 or less	10.2	11.2	15.2	20.5	21.0	21.3	8.5	16.3	13.9	13.9	16.3	13.9
6 - 10	16.7	12.1	17.8	14.8	19.5	24.6	16.8	18.4	17.9	17.9	18.4	17.9
11 - 15	16.2	15.3	17.4	17.7	12.2	15.8	10.7	15.3	15.8	15.8	15.3	15.8
16 - 20	14.6	15.6	16.2	8.2	5.6	14.4	10.5	13.0	13.2	13.2	13.0	13.2
21 - 30	18.7	21.6	13.9	18.9	12.3	8.0	16.9	14.2	15.9	15.9	14.2	15.9
31 - 40	11.1	8.0	7.5	7.6	8.9	3.5	5.4	6.5	8.4	8.4	6.5	8.4
41 - 50	4.7	7.7	4.2	1.0	6.4	3.4	2.5	4.1	4.4	4.4	4.1	4.4
51 - 99	2.9	4.4	4.9	5.2	2.7	3.3	2.8	4.0	3.6	3.6	4.0	3.6
100 and more	4.9	4.1	2.9	6.1	11.4	5.7	25.9	8.2	6.9	6.9	8.2	6.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total number of vehicle-miles(000)	103,993,642	17,708,118	49,148,881	14,289,602	17,032,950	35,442,237	23,872,236	157,494,024	261,487,666	261,487,666	157,494,024	261,487,666
Distribution of vehicle-miles	39.8	6.8	18.8	5.5	6.5	13.6	9.0	60.2	100.0	100.0	60.2	100.0

SOURCE: Data based on 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-31.--Percent of households by automobile ownership
and place of residence.

Number of automobiles owned	Place of residence								
	Unincorporated areas	Incorporated places							All areas and places
		Less than 5,000	5,000-24,999	25,000-49,999	50,000-99,999	100,000-999,999	1,000,000 and over	All incorporated places	
One car	52.8	48.4	45.9	49.8	46.8	47.5	40.8	46.4	48.4
Two cars	29.5	29.3	30.4	30.1	27.9	22.6	10.5	25.0	26.4
Three or more cars	5.3	4.4	6.5	6.2	5.5	2.9	1.1	4.3	4.6
Total with cars	87.6	82.1	82.8	86.1	80.2	73.0	52.4	75.7	79.4
Having no cars	12.4	17.9	17.2	13.9	19.8	27.0	47.6	24.3	20.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of households (000)	19,116	6,142	10,421	4,124	5,009	11,661	6,031	43,388	62,504

SOURCE: Data based on unpublished table H-18 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-32.--Percent of households by automobile ownership and income groups.

Annual household income	Automobile ownership				Total households		
	One	Two	Three or more	Households with cars		None	
By households							
Under \$3,000	11.8	2.2	0.0	8.0	52.4	17.1	(000)
3,000 - 3,999	8.7	2.4	0.5	6.1	12.6	7.5	10,695
4,000 - 4,999	7.9	2.6	1.9	5.8	7.4	6.1	4,675
5,000 - 5,999	11.1	5.2	3.6	8.7	6.7	8.3	3,813
6,000 - 7,499	13.8	11.2	9.0	12.6	7.1	11.5	5,179
7,500 - 9,999	18.9	17.9	13.6	18.3	4.4	15.4	7,192
10,000 - 14,999	16.5	31.6	28.1	22.2	2.5	18.1	9,631
15,000 and over	4.4	16.3	27.3	9.7	0.4	7.8	11,330
Not reported	6.9	10.6	16.0	8.6	6.5	8.2	4,865
Total	100.0	100.0	100.0	100.0	100.0	100.0	5,124
Within income groups							
Under \$3,000	33.6	3.3	0.0	36.9	63.1	100.0	10,695
3,000 - 3,999	56.5	8.4	0.3	65.2	34.8	100.0	4,675
4,000 - 4,999	62.3	11.3	1.4	75.0	25.0	100.0	3,813
5,000 - 5,999	64.7	16.5	2.0	83.2	16.8	100.0	5,179
6,000 - 7,499	57.8	25.6	3.6	87.0	13.0	100.0	7,192
7,500 - 9,999	59.2	30.8	4.1	94.1	5.9	100.0	9,631
10,000 - 14,999	44.0	46.0	7.2	97.2	2.8	100.0	11,330
15,000 and over	27.4	55.2	16.2	98.8	1.2	100.0	4,865
Not reported	40.5	34.2	9.1	83.8	16.2	100.0	5,124
All	48.4	26.4	4.6	79.4	20.6	100.0	62,504

SOURCE: Data based on unpublished table H-18 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-33.--Percent of household home-to-work automobile trips and vehicle-miles of travel by trip length and automobile ownership.

Home-to-work trip length	Automobile ownership												
	One		Two		Three or more		None		All households				
	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel	Trips	Travel	
Miles													
5 or less	52.1	14.1	50.4	13.2	52.4	12.8	70.2	25.9	52.2	13.9	13.9	13.9	
6 - 10	22.3	20.5	20.1	16.7	17.6	13.9	12.5	14.5	20.4	17.8	17.8	17.8	
11 - 15	11.1	16.7	11.4	15.5	11.1	14.3	5.4	10.1	11.1	15.7	15.7	15.7	
16 - 20	6.4	13.5	7.6	14.5	6.4	11.5	3.6	10.3	6.8	13.6	13.6	13.6	
21 - 30	5.3	15.7	5.9	15.3	7.2	18.4	5.3	20.1	5.8	15.9	15.9	15.9	
31 - 40	1.7	6.9	2.6	9.6	2.2	7.9	1.3	6.5	2.1	8.3	8.3	8.3	
41 - 50	0.6	3.3	0.8	3.8	2.1	9.2	1.2	8.2	0.9	4.3	4.3	4.3	
51 and over	0.5	9.3	1.2	11.4	1.0	12.0	0.5	4.4	0.7	10.5	10.5	10.5	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0 ^{1/}	100.0 ^{2/}	100.0 ^{2/}	100.0 ^{2/}	
Percent of total	40.6	38.2	44.9	47.1	11.0	12.2	3.5	2.5	100.0	100.0	100.0	100.0	
Average commuting distance (miles)		8.8		9.9		10.4		6.7		9.4	9.4	9.4	

^{1/} Includes 27,822,313,000 work trips.

^{2/} Includes 261,487,707,000 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-34.--Percent of automobile trips by number of occupants and trip purpose.

Number of occupants	Trip purpose	
	Home-to-work	All purposes
1	73.5	50.1
2	18.2	27.5
3	4.7	10.4
4	1.9	5.9
5	1.1	3.0
6	.5	1.5
7	<u>1/</u>	0.7
8	<u>1/</u>	0.2
9	<u>1/</u>	0.2
NA	.1	0.5
Total	100.0	100.0
Total number of daily trips (000)	53,377	163,964

1/ Data insufficient for analysis.

SOURCE: Data based on unpublished table P-8 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-35.--Average automobile occupancy by trip purpose and day of the week.

Day of the week	Trip purpose	
	Home-to-work	All purposes
	Occupancy	
Monday	1.4	1.8
Tuesday	1.4	1.8
Wednesday	1.4	1.8
Thursday	1.4	1.8
Friday	1.5	1.9
Saturday	1.4	2.1
Sunday	1.3	2.4
Average	1.4	1.9

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-36.--Average automobile occupancy by trip purpose and trip length.

One-way trip length	Trip purpose	
	Home-to-work	All purposes
Miles	Occupancy	
Less than $\frac{1}{2}$	1.3	1.8
1 - 2	1.4	1.9
3 - 4	1.3	1.9
5 - 15	1.4	1.9
16 - 20	1.5	1.9
21 - 30	1.7	2.1
31 - 40	1.5	2.3
41 & over	1.6	2.6
Average	1.4	1.9

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-37.--Average automobile occupancy by trip purpose and place of residence.

Place of residence	Trip purpose	
	Home-to-work	All purposes
Unincorporated areas	1.4	2.0
Incorporated places		
Under 5,000	1.4	2.0
5,000-24,999	1.4	1.9
25,000-49,999	1.4	2.0
50,000-99,999	1.4	1.8
100,000-999,999	1.4	1.9
1,000,000 & over	1.4	1.9
All incorporated places	1.4	1.9
All areas and places	1.4	1.9

SOURCE: Based upon unpublished table P-8 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-38.--Average automobile occupancy by trip purpose and SMSA population groups.

SMSA size	Trip purpose	
	Home-to-work	All purposes
Under 250,000	1.4	2.0
250,000-499,999	1.4	1.9
500,000-999,999	1.4	1.9
1,000,000-1,999,999	1.4	1.8
2,000,000-2,999,999	1.4	2.0
3,000,000 & over	1.3	1.9
All SMSA's	1.4	1.9

SOURCE: Based upon unpublished table P-8 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

Table A-39.--Percent of automobiles by type of parking facility used, parking charge, if any, and place of employment.

Type of parking facility	Place of employment						Distribution by type of parking facility used
	Unincorporated areas		Incorporated places		All areas and places		
	Parking charge	No parking charge	Parking charge	No parking charge	Parking charge	No parking charge	
Commercial parking	59.0	2.1	64.6	2.5	63.1	2.3	6.0
Employer provided space	10.8	82.8	11.5	78.1	11.3	79.6	75.6
Fringe parking	0.0	0.7	0.0	0.5	0.0	0.6	0.5
Other lots	8.9	2.4	8.3	3.0	8.5	2.8	3.1
On the street	19.3	9.0	12.9	13.4	14.6	12.0	12.1
No all day parking used	1.9	0.7	0.0	1.0	0.5	0.9	0.9
All other	0.1	2.3	2.7	1.5	2.0	1.8	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0*
Percent of total	7.8	92.2	6.4	93.6	7.3	92.7	100.0

* Includes 45,881,982 automobiles.

SOURCE: Data based on unpublished table H-13 from the Nationwide Personal Transportation Survey conducted by the Bureau of the Census for the Federal Highway Administration, 1969-70.

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 preassigned 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.

Section III - TRAVEL TO WORK

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

Section IV - DRIVER INFORMATION

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

Section V - TRAVEL TO SCHOOL

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

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 (1st, 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 <input type="checkbox"/> Less than 1/2 mile (5 blocks)		Miles <input type="checkbox"/> Less than 1/2 mile (5 blocks)		Miles <input type="checkbox"/> Less than 1/2 mile (5 blocks)		Miles <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? (If "return home" enter the main purpose of the outgoing trip(s), plus "R.H.") (Enter one 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 Return home (reclassification required)						
	Trip 1		Trip 2		Trip 3		Trip 4
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.)	<input type="checkbox"/> No others Line numbers		<input type="checkbox"/> No others Line numbers		<input type="checkbox"/> No others Line numbers		<input type="checkbox"/> No others Line numbers
7. What means of transportation were used for this trip? (If more than one, circle major means.)	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 pickup) 11. Other						
	Trip 1		Trip 2		Trip 3		Trip 4
8. Was public transportation for this trip available within 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? (If more than one, circle automobile number from C.C.)	Automobile No. or <input type="checkbox"/> Not an auto listed on the C.C.		Automobile No. or <input type="checkbox"/> Not an auto listed on the C.C.		Automobile No. or <input type="checkbox"/> Not an auto listed on the C.C.		Automobile No. or <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? (Include children under 5 and non-household members.)	_____ 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)				

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.
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		
5. What was the main reason for the trip? (Enter code)	Trip 1	Trip 2	Trip 3
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		
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>	Trip 1	Trip 2	Trip 3
7. What automobile was used? <i>(If either code 7 or 8 has been entered in Q. 6 complete questions 7-9) (Transcribe automobile number from C.C.)</i>	Auto No. or 9 <input type="checkbox"/> Not an auto listed on the C.C.	Auto No. or 9 <input type="checkbox"/> Not an auto listed on the C.C.	Auto No. or 9 <input type="checkbox"/> Not an auto listed on the C.C.
8. Who drove the automobile? <i>(If more than one driver, enter the line number of the person who drove the most miles)</i>	Driver Line No. or 99 <input type="checkbox"/> Not a household member	Driver Line No. or 99 <input type="checkbox"/> Not a household member	Driver Line No. or 99 <input type="checkbox"/> Not a household member
9. How many people were in the automobile, including the driver? (Include children under 5 and non-household members)	Number	Number	Number
RETURN TRIP	Trip 1	Trip 2	Trip 3
10. How many nights were you away from home?	Number	Number	Number
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.
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		
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>	Trip 1	Trip 2	Trip 3
15. Who drove the automobile? <i>(If more than one driver, enter the Line No. of the person who drove the most miles)</i>	Driver Line No. or 9 <input type="checkbox"/> Not a household member	Driver Line No. or 9 <input type="checkbox"/> Not a household member	Driver Line No. or 9 <input type="checkbox"/> Not a household member
16. How many people were in the automobile on the return trip, including the driver? (Include children under 5 and nonhousehold members)	Number	Number	Number
17. In addition to . . . did anyone else living here go on this trip both outbound and return? (If outbound or return only, enter the trip in a separate column) <i>(List line numbers of other household members 5 years old or older who went on this round trip)</i>	0 <input type="checkbox"/> No others Line Numbers	0 <input type="checkbox"/> No others Line Numbers	0 <input type="checkbox"/> No others Line Numbers

APPENDIX C

Table I.A.-1.--Estimated Standard Errors for Estimates
for All 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

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

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	0.9	2.0	2.7	3.6	3.9	4.5
3,000	0.7	1.6	2.2	2.9	3.2	3.7
5,000	0.6	1.2	1.7	2.3	2.5	2.8
7,500	0.5	1.0	1.4	1.9	2.0	2.3
10,000	0.4	0.9	1.2	1.6	1.7	2.0
15,000	0.3	0.7	1.0	1.3	1.4	1.6
20,000	0.3	0.6	0.9	1.1	1.2	1.4
25,000	0.3	0.6	0.8	1.0	1.1	1.3
30,000	0.2	0.5	0.7	0.9	1.0	1.2
35,000	0.2	0.5	0.6	0.9	0.9	1.1
50,000	0.2	0.4	0.5	0.7	0.8	0.9
63,000	0.2	0.4	0.5	0.6	0.7	0.8

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	0.8	1.8	2.5	3.3	3.6	4.2
3,000	0.7	1.5	2.0	2.7	3.0	3.4
5,000	0.5	1.2	1.6	2.1	2.3	2.6
7,500	0.4	0.9	1.3	1.7	1.9	2.2
10,000	0.4	0.8	1.1	1.5	1.6	1.9
15,000	0.3	0.7	0.9	1.2	1.3	1.5
20,000	0.3	0.6	0.8	1.1	1.2	1.3
25,000	0.2	0.5	0.7	0.9	1.0	1.2
30,000	0.2	0.5	0.6	0.9	0.9	1.1
35,000	0.2	0.4	0.6	0.8	0.9	1.0
50,000	0.2	0.4	0.5	0.7	0.7	0.8
73,000	0.1	0.3	0.4	0.6	0.6	0.7

TABLE IV.-2.--Estimated Standard Errors for Percentages of Vehicle Trips
for One Day 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%
500	-	-	-	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	0.9	2.1	2.9	3.8	4.1	4.8
15,000	0.8	1.7	2.3	3.1	3.4	3.9
25,000	0.6	1.3	1.8	2.4	2.6	3.0
50,000	0.4	0.9	1.3	1.7	1.8	2.1
75,000	0.3	0.8	1.0	1.4	1.5	1.7
100,000	0.3	0.7	0.9	1.2	1.3	1.5
125,000	0.3	0.6	0.8	1.1	1.2	1.3
150,000	0.2	0.5	0.7	1.0	1.1	1.2
175,000	0.2	0.5	0.7	0.9	1.0	1.1
200,000	0.2	0.4	0.6	0.8	0.9	1.1
225,000	0.2	0.4	0.6	0.8	0.9	1.0
235,000	0.2	0.4	0.6	0.8	0.8	1.0
255,000	0.2	0.4	0.6	0.8	0.8	0.9

APPENDIX (continued)

Table V.-A.2.--Estimated Standard Errors for Percentages of Vehicle Miles for One Day 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%
20,000	-	-	-	16.9	18.3	21.1
25,000	-	-	11.3	15.1	16.3	18.9
50,000	-	5.8	8.0	10.7	11.6	13.3
75,000	2.2	4.7	6.5	8.7	9.4	10.9
100,000	1.9	4.1	5.7	7.5	8.2	9.4
150,000	1.5	3.4	4.6	6.2	6.7	7.7
250,000	1.2	2.6	3.6	4.8	5.2	6.0
500,000	0.8	1.8	2.5	3.4	3.6	4.2
750,000	0.7	1.5	2.1	2.8	3.0	3.4
1,000,000	0.6	1.3	1.8	2.4	2.6	3.0
1,250,000	0.5	1.2	1.6	2.1	2.3	2.7
1,500,000	0.5	1.1	1.5	1.9	2.1	2.4
1,750,000	0.4	1.0	1.4	1.8	2.0	2.2
2,000,000	0.4	0.9	1.3	1.7	1.8	2.1
2,100,000	0.4	0.9	1.2	1.6	1.8	2.0
2,380,000	0.4	0.9	1.2	1.6	1.7	1.9

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	0.7	1.6	2.2	2.9	3.1	3.6
50,000	0.5	1.1	1.5	2.1	2.2	2.6
75,000	0.4	0.9	1.3	1.7	1.8	2.1
100,000	0.4	0.8	1.1	1.5	1.6	1.8
150,000	0.3	0.6	0.9	1.2	1.3	1.5
200,000	0.3	0.6	0.8	1.0	1.1	1.3
250,000	0.2	0.5	0.7	0.9	1.0	1.1
300,000	0.2	0.5	0.6	0.8	0.9	1.0
350,000	0.2	0.4	0.6	0.8	0.8	1.0
400,000	0.2	0.4	0.5	0.7	0.8	0.9
450,000	0.2	0.4	0.5	0.7	0.8	0.9

Reports Published to Date As Part of the
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1. Automobile Occupancy
2. Annual Miles of Automobile Travel
3. Seasonal Variations of Automobile Trips and Travel
4. Transportation Characteristics of School Children
5. Availability of Public Transportation and Shopping Characteristics of SMSA Households
6. Characteristics of Licensed Drivers
7. Household Travel in the United States
8. Home-To-Work Trips and Travel