

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM
REPORT

49

**NATIONAL SURVEY OF
TRANSPORTATION ATTITUDES
AND BEHAVIOR
PHASE I SUMMARY REPORT**

NAS-NRC

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**ROBERT K. McMILLAN AND HENRY ASSAEL
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RESEARCH SPONSORED BY THE AMERICAN ASSOCIATION
OF STATE HIGHWAY OFFICIALS IN COOPERATION
WITH THE BUREAU OF PUBLIC ROADS

SUBJECT CLASSIFICATION.

TRANSPORTATION ADMINISTRATION, FINANCE,
AND ECONOMICS

ROAD USER CHARACTERISTICS

TRAFFIC MEASUREMENTS

URBAN TRANSPORTATION PLANNING

HIGHWAY RESEARCH BOARD

DIVISION OF ENGINEERING NATIONAL RESEARCH COUNCIL

NATIONAL ACADEMY OF SCIENCES—NATIONAL ACADEMY OF ENGINEERING

1968

NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Bureau of Public Roads, United States Department of Transportation.

The Highway Research Board of the National Academy of Sciences-National Research Council was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as: it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state, and local governmental agencies, universities, and industry; its relationship to its parent organization, the National Academy of Sciences, a private, nonprofit institution, is an insurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway departments and by committees of AASHO. Each year, specific areas of research needs to be included in the program are proposed to the Academy and the Board by the American Association of State Highway Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are responsibilities of the Academy and its Highway Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

This report is one of a series of reports issued from a continuing research program conducted under a three-way agreement entered into in June 1962 by and among the National Academy of Sciences-National Research Council, the American Association of State Highway Officials, and the U. S. Bureau of Public Roads. Individual fiscal agreements are executed annually by the Academy-Research Council, the Bureau of Public Roads, and participating state highway departments, members of the American Association of State Highway Officials.

This report was prepared by the contracting research agency. It has been reviewed by the appropriate Advisory Panel for clarity, documentation, and fulfillment of the contract. It has been accepted by the Highway Research Board and published in the interest of an effectual dissemination of findings and their application in the formulation of policies, procedures, and practices in the subject problem area.

The opinions and conclusions expressed or implied in these reports are those of the research agencies that performed the research. They are not necessarily those of the Highway Research Board, the National Academy of Sciences, the Bureau of Public Roads, the American Association of State Highway Officials, nor of the individual states participating in the Program.

NCHRP Project 20-4 FY '65 and FY '66
NAS-NRC Publication 1583

FOREWORD

By Staff

Highway Research Board

This report will be of particular interest to transportation administrators and planners who are interested in the allocation of funds for improvements to transportation systems. The preliminary results of two independent nationwide surveys are presented to determine whether existing procedures for allocating money for highways are really responsive to public attitudes and behavior which relate to the transportation of people. More detailed analysis of these surveys will be presented in a second phase summary report for this project, which will more fully explain the factors that influence transportation attitudes and behavior and the relationship of these factors.

Accordingly, the reader is cautioned that *the survey results presented herein represent a cross-section of the nation as a whole. In addition, although it is believed that these overall preliminary conclusions will not be greatly changed during the ensuing analysis, Phase II of the project is designed to develop more extensive cross-analysis of the interrelationships between the various factors involved.*

This summary report presenting the initial results of two independent nationwide surveys is the first report of NCHRP Project 20-4, entitled "Public Preferences for Future Individual Transportation." In May 1967, as part of the National Cooperative Highway Research Program, the National Academy of Sciences contracted with two independent survey organizations—Chilton Research Services and National Analysts, Inc.—which were to conduct hour-long interviews with representative samples of 2,500 each. Identical questionnaires were to be used by each organization so that the data collected by the separate surveys could first be compared to insure that unbiased results were obtained. If the data were found to be compatible, they were to be combined for a detailed analysis to determine reliable information on the public attitude and behavior relating to transportation, and the factors that influence these, to permit more effective planning for the allocation of resources for transportation purposes.

The questionnaires were developed by Chilton Research Services. They were reviewed and approved by a special project committee appointed under the auspices of the National Research Council of the National Academy of Sciences and the National Academy of Engineering. The two independent surveys were conducted by both survey organizations during August, September, and October 1967. Each organization coded, punched, and tabulated its results separately. A report containing tabulated results was submitted by each organization to the National Cooperative Highway Research Program in January 1968.

This summary report presents the results of the two independent surveys for comparison question by question. The results are essentially the same for both surveys, with answers ranging within two percentage points for most of the items within each question.

The first summary report presents a preliminary analysis of the nationwide

survey data. Interesting information is developed concerning the American public's attitudes and behavior regarding transportation. In the second phase of the project, the data collected in the two independent surveys will be combined by Chilton Research Services and treated by various statistical processes to bring out meaningful relationships. This work will be reported in another summary report, for Phase II (the analytical phase), in the NCHRP Report Series.

Only a limited number of the tables developed by Chilton Research Services are presented in this report. Some 1,700 additional tables of cross-tabulations are available to qualified researchers, who can review them in the offices of the Highway Research Board.

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ACKNOWLEDGMENTS

The study for which this constitutes the first phase summary report is being performed by Chilton Research Services, for whom Robert K. McMillan, Senior Research Plans Director, is acting as Principal Investigator.

For the collection of the data through interviews conducted with a random sample representative of the entire United States, CRS had responsibility for a 2,500-individual sample. National Analysts, Inc., under the direction of James Marshall, Vice President, had responsibility for another separate 2,500-individual sample. Each organization used its own multi-stage area probability sample, and a completely different group of interviews. Each also was responsible for presenting question-by-question tables of the interview results.

During this first phase, CRS has been assisted by two consultants in carrying out the research. Alan M. Voorhees, President, Alan M. Voorhees and Associates, helped with the planning, pre-testing, and development of the questionnaires, and with the analysis of the data. Henry Assael, Assistant Professor of Marketing, New York University, helped greatly with the planning and analytic phases of the study, and in the writing of the report.

NATIONAL SURVEY OF TRANSPORTATION ATTITUDES AND BEHAVIOR

PHASE I SUMMARY REPORT

CHAPTER ONE

INTRODUCTION

The study of which this is the Summary Report for Phase I was undertaken because reliable information is needed on public attitudes and behavior relating to transportation of people, and the factors that influence these attitudes and behavior. Such information will permit more effective planning for the allocation of resources for transportation purposes.

One of the major objectives of this study is to determine whether or not existing procedures for allocation of resources for highways are responsive to public attitudes. A second major objective is to determine the relationships among attitudes and behavior of the public relating to transportation of people and the underlying factors that influence these attitudes and behavior patterns.

Chilton Research Services has the prime responsibility for this study—planning, developing, conducting interviews with a random sample of 2,500 individuals 18 years of age and older living in households in the contiguous States, analyzing, reporting. National Analysts had the responsibility of conducting 2,500 interviews and presenting question-by-question tables showing the results of this work. Each research company used its own multi-stage area probability sample, and a completely different group of interviews.

The planning and developing went through a series of steps involving consultations with the Advisory Committee, group interviews, and pretests before the final plan was adopted. Most of the interviewing was done during late August, September, and early October, 1967.

The reporting plan called for two reports. This is the summary report of Phase I, intended to present the question-by-question answer distributions obtained through the work of each research company. In addition, it includes a brief analysis by region, population density groups, income level groups, and some interactions between attitude variables, and results based on many derived summary variables which are more powerful in the analysis.

The study results presented herein represent the attitudes, behavior, and opinions of the American public as a whole. They should not be construed as being representative of any particular city or restricted area of the

country. It is recognized that many areas of the country do not have modern public transportation * available to their residents and the survey respondents could only base their answers on their own experiences.

There is no attempt in this Phase I Summary Report to separate out people who have particular transportation modes accessible to them. This is a task reserved for Phase II. A perspective of the modes of transportation available to the sample is provided by the following: Of the respondents, 72% live within 3 miles of a local bus stop, 10% live within 3 miles of a subway station, 14% live within 3 miles of a commuter train stop, 33% live within 3 miles of a railroad station, 37% live within 3 miles of an intercity bus line, and 53% live within 3 miles of a freeway.

Phase II of the project will result in another summary report relying on multi-dimensional statistical techniques for analysis. In this way, the analysis will proceed beyond the level of cross-tabulations to the basic question of the interaction of various attitudes toward the automobile with attitudes toward other transportation modes, transportation behavior, and demographic characteristics. This will be a more powerful method of analysis in viewing the total spectrum of respondent transportation characteristics rather than analyzing one or two variables at a time. At present, it is anticipated that factor analytic, interaction detector, and multiple regression programs will be applied in the more advanced stages of analysis.

This Phase I Summary Report presents a preliminary analysis of the results of the study. In addition to comparing the results from the two independent samples, it presents the analysis of two sets of data. In Chapter Three, the question-by-question answer distributions are given. This is a one-dimensional analysis, with total results analyzed without further breakdowns by various segments of the national sample. In Chapter Four, the results of some cross-tabulation analysis are given. This analysis may be regarded as two-dimensional, because the results for the national sample are broken down by attitudinal,

* As used throughout this report, "public transportation" means any transportation mode for which the user pays a fare.

demographic, and behavioral characteristics of the respondents. Some 1,700 such tables exist in computer print-out form, and only a small part of these are reported in Chapter Four.

Emphasis in the analysis has been placed on attitudinal and value questions relating to modes of transportation and planning for transportation facilities. It primarily is these questions which were chosen for more detailed analysis in the cross-tabulations by breaking them out by sample characteristics.

Many of the attitudinal and behavioral questions required translation into a summary statistic for each respondent. For instance, many of the scaled questions had to be transformed into a summated scale cutting across the various items in the scale; e.g., the items in the scale measuring attitudes toward automobiles vs public transportation (Question 9)†, were summed so that a single score could be assigned to each respondent, representing the degree of favorability or unfavorability regarding automobile use in comparison to public transportation use. The same summated attitudinal score was developed for attitudes toward the automobile's role in society (Question 10), attitudes toward highway planning and planners (Question 11), and attitudes toward improvements in and construction of highway facilities (Question 12).

Further transformation of attitudinal items for greater simplicity and clarification in analysis was undertaken in Questions 13-17. Here, a 9-point scale was used to compare perceptions of various modes of transportation to a hypothetical ideal mode for four different trip purposes—an average 9-point scale for automobiles vs public transportation and, within automobile use, for long-distance vs local auto use and for business vs social auto use.

Summary scale scores were also developed for Question 18. This question referred to the degree of satisfaction derived from the automobile and for public transportation of 15 transportation attributes. Again, the ratings on satisfaction were summated, yielding an average

† Questions are referred to by number as given in the Appendix.

satisfaction score for automobiles, for public transportation, and a difference score comparing automobile vs public transportation satisfaction.

Summary statistics were also developed for behavioral variables. The basic ones in this category were: A categorization of total vehicle-miles; a percentage categorization of vehicle-miles by trip purpose; and a percentage categorization of total transportation miles by mode of travel.

BRIEF SUMMARY STATEMENT

The automobile is by far the most important mode of travel to the American household, and represents an important facet of our way of life and general values. It will become even more important in the immediate years ahead.

Attitudes toward the automobile are generally positive and the value placed on the automobile is extremely high. There appears to be close ego-involvement with the automobile as a way of life.

There is somewhat more detachment when analyzing public facilities and, in particular, the facilities the automobile uses.

Most respondents feel that improvements should be made in both automobile and public transportation, not one to the exclusion of the other.

In metropolitan areas, public transportation is recognized as a vital part of our way of life, and worthy of continued and accelerated emphasis. However, the attitudes toward present public transportation services and facilities tend to be generally negative rather than positive.

Attitudes toward highway planning and highway facilities are generally positive. Yet the same importance and involvement with facilities the auto uses are not as evident as with the automobile itself.

People would like to see more emphasis on training and testing of drivers, law enforcement, and safety in carrying out the highway program.

CHAPTER TWO

COMPARISON OF HOUSEHOLD AND INDIVIDUAL CHARACTERISTICS FOR BOTH SURVEY SAMPLES

Tables 1 through 20 compare household and individual characteristics distributions resulting from the work of Chilton Research Services with those obtained by National Analysts. For some characteristics, Bureau of Census estimates are also given. In the tables, Chilton Research is abbreviated CRS; National Analysts, NA. Chapter Three

gives the analysis of the question-by-question attitudes, behavior, and use, *based essentially on the CRS sample*. The tables in Chapter Three, however, compare the CRS distributions with the NA distributions.

For most of the distributions, the two samples are quite close. The most important difference is the lower

TABLE 1
HOUSEHOLDS BY GEOGRAPHIC REGION

REGION	DISTR. OF RESPONDENTS (%)	
	CRS ^a	BUR. OF CENSUS ^b
East ^c	32.0	25.0
N. Central ^d	27.9	28.0
South ^e	24.2	30.0
West ^f	15.9	17.0
All	100.0	100.0

^a 2,513 households. ^b Estimated from Bur. of Census *Current Population Reports*, Series P-25, No. 356. ^c Includes New England and North Atlantic States plus Del., Md., and D.C. ^d Includes East and West North Central. ^e Includes South Atlantic (except Del., Md., and D.C.), and East and West South Central. ^f Includes Mountain and Pacific States.

TABLE 2
HOUSEHOLDS BY POPULATION DENSITY

POPULATION DENSITY	DISTR. OF RESPONDENTS (%)	
	CRS ^a	BUR. OF CENSUS ^b
SMAS's:		
1 million +	35.2	65.3
< 1 million	28.0	
Non-metropolitan:		
Urban ^c	12.8	34.7
Rural ^d	24.0	
All	100.0	100.0

^a 2,513 households. ^b Estimated from *Population Characteristics*, Series P-20, No. 146 (Mar. 1965). ^c Places of 2,500 or more. ^d Places of less than 2,500, or open country.

TABLE 3
HOUSEHOLDS BY ANNUAL INCOME (QUESTION 29)

ANNUAL INCOME	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
Under \$2,000	9.7	10.5	12.9
2,000 to \$2,999	7.3	8.2	7.6
3,000 to \$3,999	6.9	9.1	7.4
4,000 to \$4,999	7.1	8.5	8.1
5,000 to \$5,999	9.2	9.7	9.7
6,000 to \$7,499	13.9	14.6	31.6
7,500 to \$9,999	16.3	14.4	
10,000 to \$12,499	14.6	12.0	16.0
12,500 to \$14,999	7.2	6.5	
15,000 to \$19,999	4.2	4.0	6.7
20,000 and over	3.6	2.5	
All	100.0	100.0	100.0

^a 2,425 households. ^b 2,455 households. ^c Estimated from *Population Characteristics*, Series P-20, No. 146 (Mar. 1965).

TABLE 4
HOUSEHOLDS BY TYPE OF STRUCTURE (QUESTION 3)

TYPE OF STRUCTURE	DISTR. OF RESPONDENTS (%)	
	CRS ^a	NA ^b
Single family	75.1	79.1
2 to 4 family	13.6	11.1
Apartment:		
5-19 families	4.8	6.7
20 families & over	4.2	2.1
Trailer	1.9	0.8
Other	0.4	0.2
All	100.0	100.0

^a 2,504 households. ^b 2,522 households.

TABLE 5
HOUSEHOLDS BY TYPE OF TENURE (QUESTION 3a)

TYPE OF TENURE	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
Own	68.0	68.4	61.9
Rent	30.4	30.1	38.1
Other ^d	1.6	1.5	
All	100.0	100.0	100.0

^a 2,499 households. ^b 2,522 households. ^c Estimate, 1960. ^d Rent free.

TABLE 6
RESPONDENTS BY RACE (QUESTION 30)

RACE	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
White	87.8	87.5	89.6
Non-white	12.2	12.5	10.4
All	100.0	100.0	100.0

^a 2,456 respondents. ^b 2,522 respondents. ^c Estimated from *Population Characteristics*, Series P-20, No. 158 (Mar. 1966).

TABLE 7
RESPONDENTS BY SEX (QUESTION 1)

SEX	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
Male	44.8	39.4	47.3
Female	55.2	60.6	52.7
All	100.0	100.0	100.0

^a 2,513 respondents. ^b 2,522 respondents. ^c Estimated from *Household and Family Characteristics*, Series P-20, No. 164 (Mar. 1966).

TABLE 9
RESPONDENTS BY RELATIONSHIP TO HEAD OF HOUSEHOLD (QUESTION 1)

RELATIONSHIP	DISTR. OF RESPONDENTS (%)	
	CRS ^a	NA ^b
Male head	39.0	35.3
Female head or wife of male head	51.3	56.4
Son	3.1	3.0
Daughter	3.2	2.4
Other male	1.3	0.9
Other female	2.0	1.9
Other relation, sex unspecified	0.1	0.1
All	100.0	100.0

^a 2,408 respondents. ^b 2,522 respondents.

TABLE 11
RESPONDENTS BY OCCUPATION (QUESTION 2e)

OCCUPATION	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
Professional, technical & kindred workers	14.3	13.9	12.6
Farmers & farm managers	5.4	4.2	2.8
Managers, officials & proprietors, except farm	10.5	9.6	10.0
Clerical	17.4	14.9	16.0
Sales	4.9	6.4	6.4
Craftsmen, foremen & kindred workers	14.6	12.9	13.0
Operatives	16.6	19.2	18.7
Service workers	12.3	13.8	13.1
Farm laborers & foremen	0.7	0.6	2.4
Laborers other than farm & mine	3.3	4.5	5.0
All	100.0	100.0	100.0

^a 1,481 respondents. ^b 1,525 respondents.
^c Employed persons 14 years of age and older, estimated from Department of Labor, Bureau of Labor Statistics (1966).

TABLE 8
RESPONDENTS BY AGE (QUESTION 1)

AGE (YR)	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
18 - 21	6.7	6.7	85.5
22 - 30	18.0	15.5	
31 - 40	21.0	19.4	
41 - 50	19.0	18.7	
51 - 65	22.6	23.1	
66 and over	12.7	16.6	14.5
All	100.0	100.0	100.0

^a 2,513 respondents. ^b 2,522 respondents. ^c Estimated from *Population Characteristics*, Series P-20, No. 164 (Mar. 1966).

TABLE 10
RESPONDENTS BY EMPLOYMENT STATUS (QUESTION 2d)

EMPLOYMENT STATUS	DISTR. OF RESPONDENTS (%)	
	CRS ^a	NA ^b
Full time	48.8	43.2
Part time	6.8	6.2
Retired	42.5	48.8
Unemployed	1.2	0.6
Student	0.7	0.2
All	100.0	100.0

^a 2,397 respondents. ^b 2,522 respondents.

TABLE 12
RESPONDENTS BY EDUCATIONAL ATTAINMENT (QUESTION 2c)

EDUCATION	DISTR. OF RESPONDENTS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
No schooling	0.7	0.9	1.4
Some grade school	9.7	11.6	12.9
Grade school completed	12.6	12.9	13.0
Some high school	20.1	20.8	18.6
High school completed	33.4	32.3	33.6
Some college	12.0	10.0	11.4
College completed	7.2	7.3	5.9
College postgraduate	2.7	2.8	3.2
Educ. beyond high sch.	1.6	1.4	—
All	100.0	100.0	100.0

^a 2,364 respondents. ^b 2,462 respondents. ^c Estimated from *Population Characteristics*, Series P-20, No. 169 (Mar. 1967).

TABLE 13
RESPONDENTS BY YEARS DRIVEN AS LICENSED
DRIVER (QUESTION 2b)

YEARS	DISTR. OF RESPONDENTS (%)	
	CRS ^a	NA ^b
0 - 4	9.1	10.0
5 - 14	26.9	25.4
15 - 24	24.1	23.8
25 - 34	16.8	15.7
35 - 44	14.5	14.6
45 and over	8.6	10.5
All	100.0	100.0

^a 1,783 respondents. ^b 1,766 respondents.

TABLE 15
AUTOS BY LENGTH OF TIME OWNED OR USED
(QUESTION 22c)

YEARS OWNED OR USED	DISTR. OF AUTOS (%)	
	CRS ^a	NA ^b
Less than 1	21.4	21.0
1, but less than 2	23.7	22.1
2, but less than 3	17.9	20.1
3, but less than 4	12.5	12.1
4, but less than 5	8.1	8.5
5, but less than 6	5.7	5.0
6, but less than 7	3.5	3.6
7, but less than 8	2.5	2.5
8, but less than 9	1.5	1.0
9 or more	3.2	4.1
All	100.0	100.0

^a 3,037 autos. ^b 2,909 autos.

TABLE 17
RESPONDENTS BY CAR RENTAL FOR BUSINESS OR
FAMILY USE

CAR RENTAL	DISTR. OF RESPONDENTS (%)	
	CRS	NA
(a) BUSINESS USE (QUESTION 24)		
Yes	2.1	2.2
No	97.9	97.8
All	100.0 ^a	100.0 ^b
(b) FAMILY USE (QUESTION 25)		
Yes	2.3	2.8
No	97.7	97.2
All	100.0 ^c	100.0 ^d

^a 2,499 respondents. ^b 2,522 respondents. ^c 2,475 respondents. ^d 2,522 respondents.

TABLE 14
HOUSEHOLDS BY NUMBER OF CARS OWNED
(QUESTION 21a)

NO. OF CARS	DISTR. OF HOUSEHOLDS (%)	
	CRS ^a	NA ^b
None	16.3	18.6
One	51.7	51.0
Two	25.9	25.8
Three	5.1	3.7
Four	0.9	0.6
Five or more	0.1	0.3
All	100.0	100.0

^a 2,512 households. ^b 2,522 households.

TABLE 16
AUTOS BY YEAR MODEL (QUESTION 22a)

YEAR MODEL	DISTR. OF AUTOS (%)	
	CRS ^a	NA ^b
1968	0.6	0.1
1967	10.2	10.8
1966	12.1	11.8
1965	12.4	12.7
1964	10.5	9.8
1963	10.0	9.9
1962	8.7	8.2
1961	6.4	7.7
1960	7.2	6.6
1959	5.3	6.0
1958 or before	16.6	16.4
All	100.0	100.0

AUTO NEW OR USED WHEN PURCHASED (QUESTION 22b)

PURCHASED	CRS ^c	NA ^d
New	47.6	49.1
Used	52.4	50.9
All	100.0	100.0

^a 3,055 autos. ^b 2,933 autos. ^c 3,010 autos. ^d 2,926 autos.

TABLE 18
HOUSEHOLDS BY OWNERSHIP OF OTHER MOTOR-
DRIVEN VEHICLES (QUESTION 23)

OWNERSHIP	DISTR. OF HOUSEHOLDS (%)	
	CRS ^a	NA ^b
No.	83.1	85.1
Yes *	16.9	14.9
All	100.0	100.0
* Type of Vehicle (Question 23 b)		
Pickup truck	13.1 ^c	12.1 ^c
Airplane	0.2	0.1
Motorcycle	2.3	1.3
Motor scooter	-	0.2
Boat	2.5	2.3
Helicopter	-	-
Other	0.3	0.1

^a 2,488 households. ^b 2,522 households. ^c Multiple answers.

TABLE 19

HOUSEHOLDS BY DISTANCE FROM HOME TO PLACE OF WORK (QUESTION 4)

DISTANCE TO WORK PLACE (MI)	DISTR. OF HOUSEHOLDS (%)		
	CRS ^a	NA ^b	BUR. OF CENSUS ^c
Under 1	15.0	14.9	15.0
1.1 - 3	21.2	20.6	23.0
3.1 - 5	12.9	12.5	14.0
5.1 - 10	21.7	23.1	24.0
10.1 - 25	21.9	21.1	24.0
25.1 - 99.9	7.2	7.8	
All	100.0	100.0	100.0

^a 903 households. ^b 878 households. ^c Estimated from *Census of Transportation*, Vol. 1, "Passenger Transportation Survey" (1963).

TABLE 20

HOUSEHOLDS BY MILES DRIVEN IN PAST 12 MONTHS (QUESTIONS 22-25)

MILES DRIVEN	DISTR. OF HOUSEHOLDS (%)	
	CRS ^a	NA ^b
1 - 1,000	3.3	4.1
1,001 - 3,000	7.2	8.5
3,001 - 8,000	19.5	18.6
8,001 - 12,000	17.6	19.9
12,001 - 18,000	18.5	17.6
18,001 - 30,000	19.9	18.4
30,001 - 75,000	13.1	11.9
75,001 - 100,000	0.9	1.0
All	100.0	100.0

^a 2,064 households. ^b 2,014 households.

proportion of males in the NA sample (NA=39.4%; CRS=44.8%; Bureau of Census estimate=47.3%). This difference strongly affects other distributions, such as age, education, relationship of respondent to household head, employment status, and income. For many of the characteristics the Bureau of Census estimate is between the estimates provided by the two samples.

Some additional comparisons between the two samples are as follows:

CHARACTERISTICS	% OF RESPONDENTS		
	CRS ^a	NA ^b	CENSUS ^c
Owning home	68.0	68.4	61.9 ^d
Single-family structure	75.1	79.1	—
Non-white	12.2	12.5	10.4
Under 65 years of age	87.3	83.4	85.5
Male heads	39.0	35.3	—
Employed full time	48.8	43.2	—
Clerical occupation	17.4	14.9	16.0
High school completed	33.4	32.3	33.6
25 or more years driving	39.9	40.8	—
Own no cars	16.3	18.6	—
Auto owned less than 4 years	63.0	63.2	—
1966, 1967, 1968 year model car owned	22.9	22.7	—
Business use car rental	2.1	2.2	—
Ownership of pick-up truck	13.1	12.1	—
More than 10 miles from place of work	29.1	28.9	24.0 ^e
Less than 12,000 miles driven (by household) past 12 months	47.6	51.1	—
Metropolitan area	63.2	—	65.3
Annual household income \$10,000 plus	29.6	25.0	22.7 ^f

^a Chilton Research Services. ^b National Analysts, Inc. ^c Estimate. ^d 1960 estimate. ^e 1963 estimate. ^f 1964 estimate.

QUESTION-BY-QUESTION ANALYSIS OF TOTAL SAMPLE

This chapter analyzes the tabulations for the total sample (CRS and NA) on the question-by-question basis. Where necessary, more detailed explanation is provided of those attitudinal variables which were transformed into summary statistics.

EFFECTS OF LIFE AND COMMUNITY CHANGES ON TRANSPORTATION USE (QUESTION 6)

A change in an individual's life situation or a change in community facilities invariably resulted in an increase in automobile use (Table 21). In 17 of the 18 change situations, more respondents described an increase than a decrease in auto use. The only exception, logically, was when the number of autos in the household decreased. In all other cases the proportion of individuals describing an increase in auto use was at least twice as great as those describing a decrease.

Considering changes in life situations, the greatest increase in auto use occurred when the number of autos increased, children became teenagers, when there was a change in job, when work or home location changed, and when friends or relatives moved.

For community changes, the greatest increase in auto use occurred when new entertainment, recreation and shopping facilities appeared. The changes that least affected auto use were a replacement of an existing auto, new air or train terminals, changes in public transportation, and highway improvements. Only 25% of respondents associated increased auto use with highway improvements, whereas 40% to 50% reported increased auto use for many of the life situation changes.

Changes in life situations or community facilities had little effect on use of public transportation. An average of close to 80% of the respondents described no change in use for a life or community change. In contrast, only about one-half of the sample saw no change in auto use.

The most significant increase in public transportation use occurred when children became teenagers and when there was a change in school location. Yet even here only one-fourth of the sample described an increase in use, with about three-fourths seeing no change. (Interestingly, when children become teenagers there is a significant increase in both automobile and public transportation use, one of the few cases of an increase in both modes. Apparently, this marks a significant turning point in the transportation requirements of most families.)

The most significant decreases in use of public transportation occurred when a non-owning family purchased an auto, and when a change in public transportation

facilities took place. Inasmuch as more respondents equated a change in public transportation facilities with a decrease in the use of these facilities, this would suggest that respondents viewed such changes as more of a detriment than an improvement.

Based on these results, it appears that the automobile is held in greater esteem than public transportation modes. About one-sixth of the respondents described an increase in public transportation use for an average life or community change, compared to one-half of the respondents for automobiles. If this trend continues as future changes in life situations and community facilities multiply, as they undoubtedly must, the automobile will receive ever-increasing use, because it is becoming a more important part of an average family's transportation needs.

EVALUATION OF QUALITY OF PUBLIC SERVICES AND ALLOCATION OF MONEY AND EFFORT TO PUBLIC SERVICES (QUESTIONS 7 AND 8)

Respondents rated the quality of water, police and fire protection, air, health and education highest; urban renewal, public transportation, and welfare services lowest; and roads and highways, and parks somewhere in between (Table 22). The quality of water received the highest rating, with 50% of the respondents rating it very good. One-fourth rated roads and highways very good, and 15% rated public transportation very good.

The fact that respondents consider the automobile an extremely important part of their transportation needs, yet do not rate highway facilities in line with many other public services, suggests that people may disassociate their car from the public services required to use it. The automobile may be considered personal property with prospects of ever-increasing use, yet highway facilities may be viewed with a more detached and less ego-involved judgment.

When asked how much more or how much less money and effort should be spent on these public services, almost all respondents were split fairly evenly in advocating either the same amount or more money and effort regardless of the service referred to (Table 23). Few respondents suggested spending less money. Approximately 20% of the respondents thought that much more money should be spent on both highways and public transportation. Thus, there is discrimination in evaluating the quality of highways vs public transportation, but little discrimination in judgments on allocation of money and effort. In fact, there was little difference in the judgments regarding allocations between any of the public services listed.

TABLE 21
EFFECTS OF LIFE AND COMMUNITY CHANGES DURING PAST FIVE YEARS

TYPE OF CHANGE	CHANGE TOOK PLACE	EFFECT ON TRANSPORTATION USE (% RESPONDING)								
		CHANGE TOOK PLACE		PUBLIC			AUTOMOBILE			
		NO.	%	LESS	NO CHANGE	MORE	LESS	NO CHANGE	MORE	
Total CRS responses		1,269	100.0							
Total NA responses		1,179	100.0							
(a) LIFE CHANGES (QUESTION 6a)										
Change of job status	CRS	456	35.9	100.0	14.9	72.1	13.0	19.0	38.2	43.0
	NA	394	33.4	100.0	16.8	71.8	11.4	19.7	39.9	40.4
Change of work location	CRS	439	34.6	100.0	15.7	71.7	12.5	21.8	31.4	46.7
	NA	341	28.9	100.0	9.7	77.8	12.5	20.0	33.3	46.7
Change of home location	CRS	559	44.1	100.0	14.0	75.0	11.1	15.4	44.2	40.3
	NA	509	43.2	100.0	11.5	75.2	13.3	15.2	48.5	36.3
Did not have auto, bought auto	CRS	164	12.9	100.0	40.8	55.4	3.6	1.8	21.0	77.1
	NA	132	11.2	100.0	36.6	57.7	5.7	3.1	18.0	78.9
Increased number of autos	CRS	258	20.3	100.0	14.3	83.0	2.7	3.1	31.6	65.4
	NA	234	19.8	100.0	18.5	77.7	3.8	3.5	27.8	68.7
Decreased number of autos	CRS	89	7.0	100.0	5.6	74.1	20.2	32.2	53.3	14.4
	NA	63	5.3	100.0	3.4	67.8	28.8	51.6	41.7	6.7
Replaced an auto	CRS	687	54.1	100.0	4.8	93.0	2.2	4.0	77.0	19.2
	NA	628	53.3	100.0	4.8	94.3	0.9	2.1	78.6	19.3
Children becoming teenagers	CRS	298	23.5	100.0	2.7	74.8	22.4	1.0	46.0	53.1
	NA	227	19.3	100.0	1.9	81.1	17.0	1.9	44.6	53.5
Children becoming school age	CRS	288	22.7	100.0	1.7	80.5	17.7	2.0	59.6	38.3
	NA	286	24.3	100.0	0.4	89.1	10.5	0.4	61.8	37.8
Children leaving home	CRS	171	13.5	100.0	6.4	82.0	11.7	16.0	49.7	34.3
	NA	154	13.1	100.0	4.2	84.0	11.8	20.3	57.4	22.3
Changed school location	CRS	292	23.0	100.0	6.8	68.5	24.6	7.6	57.6	34.7
	NA	241	20.4	100.0	6.7	75.4	17.9	6.9	55.3	37.8
Close friends or relatives moving	CRS	352	27.7	100.0	3.6	86.0	10.2	5.5	49.7	44.8
	NA	318	27.0	100.0	3.0	85.5	11.5	6.6	54.9	38.5
(b) COMMUNITY CHANGES (QUESTION 6b)										
New or more convenient air or train terminals	CRS	134	10.6	100.0	3.0	82.8	14.2	4.5	84.2	11.3
	NA	156	13.2	100.0	1.3	90.1	8.6	2.0	88.6	9.4
New shopping center	CRS	543	42.8	100.0	6.5	88.2	5.3	14.9	47.6	37.4
	NA	525	44.5	100.0	4.2	89.3	6.5	11.0	53.6	35.4
New entertainment or recreational facilities	CRS	250	19.7	100.0	6.4	88.0	5.6	7.8	51.1	41.0
	NA	225	19.1	100.0	3.7	93.1	3.2	5.5	61.6	32.9
Change in public transportation	CRS	118	9.3	100.0	23.7	61.9	14.4	6.0	64.7	29.4
	NA	137	11.6	100.0	20.8	62.2	17.0	3.1	72.3	24.6
New freeway facilities	CRS	505	39.8	100.0	3.4	93.4	3.1	7.4	59.2	33.3
	NA	422	35.8	100.0	2.6	93.1	4.3	4.5	61.3	34.2
Highway improvements	CRS	617	48.6	100.0	3.4	92.7	4.0	4.7	69.0	26.2
	NA	547	46.4	100.0	1.8	93.4	4.8	3.0	68.6	28.4

Combining both rankings on quality and expenditures, 25% of the respondents rated roads and highways as either good or very good and felt that somewhat more money should be spent. These individuals thus rated highways positively and also felt that more effort and money should go into highway facilities. In contrast, only 10% rated public transportation positively and thought that more money and effort should go into public transportation facilities.

One-third of the sample rated roads and highways positively and also felt that the present level of expenditures should be maintained, compared to one-fourth for public transportation.

On the other end of the scale, less than 1% of the respondents rated roads and highways negatively or neutrally and also felt that less money and effort should be spent, compared to 5% for public transportation.

VALUE DIMENSION—AUTOMOBILE VS PUBLIC TRANSPORTATION (QUESTION 9)

Views toward improvements in automobile and public transportation suggest that most respondents feel that improvements should be made in both modes, not one to the exclusion of the other (Table 24). One-third of the respondents "agreed most" that continued planning and

TABLE 22
QUALITY OF SERVICES (QUESTION 7)

SERVICE		TOTAL RESPONDING		QUALITY RATING (% RESPONDING)				
		NO.	%	VERY	POOR	AVG.	GOOD	VERY
				POOR				GOOD
Education	CRS	2,474	100.0	2.4	3.1	21.5	30.6	42.4
	NA	2,468	100.0	2.8	3.0	26.5	28.1	39.6
The air you breathe	CRS	2,500	100.0	10.2	8.1	17.2	24.0	40.3
	NA	2,488	100.0	11.0	8.4	20.4	22.5	37.7
Water for drinking and recreation	CRS	2,500	100.0	4.9	5.4	13.5	26.3	49.8
	NA	2,494	100.0	6.0	4.9	17.2	28.3	43.6
Police and fire protection	CRS	2,501	100.0	4.3	4.4	17.2	29.8	44.2
	NA	2,495	100.0	4.7	5.4	19.6	29.6	40.7
Parks and recreation facilities	CRS	2,480	100.0	12.6	10.2	21.1	25.9	30.2
	NA	2,476	100.0	11.1	12.0	24.9	23.7	28.3
The roads and highways	CRS	2,499	100.0	6.1	8.2	24.4	34.6	26.7
	NA	2,502	100.0	5.5	8.6	27.3	33.9	24.7
Public transportation (fare paid)	CRS	2,440	100.0	24.6	13.7	24.9	21.8	15.0
	NA	2,389	100.0	26.9	12.9	28.0	18.3	13.9
Health and hospital services	CRS	2,481	100.0	5.8	5.6	19.4	30.1	39.1
	NA	2,477	100.0	5.9	5.9	21.9	31.0	35.3
Welfare programs	CRS	2,314	100.0	7.5	8.5	40.5	23.9	19.6
	NA	2,198	100.0	6.7	6.5	42.0	23.3	21.5
Urban renewal	CRS	2,249	100.0	11.4	11.7	39.3	22.6	14.9
	NA	2,088	100.0	11.2	9.1	45.8	20.8	13.1

building of both auto and public transportation facilities is needed, and more than an additional one-third "agreed" with this statement in general. This statement won more approval than any of the other nine in the question. Thus,

the value dimension of improvements in automobile vs public transportation seems to be primarily neutral for many respondents when the two modes are placed in opposition to each other. This does not contradict the

TABLE 23
AMOUNT THAT SHOULD BE SPENT FOR SERVICES (QUESTION 8)

SERVICE		TOTAL RESPONDING		MONEY SPENT RATING (% RESPONDING)				
		NO.	%	MUCH	LESS	SAME	MORE	MUCH
				LESS				MORE
Education	CRS	2,479	100.0	0.9	3.3	35.4	38.5	21.9
	NA	2,465	100.0	1.2	2.6	40.4	33.9	21.9
The air you breathe	CRS	2,490	100.0	2.9	2.1	49.5	26.9	18.6
	NA	2,458	100.0	2.1	1.7	54.2	25.3	16.7
Water for drinking and recreation	CRS	2,481	100.0	2.0	1.9	57.9	24.7	13.5
	NA	2,473	100.0	1.1	1.8	61.8	22.8	12.5
Police and fire protection	CRS	2,484	100.0	0.8	1.1	48.0	34.6	15.5
	NA	2,480	100.0	0.5	0.7	50.4	31.8	16.6
Parks and recreation facilities	CRS	2,479	100.0	1.1	2.6	44.2	33.3	18.8
	NA	2,469	100.0	1.2	1.6	49.2	31.6	16.4
The roads and highways	CRS	2,491	100.0	1.1	2.1	43.1	34.7	19.0
	NA	2,474	100.0	0.6	2.0	44.9	34.2	18.3
Public transportation (fare paid)	CRS	2,445	100.0	2.6	3.7	47.2	26.3	20.2
	NA	2,383	100.0	2.2	4.1	49.2	26.6	17.9
Health and hospital services	CRS	2,479	100.0	1.2	1.9	48.4	30.6	17.9
	NA	2,471	100.0	1.0	1.9	49.6	30.4	17.1
Welfare programs	CRS	2,370	100.0	7.9	10.0	48.9	22.9	10.3
	NA	2,257	100.0	7.8	10.1	51.7	20.6	9.8
Urban renewal	CRS	2,289	100.0	5.0	5.8	49.0	26.5	13.7
	NA	2,122	100.0	4.0	4.3	57.6	22.4	11.7

TABLE 24

RESPONSE TO STATEMENTS MADE ABOUT THE AUTOMOBILE AND PUBLIC TRANSPORTATION
(QUESTION 9)

STATEMENT		TOTAL RESPONDING		DISTR. OF RESPONDENTS (%)			
		NO.	%	MOST DISAGREE	OTHER DISAGREE	OTHER AGREE	MOST AGREE
The real answer to our passenger transportation problem is more and better public transportation	CRS	2,513	100.0	6.4	13.1	38.6	18.1
	NA	2,522	100.0	5.6	12.5	31.2	22.2
If needed improvements are made in our public transportation facilities, it will help a great deal	CRS	2,513	100.0	1.4	8.0	57.2	9.7
	NA	2,522	100.0	1.1	7.7	50.5	9.5
More attention to public transportation rather than automobile transportation is desirable	CRS	2,513	100.0	8.4	23.5	33.3	6.4
	NA	2,522	100.0	9.6	20.3	30.4	5.2
As between automobile and public transportation, public transportation is the more important	CRS	2,513	100.0	15.1	25.3	27.7	5.3
	NA	2,522	100.0	14.6	23.5	25.6	5.4
Continued planning and building of both automobile transportation and public transportation facilities are what is needed	CRS	2,513	100.0	1.7	6.4	38.7	31.3
	NA	2,522	100.0	2.0	6.5	36.8	25.7
More attention to automobile transportation facilities rather than public transportation is desirable	CRS	2,513	100.0	9.7	29.7	22.8	6.2
	NA	2,522	100.0	10.5	25.9	19.6	5.6
As between automobile and public transportation, automobile transportation is the more important	CRS	2,513	100.0	8.5	26.0	28.9	9.7
	NA	2,522	100.0	6.3	23.2	26.2	10.5
Public transportation improvements—no matter how great, won't help solve the problem	CRS	2,513	100.0	26.6	26.5	19.6	2.5
	NA	2,522	100.0	24.9	27.8	13.8	2.0
The real answer to our transportation problem is more and better automobile transportation	CRS	2,513	100.0	13.7	30.2	22.1	5.5
	NA	2,522	100.0	10.1	28.7	19.3	5.6

greater importance placed on the automobile in the respondents' transportation needs; it merely suggests that respondents do not desire to sacrifice improvements in one mode for improvements in the other.

Only 6% of the respondents "agreed most" that more attention should be placed on public transportation rather than auto, and another 6% "agreed most" with the reverse statement. Furthermore, 5% "agreed most" that public transportation is more important than auto, and 10% "agreed most" with the reverse statement.

A summary of values toward improvements in the two modes indicates that one-third were neutral, one-sixth clearly favored auto improvements, one-tenth clearly favored public transportation improvements, with most of the remaining 40% leaning toward improvements in public transportation, yet not necessarily at the expense of improvements in auto transportation.

VALUE DIMENSION—AUTOMOBILE'S ROLE IN SOCIETY (QUESTION 10)

The automobile's role in society is unequivocally accepted as favorable. Of the respondents, 81% "agreed most" with one of the four favorable statements regarding the automobile, 7% "agreed most" with one of the four unfavorable statements, and 11% "agreed most" with the one relatively neutral statement (Table 25).

The statement that won greatest acceptance was "the

automobile has made a great contribution to America's growth and freedom," with which 28% of the sample "agreed most." Next was "the automobile is the best form of transportation invented by man," with which 22% "most agreed." A pretest of the items in this question demonstrated that critics rated these two statements as most inherently favorable to the automobile. Therefore, respondents "most agreed" with statements that were most positive toward the auto.

VALUE DIMENSION—HIGHWAY PLANNING (QUESTION 11)

One-third of the sample "most agreed" with the negative statements regarding highway planning and planners, and three-fifths "agreed" with the positive statements (Table 26). Of those taking definitive positions (assigning a statement to a scale position), most were positive in judging highway planning. Of the sample, 32% "most agreed" with the two most positive statements (in general, highway planning is intelligent and far-sighted; highways are being planned and built in the best possible way); only 6% agreed with the two most negative statements (the way highways are being planned and built just doesn't make any sense; in general, highway planning is stupid and too short-sighted). Thus, where a firm position is taken on highway planning, it is uniformly positive. However, many respondents took a relatively neutral position.

TABLE 25
RESPONSE TO STATEMENTS MADE ABOUT THE AUTOMOBILE (QUESTION 10)

STATEMENT		TOTAL RESPONDING		DISTR. OF RESPONDENTS (%)			
		NO.	%	MOST DISAGREE	OTHER DISAGREE	OTHER AGREE	MOST AGREE
The automobile is the best form of transportation invented by man	CRS	2,513	100.0	4.7	15.0	38.1	21.8
	NA	2,522	100.0	4.0	10.9	35.1	27.6
If it weren't for the automobile, modern transportation would be impossible	CRS	2,513	100.0	3.5	15.1	48.4	13.5
	NA	2,522	100.0	2.9	12.2	47.7	15.3
The automobile has made a great contribution to America's growth and freedom	CRS	2,513	100.0	0.8	1.4	56.3	28.3
	NA	2,522	100.0	0.7	1.5	56.3	24.9
The automobile has its shortcomings but, in general, it is a boon to mankind	CRS	2,513	100.0	0.8	3.7	60.5	16.0
	NA	2,522	100.0	1.1	2.7	59.3	12.4
The automobile is here to stay but there will have to be a lot of improvements	CRS	2,513	100.0	1.7	11.1	50.2	10.6
	NA	2,522	100.0	2.0	10.3	47.5	8.8
The automobile is more trouble than it is worth	CRS	2,513	100.0	27.3	48.6	7.3	1.2
	NA	2,522	100.0	31.0	41.8	6.4	0.8
The automobile represents a real health hazard to mankind	CRS	2,513	100.0	4.9	43.5	23.8	1.9
	NA	2,522	100.0	4.8	41.7	19.7	1.7
The automobile is a deadly weapon	CRS	2,513	100.0	9.5	37.3	29.8	3.5
	NA	2,522	100.0	7.5	40.0	24.3	2.5
The automobile is the worst form of transportation invented by man	CRS	2,513	100.0	41.8	42.2	1.7	0.4
	NA	2,522	100.0	37.9	44.5	2.5	0.3

**SUMMATED ATTITUDINAL SCORES
(QUESTIONS 9, 10, AND 11)**

An overall attitudinal score was computed for Questions 9, 10, and 11. Each question was given a weight of from 1 to 9, depending on the degree of favorability towards the value being measured. The 1-to-9 weights were determined by a group of judges who rated the degree of

favorability of each statement in a pretest. The degree to which a respondent agreed or disagreed with a statement was then weighted by the favorability of the statement and the scores for the nine statements were summed. In this way an attitudinal score was obtained per respondent.

The range of attitudinal scores was then divided into a six-group frequency distribution.

TABLE 26
RESPONSE TO STATEMENTS MADE ABOUT HIGHWAY PLANNING AND BUILDING (QUESTION 11)

STATEMENT		TOTAL RESPONDING		DISTR. OF RESPONDENTS (%)			
		NO.	%	MOST DISAGREE	OTHER DISAGREE	OTHER AGREE	MOST AGREE
The way highways are being planned and built just doesn't make any sense	CRS	2,513	100.0	21.8	42.4	10.7	3.7
	NA	2,522	100.0	24.2	39.1	10.6	3.2
In general, highway planning is stupid and too shortsighted	CRS	2,513	100.0	28.8	37.9	11.1	1.9
	NA	2,522	100.0	31.8	36.1	9.4	2.5
Highway planners do not always use their best judgment and should seek the advice of others	CRS	2,513	100.0	4.2	23.5	31.8	11.7
	NA	2,522	100.0	3.4	23.6	25.9	9.1
The biggest problem in highway planning is that they're obsolete by the time they get built	CRS	2,513	100.0	7.1	32.8	19.8	14.5
	NA	2,522	100.0	5.6	29.7	18.7	12.4
Under the circumstance, highway planning is satisfactory	CRS	2,513	100.0	5.0	13.6	39.8	19.5
	NA	2,522	100.0	2.8	10.9	39.3	21.3
Highways are generally built in time for the average motorist's needs	CRS	2,513	100.0	6.8	18.9	41.4	6.2
	NA	2,522	100.0	5.4	15.6	40.0	5.7
If highway planners could use their own judgment and expertise, they'd do a better job	CRS	2,513	100.0	4.7	22.9	26.4	4.5
	NA	2,522	100.0	3.4	21.5	21.2	3.8
In general, highway planning is intelligent and far-sighted	CRS	2,513	100.0	5.6	13.2	40.4	13.3
	NA	2,522	100.0	4.2	11.5	40.6	13.6
Highways are being planned and built in the best possible way	CRS	2,513	100.0	7.3	17.0	34.8	18.2
	NA	2,522	100.0	5.1	14.0	36.0	19.1

In rating the automobile's social role (Question 10), one-half of the respondents were in the most positive grouping (the highest one-sixth of the attitudinal score range) again demonstrating the important societal role assigned to the automobile. In rating highway planning (Question 11), one-third of the sample was in the highest attitudinal range; in rating automobiles vs public transportation (Question 9), one-fifth of the respondents were in the most positive attitudinal range.

In considering the average attitudinal score for the total sample, the average score on a 100-point scale was 80 for the automobile's role in society, 67 for highway planning, and 61 for automobile vs public transportation facilities. Thus, general attitudes were positive for all three value dimensions, but least positive in the comparative auto vs public transportation dimension.

ALLOCATION OF MONEY AND EFFORT TO HIGHWAY BUILDING AND IMPROVEMENTS (QUESTION 12)

With the exception of highway beautification and the building of additional parking facilities, the majority of respondents would like to see more or much more money spent on all the transportation items listed (Table 27). Between one-fourth and one-half of the respondents felt that the present level of expenditures was satisfactory. Few respondents suggested spending less money on any of the items. This is in line with responses on allocations

for roads and highways in general (Question 8). The two items that drew the greatest allocation of resources were to add safety features to existing streets and highways, for which 37% suggested spending much more money, and to improve training and testing procedures related to auto drivers, for which 38% suggested spending much more. In comparison, only 13% advocated significantly greater expenditures on highway beautification.

The transportation items in Question 12 were divided into two groups—suggested improvements and suggested construction or building. In developing an average score for each, respondents place somewhat greater emphasis on improvements than on new building. On the average, 89% felt that more or much more money should be spent on highway improvement items, whereas 70% felt that more or much more money should be spent on highway construction items.

PERCEPTIONS OF IDEAL MODE OF TRANSPORTATION (QUESTIONS 13-17)

Respondents were asked to consider an ideal method of transportation for long-distance family and business trips and local work, shopping, and social trips. Each mode was rated on a 9-point scale, with 9 representing the ideal method of travel and 1 being furthest from the ideal.

The most ideal mode of transportation for long-distance

TABLE 27

RESPONSE TO STATEMENTS ON MONEY THAT SHOULD BE SPENT ON TRANSPORTATION IMPROVEMENTS (QUESTION 12)

TRANSPORTATION IMPROVEMENT		TOTAL RESPONDING		DISTR. OF RESPONDENTS (%)				
		NO.	%	MUCH LESS	LESS	SAME	MORE	MUCH MORE
Improve maintenance on existing highways	CRS	1,244	100.0	2.1	2.6	40.4	32.6	22.3
	NA	1,212	100.0	1.1	1.1	46.0	32.0	19.8
Build additional new rapid transit lines	CRS	1,198	100.0	6.9	6.6	37.1	24.4	25.0
	NA	1,146	100.0	6.1	6.0	41.9	23.3	22.7
Improve traffic signals and signs	CRS	1,241	100.0	1.4	2.2	33.7	32.5	30.2
	NA	1,215	100.0	0.8	1.7	36.9	35.7	24.9
Beautify highways	CRS	1,235	100.0	9.1	6.1	48.3	23.4	13.1
	NA	1,207	100.0	8.6	9.6	47.3	22.1	12.4
Build additional parking areas at train or rapid transit stations	CRS	1,212	100.0	6.0	6.9	41.4	25.2	20.5
	NA	1,152	100.0	5.3	6.4	47.2	24.5	16.6
Build additional downtown parking facilities	CRS	1,232	100.0	6.3	3.7	33.1	27.2	29.7
	NA	1,197	100.0	3.8	4.1	36.9	30.7	24.5
Add safety features to existing streets and highways	CRS	1,243	100.0	1.2	1.4	23.4	36.6	37.4
	NA	1,210	100.0	0.6	0.7	25.6	41.1	32.0
Improve traffic law enforcement	CRS	1,237	100.0	0.8	0.8	31.1	32.7	34.6
	NA	1,211	100.0	0.6	1.2	29.2	34.1	34.9
Build additional highways	CRS	1,231	100.0	4.0	4.3	42.3	29.3	20.1
	NA	1,195	100.0	2.9	3.5	43.6	30.5	19.5
Add more services (stations, rest stops, information) for users of rural freeways	CRS	1,234	100.0	5.3	6.1	43.0	25.7	19.9
	NA	1,200	100.0	4.8	6.7	48.4	23.8	16.3
Improve training and testing procedures related to auto drivers	CRS	1,238	100.0	0.6	2.6	27.8	30.5	38.5
	NA	1,210	100.0	0.8	1.1	27.4	33.2	37.5

TABLE 28

USUAL AND IDEAL METHODS OF TRANSPORTATION FOR A 500-MILE FAMILY TRIP (QUESTIONS 13 AND 13a) OR BUSINESS TRIP (QUESTIONS 14 AND 14a)

TRANSPORTATION MODE	DISTR. OF RESPONDENTS (%) ^a							
	FAMILY TRIP				BUSINESS TRIP			
	USUAL METHOD		IDEAL METHOD		USUAL METHOD		IDEAL METHOD	
	CRS ^b	NA ^c	CRS ^b	NA ^d	CRS ^b	NA ^d	CRS ^b	NA ^e
Automobile	68.9	69.4	50.3	47.2	23.7	26.5	23.4	23.6
Train	6.4	7.6	10.2	11.4	3.9	8.6	9.8	11.5
Bus	5.4	6.4	4.6	5.3	2.5	4.7	3.7	5.1
Airplane	9.4	11.6	32.9	36.0	23.8	39.4	59.4	60.2
Comb. air & auto	0.3	0.3	2.7	0.2	0.1	0.2	3.1	0.1
Other	0.1	0.1	0.3	0.3	—	—	0.2	0.1
Never took such trip	11.1	17.1	—	—	50.0	69.0	—	—

^a Multiple answers. ^b 2,513 responses. ^c 2,522 responses. ^d 2,503 responses. ^e 2,474 responses.

family trips (500 miles or more) was said to be the automobile (Table 29). Air transportation was rated almost as highly; 42% of the respondents rated the automobile as ideal (9 on the 9-point scale) and 39% rated air travel as ideal. Train and bus transportation received ideal ratings from 10% and 5% of the respondents, respectively.

The majority of respondents (59%) rated air travel as ideal for long-distance business trips (Table 29). The automobile was a poor second, with 23% rating it as ideal.

The great majority of respondents rated the automobile as ideal for local trips (Table 31): 74% rated it ideal for trips to work, whereas only 10% rated the subway and 9% rated train transportation as ideal. Similarly, 81% considered the auto as the ideal mode for shopping trips and 85% for social trips. The automobile is the indisputable favorite for local transportation and scores well for family trips, again underlining its importance to the American family. The significant conclusion is that it

TABLE 29

IDEAL METHOD FOR MAKING 500-MILE FAMILY TRIP (QUESTION 13b) OR BUSINESS TRIP (QUESTION 14b)

TRANSP. MODE	NO. OF RESPONSES	DISTR. OF RESPONSES (%)									
		CLOSEST TO IDEAL					FURTHEST FROM IDEAL				
		9	8	7	6	5	4	3	2	1	
(a) FAMILY TRIP											
Auto	CRS	2498	42.2	17.7	13.6	8.0	8.1	2.8	2.8	1.5	3.3
	NA	2482	49.0	15.1	12.9	6.4	7.2	2.0	2.5	1.9	3.0
Train	CRS	2494	10.3	12.8	15.8	10.1	14.8	7.5	7.9	7.4	13.4
	NA	2467	13.5	12.3	17.3	11.6	13.3	7.3	7.9	6.2	10.6
Bus	CRS	2494	4.8	7.2	11.2	10.3	13.0	9.5	11.8	10.1	22.1
	NA	2465	5.9	7.5	11.6	11.4	11.5	8.9	9.7	10.3	23.2
Airplane	CRS	2493	38.8	13.9	7.4	5.5	5.0	2.5	3.0	3.1	20.8
	NA	2456	42.0	10.6	6.6	4.1	4.7	2.5	2.6	4.3	22.6
(b) BUSINESS TRIP											
Auto	CRS	2444	23.0	19.1	14.5	9.6	11.7	5.5	5.5	3.5	7.6
	NA	2409	27.7	17.5	17.4	8.3	11.2	4.6	4.8	2.7	5.8
Train	CRS	2439	9.5	12.1	15.9	10.3	13.7	8.2	8.2	8.2	13.9
	NA	2387	13.6	12.9	16.5	10.7	13.6	7.5	7.6	7.0	10.6
Bus	CRS	2437	3.7	6.1	9.4	9.9	10.8	10.4	11.2	11.5	27.0
	NA	2383	6.0	5.6	10.5	10.0	11.3	8.4	9.8	11.3	26.1
Airplane	CRS	2439	58.6	10.0	4.9	2.4	2.4	1.2	1.5	2.1	16.9
	NA	2395	63.4	4.2	3.6	1.9	3.0	1.4	1.5	2.8	18.2

TABLE 30

USUAL AND IDEAL METHODS OF TRANSPORTATION FOR VARIOUS TRIP PURPOSES (QUESTIONS 15 AND 16)

TRANSP. MODE	DISTR. OF RESPONDENTS (%) ^a											
	WORK TRIPS				SHOPPING TRIPS				SOCIAL TRIPS			
	USUAL METHOD		IDEAL METHOD		USUAL METHOD		IDEAL METHOD		USUAL METHOD		IDEAL METHOD	
	CRS ^b	NA ^c	CRS ^d	NA ^e	CRS ^b	NA ^f	CRS ^g	NA ^h	CRS ^b	NA ^f	CRS ⁱ	NA ^j
Automobile	46.9	41.7	90.8	83.0	84.7	83.5	90.0	90.3	90.5	90.2	95.2	95.4
Bus	3.8	4.2	6.6	7.4	4.9	6.1	3.6	5.4	3.5	5.4	1.5	3.3
Subway	1.5	0.9	2.3	1.6	0.8	0.4	0.7	0.4	0.8	0.6	0.4	0.5
Train	0.4	0.4	2.1	2.0	— ^k	—	0.2	0.2	0.3	0.2	0.7	0.2
Trolley	— ^k	1.0	1.0	—	0.1	0.1	— ^k	—	0.1	—	0.2	—
Helicopter	—	—	—	0.5	—	—	0.2	—	—	—	— ^k	— ^k
Walk	4.2	3.5	7.6	5.3	7.6	8.3	5.1	4.2	2.0	2.1	1.3	0.8
Does not do	42.9	49.7	—	—	1.8	2.3	—	—	2.5	2.1	—	—
Other	0.3	0.3	2.4	1.6	0.2	0.1	0.2	0.3	0.3	0.1	0.7	0.5

^a Multiple answers. ^b 2,513 responses. ^c 2,508 responses. ^d 1,269 responses. ^e 1,253 responses. ^f 2,516 responses. ^g 2,478 responses. ^h 2,437 responses. ⁱ 2,457 responses. ^j 2,447 responses. ^k Less than 0.05%

TABLE 31

IDEAL METHOD FOR VARIOUS TRIP PURPOSES (QUESTION 17)

TRANSP. MODE	NO. OF RESPONSES	DISTR. OF RESPONSES (%)									
		CLOSEST TO IDEAL								FURTHEST FROM IDEAL	
		9	8	7	6	5	4	3	2	1	
(a) WORK (SCHOOL) TRIPS											
Auto	CRS	1,412	73.6	8.0	4.3	3.3	3.0	1.3	1.4	0.9	4.2
	NA	1,234	84.1	4.6	2.3	1.5	2.3	0.6	0.6	0.8	3.2
Bus	CRS	1,394	6.5	9.6	7.9	7.0	10.5	7.2	8.3	8.6	34.4
	NA	1,219	9.8	11.1	10.3	6.6	8.5	6.5	5.7	6.6	34.9
Subway	CRS	1,214	9.9	7.5	9.8	6.0	12.1	5.6	5.2	7.2	36.7
	NA	957	7.3	7.2	8.9	5.0	12.6	5.0	6.6	6.5	40.9
Train	CRS	1,216	9.1	7.4	8.9	8.9	11.9	6.2	5.5	7.0	35.1
	NA	981	5.6	8.1	6.6	5.4	11.6	6.8	6.5	9.1	40.3
(b) SHOPPING TRIPS											
Auto	CRS	2,446	81.2	7.8	3.5	2.0	1.7	0.7	0.8	0.6	1.7
	NA	2,408	89.8	3.3	1.9	0.9	1.5	0.5	0.5	0.5	1.1
Bus	CRS	2,424	3.7	9.9	7.4	6.5	10.7	7.0	8.6	8.7	37.5
	NA	2,383	6.4	12.0	8.9	5.4	10.2	5.7	8.1	9.5	33.8
Subway	CRS	2,055	4.9	4.2	6.9	5.4	11.7	6.0	7.9	8.6	44.4
	NA	1,860	2.7	5.1	5.2	4.5	11.3	5.6	6.8	10.2	48.6
Train	CRS	2,055	3.3	4.3	5.4	6.6	12.1	6.4	9.3	8.6	44.0
	NA	1,895	2.5	4.3	4.5	5.9	11.7	6.4	6.9	9.4	48.4
(c) SOCIAL TRIPS											
Auto	CRS	2,430	85.4	7.7	2.9	1.3	0.9	0.4	0.4	0.1	0.9
	NA	2,426	92.7	3.3	1.3	1.1	0.6	0.2	0.2	0.1	0.5
Bus	CRS	2,408	2.7	9.3	7.1	6.8	10.5	6.8	7.4	8.2	41.2
	NA	2,384	3.6	10.2	8.8	5.5	9.7	5.7	8.3	9.1	39.1
Subway	CRS	2,043	3.0	3.5	6.0	4.2	11.3	6.0	8.9	9.3	47.8
	NA	1,872	2.4	3.8	4.2	3.4	9.9	5.5	6.5	10.0	54.3
Train	CRS	2,045	2.6	4.0	5.1	6.7	12.0	5.9	8.2	8.5	47.0
	NA	1,905	2.4	3.4	4.6	5.0	10.6	6.0	7.8	9.4	50.8

is not only important in terms of use, but it also engenders favorable attitudes and perceptions.

Average scores across all trip purposes were developed for ratings of automobile and public transportation (bus, train, subway). One-half of the respondents averaged a rating of between 8 and 9 for automobiles (near the ideal). Thus, for one-half of the respondents, the automobile was close to the ideal no matter what the trip purpose. Less than 1% of the respondents averaged from 8 to 9 on public transportation (near the ideal). Overall, 88% rated the automobile as closer to rather than further from the ideal, 10% were neutral, and 2% rated it further from the ideal. In comparison, 12% of the sample rated public transportation as closer to rather than further from the ideal, 44% were neutral, and another 44% considered it further from the ideal.

Public transportation evokes neutral or negative perceptions, and the automobile uniformly evokes positive perceptions when compared to a hypothetical ideal.

Scores based on differences in ratings were developed for automobile vs public transportation, long-distance auto vs local auto, and auto for business vs auto for social use. These scores could range from -8 (if a respondent rated public transportation 9 and auto 1) to +8 (for the reverse). Two-thirds of the respondents rated automobiles at least 2½ scale points higher than public transportation on the 9-point scale. Yet only 1% of the sample rated public transportation at least 2½ scale points higher than the auto.

In comparing long-distance vs local automobile use, local use scored significantly higher. One-third of the respondents scored local auto at least 2½ scale points above long-distance auto, whereas less than 2% rated long-distance auto 2½ scale points higher than local auto. The majority of respondents did not express as strong a comparative preference as in the auto vs public transportation ratings.

Comparative ratings for auto use for business vs social purposes demonstrate slightly higher scores for social use; 18% rated social use of the auto at least 2½ scale points above business use of the auto and less than 1% rated business use of the auto at least 2½ scale points above social use of the auto. Forty percent of the respondents rated the auto the same, whether for business or social use.

In summary, the automobile elicits significantly more positive perceptions than public transportation. In considering trip purposes for the auto, local automobile use is regarded more positively than long-distance use, and use for social purposes is regarded somewhat more positively than use for business purposes. The automobile is thus perceived most positively for local social uses.

SATISFACTION WITH AUTOMOBILE AND PUBLIC TRANSPORTATION (QUESTION 18)

Question 18 asks the respondent to rate the degree of satisfaction derived from the automobile and public transportation for 15 transportation attributes. The ratings,

ranging from 1 (not at all satisfied) to 7 (completely satisfied), were summed across all attributes to derive an average auto and public transportation satisfaction score for each respondent.

The average rating for about one-half (51%) of the sample for autos was between 6 and 7 (from very much satisfied to completely satisfied) (Table 32). Only 6% of the sample fell in the 6-7 range in rating satisfaction derived from public transportation.

About 3% of the sample expressed general dissatisfaction with the auto across all attributes, 14% were neutral, and 83% expressed general satisfaction. For public transportation 20% of the sample expressed dissatisfaction, 23% were neutral, and 57% expressed general satisfaction in averaging across all attributes.

A difference score was computed for each respondent based on the satisfaction rating for automobiles vs public transportation. Scores ranged from +6 (completely satisfied with auto minus not at all satisfied with public transportation, yielding a 7 minus 1) to -6 (the reverse of the foregoing). Of the respondents, 79% were more satisfied with the auto than with public transportation, 17% saw no difference, and 4% were more satisfied with public transportation than with the automobile. Approximately 28% of the sample rated the automobile at least 2½ scale points better than public transportation; only 1% rated public transportation 2½ scale points above the auto.

IMPORTANCE OF TRANSPORTATION ATTRIBUTES (QUESTION 19)

Each respondent was asked to rate, on an importance scale, 15 different transportation attributes for one of the three types of trips—work, social, shopping. These trip purpose frames of reference were spread uniformly over all respondents by assigning a specific type of trip at random. The seven top ranking items when judged on the proportion of respondents rating them "of great importance" (Table 33) are as follows:

ITEM	%
Feel confident vehicle will get you to destination without accident	48
Feel confident vehicle would not need to be stopped for repairs	45
To feel independent of anyone else for your transportation	41
To not have to change vehicles	38
To be protected from weather while waiting for a ride	37
To travel in an uncrowded vehicle	32
To have a comfortable vehicle	31

The proportions of respondents assigning statements to scale positions were quite uniform over the different types of trips. The major exception was for the item "to make

TABLE 32

PEOPLES' FEELINGS IN REGARD TO AUTOMOBILE AND PUBLIC TRANSPORTATION ATTRIBUTES
(QUESTION 18)

ATTRIBUTE	TRANS. MODE	NO. OF RESPONSES	DISTR. OF RESPONSES ON SATISFACTION SCALE (%)							
			NOT AT ALL	VERY LITTLE	LITTLE	SOMEWHAT	GENERALLY	VERY MUCH	COMPLETELY	
Comfort of vehicle	Auto	CRS	1,223	0.8	0.8	0.9	3.2	17.7	23.6	53.0
		NA	1,226	0.7	0.7	0.7	3.7	20.8	23.4	50.0
	Publ.	CRS	1,210	24.4	11.5	10.7	19.6	18.0	9.2	6.6
Feeling of pride in vehicle	Auto	CRS	1,185	20.9	10.0	11.7	18.9	24.9	7.1	6.5
		NA	1,218	1.2	0.7	2.1	6.3	19.1	23.8	46.8
	Publ.	CRS	1,220	0.8	0.2	2.1	7.1	21.3	23.6	44.9
Confidence in no need for repairs	Auto	CRS	1,177	21.0	12.1	12.4	19.1	23.6	6.5	5.3
		NA	1,217	0.7	1.2	2.1	8.1	21.9	24.0	42.0
	Publ.	CRS	1,226	1.1	1.3	1.7	8.0	22.8	26.6	38.5
Speed with which you travel	Auto	CRS	1,205	10.8	4.5	8.0	12.4	22.6	19.3	22.4
		NA	1,178	11.0	5.3	4.6	12.9	26.0	19.1	21.1
	Publ.	CRS	1,218	0.9	1.0	1.6	5.3	21.0	19.9	50.3
Feeling of safety	Auto	CRS	1,225	0.6	0.5	0.9	4.7	19.8	28.5	45.0
		NA	1,202	12.7	8.7	10.3	16.7	23.4	10.8	17.4
	Publ.	CRS	1,176	12.9	6.6	7.7	16.1	27.6	15.3	13.8
Chance to relax	Auto	CRS	1,219	0.9	1.8	1.8	7.7	22.4	20.1	45.3
		NA	1,227	0.9	1.0	2.2	8.4	27.0	23.5	37.0
	Publ.	CRS	1,204	9.3	4.2	5.7	11.3	26.6	19.7	23.2
Chance to look at scenery	Auto	CRS	1,179	9.2	3.8	4.8	14.8	28.8	18.9	19.7
		NA	1,217	2.5	3.7	4.5	10.1	23.2	20.1	35.9
	Publ.	CRS	1,225	2.2	3.0	4.1	11.1	25.2	22.4	32.0
Newness of vehicle	Auto	CRS	1,203	10.3	6.8	9.1	13.5	24.4	16.8	19.1
		NA	1,181	11.3	5.9	7.9	13.0	25.2	17.9	18.8
	Publ.	CRS	1,213	2.3	3.8	5.6	12.2	25.6	16.2	34.3
Times you had to change vehicles	Auto	CRS	1,219	3.7	4.0	4.8	12.8	23.1	19.9	31.7
		NA	1,198	8.9	4.7	7.1	13.4	25.2	17.2	23.5
	Publ.	CRS	1,176	8.8	3.6	5.6	13.5	24.1	20.0	24.4
Feeling of independence	Auto	CRS	1,211	1.2	2.4	3.1	10.3	24.9	20.4	37.7
		NA	1,223	1.8	2.1	3.8	12.1	23.6	23.2	33.4
	Publ.	CRS	1,189	9.8	7.0	12.2	19.1	30.2	10.9	10.8
Crowdedness of vehicle	Auto	CRS	1,170	11.6	7.3	9.0	20.3	26.0	13.8	12.0
		NA	1,211	0.7	0.7	0.8	2.7	13.3	15.8	66.0
	Publ.	CRS	1,218	0.7	0.5	0.4	2.0	11.0	17.7	67.7
Cost of trip	Auto	CRS	1,188	17.8	9.4	13.7	17.9	19.4	7.8	14.0
		NA	1,171	19.9	9.0	10.2	15.5	22.4	9.0	14.0
	Publ.	CRS	1,214	1.4	0.8	1.1	3.5	12.8	20.4	60.0
Protection from weather before ride	Auto	CRS	1,224	0.7	0.5	1.1	3.6	16.6	22.1	55.4
		NA	1,194	20.0	10.5	14.3	18.7	18.3	8.6	9.6
	Publ.	CRS	1,175	18.1	10.5	14.5	19.5	20.6	7.9	8.9
Amount of traffic	Auto	CRS	1,214	1.0	1.3	0.9	3.9	13.8	18.9	60.2
		NA	1,223	0.4	0.2	0.7	4.0	14.1	22.6	58.0
	Publ.	CRS	1,194	20.4	14.5	16.6	18.3	16.7	6.0	7.5
Chance to ride with people you like	Auto	CRS	1,179	20.9	11.5	13.3	21.0	19.4	7.3	6.6
		NA	1,216	0.9	1.2	2.9	7.9	25.0	17.8	44.3
	Publ.	CRS	1,223	0.9	0.9	3.1	9.5	26.2	21.2	38.2
Chance to ride with people you like	Auto	CRS	1,196	12.8	8.6	11.6	18.7	26.5	8.9	12.9
		NA	1,170	12.6	6.8	9.2	19.1	26.0	12.5	13.8
	Publ.	CRS	1,206	0.7	1.1	1.2	4.3	15.1	18.7	58.9
Amount of traffic	Auto	CRS	1,222	0.3	0.5	1.2	2.5	14.7	21.1	59.7
		NA	1,194	21.5	13.2	14.5	14.0	17.1	8.1	11.6
	Publ.	CRS	1,174	23.9	13.1	11.6	15.9	19.0	8.2	8.3
Chance to ride with people you like	Auto	CRS	1,216	5.2	5.0	10.6	14.2	27.2	12.6	25.2
		NA	1,222	4.3	3.6	6.9	16.9	31.2	15.8	21.3
	Publ.	CRS	1,198	10.8	7.8	13.5	17.9	26.1	10.0	13.9
Chance to ride with people you like	Auto	CRS	1,174	11.1	6.8	10.3	19.8	28.5	11.9	11.6
		NA	1,209	0.8	0.4	1.1	3.9	15.9	18.9	59.0
	Publ.	CRS	1,221	0.5	0.6	0.9	2.4	14.4	22.7	58.5
Chance to ride with people you like	Auto	CRS	1,194	15.6	10.8	13.5	20.3	21.9	8.0	9.9
		NA	1,174	15.2	8.1	12.3	19.5	24.2	9.5	11.2

TABLE 33

THE IMPORTANCE OF CERTAIN FACTORS WHEN TAKING A TRIP (QUESTION 19)

FACTOR	NO. OF RESPONSES		DISTR. OF RESPONSES (%)						
			NOT AT ALL IMPORTANT	VERY LITTLE IMPORTANCE	MINOR IMPORTANCE	SOME IMPORTANCE	IMPOR- TANT	VERY IMPOR- TANT	GREAT IMPOR- TANCE
Feeling of pride from riding in own vehicle	CRS	1,201	7.6	6.3	12.4	14.8	19.3	17.1	22.5
	NA	1,217	7.6	5.1	11.3	17.4	21.9	17.9	18.8
Feel confident vehicle will get you to destination without accident	CRS	1,209	0.6	0.9	0.9	5.1	17.0	27.7	47.8
	NA	1,225	0.2	0.2	0.7	4.4	16.0	26.8	51.7
Feel confident vehicle would not need repairs	CRS	1,208	0.7	0.5	0.7	3.3	17.7	32.3	44.8
	NA	1,224	0.3	0.1	1.0	4.0	15.4	33.6	45.6
To have a comfortable vehicle	CRS	1,208	0.8	1.9	4.4	11.5	22.6	27.9	30.9
	NA	1,225	0.8	1.4	3.0	10.0	24.1	30.8	29.9
To make the trip as fast as possible	CRS	1,208	6.4	4.8	13.6	24.8	20.9	12.3	17.2
	NA	1,225	6.6	6.3	17.2	24.4	19.8	12.3	13.4
To be able to look at the scenery as you travel	CRS	1,207	7.9	6.1	14.1	24.2	20.7	12.3	14.7
	NA	1,219	7.1	6.2	15.3	23.8	23.5	12.0	12.1
To ride in a new modern vehicle	CRS	1,208	7.6	7.9	17.8	21.6	19.6	12.7	12.8
	NA	1,217	8.2	6.0	18.6	24.0	18.7	11.8	12.7
To not have to change vehicles	CRS	1,205	1.4	1.3	4.1	9.0	21.6	24.4	38.2
	NA	1,219	2.1	1.2	4.0	8.9	20.8	25.8	37.2
To feel independent of anyone else for your transportation	CRS	1,206	2.6	1.4	5.1	8.9	18.6	22.4	41.0
	NA	1,214	3.0	1.5	4.6	8.0	18.2	22.2	42.5
To travel in an uncrowded vehicle	CRS	1,209	1.3	1.9	5.4	15.2	22.2	22.5	31.5
	NA	1,217	1.6	1.4	5.3	12.8	25.9	22.9	30.1
The cost of the trip	CRS	1,207	3.1	2.3	7.0	17.1	27.6	18.5	24.4
	NA	1,220	2.2	2.3	6.2	14.8	27.1	23.9	23.5
To be protected from the weather while waiting for ride	CRS	1,204	1.5	1.1	3.0	10.3	23.3	24.3	36.5
	NA	1,215	1.4	0.9	2.0	8.7	25.0	26.7	35.3
To travel in a vehicle at times when traffic is light	CRS	1,210	2.4	2.7	7.3	18.7	26.4	19.3	23.2
	NA	1,216	1.8	3.6	7.3	18.7	28.9	18.1	21.6
To ride with people you like	CRS	1,209	3.0	2.0	7.3	14.5	26.7	20.9	25.6
	NA	1,219	1.9	3.1	6.0	15.1	27.1	22.3	24.5
To be able to relax	CRS	1,211	1.2	0.7	4.6	13.2	27.6	24.0	28.7
	NA	1,221	0.6	1.5	4.8	14.2	25.3	25.3	28.3

the trip as fast as possible." For this item, a greater proportion of respondents rated it "very important" and "of great importance" for the shopping trip than for the work or social trip.

AUTOMOBILE USE (QUESTIONS 22-27)

Respondents averaged 3½ transportation trips * on weekdays and 2½ on weekend days. On weekdays 38% averaged six or more trips, and 21% averaged 6 or more trips on weekend days. The length of the average trip was 3 miles on both weekdays and weekend days (Table 34.) The length of the average trip was more than 5 miles for about one-fourth of the respondents. Respondents used an average of 3 different transportation modes on an average weekday and 2 different modes on the average Saturday or Sunday. About one-fifth of the sample used 5 or more different modes on the average

weekday, whereas 5% used 5 or more modes on an average weekend day. From one-fourth to one-third of the sample appears to be heavy travelers, averaging more and longer trips, and using more diverse modes of travel.

The average respondent drove 12,000 miles in the past year. Fourteen percent of the respondents drove more than 30,000 miles; 10% drove less than 3,000 miles (Table 35).

Work trips represented 46% of all vehicle-miles driven for the average household; family trips 22%; social trips 15%; trips for educational, civic, or religious purposes 7%; and vacation trips 10% (Table 36).

In considering the percentage of miles traveled by mode, the automobile represents by far the greatest proportion (Table 37). The automobile represented more than 80% of the total miles traveled for more than three-fourths of the respondents. Other transportation modes were insignificant in comparison. The next most important was air travel, but it accounted for more than 80% of total miles traveled for only 1% of the sample. Automobile travel represents less than 5% of total miles traveled

* It should be noted that trip information in this report is based on one individual 18 years of age or older. This is in contrast to conventional O-D studies, which are usually based on all household members 5 years of age or older.

TABLE 34
PURPOSE OF YESTERDAY'S TRIPS (QUESTION 20a)

TRIP PURPOSE	DISTR. OF TRIPS (%)	
	CRS ^a	NA ^b
Business, work	17.2	18.0
Shopping	10.6	11.0
Social, eating or drinking out	10.8	10.7
School	0.9	0.6
Personal business, personal services	6.7	6.1
Church	2.3	2.8
Amusement, recreation	3.4	3.0
Provide transportation for another	4.7	4.3
Return home, return to lodging	41.0	41.8
Other	2.4	1.7
All	100.0	100.0

^a 8,201 trips. ^b 7,834 trips.

for only 2½% of the sample. In comparison, public transportation represents less than 5% of miles traveled for 86% of the respondents, train travel for 95%, air travel for 86%, and intercity bus for 94%.

For the average respondent, automobile travel represented 78%, local public transportation 7%, train travel 4%, air 7%, and intercity bus 4% of the total miles traveled.

LEVEL OF KNOWLEDGE AND OPINION OF HIGHWAY PLANNING AND FUNDING (QUESTIONS 23-29, FORM B)

A number of questions were designed to determine a respondent's interest in, knowledge of, and opinion of highway planning and funding.

When asked if they had ever gone to a public hearing on proposed highways (Q. 23, form B), only 3% of the respondents answered in the affirmative (Table 38), yet 59% stated that they would attend such hearings (Q. 24, form B) if they thought that their opinions would carry weight (Table 39). This would suggest an active interest in highway planning, in accordance with the importance placed on the automobile.

TABLE 36
MILES TRAVELED BY HOUSEHOLD IN PAST 12 MONTHS, BY PURPOSE OF TRIP (QUESTION 26)

TRIP PURPOSE	CRS
Work and related business	46.0
Family or personal business	22.0
Social, and/or recreation	15.0
Education, civic, religious	7.0
Vacation	10.0
All	100.0

TABLE 35
METHOD OF TRAVEL USED FOR YESTERDAY'S TRIPS (QUESTION 20b)

TRANSP. MODE	DISTR. BY MODE (%)	
	CRS ^a	NA ^b
Automobile	84.9	85.4
Bus	2.5	3.0
Subway	0.8	0.7
Train	0.3	0.2
Trolley	—	0.1
Airplane	— ^c	— ^c
Motorcycle	0.2	0.1
Boat	0.2	— ^c
Walk	10.3	10.4
Other	0.8	0.1
Helicopter	— ^c	—
All	100.0	100.0

^a 8,196 trips. ^b 7,834 trips. ^c Less than 0.05 percent.

Knowledge of sources of money for highway construction (Q. 25, form B) was generally accurate (Table 40). The three sources most frequently cited were motor fuel tax (71% of respondents mentioned this source), registration and license fees (55%), and toll charges (53%). About one-fourth of the respondents mentioned income tax and one-sixth property taxes.

In considering where additional sources of money should be obtained (Q. 26, form B), respondents generally cited the same sources (Table 41). Fuel tax, license fees, and toll charges were again the most frequently mentioned. Thus, respondents feel that additional money should come from existing rather than new sources.

Respondents were also asked whether Federal, state or local highway authorities had responsibilities in various planning areas (Q. 27, form B). Respondents attributed responsibility for planning highway locations primarily to the state and secondarily to Federal or local authorities (Table 42). As for highway construction, 91% viewed the state, 62% the Federal government, and 52% local officials, as having major responsibilities in this area.

TABLE 37
MILES TRAVELED BY RESPONDENT IN PAST 12 MONTHS, BY MODE OF TRAVEL (QUESTION 27)

TRANSP. MODE	CRS
Auto	78.0
Local public transp.	7.0
Train	4.0
Airplane	7.0
Intercity bus	4.0
All	100.0

TABLE 38

HAVE YOU EVER GONE TO A PUBLIC HEARING OR MEETING TO EXPRESS YOUR VIEWS ON PROPOSED HIGHWAYS? (QUESTION 23, FORM B)

RESPONSE	DISTR. OF RESPONSES (%)	
	CRS ^a	NA ^b
Yes	3.3	3.5
No	96.7	96.5
All	100.0	100.0

^a 1,248 responses. ^b 1,258 responses.

TABLE 39

WOULD YOU TAKE A MORE ACTIVE PART IN PUBLIC HEARINGS IF YOU THOUGHT YOUR OPINIONS WOULD EVER CARRY ANY WEIGHT? (QUESTION 24, FORM B)

RESPONSE	DISTR. OF RESPONSES (%)	
	CRS ^a	NA ^b
Yes	58.8	52.9
No	41.2	47.1
All	100.0	100.0

^a 1,246 responses. ^b 1,252 responses.

TABLE 40

FROM WHICH OF THE FOLLOWING KINDS OF TAXES AND CHARGES DO YOU THINK THE MONEY COMES TO BUILD HIGHWAYS? (QUESTION 25, FORM B)

SOURCE OF MONEY	DISTR. OF RESPONSES (%)	
	CRS ^a	NA ^b
Motor fuel tax	71.5	69.0
Motor veh. regis. or lic. fees	55.0	53.5
Income tax	27.8	22.3
Toll charges	53.4	43.8
Property tax	17.3	17.1
Other	6.1	2.8
All	100.0	100.0

^a 1,253 responses. ^b 1,199 responses.

TABLE 41

IF MORE MONEY IS NEEDED TO BUILD HIGHWAYS, FROM WHICH OF THESE SOURCES SHOULD ADDITIONAL MONEY BE OBTAINED? (QUESTION 26, FORM B)

SOURCE OF MONEY	DISTR. OF RESPONSES (%)	
	CRS ^a	NA ^b
Motor fuel tax	48.8	48.4
Motor veh. regis. or lic. fees	40.4	39.5
Income tax	16.4	12.0
Toll charges	45.1	42.4
Property tax	6.4	5.0
Other	7.6	10.4
All	100.0	100.0

^a 1,253 responses. ^b 1,140 responses.

TABLE 42

RESPONSIBILITY FOR MAJOR HIGHWAY FUNCTIONS, BY LEVEL OF GOVERNMENT (QUESTION 27, FORM B)

MAJOR HIGHWAY FUNCTION	DISTR. OF RESPONSES ^a (%)					
	FEDERAL		STATE		LOCAL	
	CRS ^b	NA ^c	CRS ^d	NA ^e	CRS ^e	NA ^f
Highway location	58.4	49.3	87.8	82.3	58.0	43.8
Highway construction	61.9	47.0	91.2	83.2	51.7	37.7
Highway maintenance	37.6	30.6	92.0	88.6	63.8	52.4
Law enforcement on highways, in urban areas	26.8	20.4	81.9	73.3	77.0	73.1
Traffic signals on highways	31.6	25.3	85.7	79.6	70.3	61.7

^a Multiple responses. ^b 1,194 responses. ^c 1,179 responses. ^d 1,201 responses. ^e 1,192 responses. ^f 1,177 responses.

Highway maintenance was also viewed primarily as the responsibility of the state, and secondarily of local and Federal authorities. As for law enforcement and traffic signals, responsibility in these areas was assigned equally to state and local officials, few respondents regarding the Federal authorities as having major responsibilities in these areas. Thus, the state was assigned the major role in all areas of planning responsibility.

When asked whether automobiles and trucks pay their fair share for maintenance and construction (Q. 28 and 29, form B), 70% felt that the automobile paid a fair share and 23% felt that it paid more than its fair share; 54% felt that trucks paid an equitable share, yet 33% felt that trucks paid less than their fair share (Table 43). The significant majority of respondents apparently had little grievance with the amount in tolls and taxes paid by automobile owners for highway maintenance and construction. The automobile is important, is used frequently, and most respondents were quite willing to take their burden of the costs. Yet a number who stated that the auto was paying a fair share did feel that truck owners could take more of the tax and toll burden.

NEGATIVELY BIASED QUESTION (QUESTION 28)

This question* was designed to give respondents the greatest latitude in finding fault with the automobile. Despite the built-in bias, 85% of the respondents felt that the automobile was worth any alleged shortcomings (Tables 44, 45, and 46). This again reflects the overall positive perceptions of the automobile.

SUMMARY

It is apparent from the foregoing results that the automobile is the most significant mode of transportation for the American family. Beyond this, it is a way of life,

* "The automobile pollutes the air, and creates traffic congestion. Highway development demolishes homes and often destroys previously attractive landscapes. The increasing number of automobiles, together with inadequate highways, kill over 50,000 people every year. In your opinion, is the contribution the automobile makes to our way of life worth this? Why do you feel this way? What about the future? What steps do you think should be taken to solve these problems?"

TABLE 44

THE AUTO POLLUTES AIR, CREATES TRAFFIC, DEMOLISHES PROPERTY, AND KILLS PEOPLE: IS THE CONTRIBUTION THE AUTO MAKES TO OUR WAY OF LIFE WORTH THIS? (QUESTION 28)

RESPONSE	DISTR. OF RESPONSES (%)	
	CRS ^a	NA ^b
Yes	84.7	84.2
No	15.3	15.8
All	100.0	100.0

^a 2,463 responses. ^b 2,467 responses.

TABLE 43

OF THE TOTAL MONEY SPENT FOR ROAD MAINTENANCE AND CONSTRUCTION, DO YOU FEEL PRIVATE AUTOS OR TRUCKS ARE PAYING— (QUESTIONS 28 AND 29, FORM B)

RATIO TO FAIR SHARE	DISTR. OF RESPONSES (%)			
	PVT. AUTOS		TRUCKS	
	CRS ^a	NA ^b	CRS ^c	NA ^d
More	22.4	23.4	12.8	11.3
Same	69.7	71.1	54.0	59.3
Less	7.9	5.5	33.2	29.4
All	100.0	100.0	100.0	100.0

^a 1,104 responses. ^b 1,076 responses. ^c 1,020 responses. ^d 937 responses.

an extremely important part of the social and cultural environment and of everyday life. It is the most frequently used form of transportation, is most important in work, social and community affairs, and will become increasingly more important with changes in life patterns and community facilities.

The importance of the automobile does not necessarily mean that owners must have a positive attitude or place a high value on this transportation mode. In fact, one might hypothesize that many might consider it a necessary evil. The survey results demonstrated that this was not the case. Respondents almost uniformly held positive attitudes toward the automobile in rating its role in society and its value relative to public transportation. The level of satisfaction for the automobile was high and it was the mode that was without question closest to the ideal method

TABLE 45

WHY DO YOU FEEL THE AUTO IS NOT WORTH THIS (QUESTION 28a)

REASON	DISTR. OF RESPONDENTS ^a (%)	
	CRS ^b	NA ^c
Life more important	43.7	57.6
Freedom from air pollution more important	15.1	18.6
Not sure sacrifice is merited	12.4	32.8
Freedom from traffic more important	7.1	8.7
Property more important	6.9	6.7
Scenery, natural beauty more important	4.7	2.6
Health, unspecified, more important	2.1	0.9
Freedom from injury more important	0.8	3.2
Money could be used to greater advantage in providing better life or society	0.2	2.0
Others	17.2	1.2

^a Multiple answers. ^b 377 responses. ^c 345 responses.

TABLE 46
WHY IS THE AUTOMOBILE WORTH THIS?
(QUESTION 28a)

REASON	DISTR. OF RESPONSES ^a (%)	
	CRS ^b	NA ^c
Auto is only form of transportation available	45.9	49.1
Society or way of life depends on auto	28.0	24.0
Drivers, not auto, cause death, congestion	22.1	23.8
Convenient or easy form of transportation	16.3	14.7
Supplements public transportation, which is inadequate	14.1	7.9
Auto is only form acceptable to me	11.2	16.2
Makes one independent of public transportation	11.0	5.4
Merits sacrifice; good outweighs harm	7.6	13.5
Has contributed to economy, prosperity	5.1	5.9
Auto is fast, time saving	4.9	9.7
Auto is relaxing, comfortable, adapted to recreational purposes	4.3	6.3
Auto is economical, cheaper	3.9	4.0
Public transportation or other factors contribute to pollution as well as autos	3.6	4.4
Public transportation or other factors cause death or accidents as well as autos	2.5	3.6
Fatalism	2.0	2.5
Auto services provide my livelihood	1.1	0.6
Population increase will make all forms of transportation more important	0.2	1.1
Others	2.2	0.2

^a Multiple answers. ^b 2,086 responses. ^c 2,031 responses.

of transportation for all except long-distance business trips.

The consistently positive attitudes, opinions, and values attributed to the automobile by a large segment of the sample presents the possibility that many respondents are demonstrating a "halo effect" in viewing the automobile. To these respondents, the automobile is so important a part of their lives that it can "do no wrong." Any evaluation of the automobile, no matter what the context, must be positive. No such effect was found for public transportation.

Attitudes toward highway planning were generally positive, but not as clear-cut. The general consensus seemed to be to maintain the status quo—that is, the feeling that highway planners generally know what they are doing and should either keep the same level of expenditures or do more of the same. Yet the uniformly positive attitudes and values placed on the auto did not appear to carry over to the facilities the automobile uses.

An analysis of the summary data has yielded some interesting findings. Yet these findings are one-dimensional in nature—they pertain to the total sample. The following

TABLE 47
WHAT STEPS DO YOU THINK SHOULD BE TAKEN TO
SOLVE THE PROBLEMS CAUSED BY THE USE OF
AUTOMOBILES? (QUESTION 28b)

SUGGESTION	DISTR. OF RESPONSES ^a (%)	
	CRS ^b	NA ^c
Strict enforcement of traffic laws	23.5	27.4
Devise method to control auto fumes	15.1	21.0
Build safer autos	14.5	15.1
Revise driver test requirements	14.1	16.1
Better or more driver education	12.9	12.8
Improve highways	12.1	11.7
Create program of public education to develop highway safety awareness	10.1	11.9
Eliminate, penalize drunken drivers	8.9	10.1
Provide more or better public transportation	7.3	9.6
Reduce horsepower of autos	7.2	7.5
Build wider highways	6.9	5.6
Revise age requirements	6.7	9.6
Develop electric, battery-powered auto	6.4	5.5
Better inspection system or laws to remove unsafe autos from operation	5.0	5.7
Reduce speed (non-specific reference)	5.0	4.0
Create more, better, uniform highway signs	4.9	4.5
Devise method to control fumes (non-spec.)	4.3	5.9
Develop rapid transit system	4.1	4.2
Reduce speed limit	4.0	3.6
Build more highways	4.0	5.5
Build faster, or improve, expressways	3.9	3.3
Build highways planned by sound research	3.5	3.0
Draft laws to insure safety	3.3	5.3
Better, more constructive program of land use in highway planning	2.9	3.9
Build safer highways	2.7	1.4
Improve fuels to eliminate exhaust fumes	2.5	3.9
Improve highway beauty	1.9	1.8
Eliminate fumes not caused by auto	1.9	3.0
Improve secondary or local roads	1.6	0.6
Reduce number of cars on highway	1.6	2.0
Improve specific features of highways	1.3	2.6
Require governors on autos	1.2	1.3
Draft and enforce air pollution laws	1.2	1.2
Build separate highways for trucks	0.9	0.6
Restrict, prohibit autos in center city	0.8	0.6
More research, unspec.	0.8	1.2
Eliminate, penalize drivers using drugs	0.6	0.9
Program of compulsory insurance	0.6	0.8
Others	8.5	2.6

^a Multiple answers. ^b 2,513 responses. ^c 2,152 responses.

chapter considers many of the variables described in this chapter, with the findings broken down by region, population density, and income level, as based on selected cross-tabulations.

TABLE 48
DEGREE OF AGREEMENT WITH STATEMENTS ABOUT HIGHWAYS, AUTOS, DRIVERS (QUESTION 30)

STATEMENT	NO. OF RESPONSES		DISTR. OF RESPONSES ON AGREEMENT SCALE (%)				
			STRONGLY DISAGREE	DISAGREE	NEITHER	AGREE	STRONGLY AGREE
Highways in urban areas are ugly	CRS	1,245	17.4	19.7	38.4	14.1	10.4
	NA	1,236	21.2	18.3	37.6	13.5	9.4
Autos are attractive	CRS	1,247	1.6	2.6	18.8	39.5	37.5
	NA	1,244	0.8	2.8	17.0	43.2	36.2
Interstate System is one of the nation's greatest works	CRS	1,244	1.2	2.5	14.5	31.2	50.6
	NA	1,239	1.2	2.7	14.8	32.9	48.4
Present highway system is necessary to maintain my present way of life	CRS	1,246	4.5	3.9	12.8	30.6	48.2
	NA	1,237	3.1	4.1	16.4	31.5	44.9
Highway problems are primarily in urban areas	CRS	1,241	13.8	18.9	30.4	19.4	17.5
	NA	1,227	12.2	16.9	33.5	22.6	14.8
Better driver training and testing procedures are needed	CRS	1,247	2.8	4.7	12.2	23.4	56.9
	NA	1,238	2.1	5.7	12.0	24.6	55.6
Should make more frequent re-exam of auto drivers	CRS	1,249	5.6	6.6	13.9	23.3	50.6
	NA	1,238	4.3	5.7	13.7	25.3	51.0

CHAPTER FOUR

TRANSPORTATION ATTITUDES, VALUES, AND USES

Cross-tabulation analysis is essentially a comparative type of analysis. In comparing one sample segment with another, the typical statement is that one demographic, attitudinal, or behavioral segment has more of some attribute than does another segment. In this sense, it is important to distinguish between a comparative and an absolute type of analysis. For instance, the cross-tabulation analysis may demonstrate that a greater proportion of respondents from the East held lower opinions of the automobile's social dimension than respondents from other areas. Yet such a result may be misleading, because only 5% of the total sample demonstrated such negative attitudes and the large majority of Eastern respondents regarded the social role of the automobile favorably. At face value, the foregoing statement might be taken to mean that respondents from the East view the automobile negatively (an absolute statement). Of course, such an interpretation would be false, the correct interpretation being that, although Eastern respondents view the automobile somewhat less positively than do respondents in other areas, the preponderant attitude is positive.

This suggests that findings from the cross-tabulations must be viewed in the perspective of the total sample, and that the comparative statements regarding particular subsegments of the sample should not be taken in absolute terms.

ANALYSIS BY REGION

Most of the attitudinal, value, and transportation use questions were tabulated by region. The geographic regions are made up of the following divisions or States (see Fig. 1):

- East—New England, Middle Atlantic, plus Delaware, Maryland, District of Columbia
- North Central—East and West North Central
- South—East and West South Central, plus South Atlantic (except Delaware, Maryland, District of Columbia)
- West—Mountain and Pacific

Effects of Life and Community Changes (Question 6)

Respondents in the West had by far the greatest number of changes in life situation; those in the South, the fewest. The West and North Central regions also reported the greatest number of changes in community facilities; the East, the fewest such changes.

In considering the effects of these changes on public transportation, the greatest proportion of all respondents saw no change in public transportation use as a result

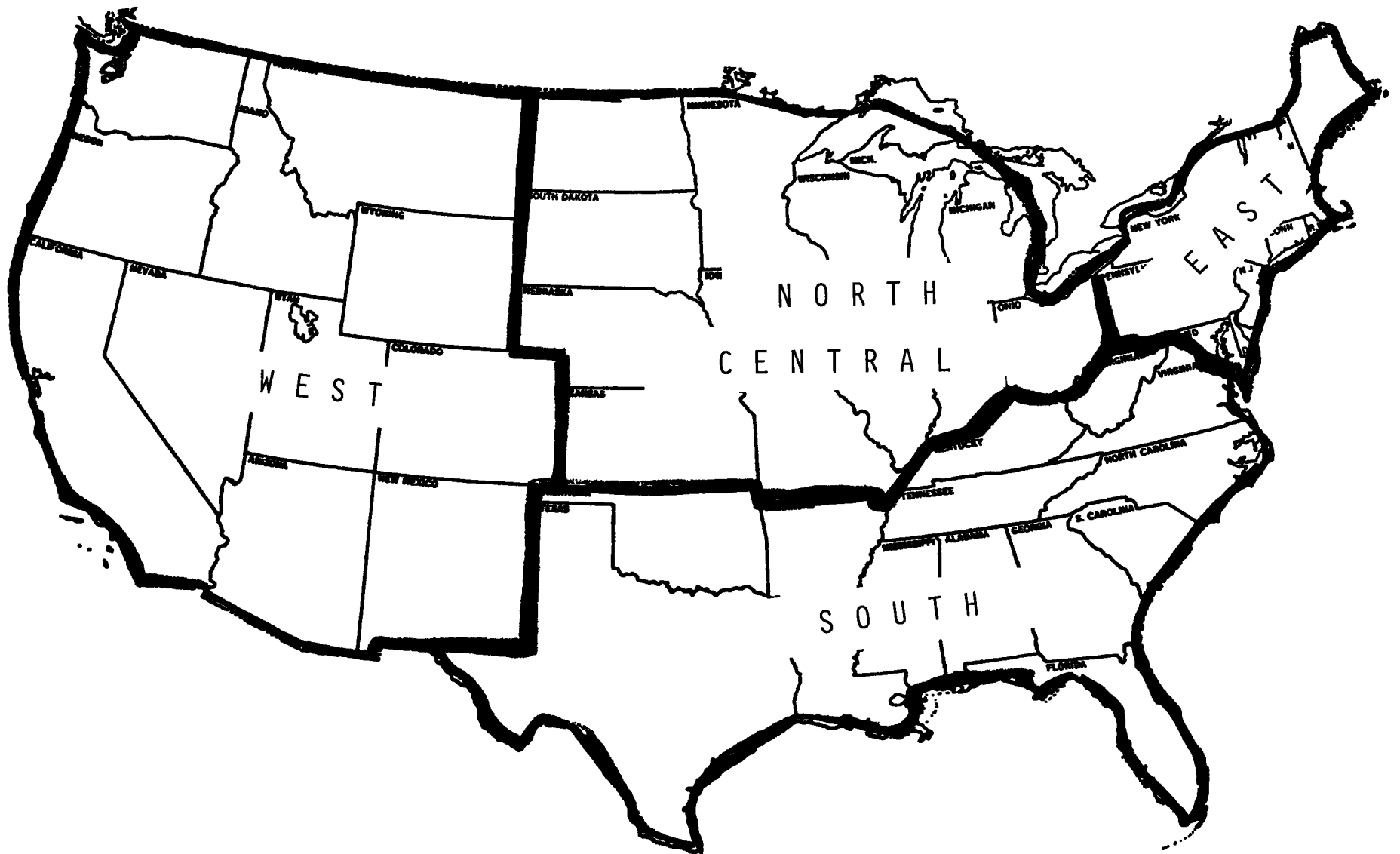


Figure 1. Geographical regions used for regional analyses in this study.

of changes in life situation and community facilities (Table 49). Eastern respondents showed the greatest alteration in public transportation use, with both a greater increase and decrease in use compared to other areas. The South had a somewhat greater than average decrease in public transportation use; the West, a somewhat greater increase.

Life or community changes tended to increase automobile use. The West had a proportionately greater increase in automobile use as a result of life and community changes, the North Central States a proportionately larger group which had no change in automobile use (Table 50).

Eastern respondents were not clearly differentiated from the respondents in other regions by the effects of life and community change on transportation use.

Quality and Allocation of Money Ratings for Highways and Public Transportation (Questions 7 and 8)

A larger proportion of respondents from the East and South showed a willingness to allocate more money to roads and highways (Table 51). Respondents from the Western and North Central States rated the quality of roads and highways more positively; a higher proportion of respondents from the East gave neutral ratings.

In evaluating *public transportation facilities*, respondents from the East were more disposed to give higher ratings and to allocate more money and effort than the rest of the sample (Table 51). A greater proportion of Western respondents rated these facilities low on quality, yet also tended to advocate more spending. Individuals from the North Central States were least likely to suggest greater outlays in money and effort.

Ratings for all *ten public services* listed in Question 7 demonstrate that respondents from the South and East were least satisfied with public services, yet were most willing to suggest greater allocation of money and effort. Respondents from the North Central States were most satisfied with public facilities and were less likely to consider greater allocations of resources. The West was about average in its ratings of quality of public services, yet was also less likely to suggest greater money and effort expenditures.

Attitudes Toward the Automobile, Public Transportation, and Highway Planning and Building (Questions 9, 10, 11, and 12)

In expressing attitudes toward required improvements in automobile vs public transportation (Question 9), a sig-

TABLE 49

REGIONAL DISTRIBUTION OF AVERAGE CHANGE IN USE OF PUBLIC TRANSPORTATION CAUSED BY LIFE CHANGES (QUESTION 6)

REGION	DISTR. OF RESPONDENTS (%)												% OF TOTAL SAMPLE
	DECREASE 1		2		NO CHANGE 3		4		INCREASE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	24	6.5	24	6.5	245	66.4	41	11.1	35	9.5	369	100.0	32.5
N. Cent.	7	2.1	15	4.5	267	79.2	34	10.1	14	4.2	337	100.0	29.6
South	17	6.8	21	8.4	178	71.2	26	10.4	8	3.2	250	100.0	22.0
West	8	4.4	6	3.3	135	74.6	21	11.6	11	6.1	181	100.0	15.9
All	56	4.9	66	5.8	825	72.6	122	10.7	68	6.0	1137		100.0

TABLE 50

REGIONAL DISTRIBUTION OF AVERAGE CHANGE IN USE OF AUTOMOBILE CAUSED BY LIFE CHANGES (QUESTION 6)

REGION	DISTR. OF RESPONDENTS (%)												% OF TOTAL SAMPLE
	DECREASE 1		2		NO CHANGE 3		4		INCREASE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	13	3.5	14	3.8	166	44.8	68	18.3	110	29.6	371	100.0	32.4
N. Cent.	13	3.8	20	5.9	144	42.4	82	24.1	81	23.8	340	100.0	29.7
South	14	5.6	13	5.2	90	35.9	55	21.9	79	31.4	251	100.0	22.0
West	7	3.8	5	2.8	61	33.5	55	30.2	54	29.7	182	100.0	15.9
All	47	4.1	52	4.5	461	40.3	260	22.7	324	28.3	1144		100.0

TABLE 51

REGIONAL DISTRIBUTION OF QUALITY RATING OF ROADS AND HIGHWAYS AND PUBLIC TRANSPORTATION BY SPENDING RATING (QUESTIONS 7 AND 8)

REGION	SPENDING RATING	DISTR. OF RESPONDENTS (%) FOR QUALITY RATING OF							
		ROADS AND HIGHWAYS				PUBLIC TRANSPORTATION			
		—	0	+	TOTAL	—	0	+	TOTAL
East	—	0.4	1.5	1.8	3.7	1.9	1.5	1.5	4.9
	0	1.3	8.8	31.6	41.7	8.9	10.4	23.7	43.0
	+	14.3	16.8	23.5	54.6	26.4	11.9	13.8	52.1
	Total	16.0	27.1	56.9	100.0	37.2	23.8	39.0	100.0
N. Cent.	—	0.1	0.4	3.9	4.4	4.8	1.9	2.1	8.8
	0	1.4	6.9	37.3	45.6	11.0	13.9	27.2	52.1
	+	10.1	16.6	23.3	50.0	20.0	9.1	10.0	39.1
	Total	11.6	23.9	64.5	100.0	35.8	24.9	39.3	100.0
South	—	0.2	0.0	1.3	1.5	3.3	1.8	2.1	7.2
	0	1.2	6.3	29.0	36.5	9.7	12.0	24.7	46.4
	+	18.2	15.9	27.9	62.0	27.1	9.6	9.7	46.4
	Total	19.6	22.2	58.2	100.0	40.1	23.4	36.5	100.0
West	—	0.3	0.5	2.1	2.9	1.1	1.9	1.1	4.1
	0	2.3	7.7	42.0	52.0	7.4	16.1	22.7	46.2
	+	4.9	15.6	24.6	45.1	33.0	10.6	6.1	49.7
	Total	7.5	23.8	68.7	100.0	41.5	28.6	29.9	100.0
All	—	0.2	0.7	2.3	3.2	2.9	1.7	1.7	6.3
	0	1.4	7.5	34.2	43.1	9.4	12.7	24.8	46.9
	+	12.6	16.3	24.8	53.7	25.9	10.4	10.5	6.8
	Total	14.2	24.5	61.3	100.0	38.2	24.8	37.0	100.0

nificantly higher proportion of respondents from Eastern States gave greater priority to improvements in automobile transportation (Table 52). To a lesser extent, this was also true of Western respondents. Respondents from North Central and Southern States were less prone to emphasize improvements in automobile transportation facilities at the expense of public transportation.

The East clearly expressed the least favorable attitude in evaluating the social role of the automobile (Question 10)

(Table 53). This is consistent with their greater predisposition compared to other areas to accept the negatively biased question (Question 28), and to agree that the automobile is not worth the expressed disadvantages. The South was most favorable to the automobile's role in American society.

Summary attitudinal ratings (Table 54) also demonstrated that Eastern respondents were definitely less favorable to highway planning and planners (Question 11) com-

TABLE 52

REGIONAL DISTRIBUTION OF RESPONDENTS BY WEIGHTED SCORE FOR PUBLIC TRANSPORTATION MINUS WEIGHTED SCORE FOR THE AUTOMOBILE FOR SERIES OF STATEMENTS ABOUT PUBLIC TRANSPORTATION AND AUTOMOBILE TRANSPORTATION (QUESTION 9)

REGION	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	LEAST FAVORABLE TO AUTO						MOST FAVORABLE TO AUTO						TOTAL		
	1		2		3		4		5		6		NO.	%	
East	18	2.4	60	8.2	82	11.2	124	16.8	261	35.6	187	25.8	732	100.0	32.5
N. Cent.	34	5.5	82	13.3	96	15.5	136	22.0	167	27.0	103	16.7	618	100.0	27.5
South	34	6.4	84	15.7	113	21.1	87	16.3	123	23.0	94	17.4	535	100.0	23.8
West	15	4.1	38	10.4	50	13.7	74	20.3	118	32.3	70	19.2	365	100.0	16.2
All	101	4.5	264	11.7	341	15.2	421	18.7	669	29.7	454	20.2	2250		100.0

pared to the average respondent. The South (and to a lesser extent the North Central States) was more favorable than average.

One word of caution in interpreting these results: The foregoing results should *not* read "Eastern respondents are *not* favorably predisposed to the automobile's social role or to highway planning." Most of them are favorably disposed and express positive attitudes. The findings are basically comparative, as are all cross-tabulation results that divide data into subsegments of the sample. The findings demonstrate that Eastern respondents are less favorably disposed on the average compared to respondents from other regions, yet the overall attitude remains positive.

Ratings for highway improvements (Question 12) showed that the East, North Central and South expressed a greater willingness to allocate much more money to improvements, whereas the West was significantly more reluctant to do so (Table 55). Respondents from the East and South were more likely to suggest greater allocations of money and effort for highway construction than respondents from the Western and North Central States (Table 56).

Perceptions of Auto Compared to Ideal Mode of Transportation (Questions 13-17)

Most respondents tended to rank the automobile close to the ideal mode of transportation, yet respondents in the East were somewhat less disposed to do so (Table 57a). A larger proportion of respondents from the South rated the auto as ideal compared to respondents in other regions. In rating public transportation, the West clearly showed greater dissatisfaction compared to the other groups (Table 57b).

A comparison of ratings for the auto vs public transportation shows that there was less distance between ratings for the two modes for Eastern respondents. Southern and North Central respondents rated the automobile comparatively higher than public transportation (Table 58).

In evaluating automobile ratings by trip purpose, most respondents rated the automobile closer to the ideal for local than for long-distance use and closer for social than business use. Individuals from the South and East con-

TABLE 53

REGIONAL DISTRIBUTION OF RESPONDENTS BY WEIGHTED POSITIVE RESPONSE SCORE MINUS WEIGHTED NEGATIVE RESPONSE SCORE FOR SERIES OF STATEMENTS ABOUT THE AUTOMOBILE (QUESTION 10)

REGION	DISTR. OF RESPONDENTS												TOTAL	% OF TOTAL SAMPLE	
	LEAST FAVORABLE TO AUTO								MOST FAVORABLE TO AUTO						
	1		2		3		4		5		6				NO.
East	4	0.5	14	1.8	54	7.1	116	15.2	264	34.7	309	40.7	761	100.0	32.4
N. Cent.	1	0.2	8	1.2	17	2.6	83	12.7	220	33.7	324	49.6	653	100.0	27.8
South	2	0.4	3	0.5	19	3.5	54	9.8	176	32.1	295	53.7	549	100.0	23.4
West	2	0.5	5	1.3	7	1.8	46	12.0	121	31.6	202	52.8	383	100.0	16.3
All	9	0.4	30	1.3	97	4.1	299	12.7	781	33.3	1130	48.2	2346		100.0

TABLE 54

REGIONAL DISTRIBUTION OF RESPONDENTS BY WEIGHTED POSITIVE RESPONSE SCORE MINUS WEIGHTED NEGATIVE RESPONSE SCORE FOR SERIES OF STATEMENTS ABOUT TRANSPORTATION PLANNING (QUESTION 11)

REGION	DISTR. OF RESPONDENTS												TOTAL	% OF TOTAL SAMPLE	
	LEAST FAVORABLE TO TR. PLANNING								MOST FAVORABLE TO TR. PLANNING						
	1		2		3		4		5		6				NO.
East	41	5.9	91	13.0	107	15.3	93	13.3	187	26.8	179	25.7	698	100.0	31.4
N. Cent.	22	3.6	47	7.6	49	8.0	89	14.4	173	28.1	236	38.3	616	100.0	27.7
South	21	3.9	28	5.2	38	7.1	74	13.8	139	25.8	238	44.2	538	100.0	24.2
West	11	3.0	38	10.2	40	10.8	55	14.8	93	25.1	134	36.1	371	100.0	16.7
All	95	4.3	204	9.2	234	10.5	311	14.0	592	26.6	787	35.4	2223		100.0

TABLE 55

REGIONAL DISTRIBUTION OF RESPONDENTS BY RATING OF AMOUNT OF MONEY THAT SHOULD BE SPENT FOR SEVEN TRANSPORTATION IMPROVEMENTS (QUESTION 12)

REGION	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE	
	MUCH LESS MONEY				MUCH MORE MONEY								
	1		2		3		4		5				NO.
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		
East	—	—	1	0.2	37	9.0	244	59.2	130	31.6	412	100.0	32.9
N. Cent.	1	0.3	1	0.3	51	14.2	197	54.6	110	30.6	360	100.0	28.8
South	—	—	2	0.7	22	7.6	173	60.1	91	31.6	288	100.0	23.0
West	—	—	2	1.0	17	8.9	125	65.1	48	25.0	192	100.0	15.3
All	1	0.1	6	0.5	127	10.1	739	59.0	379	30.3	1252		100.0

TABLE 56

REGIONAL DISTRIBUTION OF RESPONDENTS BY RATING OF AMOUNT OF MONEY THAT SHOULD BE SPENT FOR FOUR TYPES OF TRANSPORTATION BUILDING (QUESTION 12)

REGION	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE	
	MUCH LESS MONEY				MUCH MORE MONEY								
	1		2		3		4		5				NO.
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		
East	2	0.5	14	3.4	91	22.3	188	46.1	113	27.7	408	100.0	32.8
N. Cent.	6	1.7	14	3.9	98	27.3	170	47.3	71	19.8	359	100.0	28.9
South	1	0.4	4	1.4	77	26.8	128	44.6	77	26.8	287	100.0	23.1
West	3	1.6	2	1.1	59	31.2	96	50.8	29	15.3	189	100.0	15.2
All	12	1.0	34	2.7	325	26.1	582	46.8	290	23.3	1243		100.0

sidered the auto somewhat further from the ideal than the average respondent for local use, respondents from the West somewhat closer. Business use was most important to respondents from the East and West, and least important to Southerners (Table 59).

The pattern that emerges in evaluating attitudes by region is one of somewhat less satisfaction with the automobile and its facilities for Eastern respondents, combined with a greater willingness to spend more to improve transportation facilities in general. Respondents from the West and North Central States express greater satisfaction and less willingness to suggest greater allocations of money and effort. The division between the East and the rest of the country is fairly clear-cut. Response to the question presenting the automobile in the worst light (Question 28) is further indication of greater dissatisfaction among Eastern respondents. Although 85% of the sample rejected the statement, the percentages varied by region (Table 60), ranging from 85.3% in the West to 94.3% in the East.

Automobile Use (Questions 20, 21, 22, 26, 27)

Westerners take the most trips and use a greater diversity of transportation modes on both weekdays and weekend days. Easterners take significantly fewer trips on weekend days and use fewer modes of travel compared to other regions. Southerners take fewer trips on weekdays (Tables 61 and 62).

Southerners take the longest weekday trips, Easterners the shortest, the West and North Central the greatest proportion of trips of intermediate distance. Results for weekend trips are the same except that North Central drivers take longer weekend day trips (Table 63).

Considering total vehicle-miles, the South and West have a greater proportion of respondents driving 30,000 miles or more, the East and North Central States a greater proportion in the 3,000-and-under category (Table 63).

By trip purpose, auto use for work trips is most impor-

system is necessary to maintain the present way of life (Table 67). Southerners maintained their consistent emphasis on highway facilities by agreeing most that better training procedures are required (Table 68). Westerners gave this statement the least amount of support.

Summary of Regional Findings

Eastern respondents were less satisfied with the automobile and highway facilities and were more likely to give greatest priority to improvements in *both* highway and public trans-

TABLE 62

REGIONAL DISTRIBUTION OF RESPONDENTS BY NUMBER OF MODES OF TRANSPORTATION USED ON WEEKDAY (QUESTIONS 20 AND 21)

REGION	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	0 MODES		1-2 MODES		3-4 MODES		5-6 MODES		7-8 MODES		9-11 MODES		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	181	22.8	309	39.0	159	20.1	91	11.5	34	4.3	18	2.3	792	100.0	32.0
N. Cent.	118	17.1	314	45.6	123	17.9	72	10.5	40	5.8	21	3.1	688	100.0	27.8
South	127	21.2	246	41.1	106	17.7	74	12.3	33	5.5	13	2.2	599	100.0	24.2
West	47	11.9	175	44.2	96	24.2	43	10.8	26	6.6	9	2.3	396	100.0	16.0
All	473	19.1	1044	42.2	484	19.6	280	11.3	133	5.4	61	2.5	2475		100.0

TABLE 63

REGIONAL DISTRIBUTION OF RESPONDENTS BY AVERAGE LENGTH OF WEEKDAY TRIP (QUESTIONS 20 AND 21)

REGION	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	< 1.0 MI		1.1-3.0 MI		3.1-5.0 MI		5.1-10.0 MI		10.1-25.0 MI		> 25.0 MI		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	126	25.1	145	28.8	99	19.7	132	26.2	1	0.2	—	—	503	100.0	31.1
N. Cent.	101	22.1	157	34.3	95	20.7	105	22.9	—	—	—	—	458	100.0	28.3
South	79	20.8	105	27.7	68	17.9	127	33.6	—	—	—	—	379	100.0	23.4
West	54	19.4	91	32.7	60	21.6	73	26.3	—	—	—	—	278	100.0	17.2
All	360	22.2	498	30.8	322	19.9	437	27.0	1	0.1			1618		100.0

TABLE 64

REGIONAL DISTRIBUTION OF RESPONDENTS BY FEELINGS ABOUT SHARE OF ROAD MAINTENANCE AND CONSTRUCTION PAID BY PRIVATE AUTOMOBILE (QUESTION 28, FORM B)

REGION	DISTR. OF RESPONDENTS										% OF TOTAL SAMPLE
	MORE THAN FAIR SHARE		ABOUT FAIR SHARE		LESS THAN FAIR SHARE		NO OPINION		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	89	23.2	226	58.8	28	7.3	41	10.7	384	100.0	30.9
N. Cent.	56	16.7	229	68.2	21	6.2	30	8.9	336	100.0	27.1
South	73	23.2	171	54.3	20	6.3	51	16.2	315	100.0	25.4
West	29	14.1	141	68.4	17	8.3	19	9.2	206	100.0	16.6
All	247	19.9	767	61.8	86	6.9	141	11.4	1241		100.0

portation facilities. Southerners were also less satisfied with highway facilities and placed the same emphasis on improvements in highway facilities. Yet Southerners ex-

pressed the greatest degree of satisfaction with the *automobile* and the greatest degree of acceptance of the role of the auto and highway systems in American society. They clearly

TABLE 65

REGIONAL DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT AUTOS ARE ATTRACTIVE (QUESTION 30, FORM B)

	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	STRONGLY DISAGREE		2		3		4		STRONGLY AGREE		TOTAL		
	1								5				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	9	2.3	14	3.6	93	24.2	137	35.6	132	34.3	385	100.0	31.0
N. Cent.	3	0.9	7	2.1	56	16.7	144	43.0	125	37.3	335	100.0	27.0
South	5	1.6	5	1.6	39	12.3	125	39.6	142	44.9	316	100.0	25.4
West	3	1.5	6	2.9	47	22.8	85	41.2	65	31.6	206	100.0	16.6
All	20	1.6	32	2.6	235	18.9	491	39.5	464	37.4	1242		100.0

TABLE 66

REGIONAL DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT INTERSTATE HIGHWAY SYSTEM IS ONE OF NATION'S GREATEST PUBLIC WORKS (QUESTION 30, FORM B)

	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	STRONGLY DISAGREE		2		3		4		STRONGLY AGREE		TOTAL		
	1								5				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	3	0.8	12	3.1	80	20.8	125	32.6	164	42.7	384	100.0	31.0
N. Cent.	6	1.8	5	1.5	42	12.5	107	31.9	175	52.3	335	100.0	27.0
South	5	1.6	7	2.2	30	9.6	91	29.0	181	57.6	314	100.0	25.3
West	2	1.0	4	1.9	29	14.1	64	31.1	107	51.9	206	100.0	16.6
All	16	1.3	28	2.3	181	14.6	387	31.2	627	50.6	1239		100.0

TABLE 67

REGIONAL DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT PRESENT HIGHWAY SYSTEM IS NECESSARY TO MAINTAIN PRESENT WAY OF LIFE (QUESTION 30, FORM B)

REGION	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	STRONGLY DISAGREE		2		3		4		STRONGLY AGREE		TOTAL		
	1								5				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
East	31	8.1	18	4.7	63	16.4	110	28.6	162	42.2	384	100.0	30.9
N. Cent.	9	2.7	14	4.2	34	10.1	101	30.0	178	53.0	336	100.0	27.1
South	13	4.1	8	2.5	36	11.4	100	31.8	158	50.2	315	100.0	25.4
West	3	1.5	9	4.4	27	13.1	68	33.0	99	48.0	206	100.0	16.6
All	56	4.5	49	3.9	160	12.9	379	30.5	597	48.1	1241		100.0

TABLE 68

REGIONAL DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT BETTER TRAINING AND TESTING PROCEDURES ARE NEEDED IN AUTO DRIVER TRAINING (QUESTION 30, FORM B)

REGION	DISTR. OF RESPONDENTS												
	STRONGLY DISAGREE								STRONGLY AGREE		TOTAL		% OF TOTAL SAMPLE
	1	2	3	4	5	TOTAL	NO.	%	NO.	%			
East	8	2.1	20	5.2	46	11.9	88	22.9	223	57.9	385	100.0	31.0
N. Cent.	15	4.5	17	5.1	40	11.9	73	21.8	190	56.7	335	100.0	27.0
South	5	1.6	12	3.8	33	10.5	68	21.6	197	62.5	315	100.0	25.3
West	7	3.4	9	4.3	33	15.9	61	29.5	97	46.9	207	100.0	16.7
All	35	2.8	58	4.7	152	12.2	290	23.3	707	56.9	1242		100.0

delineated between the auto and the facilities it uses. This distinction was not as evident for Eastern respondents, because they rated the auto and auto facilities in the same direction. Possibly, the automobile has a more important societal role in the South.

Westerners demonstrated the greatest mobility and were the most frequent automobile users. They were more likely to be dissatisfied with public transportation and were less likely to suggest that greater money and effort be spent for either public transportation or highway construction.

A higher proportion of respondents from the North Central States expressed satisfaction with both the automobile and highway facilities, yet were also less likely to suggest greater allocations of money and effort.

ANALYSIS BY POPULATION DENSITY

Transportation attitudes, values and uses have been tabulated for four different population density groups, as follows:

1. Metropolitan areas (standard metropolitan statistical areas) having more than 1,000,000 people. These are referred to as large metropolitan areas.

2. Metropolitan areas having fewer than 1,000,000 people. These are referred to as small metropolitan areas.

Note: A standard metropolitan statistical area (SMSA) is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more. Counties contiguous to the one containing such a city are included in a standard metropolitan statistical area, if according to certain criteria, they are essentially metropolitan in character and socially and economically integrated with the central city.

3. The urban nonmetropolitan part of the United States consists of all places, incorporated or unincorporated, having 2,500 or more inhabitants outside the boundaries of standard metropolitan areas. These are referred to as urban areas.

4. The rural areas of the United States consist of people living in places of less than 2,500 inhabitants or outside of any place and, of course, outside the boundaries of any standard metropolitan statistical area.

One of the most basic findings of the study was the sharp division in attitudes and values between residents living in metropolitan areas of one million and more, and residents of rural areas. Respondents living in metropolitan areas of less than one million tended to conform more closely to attitudes of large metropolitan area respondents, whereas attitudes of individuals in non-metropolitan urban areas were more similar to those of rural respondents. This is one of the few cases of a clear-cut linearity in the findings; large metropolitan area and rural respondents were on opposite sides of the attitudinal spectrum, with the direction of attitudes a direct function of population density.

Basically, a greater proportion of large metropolitan area respondents held favorable attitudes toward public transportation and unfavorable attitudes toward automobile transportation compared to the rest of the sample. Rural respondents displayed the opposite tendency. In addition, a somewhat larger proportion of large metropolitan area respondents were critical of highway planning and highway systems, unwilling to accept the social role of the automobile, and predisposed to agree with the implications of the negatively biased question compared to other density groups. They were also more likely to be willing to allocate greater time and effort to public transportation facilities. Again, a larger proportion of rural respondents uniformly displayed the reverse tendencies. Additional findings by population density are summarized as follows:

1. Life changes increased public transportation use for large and small metropolitan area respondents; community changes, for large metropolitan area and urban respondents. There was little difference by population density in the effects of these changes on automobile use.

2. Large metropolitan area respondents rated public

TABLE 69

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY RESPONSE TO QUESTION ABOUT CONTRIBUTION OF AUTO TO WAY OF LIFE BEING WORTH SEVERAL NEGATIVE VALUES (QUESTION 28)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS						% OF TOTAL SAMPLE
	YES		NO		TOTAL		
	NO.	%	NO.	%	NO.	%	
Met., 1 M +	695	81.1	162	18.9	857	100.0	35.1
Met., < 1 M	580	84.7	105	15.3	685	100.0	28.0
Urban, nonmet.	272	86.1	44	13.9	316	100.0	12.9
Rural	521	88.9	65	11.1	586	100.0	24.0
All	2068	84.6	376	15.4	2444		100.0

TABLE 70

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AVERAGE CHANGE IN USE OF AUTO AND PUBLIC TRANSPORTATION CAUSED BY LIFE CHANGES (QUESTION 6)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS BY CHANGE IN USE											% OF TOTAL SAMPLE	
	DECREASE 1		2		NO CHANGE 3		4		INCREASE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.		%
(a) AUTOMOBILE													
Met., 1 M +	16	3.8	19	4.6	183	43.9	97	23.2	102	24.5	417	100.0	36.5
Met., < 1 M	17	5.3	14	4.3	133	41.3	70	21.7	88	27.4	322	100.0	28.2
Urban, nonmet.	7	4.8	8	5.5	56	38.7	28	19.3	46	31.7	145	100.0	12.7
Rural	7	2.7	11	4.3	88	34.1	64	24.8	88	34.1	258	100.0	22.6
All	47	4.1	52	4.6	460	40.3	259	22.7	324	28.4	1142		100.0
(b) PUBLIC TRANSPORTATION													
Met., 1 M +	23	5.5	18	4.3	279	67.1	59	14.2	37	8.9	416	100.0	36.6
Met., < 1 M	16	5.0	27	8.4	233	72.8	25	7.8	19	6.0	320	100.0	28.2
Urban, nonmet.	13	9.0	5	3.5	113	77.9	8	5.5	6	4.1	145	100.0	12.8
Rural	4	1.6	15	5.9	199	78.3	30	11.8	6	2.4	254	100.0	22.4
All	56	5.0	65	5.7	824	72.6	122	10.7	68	6.0	1135		100.0

transportation higher than average; rural respondents, lower; small metropolitan area respondents, somewhat lower: yet rural people were least likely to suggest additional expenditures. There was little difference by population density in the quality ratings of roads and highways.

3. Rural respondents were least likely to rate public services high and were least disposed to allocate additional money for services. Metropolitan area respondents were most likely to suggest greater expenditures.

4. Large metropolitan area respondents were more likely than respondents in other areas to emphasize improvements in public transportation facilities rather than the automobile, whereas a larger proportion of rural and urban respondents

provided the opposite emphasis. In addition, a greater proportion of large metropolitan area respondents were critical of the automobile's role in American society and of highway planning and planners, whereas rural and urban non-metropolitan area respondents displayed a more accepting attitude. Attitudes of small metropolitan area respondents were close to average in these areas.

5. Small metropolitan area respondents showed the greatest proportionate emphasis on highway construction and improvements, rural dwellers the least emphasis. Large metropolitan area respondents placed greater emphasis on construction than on improvements.

6. Large metropolitan area people considered the auto

further from the ideal mode of transportation, and public transportation closer compared to rural respondents. A larger proportion of metropolitan area people associated ideal auto use with local trips, whereas a larger proportion of urban and rural people associated auto use with long-distance trips. Similarly, a significantly greater proportion of metropolitan area respondents related ideal auto use to

social trips, while urban and rural respondents identified ideal use with business trips.

7. Attitudes toward highway systems and controls also revealed sharp splits between large metropolitan area respondents and rural respondents. A smaller proportion of large metropolitan area respondents agreed that the Interstate Highway System was a great public work and that the

TABLE 71

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY QUALITY RATING OF ROADS AND HIGHWAYS AND PUBLIC TRANSPORTATION FOR VARIOUS SPENDING RATINGS (QUESTIONS 7 AND 8)

POP. DENSITY GROUP	SPENDING RATING	DISTR. OF RESPONDENTS (%) BY QUALITY RATING							
		ROADS AND HIGHWAYS				PUBLIC TRANSPORTATION			
		-	0	+	TOTAL	-	0	+	TOTAL
Met., 1 M +	-	0.4	1.5	2.8	4.7	2.7	5.4	23.0	31.1
	0	1.3	8.9	33.7	43.9	2.0	11.3	10.0	23.3
	+	11.7	14.3	25.4	51.4	1.7	28.7	15.2	45.6
	All	13.4	24.7	61.9	100.0	6.4	45.4	48.2	100.0
Met., < 1 M	-	0.2	0.1	1.9	2.2	1.7	1.2	1.3	4.2
	0	1.6	7.4	32.6	41.6	6.7	14.2	25.0	45.9
	+	14.4	18.3	23.5	56.2	28.3	13.4	8.2	49.9
	All	16.2	25.8	58.0	100.0	36.7	28.8	34.5	100.0
Urban, nonmet.	-	0	0	3.5	3.5	1.3	2.0	2.6	5.9
	0	1.3	4.1	38.2	43.6	7.2	13.5	29.3	50.0
	+	12.3	15.1	25.5	52.9	26.3	9.5	8.3	44.1
	All	13.6	19.2	67.2	100.0	34.8	25.0	40.2	100.0
Rural	-	0.2	0.5	1.5	2.2	5.5	2.0	1.6	9.1
	0	1.7	7.4	34.7	43.8	19.6	12.8	16.0	48.4
	+	11.4	17.8	24.8	54.0	27.2	7.8	7.5	42.5
	All	13.3	25.7	61.0	100.0	52.3	22.6	25.1	100.0
All	-	0.2	0.6	2.3	3.1	2.9	1.8	1.7	6.4
	0	1.5	7.5	34.2	43.2	9.3	12.8	24.8	46.9
	+	12.5	16.4	24.8	53.7	25.8	10.4	10.5	46.7
	All	14.2	24.5	61.3	100.0	38.0	25.0	37.0	100.0

TABLE 72

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY WEIGHTED SCORE FOR PUBLIC TRANSPORTATION MINUS WEIGHTED SCORE FOR AUTOMOBILE FOR SERIES OF STATEMENTS ABOUT PUBLIC TRANSPORTATION AND AUTOMOBILE (QUESTION 9)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	LEAST FAVORABLE TO AUTO						MOST FAVORABLE TO AUTO						TOTAL		
	1		2		3		4		5		6		NO.	%	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%			
Met., 1 M +	15	1.9	51	6.4	84	10.4	134	16.7	300	37.4	217	27.2	801	100.0	35.8
Met., < 1 M	23	3.6	75	11.8	97	15.3	140	22.2	171	27.1	127	20.0	633	100.0	28.3
Urban, nonmet.	12	4.3	49	17.7	53	19.1	44	15.8	85	30.5	35	12.6	278	100.0	12.4
Rural	50	9.6	89	17.0	104	19.8	97	18.5	110	21.0	74	14.1	524	100.0	23.5
All	100	4.5	264	11.8	338	15.1	415	18.6	666	29.8	453	20.3	2236		100.0

TABLE 73

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY WEIGHTED POSITIVE RESPONSE SCORE MINUS WEIGHTED NEGATIVE RESPONSE SCORE FOR SERIES OF STATEMENTS ABOUT THE AUTOMOBILE (QUESTION 10)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	LEAST FAVORABLE TO AUTO								MOST FAVORABLE TO AUTO						
	1		2		3		4		5		6		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
Met., 1 M +	5	0.6	16	1.9	46	5.5	125	15.1	300	36.1	339	40.8	831	100.0	35.6
Met., < 1 M	3	0.5	7	1.1	26	4.0	95	14.6	198	30.6	319	49.2	648	100.0	27.8
Urban, nonmet.	0	0	4	1.3	10	3.4	30	10.0	94	31.4	161	53.9	299	100.0	12.8
Rural	1	0.2	3	0.5	15	2.7	47	8.5	181	32.6	308	55.5	555	100.0	23.8
All	9	0.4	30	1.3	97	4.2	297	12.7	773	33.1	1127	48.3	2333		100.0

TABLE 74

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY WEIGHTED POSITIVE RESPONSE SCORE MINUS WEIGHTED NEGATIVE RESPONSE SCORE FOR SERIES OF QUESTIONS ABOUT TRANSPORTATION PLANNING (QUESTION 11)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	LEAST FAVORABLE TO TRANSP. PLANNING								MOST FAVORABLE TO TRANSP. PLANNING						
	1		2		3		4		5		6		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
Met., 1 M +	45	5.9	87	11.3	114	14.9	113	14.8	184	24.0	223	29.1	766	100.0	34.6
Met., < 1 M	24	3.8	50	8.0	58	9.2	94	15.0	160	25.5	242	38.5	628	100.0	28.4
Urban, nonmet.	9	3.2	19	6.7	24	8.5	32	11.4	85	30.1	113	40.1	282	100.0	12.8
Rural	16	3.0	46	8.6	38	7.1	72	13.5	157	29.3	206	38.5	535	100.0	24.2
All	94	4.3	202	9.1	234	10.6	311	14.1	586	26.5	784	35.5	2211		100.0

TABLE 75

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AMOUNT OF MONEY THAT SHOULD BE SPENT FOR SEVEN TRANSPORTATION IMPROVEMENTS (QUESTION 12)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	MUCH LESS								MUCH MORE						
	1		2		3		4		5		TOTAL				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%			
Met., 1 M +	—	—	2	0.5	40	8.9	269	59.9	138	30.7	449	100.0	36.0		
Met., < 1 M	—	—	—	—	24	7.2	192	57.3	119	35.5	335	100.0	26.8		
Urban, nonmet.	—	—	—	—	18	11.3	95	59.8	46	28.9	159	100.0	12.8		
Rural	1	0.3	4	1.3	44	14.5	180	59.2	75	24.7	304	100.0	24.4		
All	1	0.1	6	0.5	126	10.1	736	59.0	378	30.3	1247		100.0		

TABLE 76

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AMOUNT OF MONEY THAT SHOULD BE SPENT FOR FOUR TYPES OF TRANSPORTATION BUILDING (QUESTION 12)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE
	MUCH LESS								MUCH MORE						
	1		2		3		4		5		TOTAL				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%			
Met., 1 M +	3	0.7	11	2.5	90	20.3	225	50.6	115	25.9	444	100.0	35.9		
Met., < 1 M	5	1.5	8	2.4	87	26.2	151	45.3	82	24.6	333	100.0	26.9		
Urban, nonmet.	1	0.6	3	1.9	45	28.3	73	45.9	37	23.3	159	100.0	12.8		
Rural	3	1.0	12	4.0	102	33.8	130	43.0	55	18.2	302	100.0	24.4		
All	12	1.0	34	2.7	324	26.2	579	46.8	289	23.3	1238		100.0		

TABLE 77

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AVERAGE AUTO SCORE MINUS AVERAGE PUBLIC TRANSPORTATION SCORE FOR VARIOUS TYPES OF TRIPS (QUESTIONS 13-17)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS																				% OF TOTAL SAMPLE
	MOST FAVORABLE TO PUBLIC TRANSP.										MOST FAVORABLE TO AUTO										
	- 4		- 3		- 2		- 1		0		+ 1		+ 2		+ 3		+ 4		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
Met., 1 M +	—	—	4	0.5	9	1.0	43	4.9	50	5.7	247	28.2	350	40.0	151	17.3	21	2.4	875	100.0	35.2
Met., < 1 M	—	—	4	0.6	7	1.0	16	2.3	18	2.6	148	21.2	297	42.7	188	27.0	18	2.6	696	100.0	28.0
Urban, nonmet.	—	—	1	0.3	0	0	6	1.9	11	3.4	80	25.1	132	41.4	75	23.5	14	4.4	319	100.0	12.8
Rural	—	—	2	0.3	2	0.3	9	1.5	16	2.7	124	20.8	229	38.4	184	30.8	31	5.2	597	100.0	24.0
All	—	—	11	0.4	18	0.7	74	3.0	95	3.8	599	24.1	1008	40.5	598	24.0	84	3.4	2487		100.0

TABLE 78

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AVERAGE AUTO SCORE MINUS AVERAGE PUBLIC TRANSPORTATION SCORE OVER ALL TRANSPORTATION ATTRIBUTES (QUESTION 18)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE		
	MOST FAVORABLE TO PUBLIC TRANSP.							MOST FAVORABLE TO AUTO									
	- 3		- 2		- 1		0		+ 1		+ 2		+ 3			TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		NO.	%
Met., 1 M +	—	—	4	0.9	22	5.0	65	14.8	238	54.3	95	21.6	15	3.4	439	100.0	36.2
Met., < 1 M	—	—	2	0.6	4	1.2	54	16.4	158	48.0	75	22.8	36	11.0	329	100.0	27.2
Urban, nonmet.	—	—	2	1.3	3	1.9	21	13.5	86	55.5	37	23.9	6	3.9	155	100.0	12.8
Rural	—	—	2	0.7	15	5.2	62	21.5	129	44.8	51	17.7	29	10.1	288	100.0	23.8
All	—	—	10	0.8	44	3.6	202	16.7	611	50.5	258	21.3	86	7.1	1211		100.0

TABLE 79

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT INTERSTATE HIGHWAY SYSTEM IS ONE OF NATION'S GREATEST PUBLIC WORKS (QUESTION 30, FORM B)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE	
	STRONGLY DISAGREE					STRONGLY AGREE							
	1		2		3		4		5				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%			
Met., 1 M +	6	1.4	14	3.3	89	20.8	151	35.4	167	39.1	427	100.0	34.7
Met., < 1 M	3	0.9	7	2.0	39	11.0	114	32.3	190	53.8	353	100.0	28.7
Urban, nonmet.	3	1.9	4	2.5	20	12.6	35	22.0	97	61.0	159	100.0	12.9
Rural	3	1.0	3	1.0	32	11.0	85	29.2	168	57.8	291	100.0	23.7
All	15	1.2	28	2.3	180	14.6	385	31.3	622	50.6	1230		100.0

TABLE 80

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT THAT PRESENT HIGHWAY SYSTEM IS NECESSARY TO MAINTAIN PRESENT WAY OF LIFE (QUESTION 30, FORM B)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE		
	STRONGLY DISAGREE								STRONGLY AGREE					TOTAL	
	1		2		3		4		5		NO.	%			
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%			
Met., 1 M +	29	6.8	24	5.6	60	14.1	131	30.8	182	42.7	426	100.0	34.6		
Met., < 1 M	15	4.2	4	1.1	54	15.3	108	30.5	173	48.9	354	100.0	28.7		
Urban, nonmet.	4	2.5	6	3.8	23	14.5	52	32.7	74	46.5	159	100.0	12.9		
Rural	8	2.7	15	5.1	21	7.2	85	29.0	164	56.0	293	100.0	23.8		
All	56	4.5	49	4.0	158	12.8	376	30.5	593	48.1	1232		100.0		

TABLE 81

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY NUMBER OF TRIPS ON WEEKDAY (QUESTIONS 20 AND 21)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS																% OF TOTAL SAMPLE		
	0-2 TRIPS		3-5 TRIPS		6-8 TRIPS		9-11 TRIPS		12-14 TRIPS		15-17 TRIPS		18-20 TRIPS		21-25 TRIPS			TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		NO.	%
Met., 1 M +	283	32.4	252	28.8	191	21.8	76	8.7	47	5.4	16	1.8	5	0.6	4	0.5	874	100.0	35.2
Met., < 1 M	223	32.1	173	24.9	164	23.6	73	10.5	37	5.3	9	1.3	7	1.0	9	1.3	695	100.0	28.0
Urban, nonmet.	108	33.8	83	25.9	65	20.3	32	10.0	13	4.1	14	4.4	2	0.6	3	0.9	320	100.0	12.9
Rural	238	39.9	165	27.7	109	18.3	45	7.5	32	5.4	4	0.7	2	0.3	1	0.2	596	100.0	24.0
All	852	34.3	673	27.1	529	21.3	226	9.1	129	5.2	43	1.7	16	0.6	17	0.7	2485		100.0

TABLE 82

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY NUMBER OF TRANSPORTATION MODES USED ON WEEKDAY (QUESTIONS 20 AND 21)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS											% OF TOTAL SAMPLE			
	NONE		1-2 MODES		3-4 MODES		5-6 MODES		7-8 MODES		9-11 MODES		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.		%	NO.	%
Met., 1 M +	155	17.9	360	41.5	189	21.8	99	11.4	40	4.6	24	2.8	867	100.0	35.2
Met., < 1 M	109	15.9	302	44.2	137	20.1	77	11.3	43	6.3	15	2.2	683	100.0	27.8
Urban, nonmet.	65	20.6	131	41.5	45	14.2	42	13.3	21	6.6	12	3.8	316	100.0	12.8
Rural	142	23.9	247	41.5	108	18.1	61	10.3	27	4.5	10	1.7	595	100.0	24.2
All	471	19.1	1040	42.3	479	19.5	279	11.3	131	5.3	61	2.5	2461		100.0

present highway system is a necessary way of life. Rural respondents were more likely to agree with these statements. Large metropolitan area people were more likely to agree that frequent re-examination of drivers should be made compared to rural respondents. Surprisingly, there

was little discrimination by population density in attitudes toward the statement that highway problems are primarily in urban areas. Most respondents took a neutral position toward the statement.

8. There was significantly less polarity between large

TABLE 83

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY AVERAGE LENGTH OF WEEKDAY TRIP
(QUESTIONS 20 AND 21)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE	
	0-1.0		1.1-3.0		3.1-5.0		5.1-10.0		10.1-25.0				
	MI		MI		MI		MI		MI				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
Met., 1 M +	135	22.8	191	32.3	117	19.7	149	25.2	—	—	592	100.0	36.7
Met., < 1 M	99	20.1	150	30.5	109	22.2	133	27.0	1	0.2	492	100.0	30.5
Urban, nonmet.	73	34.8	78	37.1	24	11.4	35	16.7	—	—	210	100.0	13.0
Rural	53	16.7	77	24.2	70	22.0	118	37.1	—	—	318	100.0	19.8
All	360	22.3	496	30.8	320	19.8	435	27.0	1	0.1	1612		100.0

TABLE 84

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY THEIR FEELINGS
ABOUT SHARE OF ROAD MAINTENANCE AND CONSTRUCTION PAID BY
PRIVATE AUTOMOBILES (QUESTION 28, FORM B)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE
	MORE THAN FAIR SHARE		ABOUT FAIR SHARE		LESS THAN FAIR SHARE		NO OPINION					
	NO.	%	NO.	%	NO.	%	NO.	%				
Met., 1 M +	86	20.2	270	63.4	34	8.0	36	8.4	426	100.0	34.6	
Met., < 1 M	73	20.6	218	61.4	23	6.5	41	11.5	355	100.0	28.8	
Urban, nonmet.	17	10.7	106	66.7	11	6.9	25	15.7	159	100.0	12.9	
Rural	66	22.6	170	58.2	18	6.2	38	13.0	292	100.0	23.7	
All	242	19.6	764	62.0	86	7.0	140	11.4	1232		100.0	

TABLE 85

POPULATION DENSITY DISTRIBUTION OF RESPONDENTS BY DEGREE OF AGREEMENT WITH STATEMENT
THAT HIGHWAYS IN URBAN AREAS ARE UGLY (QUESTION 30, FORM B)

POP. DENSITY GROUP	DISTR. OF RESPONDENTS										TOTAL	% OF TOTAL SAMPLE	
	STRONGLY DISAGREE		2		3		4		STRONGLY AGREE				
	1								5				
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
Met., 1 M +	70	16.4	79	18.5	183	42.9	59	13.8	36	8.4	427	100.0	34.7
Met., < 1 M	60	16.9	79	22.3	123	34.7	61	17.3	31	8.8	354	100.0	28.8
Urban, nonmet.	27	17.0	39	24.5	59	37.1	13	8.2	21	13.2	159	100.0	12.9
Rural	57	19.6	47	16.2	108	37.1	40	13.7	39	13.4	291	100.0	23.6
All	214	17.4	244	19.8	473	38.4	173	14.1	127	10.3	1231		100.0

metropolitan area and rural respondents in transportation behavior compared to attitudes. Direction of attitudes tends to differentiate respondents more clearly by population density than transportation patterns. In considering frequency of travel, the greatest distinction was between small metropolitan area and rural respondents. Rural people travel less frequently and use fewer different modes of travel, whereas small metropolitan area respondents travel significantly more frequently than average, using a greater diversity of modes. Large metropolitan area respondents tended to travel more frequently on weekdays than weekend days, using a greater number of modes to travel on weekdays.

9. The greatest difference by length of travel was between urban people and respondents in rural areas. Average trip length is longest for rural travelers and shortest for urban travelers. Rural respondents have a larger proportion of respondents in the over-30,000-vehicle-miles-per-year category, urbanites the largest proportion in the under-3,000-miles category, compared to the rest of the sample.

10. The greatest discrimination by trip purpose and mode of travel was again between large metropolitan area and rural respondents. Large metropolitan area and urban people used the auto less for work trips and more for social purposes, compared to respondents in rural areas. Rural respondents also placed more emphasis on family use compared to metropolitan area respondents. Not surprisingly, a larger proportion of travel for large metropolitan area respondents was accounted for by public transportation and a smaller proportion by automobile compared to rural respondents.

ANALYSIS BY INCOME LEVEL

Income was divided into eleven categories, but the findings are presented by three relative categories—low, middle, and high income groups. Limits defining these three income groups, and the proportion of households in each, are as follows:

INCOME GROUP	LIMITS ^a (\$)	% OF HOUSEHOLDS
Low	Under 6,000	39.9
Middle	6,001 - 9,999	29.6
High	10,000 and over	30.5

^a Gross annual income of household.

The most basic polarity in attitudes occurred between low vs middle and high income groups, but frequently low and high income groups expressed the same attitudes—particularly toward expenditures for public services.

Basically, the low and low-middle groupings expressed favorable attitudes toward transportation in general, yet were not as willing to allocate more money to transportation facilities. In fact, both the low and high income groups

expressed a greater reluctance to allocate money and effort to public services and were somewhat more disposed to favor improvements in public transportation over auto facilities compared to the middle income group. The automobile, and to a greater extent public transportation, was closer to the ideal mode of travel for the low, low-middle group. Thus, this group rated all forms of transportation closer to the ideal, suggesting that there was a lack of discrimination between modes compared to the high-middle and high income groupings. This lack of discrimination may be merely a reflection of a "halo effect" toward travel in a group which cannot afford frequent travel.

The middle income group reflected the greatest change in life patterns and were willing to spend more on transportation and on public facilities in general. They also tended to express greater satisfaction with travel attributes derived from the auto, but greater dissatisfaction with the auto as it now is in comparison to what it could be (i.e., in comparison to the ideal mode).

More detailed findings are summarized as follows:

1. There was little difference between income groups in the effects of life and community changes on transportation use.

2. There was also little difference in the quality ratings for auto and public transportation by income group; but, as noted, the middle income groups were predisposed to spend more in both areas, particularly for public transportation.

3. Low and low-middle income respondents were more favorable to highway planning and planners compared to the rest of the sample.

4. The low income group showed somewhat less willingness to allocate money for highway improvements and construction. The high income group was also somewhat less willing to allocate money for improvements compared to the middle income group, but expressed more willingness to allocate money and effort to construction.

5. The low and low-middle income group rated the automobile somewhat closer to the ideal mode and public transportation even closer to the ideal than the other groups. Despite a favorable attitude toward the automobile, the low income group was somewhat less satisfied with the travel attributes provided by the auto compared to middle income respondents. This may appear contradictory. It is possible that the low income group has strong values regarding the automobile in general, yet is critical of its specific performance. This is consistent with the high value placed on reliability as an attribute (see Table 23) and the greater likelihood that autos owned by the low income group are older and less reliable.

6. Automobile use for local purposes and for social occasions was considered further from the ideal for the low income respondents compared to the middle and high income groups.

7. Few differences occurred by income groups in evaluating highway systems and controls. However, low and

TABLE 86

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY AVERAGE CHANGE IN USE OF AUTO AND PUBLIC TRANSPORTATION CAUSED BY LIFE CHANGES (QUESTION 6)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	DECREASE 1		2		NO CHANGE 3		4		INCREASE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
(a) AUTOMOBILE													
< \$6,000	14	3.5	24	6.0	189	47.0	67	16.6	108	26.9	402	100.0	36.6
\$6-10,000	13	3.8	15	4.4	127	37.1	88	25.8	99	28.9	342	100.0	31.2
> \$10,000	17	4.8	12	3.4	126	35.6	97	27.4	102	28.8	354	100.0	32.2
All	44	4.0	51	4.6	442	40.3	252	23.0	309	28.1	1098		100.0
(b) PUBLIC TRANSPORTATION													
< \$6,000	21	5.3	29	7.3	275	69.1	41	10.3	32	8.0	398	100.0	36.5
\$6-10,000	19	5.6	17	5.0	252	74.4	36	10.6	15	4.4	339	100.0	31.1
> \$10,000	16	4.5	20	5.6	259	73.2	40	11.3	19	5.4	354	100.0	32.4
All	56	5.1	66	6.0	786	72.0	117	10.7	66	6.0	1091		100.0

TABLE 87

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY QUALITY RATING OF ROADS AND HIGHWAYS AND PUBLIC TRANSPORTATION FOR VARIOUS SPENDING RATINGS (QUESTIONS 7 AND 8)

INCOME LEVEL GROUP	SPENDING RATING	DISTR. OF RESPONDENTS (%) BY QUALITY RATING							
		ROADS AND HIGHWAYS				PUBLIC TRANSPORTATION			
		-	0	+	TOTAL	-	0	+	TOTAL
< \$6,000	-	0.4	1.1	3.2	4.7	3.6	1.3	1.8	6.7
	0	1.6	8.1	35.4	45.1	11.1	13.2	26.5	50.8
	+	11.7	14.9	23.6	50.2	23.5	9.9	9.1	42.5
	All	13.7	24.1	62.2	100.0	38.2	24.4	37.4	100.0
\$6-10,000	-	0.5	0.3	1.9	2.7	3.2	2.0	2.0	7.2
	0	1.4	6.7	33.0	41.1	8.3	11.6	23.2	43.1
	+	14.4	17.2	24.6	56.2	26.6	11.4	11.7	49.7
	All	16.3	24.2	59.5	100.0	38.1	25.0	36.9	100.0
> \$10,000	-	0.0	0.3	1.5	1.8	1.8	2.0	1.3	5.1
	0	1.3	7.2	33.9	42.4	8.4	13.5	24.7	46.6
	+	12.0	17.7	26.1	55.8	27.9	9.6	10.8	48.3
	All	13.3	25.2	61.5	100.0	38.1	25.1	36.8	100.0
All	-	0.3	0.6	2.3	3.2	2.9	1.7	1.7	6.3
	0	1.4	7.4	34.3	43.1	9.5	12.8	25.0	47.3
	+	12.6	16.4	24.7	53.7	25.7	10.3	10.4	46.4
	All	14.3	24.4	61.3	100.0	38.1	24.8	37.1	100.0

TABLE 88

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY WEIGHTED POSITIVE RESPONSE SCORE MINUS WEIGHTED NEGATIVE RESPONSE FOR SERIES OF STATEMENTS ABOUT TRANSPORTATION PLANNING (QUESTION 11)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS												TOTAL	% OF TOTAL SAMPLE	
	LEAST FAVORABLE TO TRANSP. PLANNING						MOST FAVORABLE TO TRANSP. PLANNING								
	1		2		3		4		5		6				
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%		
< \$6,000	30	3.5	68	8.0	78	9.2	101	12.0	258	30.5	311	36.8	846	100.0	39.3
\$6-10,000	21	3.1	60	9.0	65	9.7	95	14.2	187	28.0	240	36.0	668	100.0	31.0
> \$10,000	42	6.6	67	10.5	80	12.5	104	16.3	129	20.2	216	33.9	638	100.0	29.7
All	93	4.3	195	9.1	223	10.4	300	13.9	574	26.7	767	35.6	2152		100.0

TABLE 89

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY AMOUNT OF MONEY THAT SHOULD BE SPENT FOR SEVEN TRANSPORTATION IMPROVEMENTS (QUESTION 12)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	MUCH LESS 1		2		3		4		MUCH MORE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	—	—	4	0.8	58	12.0	290	60.1	131	27.1	483	100.0	40.2
\$6-10,000	1	0.3	1	0.3	32	9.0	208	58.6	113	31.8	355	100.0	29.5
> \$10,000	—	—	1	0.3	33	9.0	213	58.4	118	32.3	365	100.0	30.3
All	1	0.1	6	0.5	123	10.2	711	59.1	362	30.1	1203		100.0

TABLE 90

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY AMOUNT OF MONEY THAT SHOULD BE SPENT FOR FOUR TYPES OF TRANSPORTATION BUILDING (QUESTION 12)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS												% OF TOTAL SAMPLE
	MUCH LESS 1		2		3		4		MUCH MORE 5		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	6	1.3	16	3.3	160	33.5	210	43.9	86	18.0	478	100.0	40.0
\$6-10,000	4	1.1	6	1.7	85	24.0	171	48.3	88	24.9	354	100.0	29.6
> \$10,000	1	0.3	9	2.5	69	19.0	182	50.3	101	27.9	362	100.0	30.4
All	11	0.9	31	2.6	314	26.3	563	47.2	275	23.0	1194		100.0

TABLE 92

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY AVERAGE AUTO SCORE MINUS AVERAGE PUBLIC TRANSPORTATION SCORE OVER ALL TRANSPORTATION ATTRIBUTES (QUESTION 18)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS														% OF TOTAL SAMPLE		
	MOST FAVORABLE TO PUBLIC TRANSP.						MOST FAVORABLE TO AUTO						TOTAL				
	-3		-2		-1		0		+1		+2		+3			NO.	%
< \$6,000	1	0.2	4	0.9	19	4.1	106	22.7	232	49.7	77	16.4	28	6.0	467	100.0	40.0
\$6-10,000	—	—	3	0.9	9	2.6	40	11.5	175	50.6	92	26.6	27	7.8	346	100.0	29.6
> \$10,000	—	—	3	0.9	13	3.6	49	13.8	187	52.7	74	20.8	29	8.2	355	100.0	30.4
All	1	0.1	10	0.9	41	3.5	195	16.7	594	50.8	243	20.8	84	7.2	1168		100.0

TABLE 93

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY THEIR FEELINGS ABOUT SHARE OF ROAD MAINTENANCE AND CONSTRUCTION PAID BY PRIVATE AUTOMOBILE (QUESTION 28, FORM B)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS										% OF TOTAL SAMPLE
	MORE THAN FAIR SHARE		ABOUT FAIR SHARE		LESS THAN FAIR SHARE		NO OPINION		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	107	22.1	269	55.7	26	5.4	81	16.8	483	100.0	39.9
\$6-10,000	88	23.4	239	63.6	26	6.9	23	6.1	376	100.0	31.0
> \$10,000	45	12.8	244	69.3	35	9.9	28	8.0	352	100.0	29.1
All	240	19.8	752	62.1	87	7.2	132	10.9	1211		100.0

TABLE 91

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY AVERAGE IDEAL SCORE FOR AUTO AND PUBLIC TRANSPORTATION FOR DIFFERENT TYPES OF TRIPS (QUESTIONS 13-17)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS										CLOSEST TO IDEAL		% OF TOTAL SAMPLE								
	FURTHEST FROM IDEAL										9										
	1	2	3	4	5	6	7	8	9	NO.	%	NO.		%							
(a) AUTOMOBILE																					
<\$6,000	5	0.5	5	0.5	8	0.8	10	1.1	36	3.7	66	6.8	103	10.6	214	22.1	523	53.9	970	100.0	40.1
\$6-10,000	1	0.1	1	0.1	4	0.5	3	0.4	18	2.5	30	4.1	97	13.3	201	27.5	377	51.5	732	100.0	30.2
>\$10,000	—	—	3	0.4	6	0.9	6	0.9	27	3.7	52	7.2	111	15.4	208	28.9	306	42.6	719	100.0	29.7
All	6	0.2	9	0.4	18	0.7	19	0.8	81	3.3	148	6.1	311	12.8	623	25.7	1206	49.8	2421	100.0	100.0
(b) PUBLIC TRANSPORTATION																					
<\$6,000	12	1.3	23	2.4	129	13.3	205	21.1	238	24.5	212	21.8	104	10.7	43	4.4	5	0.5	971	100.0	40.2
\$6-10,000	4	0.6	26	3.6	132	18.0	173	23.6	178	24.3	123	16.8	75	10.2	18	2.5	3	0.4	732	100.0	30.2
>\$10,000	2	0.3	21	2.9	140	19.5	196	27.3	201	28.0	109	15.2	41	5.7	8	1.1	—	—	718	100.0	29.6
All	18	0.7	70	2.9	401	16.6	574	23.7	617	25.5	444	18.3	220	9.1	69	2.9	8	0.3	2421	100.0	100.0

low-middle respondents felt that the auto was paying more than its fair share and high income respondents the reverse in evaluating the source of funds. In addition, fewer low income respondents were willing to accept the statement that the present highway system was a necessary part of their lives.

8. Low income respondents were somewhat more willing to accept the implications of the negatively biased question than high income respondents. The difference was generally one of degree, with rejection of the negatively biased question ranging from 80.9% for respondents in the low income group to 86.3% for respondents in the middle income group and 88.9% for respondents in the high income group. This again appears contradictory to their rating of the auto as a mode of transportation.

9. Considering frequency of travel, low and low-middle income respondents travel less on both weekend days and weekdays, using fewer different modes of travel. They also take shorter trips, on the average, when they do travel. Logically, they have a greater than average proportion of respondents in the low mileage category for total vehicle-miles.

10. Work trips represented a somewhat lower than average, and family trips a significantly greater than average, proportion of total vehicle-miles for the low and low-middle income group. Similarly, social trips were also somewhat less important for this group.

11. There was little discrimination in the proportion of total travel represented by the auto, suggesting that auto use cuts across all income levels and that this mode of travel is fairly ubiquitous. Yet public transportation is a more significant part of total travel for a greater proportion of low income respondents.

ANALYSIS BY INTERACTIONS BETWEEN ATTITUDES TOWARD AUTOMOBILE, PUBLIC TRANSPORTATION, AND HIGHWAY PLANNING

A summarization of the relationship of the various attitudinal measures demonstrates three logical results. First, the four measures of attitudes toward the automobile—the auto compared to the ideal mode, satisfaction with the auto by specific travel attributes, attitudes toward the role of the auto in society, and attitudes toward the auto vs public transportation—were all directly related. This would suggest either that attitudes toward the automobile are uni-dimensional, which is unlikely, or that these attitudinal scales are measuring basically similar transportation concepts. If the latter is the case, only one of these scales may be needed for future multi-variate analysis.

Second, those with strongly positive attitudes toward the automobile generally demonstrate negative attitudes toward public transportation, and *vice versa*. This seems to indicate that individuals with strong positive attitudes toward either mode tend to regard the other as competitive. Yet a significant proportion of the sample demonstrated mildly positive attitudes toward *both* modes, indicating that these individuals view these modes as complementary rather than competitive. Further analysis of the data may be

TABLE 94

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY RESPONSE TO QUESTION ABOUT CONTRIBUTION OF AUTO TO WAY OF LIFE BEING WORTH SEVERAL NEGATIVE VALUES (QUESTION 28)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS						
	YES		NO		TOTAL		% OF TOTAL SAMPLE
	NO.	%	NO.	%	NO.	%	
< \$6,000	774	80.9	183	19.1	957	100.0	40.2
\$6-10,000	617	86.3	98	13.7	715	100.0	30.0
> \$10,000	631	88.9	79	11.1	710	100.0	29.8
All	2022	84.9	360	15.1	2382		100.0

desirable on this basis; that is, splitting the sample into those who view the auto and public transportation as complementary or competitive and determining the profiles of these individuals.

Third, attitudes toward the auto as a mode of transportation are divorced from attitudes toward the facilities the auto uses. This was brought out previously and is substantiated in the attitudinal comparisons. An individual with a positive attitude toward the automobile may not necessarily rate the quality of roads and highways high, nor will he necessarily have a positive attitude toward highway systems and controls. This was not true for public transportation.

Specific results of the comparisons of the attitudinal measures are presented in the following.

By Attitudes Toward Roads and Highways

A significant proportion of the sample tended to be consistent in their ratings of roads and highways and public transportation facilities. This was most evident among those who rated facilities high on quality and were willing to allocate more to these facilities. Those who had a positive opinion of highway planners and planning also rated roads and highways positively. In addition, those who were more willing to allocate greater expenditures to highway improvements and construction tended to rate roads and highways somewhat more positive than average. There was little variation in attitudes toward the auto compared to the ideal mode, the societal role of the auto, auto satisfaction, and acceptance of the negatively biased auto question by attitudes toward roads and highways. This demonstrates the marked separation of attitudes toward roads and highways and attitudes toward the auto—these are two completely different dimensions in the individual's attitudinal set.

By Attitudes Toward Public Transportation Facilities

Significantly, the same separation between attitudes toward public transportation and public transportation facilities did not occur. Attitudes toward public transportation as a mode and toward public transportation facilities were di-

TABLE 95 INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY NUMBER OF TRIPS ON WEEKDAY (QUESTIONS 20 AND 21)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS																		
	0-2 TRIPS		3-5 TRIPS		6-8 TRIPS		9-11 TRIPS		12-14 TRIPS		15-17 TRIPS		18-20 TRIPS		21-25 TRIPS		TOTAL		% OF TOTAL SAMPLE
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	435	44.8	257	26.4	164	16.9	66	6.8	35	3.6	8	0.8	6	0.6	1	0.1	972	100.0	40.2
\$6-10,000	209	28.6	206	28.2	183	25.1	69	9.5	43	5.9	14	1.9	4	0.5	2	0.3	730	100.0	30.2
> \$10,000	172	24.1	198	27.7	172	24.1	85	11.9	48	6.7	20	2.8	6	0.8	14	1.9	715	100.0	29.6
All	816	33.8	661	27.3	519	21.5	220	9.1	126	5.2	42	1.7	16	0.7	17	0.7	2417		100.0

TABLE 96

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY PERCENTAGE THAT WORK AND RELATED BUSINESS TRIP MILEAGE WAS OF THEIR TOTAL 12-MONTH VEHICLE MILEAGE (QUESTION 26)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS BY WORK/TOTAL MILEAGE RATIO																% OF TOTAL SAMPLE
	0-5 %		6-15 %		16-25 %		26-40 %		41-60 %		61-80 %		81-100 %		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	171	25.9	39	5.9	50	7.6	52	7.9	153	23.2	151	22.9	44	6.6	660	100.0	32.3
\$6-10,000	78	11.2	43	6.1	47	6.7	101	14.5	209	29.9	183	26.2	38	5.4	699	100.0	34.1
> 10,000	65	9.4	48	6.9	61	8.8	86	12.5	222	32.2	155	22.5	53	7.7	690	100.0	33.6
All	314	15.3	130	6.3	158	7.7	239	11.7	584	28.5	489	23.9	135	6.6	2049		100.0

TABLE 97

INCOME LEVEL DISTRIBUTION OF RESPONDENTS BY PERCENTAGE THAT AUTO MILEAGE WAS OF TOTAL MILEAGE BY ALL MODES DURING PAST 12 MONTHS (QUESTION 27)

INCOME LEVEL GROUP	DISTR. OF RESPONDENTS BY AUTO/TOTAL MILEAGE RATIO																% OF TOTAL SAMPLE
	0-5 %		6-15 %		16-25 %		26-40 %		41-60 %		61-80 %		81-100 %		TOTAL		
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	
< \$6,000	45	5.1	19	2.1	20	2.3	21	2.4	41	4.6	58	6.5	683	77.0	887	100.0	38.6
\$6-10,000	8	1.1	7	1.0	9	1.3	19	2.7	20	2.8	53	7.5	589	83.6	705	100.0	30.7
> \$10,000	7	1.0	10	1.4	19	2.7	33	4.7	52	7.4	77	10.9	506	71.9	704	100.0	30.7
All	60	2.6	36	1.6	48	2.1	73	3.2	113	4.9	188	8.2	1778	77.4	2296		100.0

rectly related. A high rating on the quality of public transportation facilities was more likely to result in a high rating for the satisfaction derived from public transportation's travel attributes and a somewhat higher rating for public transportation as an alternative mode. This also worked in reverse—the higher the rating for the automobile compared to public transportation (on travel attributes), the lower the quality rating for public transportation, yet the greater the willingness to allocate more money to public transportation. In addition, those who were more willing to spend for roads and highways also demonstrated a somewhat greater willingness to spend more for public transportation; apparently, there is a group willing to increase expenditures for public facilities divorced from their attitudes toward those facilities. It might be fruitful to undertake further analysis on this basis as well; that is, development of a profile of those individuals characteristically more willing to spend on travel facilities (no matter what their attitudes toward the facilities or modes of transportation) and those individuals characteristically willing to spend less.

The distinct separation in attitudes between the auto and roads and highways on the one hand, and the lack of separation between public transportation as a mode of travel

and public facilities on the other, appears to be important. One evident explanation is that public transportation as a mode of travel cannot be perceptually divorced from its facilities. If an individual rides the bus or subway, the mode in a sense is the facility. If an individual rides an automobile, the mode is his personal property and the facility is public property. The distinction between private and public is a real one, which is readily made by the automobile owner. Thus, there are the distinctly separate attitudinal dimensions between the auto and the facilities it uses.

The implications for the individual's perceptions of public policy may be profound; an improvement or deterioration in public transportation facilities will more likely cause a change in attitude toward public transportation as a travel alternative. Yet an improvement or deterioration in road and highway facilities is less likely to be reflected in changes in attitude toward the automobile as a mode of travel because of the more personal tie to the automobile. Again, it might be pertinent to split the sample into those who demonstrate a separation in attitudes between autos and roads and highways vs those who do not, and examine the respective profiles of these groups.

By Attitudes Toward Automobile vs Public Transportation Improvements

Preferences for improvements in automobile transportation over public transportation were directly related to other attitudinal measures. The higher the preference for automobile improvements, the higher the rating of the automobile's social role; the more positive the attitude toward highway planning; the closer the auto to, and the further public transportation from, the ideal mode of travel; the higher the automobile satisfaction score; and the lower the predisposition to accept the negatively biased question. The relationships in this case, although direct, were not strong. That is, they demonstrated a tendency to move in the same direction rather than any clear-cut unity.

Similarly, the higher the preference for improvements in public transportation, the closer public transportation is rated to the ideal mode of travel and the greater the satisfaction with the travel attributes derived from public transportation.

By Attitudes Toward the Social Role of the Auto and Toward Highway Planning

The more positive the attitude toward the automobile's role in American society, the more positive the attitudes toward highway planning, the closer the automobile to the ideal mode, and the greater the satisfaction with travel attributes derived from the auto. Again, these are tendencies rather than strong trends. In addition, those with positive attitudes toward highway planning are somewhat less likely to allocate more money to highway improvements and construction.

By Attitudes Toward the Auto and Public Transportation Compared to an Ideal Mode of Travel

Those who rate the automobile as the ideal form of transportation are somewhat more likely to rate public transportation further from the ideal. In addition, those who rate the auto closer to the ideal view the automobile more positively for long-distance travel and for business use. The closer the auto to the ideal, the greater the satisfaction with travel attributes derived from the auto and the lower the acceptance of the negatively biased auto question. The closer public transportation is rated to the ideal and the

greater the satisfaction with this mode, the greater the likelihood that the negatively biased question will be accepted.

A more positive attitude toward public transportation as an ideal mode will produce a greater likelihood of satisfaction with travel attributes derived from public transportation. Yet it will not necessarily produce lower ratings on auto satisfaction. But respondents with positive attitudes toward the auto usually gave somewhat lower satisfaction scores for public transportation. These findings suggest that satisfaction with the auto's travel attributes is likely to be high no matter what the attitude toward public transportation.

By Attitudes Toward Highway Systems and Controls

Attitudes toward highway systems were most closely related to attitudes toward highway planning and only peripherally related to attitudes toward modes of transportation. Those who held positive attitudes toward highway planning and planners were more likely to feel that the automobile is paying its fair share of highway costs; were less likely to consider highways ugly; and agreed more that the auto is attractive, the Interstate Highway System is a great public work, and highways are a necessary part of the American way of life.

Considering attitudes toward public vs auto transportation improvements, those with more positive attitudes toward public transportation were less likely to agree that the auto is attractive, that the Interstate Highway System is a great public work, and that the Interstate Highway System is a necessary part of the American way of life. They were more likely to agree that highway problems are primarily urban in nature.

Those who considered the auto as an ideal mode were more likely to agree that the auto is attractive and somewhat more likely to agree that the Interstate Highway System is a great public work and the highway system is a necessary part of the current way of life.

Comparison of the attitude measures demonstrated fairly logical relationships. The only finding that may not have been anticipated is the closer relation of public transportation modes and facilities in the consumer's mind and the greater divorcement of the auto as a mode and the facilities it uses.

APPENDIX

QUESTIONNAIRE FORMS

This appendix presents a brief description of the developmental work involved in preparing the questionnaires used for this study. It also presents a copy of the actual questions as they were presented on the questionnaires used by the professional interviewers in the field.

During the first two months of this project, Chilton Research Services made an extensive literature search and contacted several governmental agencies to uncover information that would be helpful in providing groundwork on which to build the study. Three group interviewing sessions were held in Philadelphia during the questionnaire development stage. At these sessions, in addition to group discussions, 30 structured interviews were completed.

A draft of a pre-test questionnaire was developed using the experience learned from the group sessions. This draft was tested in the Philadelphia metropolitan area during the last week in June 1967 with about 30 interviews, representing low and high income groups, white and non-white respondents, and center city and suburban areas, being completed. The major points of interest were the degree of difficulty encountered by respondents in both understanding and answering the questions, as well as the length of time the questioning procedures required. This pre-test version took considerably more than 60 min of interviewing time, so question reduction was considered. (It was believed that 60 min was about as long an interview time as a respondent would reasonably accept.)

A final questionnaire review was held with the NCHRP project advisory committee in July. As a result, the committee recommendation to divide the contents of the 90-min pre-test questionnaire between two different questionnaire forms was adopted. It was decided that each version of the questionnaire would be used with a probability subsample of one-half the respondents by both research firms engaged in the data collection.

In August, both Chilton Research Services and National Analysts pre-tested the final questionnaire forms on independent national subsamples. Also, both conducted interviewer training sessions in various cities throughout the United States. Field editing and coding procedures were worked out jointly by the two survey firms involved. The actual field interviews were conducted during August, September, and October 1967.

The questions considered as being most important to the study appear on both questionnaire forms. The accompanying table, entitled "Locator Index and Cross-Comparison of Questions on Questionnaire Forms A and B," indicates which questions appeared on both forms and which were included only on form A or only on form B.

The complete questionnaire (form A) is presented in the following pages of this appendix, together with only those pages from form B which include questions not appearing on form A.

LOCATOR INDEX AND CROSS-COMPARISON OF QUESTIONS ON QUESTIONNAIRE FORMS A AND B

QUESTION		PAGE	
FORM A	FORM B	FORM A	FORM B
—	—	A ^{a,b}	B ^b
1	1	1A ^a	1B
2	2	1A ^a	1B
Sel. ^c	Sel. ^c	1A ^a	1B
3	3	2A ^a	2B
4	—	2A ^a	—
4 ^a	—	3A ^a	—
5	—	3A ^a	—
6	—	4A ^a	—
7	4	5A ^a	2B
8	5	6A ^a	3B
9	6	7A ^a	4B
10	7	8A ^a	5B
11	8	9A ^a	6B
12	—	10A ^a	—
13	9	11A ^a	7B
13 ^b	10	11A ^a	7B
14	11	11A ^a	7B
15	12	12A ^a	8B
16	13	12A ^a	8B
17	14	12A ^a	8B
18	—	13A ^a , 14A ^a	—
19	—	15A ^a	—
20	15	16A ^a	9B
21	16	17A ^a	10B
21 ^a	16 ^a	18A ^a	11B
22	17	18A ^a	11B
23	18	18A ^a	11B
24	19	19A ^a	12B
25	20	19A ^a	12B
26	21	19A ^a	12B
27	22	20A ^a	13B ^a
—	23	—	13B ^a
—	24	—	13B ^a
—	25	—	13B ^a
—	26	—	14B ^a
—	27	—	14B ^a
—	28	—	14B ^a
—	29	—	14B ^a
—	30	—	15B ^a
28	31	20A ^a	15B ^a
29	32	21A ^a	16B
30	33	21A ^a	16B

^a Included in following pages. ^b Cover sheet. ^c Random selection of respondent by line number in Question 1.

Study #8760
 Sept. - Oct., 1967
 NCHRP-20-4

Check in # _____
 (2 - 5)

TRANSPORTATION STUDY
QUESTIONNAIRE FORM

From Listing Sheet

Segment # _____
 (6 - 11)

Line # _____

Timing

Time Interview
 Began at Q. 3 _____ a.m. _____ p.m.

Time Interview
 Ended _____ a.m. _____ p.m.

 (12- 14)

INTRODUCTION: Good _____, my name is _____ from

We are conducting a survey for the National Academy of Sciences in Washington to obtain information on how people feel about various forms of transportation. We're interviewing a cross-section of people, and your home was selected as part of this cross-section. (GO TO Q. 1 WITHOUT PAUSING WITH RESPONSIBLE ADULT).

1. Please tell me the persons in your household, 14 years of age and older and their approximate ages. Start with the oldest member of your household and work down to the youngest member 14 or older. Just give me their relationship to you. (OBTAIN ALL MEMBERS RELATIONSHIP AND AGE 14 YEARS OF AGE AND OLDER FROM OLDEST TO YOUNGEST. INDICATE SEX OF EACH. RECORD THOSE 18 AND OLDER ABOVE THE DOUBLE LINE. RECORD THOSE 17 TO 14 BELOW THE DOUBLE LINE.)

Line #	Relationship	Age	Sex		License Driver		Years Driven	Last Grade Completed (Degree if any)	Employed			Occupation*
			M	F	Yes	No			Full	Part	Not	
-22 1			1	2	1	2			1	2	3	
-30 2			1	2	1	2			1	2	3	
-38 3			1	2	1	2			1	2	3	
-46 4			1	2	1	2			1	2	3	
5			1	2	1	2			1	2	3	
6			1	2	1	2			1	2	3	

RECORD MEMBERS 18 AND OLDER ABOVE. RECORD MEMBERS 17 TO 14 BELOW THESE LINES.

-54			1	2	1	2			1	2	3	
-62			1	2	1	2			1	2	3	
-70			1	2	1	2			1	2	3	

2. Now, for each member, please tell me the following:

- Is _____ a licensed driver or not? (CIRCLE ABOVE)
- (IF DRIVER) How long has _____ been a licensed driver? (RECORD ABOVE)
- What was the last grade of school completed by _____? (ENTER YEARS ABOVE)
- Is _____ employed full or part time? (CIRCLE ABOVE)
- (FOR EACH EMPLOYED) What is the occupation of _____? (RECORD ABOVE)

*OCCUPATION -- GET USUAL OCCUPATION FOR "NOT EMPLOYED" AND LAST OCCUPATION FOR "RETIRED".

(OBTAIN THE ABOVE FOR EACH PERSON 14 YEARS OF AGE AND OVER.

f. How many household members do you have under 14 years of age?

Number under 14	71-
None	0

72-

RANDOM SELECTION OF RESPONDENT:

Up to this point, the interview may be conducted with any responsible member in the household. Starting with Question 3 and for the remainder of the interview, the respondent must be randomly selected from those persons in the household 18 years of age & older according to the following procedure.

RANDOM SELECTION TABLE:

Number of Persons in Household 18 years of age and older	1	2	3	4	5	6 Or More
Interview Person on Line #	1	2	3	1	5	4

Follow across on the top line to the number of persons in the household 18 years of age and older. The number written below the number is the line # of the person with whom you must complete the interview. CIRCLE THE LINE # OF THE PERSON SELECTED FOR THE INTERVIEW IN THE ANSWER GRID UNDER Q.1.

3. What type of structure do you live in?

74-

Single family	1
2 to 4 family	2
Apartment, 5 to 19 families	3
Apartment, 20 families & over	4
Other (SPECIFY)	0

3a. Do you rent or do you own your home?

74-

Own	1
Rent	2
Other	3

79-1
End Cd | 80-1

(HAND CARD FOR Q. 4)

4. We are interested in how far you live from your shopping center, your church or synagogue and other places. Approximately how far are you from (READ LIST AND ENTER MILES OR FRACTIONS OF MILES)?

		Miles or Fraction of Miles
The shopping center which your family uses most often	6-8	
The place of recreation which your family visits most often	9-11	
Your Church or Synagogue	12-14	
Nearest local bus stop	15-17	
Nearest subway station	18-20	
Nearest commuter train station	21-23	
Commercial airport	24-26	
Railroad station	27-29	
Inter-city bus depot	30-32	
Nearest freeway, expressway, or toll road entrance	33-35	
IF CHILDREN IN ELEMENTARY SCHOOL: Elementary school	36-38	
IF CHILDREN IN SECONDARY SCHOOL: Secondary school	39-41	
IF CHILDREN IN COLLEGE: College	42-44	
Place of work of chief wage earner (Miles from home)	45-47	
- Is this place of work in the <u>(Name of Central City)</u> or suburbs?		Central City 1
		Suburbs 2
	48-	Rural 3

(IF RESPONDENT LIVES IN A METROPOLITAN AREA)

4a. How far is the downtown shopping area of (Name of Central City) from your home?

Miles

49-51

5. (HAND CARD FOR Q. 5)
On the card are a number of size places a person could live in. Please tell me, by calling off the number next to the place sizes, where you have lived from birth. In what size places did you live from birth to age 10? (OBTAIN SIZE OF PLACE FOR EACH AGE INTERVAL AND CIRCLE APPROPRIATE CODE)

Size of Place	52-	53-	54-	55-	56-	57-
	Birth to Age 10	11-19	20-35	36-50	51-64	65 & over
Rural	1	1	1	1	1	1
Small Town (under 10,000)	2	2	2	2	2	2
Small City (10,000 to 50,000)	3	3	3	3	3	3
Medium Size City (50,000 to 250,000)	4	4	4	4	4	4
Suburbs of Medium City	5	5	5	5	5	5
Large City (250,000 and over)	6	6	6	6	6	6
Suburbs of Large City	7	7	7	7	7	7
Military Service Special	8	8	8	8	8	8

79-1

End Cd 2 80-2

(HAND CARD FOR Q. 6)

6. On this card are a list of changes that could have taken place in your life. Please tell me which of these took place in your life during the past five years?
(CIRCLE CODE IN COL. 1)

(FOR EACH CHANGE, ASK Q. 6a & 6b)

- 6a. Did the (READ CHANGE) mean more use, less use, or no change in your use of public transportation? Public transportation is any transportation for which you pay a fare. (CIRCLE CODE IN COL. 2)
- 6b. Did this mean more use, less use, or no change in your use of automobile transportation? (CIRCLE CODE IN COL. 3)

Changes	Column 1		Column 2			Column 3			Office use only
	Change Took Place		Public Transportation			Automobile Transportation			
			More	Less	No Change	More	Less	No Change	
Change of job status	6-	1 8-	1	2	3	5	6	7	x
Change of work location		2 9-	1	2	3	5	6	7	x
Change of home location		3 10-	1	2	3	5	6	7	x
Did not have an auto, but bought an automobile		4 11-	1	2	3	5	6	7	x
Increased number of autos		5 12-	1	2	3	5	6	7	x
Decreased number of autos		6 13-	1	2	3	5	6	7	x
Replaced an auto		7 14-	1	2	3	5	6	7	x
Children becoming teenagers		8 15-	1	2	3	5	6	7	x
Children becoming school age		9 16-	1	2	3	5	6	7	x
Children leaving home		0 17-	1	2	3	5	6	7	x
Changed school location	7-	1 18-	1	2	3	5	6	7	x
Close friends or relatives moving		2 19-	1	2	3	5	6	7	x

IN YOUR AREA OR COMMUNITY:

New or more convenient air or train terminals	3 20-	1	2	3	5	6	7	x
New shopping center	4 21-	1	2	3	5	6	7	x
New entertainment or recreational facilities	5 22-	1	2	3	5	6	7	x
Change in public transportation	6 23-	1	2	3	5	6	7	x
New freeway facilities	7 24-	1	2	3	5	6	7	x
Highway improvements	8 25-	1	2	3	5	6	7	x

(SELF ADMINISTERED)

8. Now again for these same services, please circle the number under the heading which indicates how much more or less money and effort you think should be spent in your area for each item? (CIRCLE ONE NUMBER FOR EACH SERVICE)

Money and Effort to be Spent:

		Much More	More	Same	Less	Much Less
Education	36-	5	4	3	2	1
The air you breathe	37-	5	4	3	2	1
Water for drinking and recreation	38-	5	4	3	2	1
Police and fire protection	39-	5	4	3	2	1
Parks and recreation facilities	40-	5	4	3	2	1
The roads and highways	41-	5	4	3	2	1
Public transportation (fare paid)	42-	5	4	3	2	1
Health and hospital services	43-	5	4	3	2	1
Welfare programs	44-	5	4	3	2	1
Urban renewal	45-	5	4	3	2	1

(SELF ADMINISTERED -- SHOW PAGE TO RESPONDENT AND READ)

9. Here are some statements people have made about the automobile and public transportation. Public transportation is any type of transportation you pay a fare. Please read them.

-- Now, in Column A check the one statement you most agree with.

-- In Column B check any others you may agree with.

-- Then, in Column C check the one statement you most disagree with.

-- In Column D check any other statements you may disagree with.

	46-	47-	48-	49-
	COL. A	COL. B	COL. C	COL. D
	One	Other	One	Other
	Most Agree	Agree	Most Disagree	Disagree
The real answer to our passenger transportation problem is more and better public transportation				
If needed improvements are made in our public transportation facilities, it will help a great deal.				
More attention to public transportation rather than automobile transportation is desirable.				
As between automobile and public transportation, public transportation is the more important.				
Continued planning and building of both automobile transportation and public transportation facilities are what is needed.				
More attention to automobile transportation facilities rather than public transportation is desirable.				
As between automobile and public transportation, automobile transportation is the more important.				
Public transportation improvements -- no matter how great, won't help solve the problem.				
The real answer to our transportation problem is more and better automobile transportation.				

IF YOU HAVE NO FEELINGS ABOUT A STATEMENT ONE WAY OR ANOTHER, PLEASE LEAVE IT BLANK.

(SELF ADMINISTERED)

10. Here are some things people say about the automobile.

- Now, in Column A check the one statement you most agree with.
- In Column B check any others you may agree with.
- Then, in Column C check the one statement you most disagree with.
- In Column D check any other statements you may disagree with.

	50-	51-	52-	53-
	COL. A	COL. B	COL. C	COL. D
	One	Other	One	Other
	Most Agree	Agree	Most Disagree	Disagree
The automobile is the best form of transportation invented by man.				
If it weren't for the automobile, modern transportation would be impossible.				
The automobile has made a great contribution to America's growth and freedom.				
The automobile has its shortcomings but, in general, it is a boon to mankind.				
The automobile is here to stay but there will have to be a lot of improvements.				
The automobile is more trouble than it is worth.				
The automobile represents a real health hazard to mankind.				
The automobile is a deadly weapon.				
The automobile is the worst form of transportation invented by man.				

IF YOU HAVE NO FEELINGS ABOUT A STATEMENT ONE WAY OR ANOTHER, PLEASE LEAVE IT BLANK.

(SELF ADMINISTERED)

11. Here are some things people have said about highway planning and building.

-- Now, in Column A check the one statement you most agree with.

-- In Column B check any others you may agree with.

-- Then, in Column C check the one statement you most disagree with.

-- In Column D check any other statements you may disagree with.

	54-	55-	56-	57-
	COL. A	COL. B	COL. C	COL. D
	One	Other	One	Other
	Most Agree	Agree	Most Disagree	Disagree
The way highways are being planned and built just doesn't make any sense.				
In general, highway planning is stupid and too shortsighted.				
Highway planners do not always use their best judgement and should seek the advise of others.				
The biggest problem in highway planning is that they're obsolete by the time they get built.				
Under the circumstance, highway planning is satisfactory.				
Highways are generally built in time for the average motorist's needs.				
If highway planners could use their own judgement and expertese, they'd do a better job.				
In general, highway planning is intelligent and far-sighted.				
Highways are being planned and built in the best possible way.				

IF YOU HAVE NO FEELINGS ABOUT A STATEMENT ONE WAY OR ANOTHER, PLEASE LEAVE IT BLANK.

(SELF ADMINISTERED)

12. If a transportation engineer or planner asked you how much more or less money and effort should be spent in your area on the following transportation improvements, what would you tell him? Indicate your answer for each line by circling the number which best expresses your feelings. If you feel that much more money should be spent, circle a 5. If you feel that much less money and effort should be spent, circle 1. If you feel that the same amount of money and effort should be spent, circle 3. The other numbers indicate different amounts of money and effort. Be sure to circle a number for each improvement.

		Much more Money		Same Amount		Much less Money
Improve maintenance on existing highways	58-	5	4	3	2	1
Build additional new rapid transit lines	59-	5	4	3	2	1
Improve traffic signals and signs	60-	5	4	3	2	1
Beautify highways	61-	5	4	3	2	1
Build additional parking areas at train or rapid transit stations	62-	5	4	3	2	1
Build additional downtown parking facilities	63-	5	4	3	2	1
Add safety features to existing streets and highways	64-	5	4	3	2	1
Improve traffic law enforcement	65-	5	4	3	2	1
Build additional highways	66-	5	4	3	2	1
Add more services (stations, rest stops, information) for users of rural freeways	67-	5	4	3	2	1
Improve training and testing procedures related to auto drivers	68-	5	4	3	2	

79-1

End Cd 3 80-3

13. What method of transportation do you usually use for family trips to points 500 or more miles away? _____ 6-

13a. How would you describe your ideal method for taking these family trips to points 500 or more miles away? (PROBE FOR TYPE OF TRANSPORTATION)

7-

(HAND CARD FOR Q.'s 13 TO 17. LEAVE IN FRONT OF RESPONDENT UNTIL AFTER Q. 17)

Here is a card which has on it numbers from 1 through 9. You can see that the number "9" represents the ideal method of travel and the "1" represents the method furthest from the ideal. You may pick the number 9; the number 1, or any number between 9 and 1 depending on how you feel.

13b. Which number from this card would you choose to show how close or how far automobile transportation is from your ideal method for making family trips to points 500 or more miles away? (OBTAIN RATING FOR ALL FORMS LISTED)

Automobile 8- _____

Train 9- _____

Bus 10- _____

Airplane 11- _____

14. What method of transportation do you usually use for business trips to points 500 or more miles away? _____ 12-

14a. How would you describe your ideal method for taking these business trips to points 500 or more miles away? (PROBE FOR TYPE OF TRANSPORTATION)

13-

14b. Which number from this card would you choose to show how close or how far automobile transportation is from your ideal method for making business trips to points 500 or more miles away? (OBTAIN RATING FOR ALL FORMS LISTED)

Automobile 14- _____

Train 15- _____

Bus 16- _____

Airplane 17- _____

15. What method of transportation do you usually use to go to:

Method Used	Does not do
Work (School)	9 18-
Shopping	9 19-
Social Trips	9 20-

↑
(DO NOT ASK Q.16
& 17 IF CIRCLED
HERE)

(ASK FOR EACH OF THE ABOVE THE RESPONDENT DOES)

16. How would you describe your ideal method for going:

To Work (School) _____ 21-

Shopping _____ 22-

On a Social Trip _____ 23-

(ASK FOR EACH OF THE TRIPS THE RESPONDENT TAKES IN Q. 15)

17. Which number on the card would you choose to show how close or how far the following form of transportation are from your ideal way of:

	Going to Work (School)	Going Shopping	Going on a Social Trip
Automobile	24-	28-	32-
Bus	25-	29-	33-
Subway	26-	30-	34-
Commuter Train	27-	31-	35-

OBTAIN RATINGS FOR EACH FORM OF TRANSPORTATION FOR EACH TRIP TAKEN IN Q. 15.

BEFORE ASKING Q. 18 & 19, COMPLETE THE FOLLOWING:

1. In Col. A, check those trips taken in Q. 15.
2. Ask Q. 18 & Q. 19 for the trip checked in Col. A having the lowest number in Col. B.
3. Write in the selected trip in line provided in Questions 18 and 19.

	Col. A	Col. B
Work Trip (School)		1
Shopping Trip		3
Social Trip		2

(SELF-ADMINISTERED)

36-

18. Please look at this page. Along the side are statements about people's feelings in regard to automobile and public transportation for a _____ trip.

(WRITE IN SELECTED TRIP)

Across the top are different degrees of satisfaction. The first statement is "The comfort of the vehicle". Please circle the number in the box which best expresses your feeling of satisfaction about automobile transportation. Then for the same statement please circle the number in the box which best expresses your feeling of satisfaction with public transportation. Continue the procedure for each statement listed.

HOW SATISFIED WERE YOU WITH:	Not at	Very	Little	Some-	Gen-	Very	Com-
	all sat-	little	satis-	what	erally	much	plete-
	isfied	satis-	satis-	satis-	satis-	satis-	ly sat-
		fied	fied	fied	fied	fied	isfied

The comfort of the vehicle--

--Auto satisfies?	37-	1	2	3	4	5	6	7
--Public transportation satisfies?	38-	1	2	3	4	5	6	7

The feeling of pride you had in the vehicle you rode in--

--Auto satisfies?	39-	1	2	3	4	5	6	7
--Public transportation satisfies?	40-	1	2	3	4	5	6	7

The confidence you had that the vehicle would not need to be stopped for repairs--

--Auto satisfies?	41-	1	2	3	4	5	6	7
--Public transportation satisfies?	42-	1	2	3	4	5	6	7

The speed with which you traveled--

--Auto satisfies?	43-	1	2	3	4	5	6	7
--Public transportation satisfies?	44-	1	2	3	4	5	6	7

The feeling of safety you had in the vehicle you rode in--

--Auto satisfies?	45-	1	2	3	4	5	6	7
--Public transportation satisfies?	46-	1	2	3	4	5	6	7

The chance to relax in the vehicle you rode in--

--Auto satisfies?	47-	1	2	3	4	5	6	7
--Public transportation satisfies?	48-	1	2	3	4	5	6	7

HOW SATISFIED WERE YOU WITH:		Not at all sat- isfied	Very little satis- fied	Little satis- fied	Some- what satis- fied	Gen- erally satis- fied	Very much satis- fied	Com- plete- ly sat- isfied
The chance to look at the scenery--								
--Auto satisfies?	49-	1	2	3	4	5	6	7
--Public transportation satisfies?	50-	1	2	3	4	5	6	7
The newness of your vehicle--								
--Auto satisfies?	51-	1	2	3	4	5	6	7
--Public transportation satisfies?	52-	1	2	3	4	5	6	7
The number of times you had to change vehicles during your trip--								
--Auto satisfies?	53-	1	2	3	4	5	6	7
--Public transportation satisfies?	54-	1	2	3	4	5	6	7
The feeling of independence you had--								
--Auto satisfies?	55-	1	2	3	4	5	6	7
--Public transportation satisfies?	56-	1	2	3	4	5	6	7
The crowdedness of the vehicle--								
--Auto satisfies?	57-	1	2	3	4	5	6	7
--Public transportation satisfies?	58-	1	2	3	4	5	6	7
The cost of the trip--								
--Auto satisfies?	59-	1	2	3	4	5	6	7
--Public transportation satisfies?	60-	1	2	3	4	5	6	7
The amount of protection you had from bad weather before getting a ride--								
--Auto satisfies?	61-	1	2	3	4	5	6	7
--Public transportation satisfies?	62-	1	2	3	4	5	6	7
The amount of traffic--								
--Auto satisfies?	63-	1	2	3	4	5	6	7
--Public transportation satisfies?	64-	1	2	3	4	5	6	7
The chance you had to ride with people you like--								
--Auto satisfies?	65-	1	2	3	4	5	6	7
--Public transportation satisfies?	66-	1	2	3	4	5	6	7

79-1

End Cd 4 80-4

(ASK Q. 20 FOR YESTERDAY. WRITE WHAT DAY OF WEEK YESTERDAY WAS HERE:) 22-

20. I would like you to think back to all the trips you took yesterday. A trip is the one-way travel between two points. By all trips I mean by auto, by public transportation or by walking. Now starting with the first trip in the morning:
- a. What was the purpose of the trip?
 - b. What was the method of travel on this trip?
 - c. How far did you go?

Please take your time and give me first all your morning trips; all your afternoon trips; and finally all trips before you went to bed. To aid you in your thinking, here is an example of another respondents trips. (SHOW EXAMPLE CARD FOR Q. 20)

22-

No trips taken	0
----------------	---

Trip #	Purpose of Trip	Method of Travel	Miles or Part of Miles
3-27 1st			
8-32 2nd			
3-37 3rd			
8-42 4th			
3-47 5th			
8-52 6th			
3-57 7th			
8-62 8th			
3-67 9th			
8-72 10th			

79-1
End Cd 5 80-5

Card 6
79-1 80-6

(ASK Q. 21 FOR DAY BEFORE YESTERDAY. THAT DAY WAS)

6-

21. Now I would like you to do the same thing for the day before yesterday. First all your morning trips; then your afternoon trips; and finally those before you retired.

6-

No trips taken	0
----------------	---

Trip #	Purpose	Method of Trip	Miles or Part of Miles
7-1 1st			
2-15 2nd			
7-21 3rd			
2-25 4th			
7-31 5th			
2-35 6th			
7-41 7th			
2-45 8th			
7-51 9th			
2-55 10th			
7-61 11th			
2-65 12th			
7-71 13th			
2-75 14th			

79-1

End Cd 7 80-7

21a. How many automobiles do you or anyone in your household own or use?

6-

	Number of Autos	
GO TO Q. 23	None	0

22. Please tell me the make of each automobile owned or used by your household?

- 22a. What is the year model?
- 22b. Was it a new or used automobile when acquired?
- 22c. How long have you owned or used the auto?
- 22d. How many miles has it been driven in the past 12 months?

	22a	22b	22c	22d
Make	Year Model	Bought New	Bought Used	Number of years owned
7-14		1	2	
15-22		1	2	
23-30		1	2	
31-38		1	2	
		1	2	
		1	2	
				TOTAL--

(39-41)

23. Does your household own any other motor driven vehicles such as a pick-up truck, motor cycle, motor scooter, airplane, boat, etc. that is used to provide transportation for you and any member of your family?

42-

ASK Q. 23b	Yes	1
	No	2

23b. Please give me your estimate of the number of miles each of these types of vehicles have been driven in the past 12 months for providing transportation for you and your family?

Vehicle	43-	Past 12-Month Miles
Total		

44-46

24. Did you rent an automobile in the past 12 months for business use?

47-

ASK Q. 24b	Yes	1
	No	2

24b. How many miles has it (have they) been used in the past 12 months for business use?

_____ miles

(48-50)

25. Did you rent an automobile in the past 12 months for family use?

51-

ASK Q. 25b	Yes	1
	No	2

25b. How many miles has it (have they) been used in the past 12 months for family use?

_____ miles

(52-54)

RECORD TOTAL MILES FROM:

Q. 22d _____

Q. 23b _____

Q. 24b _____

Q. 25b _____

Total _____ (USE TOTAL IN Q. 26)

(55-57)

(HAND CARD FOR Q. 26)

26. Now, think of the total miles you have just given me for all vehicles used to transport people, (TELL RESPONDENT THAT TOTAL) and tell me what percent of these miles you estimate were used for the following on this card? (OBTAIN PERCENT FOR EACH. PERCENTS MUST TOTAL TO 100. IF RESPONDENT WISHES TO GIVE ANSWER IN MILES, USE THE MILES COLUMN BELOW).

Trip Purpose		Percents	Miles
Work and Related Business	58-59	%	
Family or Personal Business (shopping, doctors, etc.)	60-61	%	
Social and/or Recreation	62-63	%	
Education, civic, religious	64-65	%	
Vacation	66-67	%	
Total		100%	

End Cd 8

79-1

80-8

(HAND CARD FOR Q. 27)

27. Now, I would like you to think of travel done by you during the past 12 months for both business and non-business . . . alone or with someone else. Try to estimate the total miles that you traveled during the last 12 months by each type of transportation on this card.

Mode	12-Month Miles
Auto	6-8
Train	9-11
Air	12-14
Intercity (Long Distance bus	15-17
	18-20
Local public transportation	
Total	21-23

28. The automobile pollutes the air, and creates traffic congestion. Highway development demolishes homes and often destroys previously attractive landscapes. The increasing number of automobiles, together with inadequate highways, kill over 50,000 people every year. In your opinion, is the contribution the automobile makes to our way of life worth this?

Rej 24-42

43-

Yes	1
No	2

28a. Why do you feel this way? (PROBE)

44-

45-

46-

28b. What about the future? What steps do you think should be taken to solve these problems I mentioned?

47-

48-

49-

(HAND CARD FOR Q. 29)

29. Please indicate approximate yearly household income BEFORE TAXES.

50-

Under \$2,000	1
\$2,000 to \$2,999	2
\$3,000 to \$3,999	3
\$4,000 to \$4,999	4
\$5,000 to \$5,999	5
\$6,000 to \$7,499	6
\$7,500 to \$9,999	7
\$10,000 to \$12,499	8
\$12,500 to \$14,999	9
\$15,000 to \$19,999	0
\$20,000 and over	V

30. By observation: Race

51-

White	1
Non-White	2

Name of Respondent: _____

Address: _____ City _____ State _____

Interviewers Name: _____ Date _____

Respondent's Telephone No. _____

79-1

End Cd 8

80-9

(HAND CARD FOR Q. 22)

22. Now, I would like you to think of travel done by you during the past 12 months for both business and non-business . . . alone or with someone else. Try to estimate the total miles that you traveled during the last 12 months by each type of transportation on this card.

Mode	12-Months Miles
Auto	6-8
Train	9-11
Air	12-14
Intercity (Long Distance) bus	15-17 18-20
Local public transportation	
Total	21-23

23. Have you ever gone to a public hearing or meeting to express your views on proposed highways? 24-

Yes	1
No	2

24. Would you take a more active part in public hearings if you thought that your opinions would ever carry any weight? 25-

Yes	1
No	2

25. From which of the following kinds of taxes and charges do you think the money to build highways comes? (READ LIST) 26-

Motor Fuel Tax	<u>1</u>
Motor Vehicle Registration or License Fees	<u>2</u>
Income Tax	<u>3</u>
Toll Charges, etc.	<u>4</u>
Property Tax	<u>5</u>
Some Other Type of Tax or Charge	<u>0</u>
_____	_____
_____	_____

26. If more money is needed to build highways, from which of these sources should additional money be obtained? (READ LIST)

	27-
Motor Fuel Tax	1
Motor Vehicle Registration or License Fees	2
Income Tax	3
Toll Charges, etc.	4
Property Tax	5
Some Other Type of Tax or Charge	0

27. Do you think the (LEVEL OF GOV'T) has major responsibility for (READ EACH DUTY)? (OBTAIN FOR EACH LEVEL OF GOV'T)

Level of Government	Highway Location		Highway Construction		Highway Maintenance		Law Enforcement on Highways in Urban Areas		Traffic Signals on Highways	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Federal 28-29	1	2	4	5	7	8	1	2	4	5
State 30-31	1	2	4	5	7	8	1	2	4	5
Local Government (City, County, Township) 32-33	1	2	4	5	7	8	1	2	4	5

28. Of the total money spent for road maintenance and construction, do you feel private automobiles are paying: (READ LIST)

	34-
More than their fair share	1
About their fair share	2
Less than their fair share	3
No opinion	4

29. Of the total money spent for road maintenance and construction do you feel trucks are paying: (READ LIST)

	35-
More than their fair share	1
About their fair share	2
Less than their fair share	3
No opinion	4

(HAND CARD FOR Q. 30)

30. On this card are a number of statements made by people regarding highways, automobiles and traveling. Please read this list and tell me from the scale at the top of the card how strongly you agree or disagree with each statement?

	Strongly Agree	Strongly Disagree	Neither Agree or Disagree	Strongly Disagree
I think highways in urban areas are ugly	36- 5	4	3	2 1
I think automobiles are attractive	37- 5	4	3	2 1
I feel that the Interstate Highway System is one of our nation's greatest public works	38- 5	4	3	2 1
Our present highway system is necessary to maintain my present way of life	39- 5	4	3	2 1
I feel highway problems are primarily in urban areas	40- 5	4	3	2 1
I think that better training and testing procedures are needed in automobile driver training	41- 5	4	3	2 1
I think that more frequent re-examination of automobile drivers should be made	42- 5	4	3	2 1

31. The automobile pollutes the air, and creates traffic congestion. Highway development demolishes homes and often destroys previously attractive landscapes. The increasing number of automobiles, together with inadequate highways, kills over 50,000 people every year. In your opinion, is the contribution the automobile makes to our way of life worth this?

Yes	1
No	2

- 31a. Why do you feel this way? (PROBE)

44-

45-

46-

- 31b. What about the future? What steps do you think should be taken to solve these problems?

47-

48-

49-

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