

THE TRAVEL MARKET 1064 41965



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THE TRAVEL MARKET

1964-1965

by

John B. Lansing

sponsored by

American Airlines Boeing Airplane Company Federal Aviation Agency The Port of New York Authority, Aviation Department The Port of New York Authority, Port Development Department Trans World Airlines United Air Lines U.S. Department of Commerce, the Under Secretary for Transportation

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Preface

This report continues the series of national travel market surveys begun in 1955 by the Survey Research Center of the University of Michigan. No report was issued covering travel in 1963. The earlier reports have been reprinted in two volumes, <u>The Travel Market 1955, 1956, 1957</u>, and <u>The Travel Market 1958, 1959-1960, and 1961-1962</u>. Two special reports have been issued, <u>The Changing Travel Market</u>, which is a summary of the earlier reports issued in 1964, and <u>Mode Choice in Intercity Travel:</u> <u>A Multivariate Statistical Analysis</u>, also issued in 1964 and available from the Librarian of the Institute for Social Research.

Sponsors of the 1964-1965 Survey

The following organizations are sponsors of this survey:

American Airlines Boeing Airplane Company Federal Aviation Agency The Port of New York Authority, Aviation Department The Port of New York Authority, Port Development Department Trans World Airlines United Air Lines U.S. Department of Commerce, the Under Secretary for Transportation

The Sample

This report is based on two types of data collection, personal interviews and reinterviews by telephone and mail with people previously interviewed in person. A total of 1574 personal interviews were taken from November 4, 1964 onwards. Interviewing was extended over a protracted period in order to reduce the number of designated respondents from whom no interview was obtained, but was virtually complete by December 31, 1964. Interviewing was combined with a study of the 1964 presidential election. A probability sample of the adult population were interviewed after the election. The travel questions were asked in the post-election survey.

For reasons which are not fully understood the response rate in the pre-election survey was low, and the additional loss between the first and second waves would have made the effective response rate for the travel survey unacceptably low. To prevent this result 131 extra interviews were taken on the travel questions exclusively. In addition, extraordinary efforts were made to reinterview all respondents in the first wave, including in a few instances authorization to interviewers to offer to pay respondents for their cooperation when the interviewers believed this expedient would be helpful. The 1574 interviews which were finally taken represent a response rate for the travel questions of about 80 per cent of the original cross-section.

The research plan called for reinterviews to cover trips taken in the half-year after the first interview. Telephone reinterviews could be attempted only with families who had telephones and were willing to give the number to the interviewer. In March 1965 there were 1196 such families. Of these 96 per cent were successfully reinterviewed on the telephone concerning their trips since the first interview, most of the losses being people who had moved since the previous interview. In June 1965 there were 1161 families with whom a second wave of telephone reinterviews could be attempted. Of these 96 per cent were successfully reached. There were no losses due to refusal to be reinterviewed in June!

An attempt was made to reach by mail people who had no telephone. A usable mail address was obtained from 255 of the original sample of people who had been interviewed in person. A brief questionnaire was mailed to

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these addresses in June 1965, and 139, or 54 per cent, returned usable questionnaires in time to be included in the tabulations.

Total Number of Adults in the U.S.

As of the middle of 1965 there were about 122,000,000 adults aged 18 years or over in the civilian population resident in this country. To convert estimates of the percentage of all adults to estimates of the number of adults in a category this base may be used.

Definition of a Trip

In this report a trip is defined as a round trip to a place 100 miles or more away.

Use of Weighted Data

The trips reported in detail in the interviews do not constitute an unbiased sample of all trips. Trips by frequent travelers are inadequately represented. In the personal interviews in the fall of 1964 only the most recent trip by each mode of travel by each family was covered. To represent trips of different types in their proper proportions a system of weights has been used based primarily on the 1963 Census of Passenger Transportation. The assumption has been made that the distribution of trips by mode, purpose, and distance shown in Table 14 is as accurate as any available estimate. The total weight to be assigned to any type of trip (as defined by a cell in Table 14) has been based upon the share of total travel represented by trips of that type as shown in that cell in that table. That total weight has been divided evenly among the trips in the sample falling in that category. In weighted tabulations, therefore, it is reasonable to assume that the bias arising from underrepresentation of trips by frequent travelers has been greatly reduced if not eliminated,

Acknowledgments

This report is a project of the Economic Behavior Program of the Survey Research Center, a division of the Institute for Social Research of the University of Michigan. The Director of the Institute is Rensis Likert; of the Center, Angus Campbell; and of the Program, George Katona. Responsibility for the interviewing was carried by the Field Section under Charles Cannell; for sampling, by the Sampling Section under Irene Hess; for coding, by the Coding Section under Joan Scheffler. The design and analysis of the project have been the responsibility of John B. Lansing assisted by Nancy Barth, William Ladd, and Gary Hendricks. This report was typed by Anita Grob.

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SUMMARY

Air Travel

In one year 11 per cent of the adult population take one or more trips by air.

The proportion of the adult population who ever have taken an air trip has been rising at about 1.8 per cent per year since 1955. As of 1964 it had reached 39 per cent. The increase in experience with air travel has been especially noticeable in the group 65 years old and over.

People who live 25 miles or more from the nearest airport are much less likely to take air trips than those who live closer to an air terminal.

People who are no longer living in the state where they were born are much more likely to take air trips than non-migrants.

Vacation Travel

Of all heads of families 57 per cent say they have a vacation of a week or more during a twelve month period.

Multiple vacations are important. Of all heads of families 19 per cent took two or more vacations. If each of their vacations is counted separately, half of all vacations are taken by the people who have two or more vacations a year.

Most people take a trip during their vacation. Of heads of families who had at least one vacation three out of four took at least one vacation trip.

Terminals and the Speed of Common Carrier Service

The time people spend getting to and from the terminal is an important part of the time they spend on trips by common carrier. For air travel people report they allow typically 68 minutes between when they start for the airport and the time of scheduled departure. After the flights from arrival at the terminal to arrival at final destination is 50 minutes.

Time spent in reaching rail and bus stations is somewhat less. Median time allowed to reach the railroad station is 49 minutes, while it takes 37 minutes to reach the final destination. To reach the bus station median time is 43 minutes and 31 minutes to final destination.

Most trips begin at people's homes rather than where they work. Of all common cartier trips 85 per cent start at people's homes.

The final destination of most common carrier trips is outside the central business district of the place visited. Only 42 per cent are to a point 0-2 miles from the center.

Having a Car at One's Destination

On 70 per cent of all auto trips it was "very important" to the travelers to have their own car for use after they reached their destination. This consideration should not be underestimated in analysis of why people drive.

Multiple Destinations

On most trips people are not especially interested in visiting several places or seeing the country on the way. Only for a minority of trips, 21 per cent, are such considerations relevant.

Trips to New York and the Northeast Corridor

Travel to the Corridor is different from travel elsewhere in the United States primarily in one respect: the automobile accounts for an unusually low proportion (57 per cent) of trips which begin or end in the New York area.

I. Air Travel

The period since 1955 has been one of growth in air travel. The first part of this chapter is devoted to an examination of two basic trends: the increase in the frequency of air travel, and the increase in the proportion of the population who ever have flown. The situations in which people take their first air trips are examined. Two final sections of the chapter present a profile of the frequent air traveler and a special analysis of the effect of migration upon the frequency of air travel.

A. Trends in the Frequency of Air Travel

Since 1955 the proportion of the adult population who take an air trip in a year has been increasing more or less regularly. From 1955 to 1964 the proportion rose from 7 to 11 per cent (Table 1). Since the population of the country also has been rising, the actual number of air travelers has risen faster than the proportion who fly. An estimate of 11 per cent implies about 13 1/2 million adults out of the adult civilian population of 122,000,000.

One of the basic reasons for the increase in the percentage of the population who fly is the upward shift of the income distribution. People in the upper income groups continue to be much more likely to travel by air than those in the middle or lower ranges of the distribution of family incomes. The relation between the income of his family and whether an adult took an air trip is shown in Table 2 both for 1955 and for 1964. Similarity between the two years is the first impression one receives from study of this table. For example, in both 1955 and 1964 of those with income below \$2000 1 per cent took an air trip; of those with incomes of





Trend in Proportion of Adults Traveling by Air^a

Survey Year	Per Cent of Adults Traveling by Air
1955	7
1956	7
1957	9
1958	9
1960	10
1962	11
1964	11

^aSources: "The Travel Market, 1961-1962", p. 33 and the 1964-1965 Travel Survey.

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Use of Air by Family Income

(Percentage distribution of adults)

						Family	Income			
	<u>A11 A</u>	dults	Under	\$2000	\$2000	-2999	<u>\$3000</u>	-3999	<u>\$4000</u>	-4999
Use of Air	<u>1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>	<u> 1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>
Took one or more air trips last year	<u>7</u>	лª	1	1	<u>2</u>	3	<u>3</u>	4	4	<u>6</u>
For business reasons	2	4	*	*	*	*	1	*	1	1
For non-business reasons	5	6	1	1	2	3	2	4	3	4
For both business and non-business reasons	*	*	*	*	*	*	*	*	•	1
Did not take an air trip last year	93	<u>90</u>	99	_99_	_98_	97	<u>97</u>	<u>96</u>	96	94
Total	100%	100%	100%	100%	100%	1007	100%	100%	1007	100%
Number of adults	8485	2963	1271	295	981	244	1364	278	1294	268
	<u>\$5000</u>	-5999	<u>\$6000</u>	-7499	<u>\$7500</u>	-9999	\$10, 14,	000- 999	\$15,0 and	00 Over
Use of Air	<u>1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>	<u> 1955</u>	<u>1964</u>	<u>1955</u>	<u>1964</u>
Took one or more air trips last year	<u>5</u>	<u>4</u>	<u>9</u>	<u>9</u>	<u>12</u>	<u>10</u>	<u>22</u>	<u>21</u>	<u>40</u>	<u>36</u>
For business reasons	2	1	2	2	4	5	7	9	11	14
For non-business reasons	3	3	7	7	7	5	14	11	24	6
For both business and non-business reasons	*	*	*	*	1	*	1	1	5	16
Did not take an air trip last year	95	<u>96</u>	91	<u>91</u>	88	_90_	78	<u>79</u>	_60_	64
Total	100%	100%	100%	100%	1007,	100%	100%	100%	100%	1007
Number of adults	1094	345	896	449	709	434	389	431	257	219

* Less than one-half of one per cent.

^a Detail does not add to total owing to rounding.

\$6,000-\$7,499 9 per cent took an air trip. When the percentages differ as between the years, it is usually by only one or two points.

This first impression of basic similarity is not entirely confirmed on closer study of the data. Over this period prices have risen. It took a higher income in 1964 than in 1965 to enjoy a given standard of living. In order to take the change in prices into account the relation between income and air travel has been plotted in Graph 2, with income converted into constant 1958 dollars. The graph shows an upward shift in the relation between income and air travel. Thus, people at a given level of real income are now more likely to fly than in 1955. This upward shift must be attributed to forces other than income. Indeed, it would be incautious to interpret the basic association between income and air travel as showing simply that people with more money will spend it on air travel. It is also true, for example, that people in executive positions are likely to travel on business and also are likely to be in the upper income groups. Even after allowance for such relationships, however, there is no question that income is one of the basic determinants of air travel.

A second basic statistical distribution concerning the air travel market is the distribution showing how many air trips per year are taken by air travelers. It is not easy to estimate this distribution with any precision since it is not easy for people who travel often to tell an interviewer exactly how many air trips they take in a year. The distributions in Table 3, therefore, must be considered as approximations. The most likely error is that, since air travel carries some prestige, people exaggerate how many air trips they take.

It is remarkable how much stability there has been since 1955 in air travelers' estimates of the number of air trips they take. The proportion

Graph 2

Comparison of the Per Cent of Adults in Different Income Groups

Who Took Air Trips in 1955 and 1964



Family Income in 1958 Dollars (Thousands)

Trend in Frequency of Air Travel for Business and Non-Business Purposes

Business Trips	Year ^a				
Number of Trips	<u>1955</u>	<u>1962</u>	<u>1964</u>		
One Two Three Four Five to ten Eleven or more	39 17 9 9 17 9	40 17 10 8 13 12	40 17 11 5 10 17		
Total	100%	100%	100%		
Number of adults	94	209	131		
Non-Business Trips					
Number of Trips					

(Percentage distribution of adults who took trips)

69	69	74
17	15	14
5	6	5
5	5	4
3	4	2
1	1	1
100 %	100%	100%
206	370	214
	69 17 5 3 <u>1</u> 100 % 206	$ \begin{array}{cccccc} 69 & 69 \\ 17 & 15 \\ 5 & 6 \\ 5 & 5 \\ 3 & 4 \\ \underline{1} & \underline{1} \\ 100\% & 100\% \\ 206 & 370 \\ \end{array} $

^aSources: Adapted from "A Cross-Section Analysis of the Domestic Intercity Travel Market", an unpublished Ph.D. dissertation by D.M. Blood, p. 9 and the 1964-1965 Travel Survey.

Graph 3

Business Air Travelers Distributed by the Number of Business Air Trips They Took Last Year





of those who flew on business who took only one business air trip was 39 per cent in 1955, 40 per cent in 1962, and 40 per cent in 1964. If those who take five or more trips on business are considered frequent business travelers, they were 26 per cent of all business travelers in 1955, 25 per cent in 1962, and 27 per cent in 1964. There may have been some increase, however, in the proportion of business travelers who took eleven or more trips.

The distribution showing the number of non-business air trips taken by those who took at least one such trip shows the same general stability. About seven out of ten adults who took any non-business air trip took only one. Only a very few people, 3 to 5 per cent of all non-business air travelers, take five or more non-business air trips in one year.

An alternative way of looking at the same basic data is to disregard the distinction between business and non-business trips and consider the number of air trips for any purpose taken by those who took at least one air trip. This approach is taken in Table 4. It is possible to estimate the proportion of all air trips accounted for by those who travel with different frequency, and the results of such a calculation are shown in the second column of Table 4.

The air travelers who only fly once are the largest group of people, 60 per cent of all air travelers, but they account for only about 18 per cent of all air trips. At the other end of the distribution 7 per cent who take ten or more trips account for 48 per cent of all air trips - if their reports are accurate. As previously remarked, these people probably exaggerate how often they fly, no doubt unintentionally, so that it seems likely that they actually account for rather less than 48 per cent of all air trips. Estimates of the behavior of such a small group are also

Total Frequency of Air Travel in the Last 12 Months

(Percentage distribution of adults who took air trips)

Number of Air Trips	Per Cent	Share of Total Air Trips Accounted for by Those Who Travel with Different Frequency ^b
	<u> </u>	
One	60	18
Two	12	7
Three	8	7
Four	8	9
Five	2	3
Six	2	5
Seven	*	1
Eight	1	1
Nine	*	*
Ten to fifteen	4	16
Sixteen to twenty-nine	2	13 🖌 48
Thirty or more	1_	<u> </u>
Total	100%	100%
Number of adults	321 ^a	
Number of air trips	1041	

* Less than one-half of one per cent.

^aExcludes 19 adults for whom total frequency of air travel was not ascertained.

^bThese shares should be regarded as rough approximations. The air trips reported by frequent travelers may overestimate their actual frequency of travel.

Graph 4

Cumulative Share of Total Air Trips Accounted for by







subject to considerable sampling error. If five or more trips per year is considered the definition of a frequent air traveler, then the estimate in the table is that 12 per cent of all air travelers are frequent air travelers and frequent air travelers account for 58 per cent of all air travel. More cautiously, one might say that, when air travelers are ranked according to how much they fly, the top tenth account for roughly half of the air travel.

It is possible to make a comparison of these results with those recently reported by the Port of New York Authority in <u>New York's Domestic</u> <u>Air Passenger Market</u>, <u>April 1963 through March 1964</u>. This survey was based on questionnaires distributed to passengers in flight. Like the present survey it necessarily relies on people's estimates of the number of air trips they make per year. The convention was adopted, however, of counting a round trip as two trips rather than one, as in this report. The results were as follows:

Number	of Trips During	Per Cent of	Seats
Past	Twelve Months	Occupi	led
As Reported	Adjusted to Count		
by P.N.Y.A.	A Round Trip as One	P.N.Y.A.	S.R.C.
1-2	1/2-1	19	18
3-4	1 1/2-2	12	7
5-9	2 1/2-4 1/2	16	16
10-19	5-9 1/2	16	10
20-39	10-19 1/2	¹⁷ }	48
40 plus	20 plus	_20	
Total		100%	100%

At the bottom of the distribution those who reported only one trip accounted for 19 per cent in the P.N.Y.A. survey and 18 per cent in this survey, which is close agreement. At the top of the distribution, however, the estimate from the inflight survey is that those taking ten or more round-trips a year accounted for only 37 per cent of the trips compared to 48 per cent from this survey. This result suggests that the estimate from this survey is high. The comparison, of course, is imperfect travelers to New York may very well not be typical of all air travelers. It is, perhaps, not so remarkable that the two distributions differ in the exact importance they ascribe to the very small group of very frequent travelers. It is more remarkable that they agree so closely about the share of the market accounted for by the flyers who take a single trip.

B. Trends in the Proportion of the Population Who Ever Have Flown

People who have done something once are likely to do it again. This common-sense observation has been shown to apply to air travel. People who have once flown are more likely to fly again than others of the same income, age, and other characteristics. (See, for example, <u>The Changing Travel Market</u>, pp. 88-94 and 343.) It is, therefore, important to the air travel industry to estimate the rising proportion of the adult population who are experienced flyers.

As of late 1964 39 per cent of all adults in the United States had at some time taken an air trip. This proportion has been rising steadily since 1955, when it was 23 per cent. The increase has averaged very close to 1.8 per cent per year. This estimate is consistent with what people say about the year they took their first air trip, as will be discussed below (Table 7). To indicate how closely such a trend fits the survey findings a column has been added to Table 5 showing what the per cent of flyers would have been in each year from 1955 to 1964 if it had started at 23 per cent and risen 1.8 points each year. This method, of course,

Survey Year	Per Cent of Adults Who Were Experienced	Hypothetical Trend Assuming Average Increase of 1.8 Per Cent Per Year
1955	23	23.0
1956	-	24.8
1957	27	26.6
1958	29	28.4
1959	-	30,2
1960	28	32.0
1961	-	33.8
1962	36	35,6
1963	-	37.4
1964	39	39.2

Trend in Proportion of Adults Who Were Experienced Air Travelers

^aSources: "The Travel Market, 1961-62", p. 23 and the 1964-1965 Travel Survey.

TABLE 5

Experience as an Air Traveler by Age of Adult, 1955 and 1964

(Percentage distribution of adults)

Experience as an Air Traveler	<u>A11 A</u> 1955	<u>dults</u> 1964	<u>18 -</u> 1955	24 1964	$\frac{25}{1955}$ -	<u>34</u> <u>1964</u>
Have taken an air trip	23	39	24	32	32	47
Have never taken an air trip Not ascertained	75	61 	72	68 	66 	53
Total	100%	100%	100%	1007	100%	1007
Number of adults	8485	3049 ⁸	1009	346	1882	608

	<u>35 -</u> - <u>1955</u>	<u>44</u> <u>1964</u>	<u>45</u> <u>1955</u>	<u>54</u> <u>1964</u>	<u>55 -</u> 1955	<u>64</u> <u>1964</u>	<u>65</u> 1955	+ <u>1964</u>
Have taken an air trip Have never taken	25	45	24	37	18	36	9	27
an air trip Not ascertained	74 1	55 	75 1	63	81 1	64 	89 	73
Total	100%	1007	100%	100%	100%	100%	100%	100%
Number of adults	1802	673	1509	573	1188	409	998	409

⁸Excludes 52 adults whose air travel experience was not ascertained.

Year of First Air Trip

(Percentage distribution of adults)

Year of First Air Trip	Per Cent	of Adults
	<u>1957</u>	<u>1964</u>
<u>Have taken an air trip</u>	<u>28</u>	<u>39</u>
Before 1940	2	2
1940-1949	10	10
1950-1955	12	10
1956-1957	2	4
1958	•	2
1959	-	2
1960	-	1
1961	-	1
1962	-	2
1963	-	2
1964	-	1
Year not ascertained	1	2
Never have taken an		
air trip		<u>61</u>
Total	100%	100%
Number of adults	3149	3049 ⁸

^aExcludes 52 adults whose air travel experience was not ascertained.

permits extrapolation into the future. It would lead to a projection that 41 per cent of all adults will be experienced flyers by the end of 1965.

There are differences, of course, in the percentage of adults of different ages who are experienced. Broadly speaking, young people have not had so many years in which to take their first trip as people in their middle years. Older people belong to a generation for whom air travel was less common. These generalizations are less appropriate in 1964, however, than they were in 1955. Even of those 18-24 in 1964 32 per cent were experienced, while of those over 65, 27 per cent were experienced.

It is possible to trace what has happened over the nine year period by remembering that everybody has aged nine years. Those 25-34 are all 34-43, which is perhaps close enough to 35-44. It is not too far wrong, then, to consider those 25-34 in 1955 as members of the same cohort as those 35-44 in 1964. It appears that 32 per cent of these people were experienced in 1955 and 45 per cent in 1964, an increase of 13 points. For the group who were 45-54 in 1955 the increase was from 24 per cent in 1955 to 36 per cent in 1964, an increase of 12 points. For the oldest age group the comparison is not quite so neat since the oldest people among those 65 or more in 1964 were not 55-64 in 1955 - they were already over 65. Nevertheless, we may note that 18 per cent of those 55-64 were experienced in 1964 and 27 per cent of those 65 or more were experienced nine years later. If it were not for that awkward point about the people over 75 the implication would be that about 9 per cent of this cohort of people took their first air trip during the period. In other words there has been a broadening of the air travel market into the older age groups over this period.

It is possible to ask people in what year they took their first air trip. The results of such a question, shown in Table 7, show a reasonable distribution over the years. The answers indicate that 1 to 2 per cent of all adults took their first air trip in each year back to about 1950. This pattern is consistent with the trends shown in Table 5, as previously remarked.

As time goes on it will be increasingly necessary to take into account the mortality among experienced air travelers, and it will take more than 2 per cent of new flyers to increase the proportion of all adults who are flyers by 2 per cent. Up to now, however, there have been few experienced flyers in the oldest age groups, and correspondingly small losses from the group who are experienced.

C. First Air Trips

Since the expansion of the group of experienced flyers is of special interest, in this study an attempt was made to discover which air trips of those studied in detail were the first air trip for one or more of the party. Information was obtained about 71 air trips which met this specification. Their principal characteristics are shown in Table 8.

At present most of these air trips are non-business trips. Only 19 per cent were entirely on business, and even if trips partly on business are included, only 27 per cent can be considered business trips. Three out of four first air trips are entirely for non-business reasons. It would be interesting to know whether the same statement would have been true ten or fifteen years ago, but the data are not available.

Most of the first air trips are for considerable distances. More than half are to places 500 miles or more away, including nearly four out

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of ten to places 1000 miles or more away. It is for these long trips, of course, that air travel has the greatest advantage in time saved over the other modes of travel.

About four out of ten of the first trips involve a single person traveling alone. The more common pattern is for the party to consist of two or more people. In this respect first air trips are by no means typical of all air trips. As will be discussed later in this report (see Table 27), of all air trips about 76 per cent involve only a single person. We may speculate that neophyte flyers find it reassuring to have a companion. It is also appropriate to note that larger parties are more typical of non-business than of business travel.

D. Profiles of the Air Traveler and the Frequent Air Traveler

Air travelers are by no means typical of the population at large, and frequent air travelers are an even more select group. Selected characteristics of all adults are contrasted in Table 9 with the characteristics of all air travelers, infrequent air travelers, and frequent air travelers. The definition of "frequent" used in the preparation of this table is that the individual took four or more air trips in the year covered by the survey.

Of all adults only 7 per cent are members of families with incomes of \$15,000 a year or above. Of frequent air travelers, 51 per cent are from families at this income level. The infrequent air travelers fall in between: 19 per cent of them are from families with incomes of \$15,000 or more.

Air travelers also differ to some extent from the general population in age: they fall near the middle of the age distribution. The young

Characteristics of First Air Trips

(Weighted percentage distribution of air trips which were the first air trip for one or more of the party traveling together)

۸.	Purpose	Per Cent of Trips
	Business Partly business business	19
	for some of the party	8
	Personal affairs	18
	Vacation and pleasure travel	55
	Total	100%
	Number of first air trips	68
в.	Distance in Miles	
	100-199	7
	200-299	11
	300-399	15
	400-499	11
	500-749	13
	750-999	5
	1000-1499	19
	1500 and over	
	Total	100%
	Number of first air trips	21
C.	Composition of the Party Nho Went on the Trip	
	One adult	39
	Married couple	18
	Married couple plus children	
	under 18	13
	One adult plus other relatives	11
	or irlends	
	Other combinations	11
	Other combinations	
	Total	100%
	Number of first air trips	71

Characteristics of Frequent and Infrequent Air Travelers, 1964⁸

	A11	All Air	Infrequent	Frequent
Family Income	Adults	Travelers	Air Travelers	<u>Air Travelers</u>
Under \$2000	10	1	1	*
\$2000-2999	8	1	3	*
\$3000-3999	9	4	5	*
\$4000-4999	9	5	5	1
\$5000 - 5999	11	5	6	*
\$6000-7499	16	13	15	8
\$7500-9999	15	15	16	14.
\$10,000-14,999	15	30	30	26
\$15,000 and over	_7_	_26_	19	51
Total	100%	100%	100%	100%
Number of adults	2945	305	239	66
A				
Age of Adult				
18-24	12	12	14	9
25-34	20	23	23	21
35-44	2 2	26	24	32
45-54	19	19	17	24
55-64	13	13	14	11
65 and over	_14_		8	3
Total	100%	100%	1007	100%
Number of adults	3049	319	253	66
Sex of Adult				
Male	47	60	54	80
Female	53	40	46	20
Total	100%	100%	1007	100%
Number of adults	3079	321	255	66

(Percentage distribution of adults)

* Less than one-half of one per cent.

a Frequent air travelers are those who took 4 or more air trips in the survey year. people under 25 and the old people over 65 are not likely to be frequent air travelers. The differences, however, are moderately large. Of all adults studied 26 per cent are under 25 or over 64. Of the frequent air travelers only 12 per cent are under 25 or over 64. Of the frequent air travelers 32 per cent are aged 35-44. In other words the frequent air traveler is more likely to be about 40 years old than any other age.

Men and women make up roughly equal proportions of the infrequent air travelers. The frequent air travelers are primarily men, however. Within this group the ratio is about four men to one woman. The people who travel frequently are primarily men traveling on business.

E. The Effect of Migration on Air Travel

One of the basic motives for taking a non-business trip is to visit friends or relatives at a distance. People who have migrated to a new community are very likely to have friends or relatives to visit in the community which they left. These people, therefore, might be expected, in general, to take more trips than the general population, and, specifically, to take more air trips.

These expectations are supported by the data. People were asked whether they always have lived in the state where they are living now or moved into that state at some time in their lives. Of the interstate migrants 51 per cent have at some time taken an air trip compared to 32 per cent of the non-migrants (Table 10). If attention is restricted to air travel in the last year, of the interstate migrants 15 per cent took at least one air trip compared to 8 per cent of the non-migrants. In other words, nearly twice as many of the migrants took an air trip (Graph 5).

The Effect of Migration on Air Travel

(Percentage distribution of respondents)

	Whether Ever Have	A11	Length of Residence in State Where Now Living		
Α.			Moved into the State	Have Always	
	<u>Taken an Air Trip</u>	Respondents	at Some Time	Lived in this State	
	Have taken an air trip	39	51	32	
	Never have flown		49	68	
	Total	100%	1007	1007	
	Number of interviews	1392	525	867	
Β.	Air Travel Last Year				
Have take Have not in last	Have taken an air trip Have not taken an air trip	10 ^a	15	8	
	in last year	90	85	92	
	Total	100%	100%	100%	
	Number of interviews	1399	524	874	

^aThe proportion of respondents who took an air trip is slightly lower than the proportion is of all adults who took an air trip.

Graph 5

Air Travel by Interstate Migrants and Non-Migrants



Took an Air Trip Last Year

A qualification must be entered at this point. People in the upper socio-economic groups are more likely to migrate than people of low social status. People who have been to college migrate more, have better jobs and higher incomes, and also take more air trips. It is not a simple matter to sort out the effects of income, education, and migration and say to what extent air travel is to be explained by the one rather than the other. More elaborate statistical analysis would be required than is reported here. What is shown, however, by Table 10 is that there is a clear association between past migration and air travel.

II. Vacation Travel

One of the objectives of this study has been to measure the frequency of vacations and to assess the importance of multiple vacations. The main finding is that multiple vacations are surprisingly common. Many people do take more than one vacation in a year and often they take more than one trip. The automobile dominates the market for the trips people take on their second and third vacations, just as it dominates most of the travel market.

A. The Frequency of Vacations

Just how many people have a vacation depends on exactly what one means by a vacation. In this study the frequency of vacations was estimated from answers to the following question:

Did (the head of the family being interviewed) have a vacation of a week or more anytime in the last 12 months?

As shown in Table 11 and Graph 6, 57 per cent of all heads of families did have a vacation. Of those with family incomes over \$10,000, 78 per cent had a vacation.

The incidence of multiple vacations was estimated on the basis of answers to the following question, which was asked of those who did report having a vacation:

Did (the head of the family) take his vacation all at one time, or how?

Of all family heads 38 per cent reported a single vacation but 13 per cent reported two vacations and 6 per cent, three or more vacations. People with high incomes are more likely to have multiple vacations than others. Thirty per cent of heads of families over the \$10,000 income level enjoyed two or more vacations (Table 11 and Graph 6).
The Frequency of Vacations

(Percentage distribution of family heads)

Α.	Whether Family Head Had a Vacation in the 12 Months Prior to Interview	<u>A11</u>	Income \$10,000 or Over		
	Had a vacation Did not have a vacation	57 43	78 22		
	Total	100%	100%		
в.	Number of Vacations Taken				

None 43 One 38 Two 13

Two Three or more	13 		
Total	100%	100%	

Per Cent of All Vacations Accounted for by People Who

.

22

с.	Number of Vacations	Took Different Numbers of Vacations
	One Two Three	48 31 21
	Total	100%
	Number of vacations	1280

Graph 6

Per Cent of Family Heads Who Had a Vacation of a Week or More in the Last Year





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People who take more than one vacation naturally account for a larger proportion of all vacations than they represent of all people who took vacations. One way to look at the matter is to consider the per cent of all vacations accounted for by people who took different numbers of vacations. The people who took multiple vacations account for half (52 per cent) of all vacations. (Last section of Table 11.) From the point of view of the travel industry this way of looking at the matter is perhaps the most appropriate. Each vacation is, potentially, a vacation trip. Half of all the potential vacation trips are accounted for by the 19 per cent of the population who take two or more vacations.

B. Whether People with Vacations Took Trips

Not all vacations are spent in travel. People may take short trips of under 100 miles or they may stay at home. Of all those who had one or more vacations, 27 per cent took no trip (Table 12). Most people, however, do take trips on their vacations. Of those with one vacation, 70 per cent took a trip. Of those with two vacations, only 20 per cent stayed near home both times, and 41 per cent took two trips. Of those with three vacations, 44 per cent took three trips - implying that 56 per cent stayed home for at least one of the three vacations. Only 13 per cent, however, stayed home for all three.

Vacation trips are not quite so highly concentrated as vacations as a result of this common tendency to stay home at least once. People with two or three vacations account for 38 per cent of all vacation trips. Thirty-eight per cent, however, is a sizeable fraction of the total vacation travel market.

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Number of Vacation Trips Taken by Family Heads

(Percentage distribution of vacations taken by family heads)

A.	Number of Vacation Trips	Per Cent of Heads Who Took One or More Vacations	<u>One</u>	Two	Three
	None	27	30	20	13
	One	58	70	39	25
	Two	10	-	41	18
I	Three				44
	Total	100%	100%	100%	100%
	Number of family heads	899	608	201	90
	Number of vacations	1280			

в.	Number of Vacations	Per Cent of All Vacation Trips Accounted for by People Who Took Different Numbers of Vacation Trips				
	One Two Three	62 22 <u>16</u>				
	Total	100%				
	Number of vacation trips	846				

C. Description of Vacation Trips

What peop'e did on their first, second, and third vacations is shown in Table 13. Fifty-seven per cent of all heads of families had a first vacation. Fourteen per cent stayed home, 4 per cent took a short trip, and 39 per cent took a trip of 100 miles or more away. Of those with incomes over \$10,000, 63 per cent took a trip. For the second and third vacations the distribution of activities is about the same as for the first - if one considers only the people who had them.

Most vacation trips, of course, are to destinations in the coterminous United States. Travel abroad, however, is becoming common among people in the upper income groups. On their first vacation, of those with incomes over \$10,000, 7 per cent went to a foreign country.

The usual mode of transportation on a vacation is the automobile. On their first vacation 32 per cent traveled exclusively by car out of 39 per cent who took a trip by any method of transportation. Even of those with income over \$10,000, 48 per cent traveled by auto only out of 63 per cent who traveled at all on their first vacation. For this group travel by air was in second place. Nine per cent traveled exclusively by air out of the 63 per cent who traveled at all. Even on people's second and third vacations the auto is the most frequently used method of transportation. It should perhaps be added that these results refer to a period prior to the recent development of family plans for air travel. These pricing arrangements may be changing patterns of vacation travel.

Whether Took a Trip on First, Second, and Third Vacations

		F Va	irst cation	S. Va	econd cation	T Va	hird cation
Α.	Whether Took a Trip on This Vacation	<u>A11</u>	\$10,000 or Over	<u>A11</u>	\$10,000 or Over	<u>A11</u>	\$10,000 or Over
	Had this vacation	<u>57</u>	<u>78</u>	<u>19</u>	<u>29</u>	<u>6</u>	<u>11</u>
	Took a trip 100 miles away Took a shorter trip Stayed home	39 4 14	63 4 11	11 2 6	21 2 6	4 1 1	7 1 3
	Did not have this vacation	43		81		94	89
	Total	100%	100%	100%	100%	100%	100%
В.	Where Family Head Went on the Vacation Took a trip on this vacation	<u>39</u>	<u>63</u>	<u>11</u>	<u>21</u>	<u>4</u>	<u>7</u>
	In the coterminous U.S.A. Alaska, Hawaii Went to a foreign country	37 * 1	54 1 7	10 * 1	19 1 1	3 * 1	6 * 1
	American territories	1	1	*	*	*	*
	<u>Did not take a trip</u> on this vacation	<u>18</u>	<u>15</u>	<u>8</u>	<u>8</u>	2	<u>4</u>
	Did not have this vacation	43	_22_	81	_71_	94	89
	Total	100%	100%	100%	100%	100%	100%

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		F Ve	irst cation	S V_a	econd cation	T Va	hird cation
C.	Kinds of Transportation		\$10,000		<i>\$10,000</i>	_	\$10,000
	Used	<u>A11</u>	or Over	<u>A11</u>	or Over	<u>A11</u>	or Over
	Took a trip on this						-
	vacation	<u>39</u>	<u>63</u>	<u>11</u>	<u>21</u>	4	<u>7</u>
	Auto only	⁻ 32	48	9	18	3	5
	Air only	3	9	1	2	1	2
	Rail only	1	1	*	*	*	*
	Bus only	1	2	*	*	*	*
	Auto and one or more						
	common carriers	1	2	1	1	*	*
	Combination of						
	common carriers	1	1	*	*	*	*
	Did not take a trip						
	on this vacation	<u>18</u>	<u>15</u>	<u>8</u>	<u>8</u>	2	<u>4</u>
	Did not have this					- 1	
	vacation	43	22	81		94	89
	Total	100%	100%	100%	100%	100%	100%
	Number of family heads	1574	293	1574	293	1574	293

Whether Took a Trip on First, Second, and Third Vacations - continued

*Less than one-half of one per cent.

III. The Distribution of Trips by Mode, Purpose, and Distance

As discussed in the Preface, this study did not have a large enough sample nor was it so designed as to provide in itself the best available estimates of the distribution of all trips by distance, purpose, and mode of travel. An estimate of that distribution is shown in Table 14. This table is based primarily on the 1963 Census of Passenger Transportation, checked and supplemented as indicated in the footnotes to the table. The split between business and non-business for bus and rail is probably the weakest part of the table, but involves only a rather small proportion of all travel.

Table 15, unlike Table 14, is a weighted distribution of trips from this survey. As far as business travel is concerned, because of the use of weights in Table 15 the first column of that table merely shows in different form the choice of mode for trips of different length implied by Table 14. The main results are that business travel of 100-199 miles is primarily by auto while business travel of 500 miles or more is more than 80 per cent by air. In the 200-499 mile range the proportions by auto and air are more nearly even, implying keener competition between these two methods of travel.

The remaining three columns of Table 15, while consistent with Table 14, present an additional breakdown of trips by purpose based on the results of this survey. Three categories of purpose are considered: trips partly on business or business for some of the party, trips on personal affairs, and vacation and pleasure travel. There are differences in choice of mode among these types of trip, especially for distances of 500 miles or more. In that mileage bracket 71 per cent of the partly business trips are by air in contrast to 29 per cent of the trips on

Estimated Distribution of All Trips by Mode, Purpose, and Distance, 1963¹ (Percentage distribution of all trips based on Census and other sources)

2	A11	Dista	nce (miles)	$)^{2}$
Mode ² and Purpose	(100 miles or more)	100-199	200-499	<u>500+</u>
Air	<u>10.7</u>	<u>1.1</u>	4.3	<u>5.3</u>
Business ³ Non-business	6.8 3,9	.7 .4	2.8 1.5	3.4 1.9
<u>Rail</u>	4.1	<u>1.3</u>	1.6	<u>1.2</u>
Business Non-business	1.1 3.0	.4 .9	.4 1.2	.3 .9
Bus	<u>4.5</u>	2.3	1.6	<u>.6</u>
Business ⁵ Non-business	.7 3.8	.5 1.8	.2 1.4	.0 .6
Auto	80.7	50.4	23.5	<u>6.8</u>
Business ⁶ Non-business	18.7 62.0	12.6 <u>37.8</u>	5.6 <u>17.9</u>	.5 _6.3
Total	100.0	55.1	31.0	13.9

LESTIMATES IN THIS TABLE have been revised slightly from those shown in the Preliminary Report.

²The distribution of trips by mode and distance was calculated from the <u>1963 Census of Transportation</u>, <u>Advance Report</u> TC 63 (A)-P4, Table 7. The distribution for air agrees closely with data published by the C.A.B., <u>Handbook of Airline Statistics</u>, <u>1963</u>, p. 409. For bus the distribution agrees closely with unpublished tabulations.

³The division between business and non-business for air was computed from the Port of New York Authority - <u>Airlines Domestic In-flight</u> <u>Survey 1963-1964</u>, p. 13. A linear extrapolation of the Port Authority's data was made to account for slight differences between the two sets of distance intervals.

⁴From the 1961-1962 Travel Survey. About 25 per cent of rail trips in each distance category are assumed to be taken for business reasons.

⁵From the 1961-1962 Travel Survey. About 13 per cent of bus trips are estimated to be taken for business reasons. This estimate is based on tabulations of recent bus trips from that survey.

⁶The division between business and non-business for auto was obtained by subtracting estimates of business travel by air, rail, and bus from estimates of total business travel provided by the <u>1963 Census</u> of Transportation, Table 13.

Choice of Mode of Travel for Trips of Different Distances for Different Purposes

		Purpose					
Mode Choice	All Trips	<u>Business</u>	Partly Business, Business for Some of Party	Personal Affairs	Vacation and Pleasure Travel		
Auto	92	88	99	94	92		
Air	2	5	*	*	1		
Rail	2	3	1	2	2		
Bus				4	5		
Total	100%	100%	100%	100%	100%		
Number of trips	1133	296	30	147	660		
200-499 Miles							
Auto	75	55	86	74	82		
Air	15	38	. 6	13	6		
Rail	5	4	8	3	6		
Bus	5	3	<u>*</u>	10	6		
Total	100%	100%	100%	100%	100%		
Number of trips	1021	224	56	144	627		
500 Miles and Over							
Auto	49	10	27	52	68		
Air	38	82	71	29	17		
Rail	9	8	2	10	9		
Bus	4_		_*		6		
Total	100%	100%	100%	100%	100%		
Number of trips	881	188	43	123	527		

(Weighted percentage distribution of trips)

*Less than one-half of one per cent.

personal affairs and only 17 per cent of the vacation trips. It is, perhaps, reasonable that most of these long trips, like most business trips, should be by air. The higher proportion of trips on personal affairs than vacation trips by air may require more explanation. Yet, many of these trips have an emergency character, arising out of an illness or death or a family crisis. The speed of air travel may be a critical consideration for such trips.

In the mileage bracket from 200 to 499 miles the proportion of trips by air is lower for all purposes than for the long trips. It continues to be true that more of the trips on personal affairs than on vacation are by air (14 per cent versus 6 per cent). In this mileage bracket a very large fraction, 86 per cent, of the partly business trips are by auto. It may be that the reason is to be sought in the fact that two can travel by auto as cheaply as one since many of the partly business trips involve two or more people.

In the mileage bracket from 100 to 199 modes the automobile is dominant regardless of the purpose of the trip. A few trips are taken by other modes, but nine trips out of ten are by car.

IV. The Speed of Common Carrier Service

One of the basic factors in people's choice of mode of transportation is speed. Other things equal, travelers usually prefer the fastest way to travel. Business travelers in particular are interested in saving time. Speed, on close examination, is not a simple attribute of the different means of transport. There is an important difference between the speed attained by a vehicle in full career and the average speed from terminal to terminal. Speed from where the traveler begins his journey to where he ends it, door-to-door speed, involves still other considerations. It is primarily to this last topic that attention has been directed in this investigation. This chapter reports results having to do with where people start and end their trips, how long it takes them to reach the terminals, how long they spend on board the common carrier, and the distances from their homes and places of business to the nearest terminals. This chapter also includes results of a question asked of automobile travelers about the importance of their auto for local travel after they reach their destination.

A. The Sequence of Steps on Trips by Common Carrier

Where do people start their journeys? Typically, they leave from their homes. Of all common carrier trips about 85 per cent start from people's homes (Table 16). For air trips, if anything, the percentage is slightly lower, 83 per cent, and for rail trips slightly higher, 93 per cent. But the main finding is that better than four out of five trips start from people's places of residence.

Regardless of which common carrier they will be using, most people (74 per cent) get to the terminal in an automobile. This percentage is

Sequence of Steps of Trips by Common Carrier

(Weighted percentage distribution of common carrier trips)

•			Mode	
Where Started Trip	All Common Carrier Trips	Air	<u>Rail</u>	Bus
Work Rome	12 85	16 83	4 93	9 85
Other	3	3	3	6
Total	100%	100%	100%	100%
Number of common carrier trips	743	454	127	152
Mode Used to Get to Terminal				
Walk Taxi; limousine Auto Bus	2 17 74 6	* 18 78 2	1 21 73 5	8 9 64 17
Other	_1_	2		2
Total	1007.	100%	100%	100%
Number of common carrier trips	731	454	126	152
Mode Used at End of Trip, Termins to Final Destination	al 			
Walk Taxi; limousine Auto Bus	4 32 52 9	* 42 53 3	4 23 53 20	12 19 47 14
Other	3	2		8
Total	100%	100%	100%	100%
Number of common carrier trips	7 56	478	126	152

44.

Number of Miles from the Center of the Most Distant Place		Mode			
Reached on the Trip to the Area the Traveler Wanted to Visit ¹	All Common Carrier Trips	Air	<u>Rail</u>	Bus	
0-2	42	42	45	40	
3-4	17	17	16	16	
5-9	15	11	20	20	
10-14	12	12	11	12	
15-24	7	8	6	6	
25 and over	7	10		6	
Total	100%	100%	100%	100%	
Number of common carrier trips	721	436	153	132	

Sequence of Steps of Trips by Common Carrier - cont.

¹Based on respondents' estimates of distance.

*Less than one-half of one per cent.

slightly lower for bus travel: about one bus traveler in three gets to the terminal by walking, taking a taxi, or riding a local bus. The fact that most people drive to the terminal in itself is suggestive about why many choose to take their entire trips by car. Once in their cars, they may find it convenient simply to keep on going.

At the destination one would expect to find fewer people leaving the terminal by automobile, and this expectation is borne out by the data. About half of the trips, however, involve use of an auto at the destination. No question was asked about <u>whose</u> auto was involved, but presumably many people are met by local residents. Very few air travelers (only 3 per cent) leave the terminal by bus, 42 per cent using either a taxi or limousine. Rail and bus trips are somewhat more likely to involve a local bus to the point of final destination, but more often it is a taxi.

The choice of local transportation at the destination obviously depends upon where people want to go. Perhaps the most important point about the final destination is whether or not it is in the center of the city. People were asked, therefore, to estimate the number of miles from the center of the most distant place they reached on their trip to the area they wanted to visit. Their estimates of distance should not be regarded as precise, but should indicate the approximate location correctly.

About 42 per cent of trips by common carrier are to a destination which is 0-2 miles from the center. Apparently it would be roughly correct to say that four out of ten trips are to the central business district of the destination or a point close to it. Hence, nearly six out of ten trips are <u>not</u> to the center of the place of destination but to places farther out. Air travelers fan out most widely from the centers of the cities. Eighteen per cent of the air trips are to destinations 15

miles or more from the center of the destination. Note that this statement does not refer to distance from the <u>terminal</u> but to distance from the center of the city. Estimates of the time air travelers spend on the ground getting to their final destination should not be based simply on the time to get from the airport to the central business district since a majority of them are not headed for the central business district.

B. Time Spent En Route

People were asked directly how long they allowed from when they started out to the scheduled time of departure of the common carrier, and how long it took from the terminal to the final destination. Interviewers were instructed to obtain this information from someone who went on the trip. There may be some memory error in the replies, but there does not seem to be any reason to expect a large bias.

For air trips the median time to reach the terminal was 68 minutes, and to reach the final destination from the terminal at the other end of the trip, 50 minutes (Table 17). It is reasonable that the time from the terminal is the shorter since people reach the airport somewhat prior to scheduled departure but may leave the terminal as soon as they please (unless they must wait for their baggage). Typically, then, an air trip involves about two hours of time on the ground getting to and from terminals. In some instances the time is much longer, with one trip in ten involving two hours or more to get to the terminal. This amount of effort to reach a terminal suggests a long air trip.

Rail travel typically involves less time to and from terminals than air, probably owing primarily to the central location of railroad stations. The typical rail trip seems to involve 19 or 20 minutes less time to reach

Time Allowed to Get to and from the Terminal on Trips by Common Carrier

Time Allowed to	Mode						
Get to and from	Ái	Air		Rail		Bus	
the Terminal	To	From	<u>To</u>	From	To	From	
Less than half an hour Half an hour up to	4	16	31	42	34	49	
1 hour	38	52	32	36	38	32	
1 up to 1 1/2 hours	32	22	25	18	15	14	
1 1/2 up to 2 hours	15	4	5	2	8	- 4	
2 to 3 hours	6	5	4	1	3		
3 hours or more	5_	1	3	_1	2	3	
Total	100%	100%	100%	100%	100%	100%	
Median time (minutes)	68	50	49	37	43	31	
Number of trips	395	389	137	136	176	189	

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(Percentage distribution of common carrier trips by mode)

the station than the typical air trip, and about 13 minutes less to get from the terminal to final destination. Bus trips are roughly comparable to rail trips in time to and from terminals, as one would expect since both rail and bus terminals are usually centrally located. The median times are somewhat lower for bus than for rail, 43 minutes to the terminals, and 31 minutes from the terminals. It should be kept in mind that these estimates of time are for the trips people actually take by the modes in question. Some of the differences among the three modes are no doubt due to the fact that air travel is primarily to and from large centers while the bus is particularly important in rural areas. Reaching a final destination from a terminal in a town of 10,000 people is not the same as in a city of one million.

It is, of course, in the time spent on board the carrier that the greater speed of air travel is shown (Table 18). The median time en route for an air trip is 2.9 hours; a rail trip, 6.2 hours; and a bus trip, 6.8 hours. These times, however , are for trips of unequal distances. They are of interest simply in describing what trips are like by the different modes of travel. Very few air trips involve more than ten hours between terminals. Forty per cent of rail trips take over ten hours, and about 33 per cent of bus trips.

The distribution in Table 19 shows total elapsed time, door to door, for trips by the three types of common carriers. For air the median total time is 4.8 hours; for rail, 8.7 hours; and for bus, 8.3 hours. The greater speed of air travel is partly offset by the longer time to and from the airport. It is perhaps worth comment that virtually no air trips are completed in less than two hours, door-to-door. Four or five hours is

Time on Board the Common Carrier

Time Spent on				
Board the Common			Mode	
Carrier (Hours)	All Common Carrier Trips	Air	Rail	Bus
Under 1	5	7	1	2
1.0-1.9	17	26	4	6
2.0-2.9	16	19	15	9
3.0-3.9	15	13	20	16
4.0-4.9	9	12	7	7
5.0-9.9	19	17	13	28
10.0-14.9	8		13	12
15.0-19.9	4	ĩ	8	7
20 or more		<u> </u>	<u>19</u>	14
Total	100%	100%	1007.	100%
Median time (hours)	3.8	2.9	6.2	6.8
Number of common carrier trips	704	396	133	175

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Total Elapsed Time for Trips by Common Carrier

Total Elapsed Time			Mode	
En Route (Hours)	All Common Carrier Trips	Air	<u>Rail</u>	Bus
Under 1	*	*	*	*
1.0-1.9	1	1	*	1
2.0-2.9	9	16	*	2
3,0-3,9	16	20	15	10
4.0-4.9	17	16	21	14
5.0-9.9	33	35	19	35
10.0-14.9	9	7	12	14
15.0-19.9	5	2	10	9
20 or more	10		23	<u>15</u>
Total	100%	100%	100%	100%
Median time (hours)	6.1	4.8	8.7	8,3
Number of common carrier trips	704	396	135	173

*Less than one-half of one per cent.

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much more common. Rail and bus trips seem to take a minimum of about three hours, and may take almost any length of time over three hours. No doubt there are many short rail and bus trips to destinations under 100 miles away, but such trips are not considered in this report.

C. The Speed of Travel by Common Carrier

Since people were asked both the time they spent on their trips and the distance, it is possible to estimate the speed with which they traveled. The estimates of speed must be approximations since distance was asked only by mileage blocks. On the average, however, it should not be too much in error to assume that the actual distance is at the mid-point of the interval. This assumption becomes strained for distances over 1000 miles since the distance brackets used become very wide, 1000-1499 and 1500 and over. Accordingly, speeds have been estimated only for trips of up to 999 miles. Results are shown in Table 20 and Graph 7.

Table 20 requires a word of explanation. As already discussed, people were asked to break down the total time "from where you started to where you wanted to be" into the time on the carrier including any delays and the time to and from the terminals. The first column of Table 20 shows the average (mean) number of hours on board the plane, train, or bus. The second column shows the average (mean) total elapsed time door-todoor. The second mean is necessarily larger than the first by the amount of time spent getting to and from the terminals. Two estimates of speed have been prepared based on time on board (including delays) and doorto-door time. The last column of the table shows the number of trips on which each row is based. It should be emphasized that the number of observations is very small for some rows.

Distance, Time, and Speed for Trips by Common Carrier

			Estimate		
	Average Time		Based on Time	Based on Time	Number
Distance	on the Carrier	Average Elapsed Time	on Board	Door-to-Door	of
(miles)	(hours)	Door-to-Door (hours)	(m.p.h.)	(m.p.h.)	<u>Trips</u>
<u>Air</u>					
100-199	1.3	2.7	114	56	14
200-299	1.5	3.0	164	85	40
300-399	2.2	3.8	160	91	45
400 -499	2.1	3.8	215	118	28
500-749	3.4	5,2	184	120	62
750-999	3.9	6.1	224	144	32
Rail					
100-199	2.9	4.2	52	36	42
200-299	5.0	6.1	50	41	17
300-399	6.7	8.1	52	43	7
400-499	10.1	12.8	44	35	7
500-749	12.3	15.4	51	41	15
750-999	15.4	17.5	57	50	13
Bus					
L00-199	3.8	4.9	40	31	45
200-299	6.8	8.5	37	29	30
300-399	7.3	8.8	48	40	19
400-499	7.3	11.2	62	40	10
500-749	12.6	13.5	50	46	24
750-999	18.9	20.7	46	42	17

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Graph 7

Overall Speed, Door-to-Door, for Trips by Common Carrier



Distance in Miles

Perhaps the most striking result of these calculations is the slow speed of air travel on a door-to-door basis for short trips. Under 200 miles the estimate is 56 miles per hour, and from 200 to 299 miles, 85 miles per hour. The lower of these speeds is not very different from the speed of automobiles on main rural roads. Allowing for the fact that an auto can leave at exactly the most convenient time for its driver, even 85 to 90 miles per hour does not imply much saving in time by air.

Air speeds, on an elapsed time basis, increase with distance. Speeds for rail and bus also improve with distance, but not to anywhere near the same extent. For trains the estimates are in the neighborhood of 40 miles an hour an an elapsed time basis and 50 on a time on board basis. These estimates, of course, apply not to an unweighted average of all <u>trains</u> but to an average of all <u>trips</u> by rail. People presumably patronize the faster trains in larger numbers. For bus travel the estimates are mostly in the range 30 to 40 miles per hour on a door-to-door basis and 40 to 50 on a time on board basis. There is considerable variability or "wobble" in the estimated speeds, no doubt reflecting variation in how far people travel to the terminal, whether or not service is non-stop, and the like.

D. The Effect of Distance to the Airport on Whether Peoply Fly

Since the time spent on the ground is an important part of the time taken by an air trip, for people who live many miles from an airport the advantage of air in saving time is reduced and these people, one might expect, should take fewer air trips than those closer to a terminal. This expectation is supported by the results shown in Table 21. In this table those with family incomes below and above \$10,000 are shown separately.

Family Use of Air by Distance from Home to Airport by Income

(Percentage distribution of families)

<u>Use of Air Last Year</u>			Di	stance t	o Airport	(miles)
Family Income Under \$10,000	<u>All Families</u>	<u>0-2</u>	<u>3-4</u>	<u>5-9</u>	<u>10-24</u>	25 or ove
At least one family member took an air trip	10	3	13	15	13	5
No family member took an air trip	_ 90	97_	<u>87</u>	85	87	95
Total	100%	100%	100%	100%	100%	100%
Number of Families	1223	32	69	207	409	506
Family Income \$10,000 or Over						
At least one family member took an air trip	40	a	a	45	46	31
No family member took an air trip	_60	<u>a</u>	<u>a</u>	_ 55_		_69_
Total	100%	a	a	100%	100%	100%
Number of Families	283	7	17	67	117	75

^a Too few observations to percentagize.

For both groups there is a decline in air travel among those who live 25 miles or more from an airport. Below \$10,000, 10 per cent of families contain at least one member who took an air trip in a period of a year. Of the families 25 miles or more from an airport only 5 per cent had at least one member take a plane.

At the income level over \$10,000 where air travel is much more common 40 per cent of all families contain at least one person who flew last year. But if the family lives 25 miles or more from an airport, only 31 per cent have a member who flew. There does not seem to be much doubt that the time to reach the airport is an important factor in the decision whether to fly.

How far it is from where people are to the nearest terminal, therefore, is worth estimating. For business travelers it is relevant to ask the distance from the place where they work to the nearest terminals for each of the three common carriers. This information, based on interviewers' rather than respondents' calculations of distance, appears in Table 22. Those heads of families with incomes over \$10,000 who travel on business are the most important group. For them, the median distance from place of work to airport is 17.0 miles; from place of work to railroad station, 6.5 miles; and from place of work to bus station, 4.6 miles.

In view of the finding cited earlier that most trips begin from people's homes, distances from residences to terminals are of even greater importance. As shown in Table 23, for families with incomes over \$10,000 the median distance to the nearest commercial airport is 17 miles; to the nearest railroad station, 9 miles; and to the nearest bus terminal, 7 miles. Typically, then, it is about 8 to 10 miles farther for upper income people to get to the airport.

Distance to Terminals from Place of Work for Business Travelers

(Percentage distribution of families)

A.	<u>Air</u> : Respondents' Estimates of Number of Miles from Where Heads of Families Work to the Nearest Airport with Scheduled Passenger Service	<u>A11</u>	Income \$10,000 or Over
	0 - 2	5	4
	3 - 4	10	10
	5 - 9	17	16
	10 - 24	33	40
	25 or over		
	Total	1007,	100%
	Median	17,6	17.0
в.	Rail: Respondents' Estimates of Number of Miles from Where Heads of Families Work to the Nearest Railroad Passenger Station		
	0 - 2	27	27
	3 - 4	17	15
	5 - 9	. 17	22
	10 - 24	24	26

3 - 4	17	12
5 - 9	. 17	22
10 - 24	24	26
25 or over	15	10
Total	1007	1007
Median	8.8	6.5

Distance to Terminals from Place of Work for Business Travelers 1 - cont.

c.	Bus: Respondents' Estimates of Number of Miles from Where Heads of Families Work to the Nearest Bus Station for Intercity Service	<u>A11</u>	Income \$10,000 or_Over
	0 - 2	46	43
	3 - 4	12	9
	5 - 9	18	22
	10 - 24	6	4
	Total	100%	100%
	Median	3.7	4.6
	Number of Families with Business Travelers	268	121
	/		

¹ Includes only those families where the Head took a business trip in last 12 months.

Distance to Terminals from Place of Residence

(Percentage distribution of families)

Α.	<u>Air</u> : Interviewers' Estimates of Number of Miles to Nearest Airport Served by Scheduled Commercial <u>Airline</u>	<u>A11</u>	Income \$10,000
	0 - 2	3	2
	3 - 4	5	6
	5 - 9	18	24
	10 - 24	35	41
	25 or over	39	_27
	Total	100%	100%
	Median	20 miles	17 miles
в.	<u>Rail</u> : Interviewers' Estimates of Number of Miles to Nearest Railroad Passenger Station		
	0 2	16	14
	0 - 2	15	14
	5 - 9	13	24
	J - 3 10 - 24	30	24
	10 - 24	18	10
	25 Or Over		
	Total	100%	100%
	Median	9 miles	9 miles
c.	<u>Bus</u> : Interviewers' Estimates of Number of Miles to Nearest Bus <u>Station for Intercity Service</u>		
	0 - 2	29	23
	3 - 4	17	15
	5 - 9	24	28
	10 - 24	24	31
	25 or over	6	
	Total	100%	100%
	Median	5 miles	7 miles
	Number of families	1574	293

E. The Fastest Mode for This Trip

One approach to the analysis of the speed of travel is to ask people for their own opinion as to which mode of travel is the fastest for the specific trips which they took. In a sense it is their perception of which is the fastest which is relevant for their behavior. Results appear in Table 24, with trips classified according to the distance traveled.

It is exceptional for travelers to think of rail or bus as the fastest. The choice is almost exclusively between auto and air. Which of these is believed fastest depends, as one might expect, on the length of the trip. Under 199 miles people report the auto as fastest 75 per cent of the time and air as fastest for only 20 per cent of the trips (see "per cent of all trips", the first section of Table 24). As the distance lengthens, the ratio between air and auto shifts toward air. At 200-299 miles one is as likely to be fastest as the other. Over 300 miles the preponderance of votes are strongly for air. There are only a few trips over 500 miles for which people say that auto would be the fastest.

How strongly is people's choice of mode influenced by their opinion as to which method of travel is fastest? As shown in the first section of Table 24, for trips of 100-199 miles of those who think air fastest only 6 per cent went by air. But of those who think auto fastest, none went by air. This relationship is repeated at the other distances. That is, people who think air is fastest often travel by other modes, but people who think auto is fastest for a given trip virtually never fly. It would appear that believing air is fastest is a necessary but not a sufficient condition for people to fly.

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Fastest Mode for This Trip in the Opinion of the Traveler

Mode Used:		_Faste	st Mode	for This	Trip_
100-199 Miles	All Trips	Air	Rail	Bus	Auto
Air	1	6	*	*	*
Rail	4	3	75	*	1
Bus	5	5	3	73	3
Auto	90	86		27	96
Total	100%	100%	100%	100%	100%
Number of trips	1108	225	40	15	828
Per cent of					
all trips	100	20	4	1	75
Mode Used: 200-299 Miles					
Air	10	21	*	-	*
Rail	3	4	100	-	2
Bus	6	7	*	-	6
Auto	81	68	<u>*</u>	<u> </u>	92
Total	100%	100%	100%	-	100%
Number of trips	490	244	2	0	244
Per cent of					
all trips	100	50	*	*	50
Mode Used: 300-399 Miles					
Air	20	28	*	33	1
Rail	7	7	34	33	1
Bus	7 ·	8	33	34	6
Auto		_62_	33		92
Total	100%	100%	100%	10 0%	100%
Number of trips	295	200	3	3	89
Per cent of all trips	100	68	1	1	30
ortho	100	00	+	+	00

by the Mode Actually Used and the Distance

Mode Used: 400-499 Miles	<u>All Trips</u>	<u>Faste</u> <u>Air</u>	st Mode <u>Rail</u>	for This <u>Bus</u>	<u>Trip</u> <u>Auto</u>
Air Rail Bus	18 4 6 72	26 6 6	* 33 *	* * 50	2 * 3
Total	100%	100%	100%	<u> </u>	<u>95</u> 100%
Number of trips	186	125	3	2	56
Per cent of all trips	100	67	2	1	30
Mode Used: 500 Miles or Over					
Air Rail Bus Auto	34 9 9 48	39 8 8 45	* 58 17 25	11 * 33 <u>56</u>	* 3 10 87
Total	100%	100%	100%	1007	100%
Number of trips	858	7 58	12	9	79
Per cent of all trips	100	88	2	1	9

Fastest Mode for This Trip in the Opinion of the Traveler

by the Mode Actually Used and the Distance - cont.

*Less than one-half of one per cent.

F. Having a Car at the Destination

Although the choice of mode of transportation is certainly influenced by the length of time to reach the destination, other considerations enter. One of these has to do with people's local travel at their destination. One reason for driving one's car is to have it available at the destination. The problem posed in this study is, how important is it to people to have a car after they arrive?

The method used was simply to ask people who did drive to their destination the following question:

On this trip while you were at (your destination) how important was it to have your own car to get around?

The question was phrased in terms of "your own car", which permitted people to reply that they could have rented a car or borrowed a car to solve their local transportation problem and had no need to drive their own vehicle.

Responses to this question are shown in Table 25. On 70 per cent of the auto trips people said it was "very important" to have their own car! It makes some difference whether the destination is urban or rural. Of those visiting rural areas 75 per cent said "very important" compared to 64 per cent in cities over 50,000. No doubt visitors to the very largest cities less often feel it important to have their own car - unless they are visiting the suburbs. The main finding, however, is that most people who now drive their cars on trips say that it is important to them to have those cars at the destination. They may be expected to be hard to convince that they will be better off using any competing method of transportation which does not provide them with a car on their arrival.

Importance of Having Own Car to Get Around at the Most Distant Place Reached for Auto Trips by Whether the Most Distant Place Reached is Rural or Urban

(Percentage distribution of auto trips)

		Whether Most Distant Place Reached is Rural or Urban				
Importance of Having Own Car at Most Distant Place Reached	All <u>Auto Trips</u>	Rural Area	Small Town (2,500-50,000)	Large City (Over 50,000)		
Very important	70	75	73	64		
Fairly important	10	7	11	10		
Not important	20			_26		
Total	100%	100%	100%	100%		
Number of auto trips	2107	344	892	871		

V. The Distribution of Trips by Origin and Destination

It is the purpose of this section of this report to describe the geographical pattern of all trips and of trips by each of the four modes of travel. With the sample of somewhat over 3000 trips available for this purpose, the amount of geographic detail which can be presented is necessarily limited. Yet much is revealed concerning broad patterns of geographical differences in travel. In the second part of this chapter the characteristics of trips involving New York and the Northeast Corridor are discussed.

A. Geographic Characteristics of Trips in 1964-1965

In the section the geographic breakdown concerns region of destination, whether the destination is in the Northeast Corridor, whether the destination is one of the 12 largest metropolitan areas, the distance to the destination, whether the traveler had in mind only a single destination, whether the destination is urban or rural, whether the origin is in the Northeast Corridor, and a combined classification of whether either origin or destination is in the Corridor. Each of these classifications shows differences among the modes of travel. As discussed in <u>The Changing Travel</u> <u>Market</u> the key to many of these results is to be found in the unique quality of New York, a city which depends much on travel by common carrier and little on travel by auto.

As shown in Table 26 about 19 per cent of all auto trips have a destination in the Northeast compared to 23 to 29 per cent of the trips by common carrier. The second section of the table shows specifically
TABLE 26

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Geographic Distribution of Trips by Mode

(Weighted percentage distribution of all trips)

2.5.

Α.	Region of Most Distant		Mode				
-	Place Reached	<u>All Trips</u>	Λuto	Air	Rãil	Bus	
	Northeast	21	19	29	23	29	
	North Central	28	29	22	34.	26	
	South	27	28	25	21	22 ·	
	West	21	22	17	20	21	
	Outside coterminous U.S.	3	2	7	2	2	
	Total	100%	100%	100%	100%	100%	
	Number of trips	3066	2241	471	151	202	
в.	Whether Destinations Are in the Northeastern Corrido	r		. •	· · · -		
	New York Consolidated Area	5	3	14	13	16	
	Remainder of Northeastern Corridor	11	11	i 1 [*]	18	6	
	Other destinations	84	86	75	69		
	Total	100%	100%	100%	100%	100%	
	Number of trips	3049	2230	470	151	198	
	1997 - A.	·	-				
c.	Whether Destinations of Trip Are One of 12 Largest	ps .		• 1	-	· ·	
	Metropolitan Areas	·	· · · · ·	•	•		
	Destination one of 12 large metro areas	st : 20	15	43	50	33	
	largest metro areas	80	85	57	50	67	
	Total	100%	100%	100%	100%	100%	
	Number of trips	3048	2230	469	149	200	
	+ + + - +	• . •			1. T.S.	•	

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Distance to Most Distant Place Reached			Mode		
(Respondents' estimates) A	11 Trips	Auto	Air	Rail	Bus
100-199	55,	62	10	32	51
200-299	1 Ģ	16	16	. 22	17
300-399	9	8	16	9 -	13
400-499	6	5	10	8	6
500-749	5	3	12	. 8	5
7 50-999	2	2	7	7	3
1000-1499	3	2	12	7	2
1500 and over	4			<u> </u>	<u>2</u>
Total	100%	100%	100%	100%	1007
Number of trips	3094	2263	476	153	202
· · · · ·		• .			
Whether Wanted One					
Destination	1 <u>,</u> 1	-	•		
Wanted only one destination	7.9,	78	83	86	.91
Wanted to see the country	3	4	1	3	2
Wanted to visit several	-,.				1
places	10	10	11	7	4
Wanted both to see the					
country and visit several		• •	1.1		2
places	8		<u> </u>		<u>, 3</u>
Total	100%	100%	100%	100%	1,00%
Number of trips	3007	2195	460	151	201
•			·) ·		
Whether Wanted One Destination	้าก		1 .		
Destination			• •		
200 Mtlas Maria					•
JUU MILES OF MOTE		. ن	•. •.		•.
Wanted only one destination	70.	-63	⁻ 78	81	83
Wanted to see the country	. 4	6	1	3	3
Wanted to visit several place	es 13	13	14	9 ·	6
Wanted both to see the count:	ry _{6 5}				-
and visit several places	13		7		<u>· 8</u>
Total	100%	100%	100%	100%	100%
Number of trips	1351	771	⁻ 383'	85	112

Geographic Distribution of Trips by Mode - cont.

~	Whather Destination			Mode		
G .	Is Rural or Urban	<u>All Trips</u>	Auto	Air	Rail	Bus
	Rural area Small town (2,500-50,000) Large city (over 50,000)	15 39 46	17 44 39	2 14 <u>84</u>	4 28 <u>68</u>	10 27 <u>63</u>
	Total	100%	100%	100%	100%	100%
	Number of trips	2987	217 1	464	151	201
H.	Whether Origin in Northeastern Corridor					
	New York consolidated area Northeastern Corridor excluding the New York	5	5	5	11	9
	consolidated area	5	4	7	11	11
	Remainder of coterminous United States	90	91	_88_		_80
	Total	100%	100%	100%	100%	100%
	Number of trips	2877	2107	433	146	191
1.	Summary of Origins and Destinations of Trips					
	Origin or destination in the Corridor	<u>20</u>	<u>17</u>	<u>36</u>	<u>34</u>	<u>27</u>
	New York to Corridor New York to rest of U.S. Corridor to New York Rest of U.S. to New York Corridor to Corridor Corridor to rest of U.S. Rest of U.S. to Corridor	3 2 2 3 2 1 7	3 2 1 2 2 1 6	2 4 1 14 * 5 10	9 3 6 3 1 6	5 5 11 5 * 1
	Rest of U.S. to rest of U.S	. <u>80</u>	83	_64_	66	
	Total	100%	100%	100%	100%	100%
	Number of trips	2877	2107	433	146	191

Geographic Distribution of Trips by Mode - cont.

* Less than one-half of one per cent.

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whether the destination of a trip is New York or elsewhere in the Corridor. Only 3 per cent of all auto trips have New York as destination compared to 13 to 16 per cent of the trips by the common carriers. The rest of the Corridor is not so distinctive. It accounts for the destination of 11 per cent of all trips, 11 per cent of auto trips, and 11 per cent of air trips. The per cent of all rail trips with destinations in the Corridor is a bit higher, offsetting a lower percentage of all bus trips.

If all of the twelve largest metropolitan areas in the country are grouped together, they are the destination of 20 per cent of all trips. Only 15 per cent of the auto trips are to one of these centers, but nearly half of the air and rail trips (43 and 50 per cent, respectively).

About four out of five trips are to a single destination. Only one out of five travelers wants to visit several places or to see the country. This consideration, it would appear, is not a major factor in people's choice of method of transportation in the market as a whole. It plays some part, but it does not appear to be as crucial as it is for people to have cars for local transportation at their destination. The desire to visit several places does become a factor, however, when attention is restricted to trips to destinations 300 miles or more away. Some 37 per cent of auto travelers say they wanted to do more than visit a single destination compared to about 20 per cent of travelers by the common carriers.

If the big cities are served by the common carriers, highway transportation serves the rural areas. Some 15 per cent of all trips have a rural area as destination. Of all auto trips 17 per cent are to rural areas. But only 2 per cent of air trips are bringing people to a rural destination and 4 per cent of rail trips. If people do not drive they

take the bus, and 10 per cent of all bus trips are to rural points.

The New York area is the origin of about 5 per cent of all trips. New York is either the origin or the destination of about 10 per cent of all trips. If the rest of the Corridor is considered, about 20 per cent of all trips must be included. Of all auto trips 17 per cent have either origin or destination in the Corridor compared to about one-third of air and rail trips and 27 per cent of bus trips. The Corridor is a highly urbanized area and as such relies more heavily on air and rail than do the less urban portions of the country.

B. Trips Involving New York or the Northeast Corridor

From the preceding discussion one would expect a tabulation of all trips for which New York is the origin or the destination to contain a larger proportion of common carrier trips and a smaller proportion of auto trips than trips not involving New York. This expectation is borne out by the data in Table 27. The first section of that table shows that 57 per cent of trips to or from the New York area are by auto compared to 84 per cent of trips entirely outside the Corridor. Trips involving either an origin or a destination in the Northeast Corridor outside of New York are more like trips entirely outside the Corridor than like trips which involve New York. About 78 per cent of these trips are by auto.

Are there other differences between travel in the Corridor and travel elsewhere? As far as the purpose of travel is concerned, there are no major differences. About the same percentage of trips are on business whether or not travel to the Corridor or New York is isolated.

The number of people in the party does vary as between these types of travel. Given the importance of common carrier trips to New York, one

TABLE 27

Selected Characteristics of Trips Involving New York or the Corridor

(Weighted percentage distribution of trips taken in 1965-66)

			Summary of Origin and Destination					
ha	racteristics	All <u>Trips</u>	New York is Origin <u>or Destination</u>	Some Other Place in the Corridor is Origin or Destination but Not New York	Both Origin and Destination Outside the Corridor			
•	Mode Used							
	Auto	80	57	78	84			
	Air	11	22	17	9			
	Rail	4	10	4	3			
	Bus	5		_1	4			
	Total	100	100	100	100			
	Number of trips	3023	307	274	2257			
•	Purpose							
	Business; partly	,						
	business	28	29	26	28			
	Non-business	_72						
	Total	100	100	100	100			
•	Total Number of People Who Went							
	One	35	40	30	34			
I	Two	29	31	30	29			
	Three	12	10	12	13			
	Four	12	1	16	12			
	Five	5	3	7	5			
	Six or more	4	2	2	4			
	Not ascertained	<u>3</u>	5	3	3			
	Total	100	100	100	100			

Selected Characteristics of Trips Involving New York or the Corridor - cont.

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<u>Charącteristics</u>			Summary of Origin and Destination					
		All <u>Trips</u>	New York is Origin or Destination	Some Other Place in the Corridor is Origin or Destination but Not New York	Both Origin and Destination Outsid the Corridor			
D.	Total Number of Children 2-12 Who Went							
	None	78	84 -	72	78			
	One	9	6	10	9			
	Two	8	5	· 14	7			
	Three	3	2	3	3			
	Four or more	1	2	*	2			
	Not ascertained	<u>1</u>	1	1	1			
	Total	100	100	100	100			
E.	Distance (Miles) to Most Distant Place Reached							
	100-199	55	46	57	57			
	200-299	15	20	11	16			
	300-399	<u> </u>	13	11	8			
	400-499	6	6	4	6			
	500-749	4	3	5	5			
	7 50 - 999	2	4	4	2			
	1000-1499	3	4	5	3			
	1500 or more	4_	4	3	3			
	Total	100	100	100	100			
F.	Whether Wanted One Destination							
	Wanted only one destination Wanted to see the	79	85	84	79			
	several places	21	<u>15</u>	16				
	Total	100	100	100	100			
	Number of trips	3023	307	274	2257			

*Less than one-half of one per cent.

would expect smaller sizes of party. People travel alone or in smaller groups by common carrier than by auto. Hence, trips to or from New York are more likely to be made by people traveling alone and less likely to involve children.

As far as the distance traveled is concerned, there do not appear to be large differences among the types of trips being considered. If anything, trips which involve New York include a disproportionately large number of trips to destinations 200 miles or more away.

There do not appear to be important differences among these types of trips according to whether the traveler wanted only one destination or wanted to see the country or visit several places. Roughly four out of five want only the one destination,

These results, then, considered as a whole, do show some differences between trips in the Corridor and elsewhere and the differences which appear are traceable primarily to the comparatively low level of travel by automobile to and from New York.

VI. Who Went on the Trip

One of the more troublesome technicalities in studies of passenger travel is the question of what, exactly, is meant by a trip. If two people from the same family travel together, is it one trip or two? In the tabulations in this report such an excursion is considered a single trip. A trip, thus, is not a "man-trip" but a "family-party trip" or a "businessparty trip".

What is the composition of the groups of people who travel together by the different modes? It is the purpose of this discussion to report on the total number of people in the party, the number of children aged 2-12, and the number of adults plus teen-agers 13-17. A distribution of parties by family income is also shown.

Of all trips 36 per cent involve a single person (Table 28). Trips by common carrier are much more likely than trips by auto to be undertaken. by one person. Of the auto trips only 26 per cent are by people traveling alone compared to 76 per cent of air trips, 57 per cent of rail trips, and 70 per cent of bus trips.

Ninety-seven per cent of air trips involve no children 2-12 and 95 per cent of bus trips. If families traveled by common carrier in the period covered by this survey they seem to have been most likely to travel by rail since 11 per cent of rail trips did include children 2-12. The bulk of family travel, however, is by car. One auto trip in four includes children. And, of course, there are very large numbers of auto trips.

The third section of Table 28 groups together adults and young people 13-17. On this basis about one party in ten involves four or more people.

Earlier in this report it was noted that air travel is much more common among the high income than the low income groups. This fact is

TABLE 28

Who Went on the Trips by Mode

(Weighted percentage distribution of trips)

Total Number of People			Mode		
Who Went on the Trips	<u>All Trips</u>	Auto	Air	<u>Rail</u>	Bus
One	36	26	76	57	70
Two	30	33	17	26	21
Three	13	1.5	3	10	3
Four	12	14	3	3	2
Five	5	7	*	1	*
Six or more		5	1	3	4
Total	100%	100%	100%	100%	100%
Number of trips	2928	2129	457	147	195
Number of Children (2-12) Who Went on the Trips					
None	79	75	97	89	95
One	9	10	1	5	2
Two	8	9	1	4	1
Three	3 .	4	1	2	ĩ
Four or more	1	2	*		<u> </u>
Total	100%	1007	1007	100%	1007
Number of trips	2989	2172	468	148	201
Number of Adults and Teenagers (13-17) Who Went on the Trips					
One	37	28	77	64	73
Two	42	47	18	28	10
Three	12	14	3	5	22
Four	6	- 8	2	*	2
Five	1	2	*	*	*
Six or more	2	1	*		
Total	100%	1007	100%	100%	100%
Number of trips	2954	2155	457	149	193

Family Income	ι.		Mode		
of Travelers	<u>All Trips</u>	Auto	Air	Rail	Bus
Under \$2000	6	6	1	4	12
\$2000-2999	6	6	3	7	13
\$3000-3999	8	8	3	13	11
\$4000-4999	8	9	4	1	10
\$5000-5999	11	12	4	8	10
\$6000-7499	16	17	12	14	10
\$7500-9999	16	16	17	17	17
\$10,000-14,999	18	17	32	15	13
\$15,000 and over		9_	25		4_
Total	100%	100%	100%	100%	100%
Number of trips	1439	978	221	98	142

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Who Went on the Trips by Mode - cont.

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reflected in the distribution of trips by family income of the travelers. Over half of air trips are by people in the income bracket over \$10,000. Low income people make up about the same proportion of bus passengers as high income people. Thus, one bus trip out of four is taken by people with family incomes below \$3000 while 17 per cent are by people from families with incomes over \$10,000. The low income bus passengers include retired people as well as those with low rates of pay, as discussed in <u>The Changing</u> <u>Travel Market</u>, pp. 146-153.

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APPENDIX II

Some Tentative Estimates of the Effect of Speed on Choice of Mode of Travel

One of the basic determinants of choice of mode of travel is the relative speed of the different modes. In considering the demand for any proposed new or improved system of transportation with a gain in speed it becomes important to estimate the probable quantitative effect of speed on share of the market. It is not easy, however, to develop a method of isolating the effect of speed on mode choice from that of price, comfort, and other considerations. It is the purpose of this discussion to describe one tentative approach to the problem which uses the data collected in this survey to develop an estimate of the effect of speed on share of the market on certain assumptions.

The method rests on the reasoning that ordinarily either air or auto is the fastest method of travel and the relative speed of the two varies with distance. For short trips auto is faster, door-to-door, but not for long trips. Although the two methods of travel differ in other ways, most of these differences are not a function of distance. Cost differs, but the cost per mile is roughly constant both for air and auto for different distances. Plane fares are so many cents per mile. Gasoline consumption, depreciation, and so forth, also cost so many cents per mile. The cost comparison, hence, is not a function of distance, at least as a first approximation. Standards of comfort differ, but the difference, again, is about the same for different distances. People drive the same cars for trips of different distances. Medium and long haul aircraft are very similar from the point of view of passengers' comfort.

What really does vary with distance is relative speed. Travel by auto has a great initial advantage - it avoids about two hours of time

getting to and from airports. There is further time required getting a plane to cruising speed. Once airborne planes have a great advantage in speed. Airborne speeds had reached an average of 274 m.p.h. by 1962 compared to 55 m.p.h. for passenger cars on main rural roads. (C.A.B., <u>Handbook of Airline Statistics</u>, 1963 edition, p. 84 and Bureau of Public Roads, <u>Highway Statistics</u>, 1962, p. 53.) Cruising speeds, once the plane has reached the desired altitude, are even higher, so that airborne speeds tend to increase with distance.

Suppose, then, that we attribute to differences in door-to-door speed the differences in the share of the market of air and auto. What on the average is the effect of an hour of time saved on air's share of the market counting the market as air plus auto? (Results would not be very different if we included rail and bus in the denominator of the fraction and estimated air's share of the total market.) This question is answered in Appendix Tables 1 and 2. The first column of Appendix Table 1 shows distance brackets. In further calculations the mid-point of these brackets is used (Column 2). Estimates of door-to-door time for air (Column 3) are based on the interviews reported here. Elapsed time by auto is estimated on the assumption that, on the average, travel by auto on rural roads is at 55 m.p.h. while in motion and 45 m.p.h. including stops. The basis of this estimate is explained in the footnote to the table. It becomes shaky at distances greater than one day's drive. For distances of 625 miles and 875 miles twelve hours for an overnight stop have been added to the estimated time en route by auto (see the numbers in parentheses). Time saved by air over auto is estimated in Column 5. The saving is very small at 150 miles (0.6 hours), but rises with distance.

APPENDIX TABLE 1

(1) (2) (3) (4) (5) Elapsed Time, Door-to-Door Elapsed Time, by Air (hrs.) Time Saved Door-to-Door Distance Mid-point (Based on by Auto by Air (miles per hour)^a (miles) (miles) (Interviews) (hours) 100-199 150 3.3 2.7 0.6 200-299 250 3.0 2.6 5.6 300-399 350 3.8 7.8 4.0 400-499 450 3.8 10.0 6.2 500-749 625 5.2 13.9 (25.9)(20,7) 8.7 750-999 875 6.1 19.4 (31.4) 13.3 (25.3)

Approximate Time Saved by Air Over Auto

^aAuto speed is assumed to be about 45 miles per hour for the following reasons: (1) the reported average time on board the bus for bus travel implies a speed of 44 miles per hour between terminals. It seems reasonable to assume that auto travel is fairly similar. Average speeds are slightly higher for buses than autos on the open road, but buses probably stop more often than private automobiles. If these considerations cancel, average speed between terminals for the bus should be the same as door-to-door speed by auto. (2) Average speed of passenger automobiles on main rural roads is reported by the Bureau of Public Roads at about 55 miles per hour. (<u>Highway Statistics, 1962</u>, p. 53.) People do not drive indefinitely without a pause. An eight hour day of driving at 55 miles per hour with one bour for lunch and forty minutes of additional rest stops seems reasonable. That pattern implies about 46 miles per hour average over the eight hours with total time en route 9 2/3 hours for 440 miles. The relation between time saved by air over auto and air's share of the market is shown in Appendix Table 2. The calculation is made separately for the business and non-business markets. Consider, first, business travel. Air's share is only 5 per cent for the mileage bracket in which the time saved by air is under one hour. Air's share of the business market rises rapidly to about half when the saving is 6 hours. When the saving reaches 20 hours air has 82 per cent of the market. For non-business travel the effect of time saved is much smaller. Even for savings in time of about one day the share is only roughly 11 per cent. For savings in time of about three to five days air's share reaches about 39 per cent.

A more abstract treatment of the same basic data appears in Appendix Table 3. Here the gain in market share by air with increasing speed is shown on a marginal basis. That is, the gain in percentage points in market share from one row to the next of Appendix Table 2 is divided by the number of hours saved. The gain in share of the market per hour saved is highest for the short business trips. From 150 to 250 miles the time saved by air increases from 0.6 to 2.6 hours and air's share goes from 5% to 27% of the business market. The marginal gain in time is 2.0 hours and the marginal gain in market share is 21 per cent. In this range each extra hour saved leads to an added 10.6 per cent of the market. This rate of gain declines as the average time saved by air increases. Thus, the difference between a saving of 20.7 hours and 25.3 hours is not large. Air's share increases only about 6 points, or about 1.4 points per hour saved.

In the non-business market the gain in market share per hour saved is smaller but still there is a gain up to the point where air saves 4.0 hours. There is no marginal gain in air's share in the range between a

APPENDIX TABLE 2

Relation Between Estimated Time Saved and Share of the Market by Air

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<u>Mileage Bracket</u>		Estimated	Share of the Air and Auto Market by Air (per cent)		Number of Observations		
Range	<u>Mid-point</u>	Time Saved by Air (hours)	Business	Non-Business	Business	Non-Business	
100-199	150	0.6	5.4	1.1	278	732	
200-299	250	2.6	26.6	5.7	127	325	
300-399	350	4,0	39,1	13.5	83	189	
400-499	450	6.2	47.9	9.8	46	122	
500-749	625	20.7	82.4	13.1	60	176	
750-999	875	25.3	88.7	11.1	38	74	
1000-1499	1250	2-3 days	85.8	32.1	49	124	
1500 +	2000	3-5 days	90.6	39,3	62	135	
Average or	total		27,4	6.2	752	1899	

APPENDIX TABLE 3

Marginal Gain in Share of Market by Air per Marginal Hour Saved Over Auto

Estimated Time		Gain in Share of Market for Air Plus Auto Expressed in Percentage Points Gained Per Marginal Hour Saved				
Saved by Air (hours)	Marginal Gain in Hours Saved	<u>Business</u>	Non-Business	-		
0.6	-	-	-			
2.6	2.0	10.6	2.3			
4.0	1.4	8,9	5.6			
6.2	2.2	4.0	-1.7			
20.7	14.5	2.4	0.2			
25.3	4.6	1.4	-0.4			

saving of 4.0 hours and one of 25.3 hours. (The indicated marginal gains are small and some have a negative sign.) The calculation of gain in market share per marginal hour saved has not been carried over 25.3 hours. Beyond that level the width of the mileage bracket increases and there is an increasing uncertainty as to just how many hours of time are saved by air travel on the average.

It hardly needs emphasis that these results should be considered only as rough approximations. The method, however, does represent one way of making approximate quantitative estimates of the effect of speed on market share. For example, it provides a way of looking at the question of the probable consequences of increased door-to-door speed for air travel.

From a theoretical point of view perhaps the most serious limitation of this approach is that there is no explicit treatment of the implied trade-off between time and something else. The "something else" consists in the other advantages of the automobile: its lower cost in many situations, the usefulness of a car at the destination, the flexibility of route which the auto provides, and any other advantages of the auto which may be found to be important. The estimated gain by air per hour saved is a gain by a common carrier over auto given the characteristics of travel by auto and assuming given costs of the two. Any extrapolations or projections based on these calculations should be made with these facts in mind.

APPENDIX III

The Questionnaire

The questionnaire which follows indicates the questions on travel which were asked in the national cross-section survey in November-December 1964.

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T1,	INT.: CHECK ONE: THIS INTERVIEW IS PART OF THE SPECIAL SUPPLEMENT (GREEN COVER SHEET) - NO FURTHER INFORMATION IS NEEDED.										
	THIS INTERVIEW IS PART OF THE CROSS-SECTION SAMPLE (BLUE COVER SHEET) - CONTINUE WITH TIG. Tla. Did (HEAD) have a vacation of a week or more anytime in the last 12 months? NO - GO TO T6 YES										
	T2. Did (HEAD) take his vac one time, or how?	TWO VACATIONS									
		·		SE VACATIONS							
	(ASK T3. ABOUT EACH VACATION)	Second Vacation	Third Vacation								
	T3. Did (HEAD) take a trip 100 miles or more away, or a shorter trip, or stay at home?	STAYED HOME TOOK A SHORT TRIP TOOK A TRIP 100 MILES AWAY	STAYED HOME TOOK A SHORT TRIP TOOK A TRIP 100 MILES AWAY	STAYED HOME							
	T4. Where did (he) go?										
		(TOWN & STATE)	(TOWN & STATE)	(TOWN & STATE)							
	T5. What kinds of transpor- tation did (he) use?	AIR RAIL BUS AUTO	AIR RAIL BUS AUTO	AIR RAIL BUS AUTO							

T6. During the last 12 months has (HEAD) taken any business trips in connection with his work to places 100 miles or more away?

			Ū,	YES	
	T 7.	About how many miles is it from where (he)	work	8 -	_
		a) to the nearest airport with schedule passenger service?	eq.	0-2 3-4 10-24 254	[5-9] -]
		b) to the nearest railroad passenger station?		0-2 3-4 10-24 25 1	<u>5-9</u>
		c) to the nearest bus station for intercity bus service?		0-2 3-4 10-24 254	5-9} F]
T8.	D оу	ou or anyone else in the family own a car?		NO - GO TO T9 YES	
	T8a.	How many cars does your family own?	· •		

ONLY ONE 🗌 TWO 🗌 THREE OR MORE

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T 9.	INTERVIEWER: ENTER EACH ADULT BY RELATION TO HEAD AND LISTING BOX NUMBER ASE T9-125 FOR	HEAD		
т10.	EACH ADULT. Do (you) have a driver's	TES	T YES	T YES
	license?	NO NO	<u>ои</u> по	О И 🗌
T 11.	Have (you) ever taken a trip to a place 100 miles or more away by <u>air</u> ?	☐ NO - GO TO T13 ,	☐ NO ~ GO TO T13 ☐ YES	□ NO - GO TO T13 ↓ YES
Tlla.	In about what year did (you) first take an air trip?			
T 11b.	During the last two years have (you) taken any trips by commercial airline to places 100 miles away?	□ NO - GO TO T13 □ YES ↓	NO - GO TO T13 YES	☐ NO - GO TO T13 ☐ YES
(IF YES)	T12. Thinking of (your) most recent air trip by com- mercial airline, what <u>month</u> and <u>year</u> was that?			
	Tl2a. How many air trips did (you) take <u>in the last</u> <u>l2 months</u> , counting a round trip as one trip?	NONE - GO TO T13	NONE - GO TO T13	NONE - GO .TO T13
	T12b. Of these trips, how many were on business - that is, trips in connection with (your) work?	NONE	NONE	NONE

T13.	Has any member of the family taken a trip by <u>auto</u> to a place 100 miles or more away during the last 12 monthe? NO AUTO TRIP BY ANY ADULT IN LAST 12 MONTHS - SKIP TO T14. ONR OR MORE AUTO TRIPS IN LAST 12 MONTHS - ASK T13a.
T13a.	I'd like to ask you about the most recent auto trip by a member of this family. What month was that? [Nov. 63] [Dec. 63] [Jan. 64] [Feb. [Mar.] Apr.] [May Je.] [Jly.] [Aug.] [Sept.] [Oct.] [Nov. 64] [Dec. 64]
T13b.	Was any part of the trip by AIR RAIL BUS AUTO ONLY air, rail, or bus? (CHECK EACH MODE USED)
T13c.	What was the purpose of the trip?
T13d.	Who went? [HEAD] [WIFE] [OTHER ADULTS] - Who? (CHECK AS [HEAD] [WIFE] [OTHER ADULTS] - Who? MANY BOXES [CHILDREM] AS APPLY] [2-12] - How many? [How many?]
T13e.	What was the most distant place (you) reached? (ENTER TOWN & STATR)
T13f.	How far is (MOST DISTANT PLACE) 100-199 200-299 300-399 400-499 from here? (MILES) 500-749 750-999 1000-1499 1500 +
T13g.	Did (you) want to visit just (MOST DISTANT FLACE) or did (you) want to see the country or visit other places? DESTINATION DESTINATION DESTINATION DESTINATION COUNTRY DESTINATION COUNTRY DESTINATION
T13h.	INT.: CHECK ONE: ASK IF NECESSARY: Is (MOST DISTANT PLACE) a large city with over 50,000 population, a small town, or a rural area? SMALL TOWN (2500-50,000) (over 50,000)
T13i.	About how many miles is it from the center of (MOST DISTANT PLACE) to the area (you) wanted to visit? (MILES)
т13ј.	For this trip would air, rail, bus, or auto have been the AIR RAIL BUS AUTO fastest, door to door?
- T13k.	On this trip while (you) were at (MOST DISTANT PLACE) how important VERY was it to have (your) own car to IMPORTANT IMPORTANT IMPORTANT get around?

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т14.	Has any member of the family taken a trip by <u>sir</u> to a place 100 miles or more away during the last 12 months? NO AIR TRIP BY ANY ADULT IN LAST 12 MONTHS - SKIP TO T15. ONE OR MORE AIR TRIPS IN LAST 12 MONTHS - ASK T14a.
T14a.	I'd like to ask you about the most Nov. 63 Dec. 63 Jan. 64 Feb. Mar. recent <u>air</u> trip by a member of <u>Apr. May</u> Je. Jly. <u>Aug. Sept.</u> this family. What month was <u>Oct.</u> Nov. 64 Dec. 64
т146.	What kinds of transportation did (you) use besides air? NONE RAIL BUS AUTO
T14c.	What was the purpose of the trip?
T14d.	Who went? HEAD WIFE OTHER ADULTS - Who? (CHECK AS HEAD WIFE OTHER ADULTS - Who? MANY BOXES CHILDREN How many? CHILDREN AS APPLY) 2-12 How many? 13-17
Tl4e.	INT.: CHECK ONE: RESPONDENT WENT ON THE TRIP - GO TO f. RESPONDENT DID NOT GO - ASK TO SPEAK TO SOMEONE WHO DID - SEE INSTRUCTION BOOK. SKIP TO T15 WITH THIS R.
T14f.	What was the most distant place you reached? (ENTER TOWN & STATE)
T14g.	How far is (MOST DISTANT PLACE) [100-199] [200-299] [300-399] [400-499] from here? (MILES) [500-749] [750-999] [1000-1499] [1500 +]
T14h.	Did you want to visit just (MOST DISTANT PLACE) or did you want to see the country or visit other places? DESTINATION DESTINATION DESTINATION DESTINATION DESTINATION DESTINATION DESTINATION DESTINATION
T141.	INT.: CHECK ONE: ASK IF NECESSARY: Is (MOST DISTANT PLACE) a large city with over 50,000 population, a small town, or a rural area? SMALL TOWN (2500-50,000) Cover 50,000)
т14ј.	About how many miles is it from 0-2 3-4 5-9 10-14 the center of (MOST DISTANT PLACE) 0-2 1-14 to the area you wanted to visit? 15-24 25 +
T14k.	When you started out, did you leave from your home WORK HOME OTHER or from where you work?

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T141.	How did you get to HALK TAXI, AUTO the airport? [BUS] [BUS] [OTHER] - (HOW?)
T14m.	Then at the end of the trip how did you get from the WAIK TAXI, AUTO airport to where you wanted LIMOUSINE to be? [BUS] OTHER (HOW?)
T14n.	How long did the trip take you, door to door, from where you started to where you TOTAL ELAPSED wanted to be? TIME
T140.	<pre>0f that time- (a) how much did you allow from when you started to when the plane was scheduled to leave? (b) how long did it take on the plane, including any delays? (c) how long did it take from when you got off the plane to when you got to where you ended your trip?</pre>
T14p.	For this trip would air, rail, bus or auto have been the <u>fastest</u> , AIR RAIL BUS AUTO door to door?
T 14q.	Was this the first air trip for any NO YES of the party?
T 15.	Has any member of the family taken a trip by rail to a place 100 miles or more away during the last 12 months? NO RAIL TRIP BY ANY ADULT IN LAST 12 MONTHS - SKIP TO T16. ONE OR MORE RAIL TRIPS IN LAST 12 MONTHS - ASK T15a.
T15a.	I'd like to ask you about the mostNov. 63Dec. 63Jan. 64Feb.Mar.recent rail trip by a member of this family. What month was that?Apr.MayJe.Jly.Aug.Sept.Oct.Nov. 64Dec. 64
т15Ъ.	What kinds of transportation did (you) use besides rail? NONE, AIR BUS AUTO
T15c.	What was the purpose of the trip?
T15d.	Who went? (CHECK AS HEAD WIFE OTHER ADULTS - Who? MANY BOXES CHILDREN AS APPLY) 2-12 How many? CHILDREN 13-17 How many?
T15e.	INT.: CHECK ONE: RESPONDENT WENT ON THE TRIP - GO TO f. RESPONDENT DID NOT GO - ASK TO SPEAK TO SOMEONE WHO DID - SEE INSTRUCTION BOOK. SKIP TO T16 WITH THIS R.

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_ <u>T15 (r</u>	ail cont.)
T15f.	What was the most distant place you reached? (ENTER TOWN & STATE)
T 15g.	How far is (MOST DISTANT PLACE) 100-199 200-299 300-399 400-499 from here? (MILES) 500-749 750-999 1000-1499 1500 +
T15h.	Did you want to visit just (MOST DISTANT PLACE) or did you want to see the country or visit other places? UST WANTED ONE DESTINATION COUNTRY DESTINATION COUNTRY PLACES DESTINATION
T 151.	INT.: CHECK ONE: ASK IF NECESSARY: Is (MOST DISTANT PLACE) a large city with over 50,000 population, a small town, or a rural area? SMALL TOWN (2500-50,000) Cover 50,000
т15ј.	About how many miles is it from the center of (MOST DISTANT PLACE) 0-2 3-4 5-9 10-14 to the area you wanted to visit? 15-24 25 +
T15k.	When you started out, did you leave from your home WORK HOME OTHER or from where you work?
T151,	How did you get to the railroad station? WALK TAXI, [AUTO] LIMOUSINE BUS OTHER (How?)
T15m.	Then at the end of the trip WALK TAXI, AUTO AUTO railroad station to where you wanted to be? BUS OTHER (HOW?)
T15n.	How long did the trip take you, door to door, from where you started to where you TOTAL ELAPSED wanted to be? TIME
T150.	Of that time- Intervention (a) how much did you allow from when you started A (b) how long did it take on the train, including A (c) how long did it take from when you got off B (c) how long did it take from when you got off C (d) the train to when you got to where you ended C (INTERVIEWER: A + B + C SHOULD AGREE WITH TOTAL IF JUST ONE DESTINATION)
T15p.	For this trip would air, rail, bus or auto have been the <u>fastest</u> , AIR RAIL BUS AUTO door to door?

T 16.	Has any member of the family taken a trip by <u>bus</u> to a place 100 miles or more away during the last 12 months? NO BUS TRIP BY ANY ADULT IN LAST 12 MONTHS - SKIP TO T17. ONE OR MORE BUS TRIPS IN LAST 12 MONTHS - ASK T16a.
Tl6a.	I'd like to ask you about the most Nov. 63 Dec. 63 Jan. 64 Feb. Mar. recent bus trip by a member of this family. What month was that? Oct. Nov. 64 Dec. 64
T16b.	What kinds of transportation did (you) use besides bus? [NONE] AIR RAIL AUTO]
T16c.	What was the purpose of the trip?
Tlód.	Who went? HEAD WIFE OTHER ADULTS - Who? (CHECK AS <u>CHILDREN</u> ANY BOXES <u>CHILDREN</u> How many? <u>CHILDREN</u> How many? <u>13-17</u> . How many?
T16e.	INT.: CHECK ONE: RESPONDENT WENT ON THE TRIP - GO TO T16f. RESPONDENT DID NOT GO - ASK TO SPEAK TO SOMEONE WHO DID- SEE INSTRUCTION BOOK. SKIP TO T17 WITH THIS R.
T16f.	What was the most distant place you reached? (ENTER TOWN & STATE)
T16g.	How far is (MOST DISTANT PLACE) 100-199 200-299 300-399 400-499 from here? (MILES) 500-749 750-999 1000-1499 1500 +
T16h.	Did you want to visit just (MOST DISTANT PLACE) or did you want to see the country or visit other places? USTINATION DESTINATION USTINATION DESTINATIO
T161.	INT.: CHECK ONE: ASK IF NECESSARY: Is (MOST DISTANT PLACE) a large city with over 50,000 population, a small town, or a rural area? SMALL TOWN (2500-50,000) Cover 50,000
т16ј.	About how many miles is it from the center of (MOST DISTANT PLACE) 0-2 3-4 5-9 10-14 to the area you wanted to visit? 15-24 25 +

100

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T16 (b	us cont.)
T16k.	When you started out, did you leave from your home WORK HOME OTHER or from where you work?
T161.	How did you get to WALK TAXI, AUTO the bus station? [IIMOUSINE]
T16m.	Then at the end of the trip how did you get from the bus station to where you wanted to be? [BUS] [MOW?]
T 16n.	How long did the trip take you, door to door, from where you started to where you
T160.	Of that time- (a) how much did you allow from when you started to when the bus was scheduled to leave?
T 16p.	For this trip would air, rail, bus or auto have been the <u>fastest</u> , <u>AIR</u> <u>RAIL</u> <u>BUS</u> <u>AUTO</u> door to door?

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T17. At the conclusion of this survey we would like to send you some of our results. Would you please give us your mailing address?

(ENTER ON FOLLOW-UP SHEET)

T18. As you can tell from the questions in this survey, we are interested in the trips people take. We probably will want to get in touch with you several months from now, probably over the telephone, to ask about any trips you have taken.

Tl8a. First of all, would you give me your name?

(ENTER ON FOLLOW-UP SHEET)

T18b. Do you have a phone? YES NO

T18c. Will you give me the number?

(ENTER ON FOLLOW-UP SHEET)

T19. Would you please give me the name, address, and phone number of a friend or relative who would know how to reach you even if you should move?

NAME

RELATIONSHIP

ADDRESS

PHONE

(ENTER ON FOLLOW-UP SHEET)

ENTER TIME_____

 01. Type of structure in which Respondent lives: DETACHED SINGLE FAMILY ROUSE APARTMENT IN A PARTLY COMMERCIAL STRUCTURE APARTMENT HOUSE (5 or more units) DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE OTHER - SPECIFY: 02. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: VACANT LAND CMLY DETACHED SINCLE FAMILY HOUSE, OR ROW HOUSE VACANT LAND CMLY DETACHED SINCLE FAMILY HOUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL AND RESIDENTIAL STRUCTURE OTHER - SPECIFY: 03. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad 	<u>(BY 01</u>	SERVATION)
 DETACHED SINGLE FAMILY HOUSE APARTMENT IN A PARTLY COMMERCIAL STRUCTURE APARTMENT HOUSE (5 or more units) DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE OTHER - SPECIFY: O2. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: VACANT LAND ONLY DETACHED SINCLE FAMILY HOUSE, OR ROW HOUSE VACANT LAND ONLY DETACHED SINCLE FAMILY HOUSE, OR ROW HOUSE DATACHED SINCLE FAMILY HOUSE, OR ROW HOUSE DATACHED 2-4 FAMILY HOUSE, OR ROW HOUSE MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY: O3. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad O5. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 	01.	Type of structure in which Respondent lives:
<pre>APARTMENT IN A PARTLY COMMERCIAL STRUCTURE APARTMENT HOUSE (5 or more units) DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE OTHER - SPECIFY: 22. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: VAGANT LAND ONLY DETACHED SINGLE FAMILY HOUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE OTHER - SPECIFY: 33. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 04. Approximate distance from R's home to nearest railroad passenger station (miles) 05. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 05. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 05. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 06.2 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to nearest bus station for intercity bus service: (miles) 07. Approximate distance from R's home to near</pre>		DETACHED SINGLE FAMILY HOUSE
<pre>APARTMENT HOUSE (5 or more units) DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE OTHER - SPECIFY:</pre>		APARTMENT IN A PARTLY COMPERCIAL STRUCTURE
 DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE OTHER - SPECIFY: O2. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: VACANT LAND ONLY DETACHED 2-4 FAMILY HOUSE DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE APARTNENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY: O3. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad O5. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 		APARTMENT HOUSE (5 or more units)
OTHER - SPECIFY: 02. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: □ VACANT LAND ONLY □ DETACHED SINGLE FAMILY HOUSE □ DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE □ APARTNENT HOUSE (5 or more units) □ MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE □ WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE □ HOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE □ OTHER - SPECIFY: 03. Approximate distance from R's home to nesrest airport served by scheduled commercial airline (miles) □ 0-2 3-4 □ 5-9 10-24 04. Approximate distance from R's home to nesrest railroad passenger station (miles) □ 0-2 3-4 □ 5-9 10-24 □ 0-2 3-4 □ 5-9 10-24 □ 0-2 3-4 □ 5-9 10-24 □ 0-2 3-4 □ 5-9 10-24 □ 0-2 3-4 □ 5-9 10-24 □ 0-2 3-4 □ 0-2 0.2 □ 0-2 0.2 □ 0-2 0.2 □ 0-24		DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE
 02. Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below: VACANT LAND CMLY DETACHED SINGLE FAMILY HOUSE DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOILY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY: 03. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad 05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 		OTHER - SPECIFY:
 VACANT LAND <u>ONLY</u> DETACHED SINGLE FAMILY HOUSE DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY:	02.	Neighborhood: Look at 3 structures on each side of DU but not more than 100 yards or so in both directions and check as many boxes as apply, below:
 DETACHED SINGLE FAMILY ROUSE DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY:		VACANT LAND ONLY
 DETACHED 2-4 FAMILY EDUSE, OR ROW HOUSE APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY:		DETACHED SINGLE FAMILY HOUSE
 APARTMENT HOUSE (5 or more units) MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY:		DETACHED 2-4 FAMILY HOUSE, OR ROW HOUSE
 MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY: 03. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of airport 04. Approximate distance from R's home to nearest railroad passenger station (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad 05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 		APARTMENT HOUSE (5 or more units)
 WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE OTHER - SPECIFY:		MIXED COMMERCIAL AND RESIDENTIAL STRUCTURE
<pre>OTHER - SPECIFY:</pre>		WHOLLY COMMERCIAL OR INDUSTRIAL STRUCTURE
 03. Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles) 0-2 3-4 5-9 10-24 25 or over name of airport		OTHER - SPECIFY:
 0-2 3-4 5-9 10-24 25 or over name of airport 04. Approximate distance from R's home to nearest railroad psssenger station (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad 05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 	03.	Approximate distance from R's home to nearest airport served by scheduled commercial airline (miles)
<pre>name of airport</pre>		🔲 0-2 📋 3-4 🗍 5-9 🗌 10-24 🛄 25 or over
 04. Approximate distance from R's home to nearest railroad passenger station (miles) 0-2 3-4 5-9 10-24 25 or over name of station and railroad 05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over 		name of airport
<pre>name of station and railroad 05. Approximate distance from R's home to nearest bus station for intercity bus service (miles)</pre>	04.	Approximate distance from R's home to nearest railroad passenger station (miles) [0-2] 3-4] 5-9 [10-24] 25 or over
05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over		name of station and railroad
05. Approximate distance from R's home to nearest bus station for intercity bus service (miles) 0-2 3-4 5-9 10-24 25 or over		
🗍 0-2 🗍 3-4 🗍 5-9 🗍 10-24 🗍 25 or over	05.	Approximate distance from R's home to nearest bus station for intercity bus service (miles)
	ł	🗌 0-2 🗍 3-4 🗍 5-9 📋 10-24 🗍 25 or over

Appendix II. Sampling Errors

Properly conducted sample interview surveys yield useful estimates but they do not yield exact values. Errors arise from several sources: sampling, non-response, reporting and processing. Each source of error may be important in evaluating the accuracy of information. The present discussion is limited to sampling errors.

Sample statistics reflect the random variations arising from interviewing only a fraction of the population. The distribution of individuals selected for a sample will usually differ by an unknown amount from that of the population from which the sample is drawn. The value which would have been obtained if the entire population had been designated to be interviewed by the same survey procedures will be referred to as the population value. If different samples were used under the same survey conditions, some of the estimates would be larger than the population value and some would be smaller. The sampling error is a measure of the chance deviation of a sample statistic from the corresponding population value. The sampling error does not measure the actual error of a particular sample estimate; rather it leads to statements in terms of confidence intervals that are correct in a specified proportion of cases in the long run.

"Sampling error" as used here is to be interpreted as two standard errors; it is the range, on either side of the sample estimate, chosen frequently in social research in order to obtain the 95 per cent "level of confidence". If one requires a greater degree of confidence than this, a wider range than two standard errors should be used. On the other hand, most of the time the actual error of sampling will be less than the sampling error defined above; in about 68 cases of every 100 the population value can be expected to lie within a range of one-half the sampling error (one standard error) of the sample estimates.

Sampling errors themselves are products of the sampling processes and are subject to the effects of random fluctuations. Therefore, a range, rather than

a single value, has been used in the tables which follow. The upper limits are based on computations of data from earlier travel surveys. They are not averages but values on the high or conservative side. The smaller values were computed by use of the formula for simple random samples which can be viewed as the lower bound to the Survey's sampling errors.

Appendix Table I shows approximate sampling errors of percentages on a per adult basis when individual percentages are considered separately. Appendix Table II shows approximate sampling errors of differences between two percentages. The sampling errors of differences indicate the range in which the "true" differences between the population values of the two compared classes can be expected to fall 95 out of 100 times. Appendix Tables III and IV show approximate sampling errors on a per interview basis.

Reported							Number	of Adult	.8					200 100 7.1 10.0 3.4 18.8 6.5 9.2 2.3 17.2 5.7 8.0 0.7 15.0 4.2 6.0 8.1 11.3									
Percentage	8500	5500	4200	3000	2500	2000	1500	1000	700	500	400	300	200	100									
	1.1	1.3	1.5	1.8	2.0	2,2	2.6	3.2	3,8	4.5	5.0	5.8	7.1	10.0									
	2.9	3.2	3.5	4.0	4.2	4.7	5.3	6.2	7.3	8.6	9.6	11.0	13.4	18.8									
	1.0	1.2	1.4	1.7	1.8	2.0	2.4	2.9	3.5	4.1	4.6	5.3	6.5	9.2									
50 8r 70	2.6	3.0	3.2	3.6	3.9	4.3	4.8	5.7	6.7	7.9	8.8	10.1	12.3	17.2									
20 07 90	0.9	1,1	1,2	1.5	1.6	1.8	2,1	2.5	3.0	3.6	4.0	4.6	5.7	8.0									
	2.3	2.6	2.8	3.2	3.4	3.7	4.2	5.0	5.9	6.9	7.6	8.8	10.7	15.0									
10 or '90	0.7	0.8	0.9	1.1	1.2	1.3	1,5	1.9	2.3	2.7	3.0	3.5	4.2	6.0									
	1.7	1.9	2.1	2.4	2,5	2.8	3,2	3.7	4.4	5.2	5.7	6.6	8.1	11.3									
5	0.5	0.6	0.7	0,8	0.9	1.0	1,1	1.4	1.6	1.9	2,2	2.5	3.1	4.4									
5 01 95	1.3	1.4	1.5	1.7	1.8	2.0	2.3	2.7	3.2	3.7	4.2	4.8	5.9	8.2									
, 1 or 99	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.8	0.9	1.0	1.2	1.4	2.0									
1 01 99	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.2	1.4	1.7	1.9	2.1	2.7	3.7									

Appendix Table I: Approximate Sampling Errors of Percentages for "Per Adult" Responses (expressed in percentages)

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Size of		Size of Subgroup													
Subgroup	8000	5000	4000	2000	1500	1250	1000	700	500	300	200	100			
					For perc	entages a	round 357	and 65%							
8000 5000 4000 2000 1500 1250 1000 700 500 300 200 100	1.6-4.1	1.8-4.4 2.0-4.7	1.9-4.6 2.1-4.9 2.2-5.1	2.5-5.5 2.6-5.7 2.7-5.9 3.2-6.6	2.8-6.0 2.9-6.2 3.0-6.4 3.4-7.0 3.6-7.4	3.0-6.4 3.2-8.6 3.2-6.7 3.6-7.4 3.8-7.7 4.0-8.0	3.4-6.9 3.5-7.1 3.5-7.2 3.9-7.8 4.1-8.2 4.2-8.5 4.5-8.9	3.9-7.9 4.0-8.1 4.1-8.2 4.4-8.7 4.6-9.1 4.7-9.3 4.9-9.7 5.4-10.4	4.6-9.1 4.7-9.2 4.7-9.3 5.0-9.8 5.2-10.1 5.3-10.3 5.5-10.6 5.9-11.3 6.3-12.2	5.9-11.4 5.9-11.5 6.0-11.6 6.2-11.9 6.3-12.2 6.4-12.4 6.6-12.7 6.9-13.2 7.2-14.0 8.2-15.6	7.2-13.7 7.2-13.8 7.2-13.9 7.4-14.2 7.5-14.4 7.6-14.6 7.8-14.8 8.0-15.3 8.4-15.9 9.1-17.3 10.0-18.9	10.1-19.0 10.1-19.1 10.1-19.2 10.2-19.4 10.3-19.6 10.4-19.7 10.5-19.9 10.7-20.2 11.0-20.7 11.5-21.8 12.2-23.1 14.1-26.6			
	<u></u>	<u> </u>		<u></u>	For perc	entages a	round 20%	and 80%	···.						
8000 5000 4000 2000 1500 1250 1000 700 500 300 200 100	1.3-3.3	1.4-3.5 1.6-3.8	1.5-3.7 1.7-3.9 1.8-4.1	2.0-4.4 2.1-4.6 2.2-4.7 2.5-5.3	2.3-4.8 2.4-5.0 2.4-5.1 2.7-5.6 2.9-5.9	2.4-5.1 2.5-5.3 2.6-5.4 2.9-5.9 3.1-6.2 3.2-6.4	2.7-5.5 2.8-5.7 2.8-5.8 3.1-6.2 3.3-6.5 3.4-6.8 3.6-7.1	3.2-6.3 3.2-6.4 3.3-6.6 3.5-7.0 3.7-7.2 3.8-7.4 3.9-7.7 4.3-8.3	3.7-7.3 3.8-7.4 3.8-7.5 4.0-7.8 4.1-8.1 4.2-8.2 4.4-8.5 4.7-9.0 5.1-9.8	4.7-9.1 4.8-9.2 4.8-9.3 5.0-9.5 5.1-9.8 5.1-9.9 5.3-10.2 5.5-10.6 5.8-11.2 6.5-12.5	5.7-11.0 5.8-11.1 5.9-11.4 6.0-11.5 6.1-11.7 6.2-11.8 6.4-12.2 6.7-12.7 7.3-13.8 8.0-15.1	8.0-15.2 8.1-15.3 8.1-15.4 8.2-15.5 8.2-15.7 8.3-15.8 8.4-15.9 8.6-16.2 8.8-16.6 9.2-17.4 9.8-18.5 11.3-21.3			

Appendix Table II: <u>Sampling Errors of Differences for "Per Adult" Responses</u> (expressed in percentages)

	For percentages around 10% and 90%												
8000 5000 4000 2000 1500 1250 1000 700 500 300 200	0,9-2.5	1.1-2.7 1.2-2.8	1.2-2.8 1.3-2.9 1.3-3.0	1.5-3.3 1.6-3.4 1.6-3.5 1.9-4.0	1.7-3.6 1.8-3.7 1.8-3.8 2.1-4.2 2.2-4.5	1.8-3.8 1.9-3.9 1.9-4.0 2.2-4.4 2.3-4.6 2.4-4.8	2.0-4.1 2.1-4.2 2.1-4.3 2.3-4.7 2.4-4.9 2.5-5.1 2.7-5.3	2.4-4.7 2.4-4.8 2.5-4.9 2.6-5.2 2.7-5.4 2.8-5.6 3.0-5.8 3.2-6.2	2.8-5.4 2.8-5.5 2.8-5.6 3.0-5.9 3.1-6.1 3.2-6.2 3.3-6.4 3.5-6.8 3.8-7.3	3.5-6.8 3.6-6.9 3.6-7.0 3.7-7.1 3.8-7.3 3.9-7.4 3.9-7.6 4.1-7.9 4.3-8.4 4.9-9.4	4.3-8.2 4.3-8.3 4.4-8.3 4.5-8.5 4.5-8.6 4.6-8.8 4.7-8.9 4.8-9.2 5.0-9.5 5.5-10.4 6.0-11.3		
					For parc	entages a	round 5%	and 95%					
8000 5000 2000 1500 1250 1000 700 500 300 200	0.7-1.8	0.8-1.9 0.9-2.1	0.8-2.0 0.9-2.1 1.0-2.2	1.1-2.4 1.2-2.5 1.2-2.6 1.4-2.9	1.2-2.6 1.3-2.7 1.3-2.8 1.5-3.1 1.6-3.2	1.3-2.8 1.4-2.9 1.4-2.9 1.6-3.2 1.7-3.4 1.7-3.5	1.5-3.0 1.5-3.1 1.5-3.1 1.7-3.4 1.8-3.6 1.8-3.7 1.9-3.9	1.7-3.4 1.8-3.5 1.8-3.6 1.9-3.8 2.0-3.9 2.1-4.1 2.1-4.2 2.3-4.5	2.0-4.0 2.0-4.0 2.1-4.1 2.2-4.3 2.2-4.4 2.3-4.4 2.3-4.4 2.4-4.6 2.6-4.9 2.8-5.3	2.6-4.9 2.6-5.0 2.6-5.1 2.7-5.2 2.8-5.3 2.8-5.4 2.9-5.5 3.0-5.8 3.1-6.1 3.6-6.8	3, 1-6, 0 $3, 1-6, 0$ $3, 2-6, 1$ $3, 2-6, 2$ $3, 3-6, 3$ $3, 3-6, 4$ $3, 4-6, 5$ $3, 5-6, 7$ $3, 6-6, 9$ $4, 0-7, 5$ $4, 4-8, 2$		

.

Reported	Number of Interviews													
Percentage	4200	3000	2000	1500	1000	700	500	400	300	200	100			
50	1.5	1.8	2.2	2.6	3.2	3.8	4.5	5.0	5.8	7.1	10.0			
	2.6	2.9	3.4	3.9	4.6	5.3	6.1	6.7	7.6	9.1	12.7			
30 or 70	1.4	1.7	2.0	2.4	2.9	3.5	4.1	4.6	5.3	6.5	9.2			
	2.3	2.7	3.2	3.5	4.2	4.8	5.6	6.1	6.9	8.4	11.6			
20 or 80	1.2	1.5	1.8	2.1	2.5	3.0	3.6	4.0	4.6	5.7	8.0			
	2.0	2.3	2.8	3.1	3.7	4.2	4.9	5.3	6.0	7.3	10.2			
10 or 9 0	0.9	1.1	1.3	1.5	1.9	2.3	2.7	3.0	3.5	4.2	6.0			
	1.5	1.8	2.1	2.3	2.8	3.2	3.6	4.0	4.5	5.5	7.6			
5 or 95	0.7	0.8	1.0	1.1	1.4	1.6	1.9	2.2	2.5	3.1	4.4			
	1.1	1.3	1.5	1.7	2.0	2.3	2.7	2.9	3.3	4.0	5.5			

Appendix TableIII: <u>Approximate Sampling Errors of Percentages for "Per Interview" Responses</u> (expressed in percentages)

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Appendix Table IV: Sampling Brrors of Differences for "Per Interview" Responses

(expressed in percentages)

Size of	•			Size o	f Subgroup			
Subgroup	2000	1500	1000	700	500	300	200	100
			For	percentages	from about	35% to 65%		
2000 1500 1000 700 500 300 200 100	3.2-4.9	3.4-5.2 3.7-5.5	3.9-5.7 4.1-6.0 4.5-6.5	4.4-6.3 4.6-6.5 4.9-7.0 5.4-7.4	5.0-7.0 5.2-7.2 5.5-7.6 5.9-8.0 6.3-8.6	6.2-8.3 6.3-8.4 6.6-8.9 6.9-9.2 7.2-9.7 8.2-10.7	7.4-9.8 7.5-9.9 7.8-10.2 8.0-10.5 8.4-11.0 9.1-11.9 10.0-12.9	10.2-13.2 10.3-13.3 10.5-13.5 10.7-13.8 11.0-14.1 11.5-14.8 12.2-15.7 14.1-18.0
			For	percentages	around 20%	and 80%		
2000 1500 1000 700 500 300	2.5-3.9	2.7-4.1 2.9-4.4	3.1-4.6 3.3-4.8 3.6-5.2	3.5-5.0 3.7-5.2 3.9-5.6 4.3-6.0	4.0-5.6 4.1-5.8 4.4-6.1 4.7-6.4 5.1-6.8	5.0-6.6 5.1-6.7 5.3-7.1 5.5-7.4 5.8-7.8 6.5-8.6	5.9-7.8 6.0-7.9 6.2-8.2 6.4-8.4 6.7-8.8 7.3-9.5 8.0-10.3	8.2-10.6 8.2-10.6 8.4-10.8 8.6-11.0 8.8-11.3 9.2-11.8 9.8-12.6 11.3-14.4

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			for	percentages	around 10%	and 90%		.
2000 1500 1000 700 500 300 200 100	1.9-2.9	2.1-3.1 2.2-3.3	2.3-3.4 2.4-3.6 2.7-3.9	2.6-3.8 2.7-3.9 3.0-4.2 3.2-4.5	3.0-4.2 3.1-4.3 3.3-4.6 3.5-4.8 3.8-5.1	3.7-5.0 3.8-5.0 3.9-5.3 4.1-5.5 4.3-5.8 4.9-6.4	4.5-5.9 4.5-6.0 4.7-6.1 4.8-6.3 5.0-6.6 5.5-7.1 6.0-7.7	6.1-7.9 6.2-8.0 6.3-8.1 6.4-8.3 6.6-8.5 6.9-8.9 7.3-9.4 8.5-10.8
			For	percentages	around 5%	and 95%		
2000 1500 1000 700 500 300 200	1.4-2.1	1.5-2.3 1.6-2.4	1.7-2.5 1.8-2.6 1.9-2.8	1.9-2.7 2.0-2.9 2.1-3.0 2.3-3.2	2.2-3.0 2.2-3.1 2.4-3.3 2.6-3.5 2.8-3.7	2.7-3.6 2.8-3.7 2.9-3.9 3.0-4.0 3.1-4.2 3.6-4.7	3.2-4.3 3.3-4.3 3.4-4.4 3.5-4.6 3.6-4.8 4.0-5.2 4.4-5.6	

For percentages around 10% and 90%

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