Air Travel Forecasting

1965-1975

The Port of New York Authority

Aviation Department, Forecast and Analysis Division

January, 1957

THE ENO FOUNDATION FOR HIGHWAY TRAFFIC CONTROL

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THE PORT OF NEW YORK AUTHORITY

FORECAST OF THE

UNITED STATES DOMESTIC AIR PASSENGER MARKET

1965 - 1975

AVIATION DEPARTMENT
Forecast and Analysis Division,
January 1957

THE PORT OF NEW YORK AUTHORITY

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FOREWORD

The compelling reasons for publishing this monograph are set forth in the Introduction.

The method and concepts underlying this type of forecasting are applicable in many other fields of prediction essential to efficient planning.

While this discussion is primarily concerned with air travel, it should be of special interest to the researcher interested in improving foresight into our needs in other forms of travel and transportation.

The past history of travel and transportation has afforded us many examples of its rapid growth and widespread use. It has far exceeded our expectations and preparations to assure its maximum service.

At this tardy date, we are making commendable effort to overcome our past deficiency, at the same time we need to look closely into the future.

With the hope that this monograph will contribute to that effort, the Eno Foundation makes its kind acknowledgment to the authors and to the Port of New York Authority.

It is a privilege to publish it.

ENO FOUNDATION

PREFACE

This forecast was prepared in the Aviation Department of The Port of New York Authority under the direction of Mr. Norman L. Johnson, Chief of the Forecast and Analysis Division. It is the first application of a national market survey to the problem of estimating the future market demand for consumer services.

Although the measurement of the national market for consumer goods by means of national market surveys has been standard marketing procedure for several years in many commodity fields, its extension to the service market is an innovation that already shows signs of becoming established practice in travel marketing.

The Bureau of the Census in February 1957 undertook its first national census of travel. This census is being conducted as part of the monthly current population survey throughout the year 1957. The President has requested Congress to appropriate funds for more intensive Census Bureau studies of both national and international travel during fiscal year 1958 as a part of the proposed Census of Transportation. Mr. Johnson, as President of the Travel Research Association, and chairman of the International Statistics Sub-committee of the National Association of Travel Organizations, has participated with other representatives of the travel industry in the negotiations with the Census Bureau that have led to the adoption of travel as an integral part of the national Census, and in the design of these Census Bureau surveys.

The forecast presented herein illustrates methods developed by The Port of New York Authority for measuring the market for travel by application of national survey findings to the census of population and national population projections furnished by the Bureau of the Census and Bureau of Labor Statistics.

The National Travel Market Survey, which forms the basis for this forecast, was conducted by the Survey Research Center of the University of Michigan. The survey is now being pub-

lished by the University under the auspices of the Travel Research Association.

In 1956 we published another study conducted in 1954 by the Forecast and Analysis Division of the Port Authority, under the title, "New York's Air Travelers".[1] The current forecast is in many ways related to the earlier study.

This report was written by Mr. John Legan, supervisor, Air Traffic Section, who was assisted by Mr. George Sarames and Mr. Herman Friedman.

Mr. Legan joined the Port Authority in 1953 after serving as an economist with the U.S. Bureau of Labor Statistics of the Department of Labor. He holds an M.A. degree from the Graduate School of Arts and Sciences, New York University, having completed his undergraduate work at Rutgers University. Mr. Legan is also an instructor of Economics at Seton Hall University, New Jersey.

Mr. Sarames joined the Port Authority in 1954, after serving as an economist with the Civil Aeronautics Board and the Office of International Trade of the Department of Commerce. He is a graduate of Georgetown University, Washington, D.C., having received a B.S. in Foreign Affairs and M.A. in Economics. Mr. Sarames also is an instructor in Economics at Fairleigh Dickinson University in Teaneck, New Jersey.

Mr. Friedman joined the Port Authority in 1956, having been previously associated with the Econometric Institute. He received his B.S. in Business Administration at New York University in 1952 and at present is doing post graduate work in economics.

1 Eno Foundation, Saugatuck, Conn.

ACKNOWLEDGMENTS

While accepting full responsibility for our findings, we wish to acknowledge with renewed thanks the contributions of our consultants, Dr. James Tobin of Yale University and Dr. Jan Tinbergen of Harvard University and Rotterdam University, to the development of the methods and procedures employed in this forecast.

We also wish to extend our gratitude to the following organizations without whose information, advice, and general assistance this analysis could not have been conducted:

The United States Bureau of the Census

The United States Bureau of Labor Statistics

The University of Michigan Survey Research Center, especially Dr. John B. Lansing

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INTRODUCTION

Background: Before each major phase of the development of the Port Authority's Regional Airport Program is undertaken, a long range forecast of air traffic is prepared to guide the physical and economic planning of the airport facilities under consideration. Such intensive traffic studies and projections were issued in 1948, 1950 and 1952. In addition, interim revisions have been made from time to time as required.

On the basis of these forecasts, facility construction programs have been planned to meet the estimated traffic requirements for the estimated service life of the proposed facilities. During the service life each facility must earn its total cost to permit its replacement or retirement from service if and when it becomes obsolete or worn out.

If these new facilities are to serve their purposes efficiently for such a necessarily long period, they must be sized and constructed to meet long range capacity needs, as determined by our best long range forecasts of traffic volumes. Therefore, Port Authority air terminal facilities must meet two basic criteria:

1. they must be adequate to meet their purposes throughout their estimated service lives.
2. they must be economically self-liquidating during the term of their service.

Long range forecasts of New York/Northern New Jersey regional air traffic demand are therefore indispensable tools for the planning and orderly development of an adequate, self-supporting, regional airport system.

In carrying out its obligations to the public, to the air transportation industry, and to the airline passengers and others using the Metropolitan Airports, the Port Authority has already committed a substantial investment of public funds in its regional airport development program. Still further investments will periodically be required to keep abreast of the growth of this great market, and to assure the provision of ade-

quate terminal and ground traffic facilities to meet the demand of the future. This forecast has been prepared to provide the framework for this program.

Earlier Air Travel Forecasting Methods

Earlier forecasts have considered air travel as a single economic entity ("revenue-passenger-miles") essentially similar in behavior to other basic national economic indices such as national income and industrial production. The problem of forecasting domestic air travel therefore resolved itself into a problem of seeking both direct and indirect mathematical relationships between the behavior of "revenue-passenger-miles" and other basic economic indices that were assumed to govern or, at least, to define the behavior of air travel volumes. Thereafter, by forecasting basic economic trends of the nation it would be possible to convert such forecasts into corresponding estimates of revenue-passenger-miles by the application to the basic projections of suitable mathematical processes and formulas.

This method was not unique to the Port Authority. On the contrary, it has been widely adopted by the economic staffs of the air transportation industry as the most reliable overall forecasting technique available.

Since Metropolitan New York's air traffic volumes have been a constant part of the national total, national forecasts can be translated into New York/Northern New Jersey forecasts by applying suitable percentages to the national estimates.

Experience has indicated, however, that rates of air traffic growth cannot be adequately explained or projected by the theories and methods that have heretofore been generally accepted and reflected in earlier forecasts.

The Market Analysis Method of Air Travel Forecasting

The present forecast is based upon a completely different concept of the problem, and new methods have been devised to

permit its application to the solution of the practical forecasting problem.

Under this concept, air travel is considered as essentially a commodity—one of several in competition for the buyer's dollars. This approach accepts the proposition that each trip results from a more-or-less carefully weighed decision by the traveler, made under more-or-less compelling circumstances, and tempered by the traveler's background and experience, his resources, his tastes and preferences, and other primarily personal considerations.

The approach to the problem thus is reduced to a fairly comprehensible, broad national marketing research project — to determine what economic and demographic conditions seem to explain the decisions that result in air travel. Then, by applying the findings of the market analysis to the persons expected to fall under identical or similar demographic and economic groups in the future, and by assuming generally similar behavior of members of these groups with respect to air travel, it should be possible to estimate the volume of air travel that the entire population would generate if the findings of the survey are generally tenable.

To this end, a National Travel Market Survey was conducted during 1955. The findings were applied to the corresponding census classifications of the entire population of the years 1950 and 1955. The results of this test, as explained in Section IV, indicate a degree of reliability that justifies its use for estimating the air travel market of 1965 and 1975, when applied to responsible forecasts of the population of those years, subdivided into its relevant demographic and economic classes.

Interpretation of the Forecast

The basic concepts upon which this forecast is constructed are stated below as a few simple propositions that are accepted subject to confirmation and further refinement by repeated surveys in future years.

The forecast does not, however, specifically take into account other tangible and intangible factors that may have substantial influence upon the future growth of air travel volumes but cannot now be accurately measured. For example, the National Travel Market Survey makes it clear that fear is still by far the most important single deterrent to air travel among non-fliers.

Obstacles

The general belief that flying is "expensive", is another major obstacle reported in the survey. General inconvenience of terminals, poor connections, and undependability of scheduled performance are reported by large segments of the public as reasons for using other modes of travel. The more rapid removal or reduction of such existing deterrents (whether real or imaginary) might greatly accelerate the acceptance of air travel.

The forecast assumes the continuing validity of the following premises:

1. Population growth in the United States will follow Projection A of the Bureau of the Census.
2. Employment by occupation and industry in 1965 and 1975 will conform to preliminary estimates of the Bureau of Labor Statistics for those years.
3. National income will increase at a rate of 3% per year for the period 1955-1965 and at an annual rate of 3¾% for the period 1965-1975.
4. All economic strata of the population will benefit proportionately from the expected rise in national income. That is, the distribution of shares in the national income in 1965 and 1975 among the various economic groups of the future will be the same as the share distribution of 1954.
5. Each of the 160 personal travel market classifications of the population established herein consists of "fliers" and "non-fliers". The *rate* at which "non-fliers" will become "fliers" (the annual percent of attrition of the "non-flier" category) in each cell will remain constant throughout the term of the forecast. Likewise, the frequency of air trips per traveler within each classification will remain constant.
6. In each of the 130 business travel market classifications it is assumed that the air trips per 1,000 population will increase in accordance with the estimated trend from 1935 to 1955.

The approach used in this forecast takes into account the relative changes in those factors constituting the "acceptance

rate" of personal air travel that have taken place during the period 1935-1955; that is, the extent to which the "non-flying" population has joined the ranks of "fliers" because of changes in air service, fare levels, advances in types of aircraft, and other significant changes in the air transport industry as well as in their personal attitudes and characteristics. By extending the "acceptance rates" to the forecast years, therefore, consideration has been given to continuing changes, comparable to those experienced in the past two decades, in air service, fare levels, etc. It should be noted, however, that no weight has been given to possible effects of even more radical changes in the future than those actually realized in the past.

The forecast of air travel is based on single estimates selected as the "most probable" for each of the many components of the forecast. For this reason, the result is expressed as a specific numerical value rather than a range of possible values. This does not imply certainty that future behavior will follow the premises used, but will permit determination of the specific areas and the measurement of differences between our present views and actual future events. It should be understood, however, that an important range of possible error is implicit in many of the premises themselves, and that engineering and construction of facilities should recognize the possibilities of growth in excess of present "most reasonable" expectations.

Until additional studies of the national travel market are made in the future to yield more definitive facts to replace some of the significant assumptions used in this analysis, it seems prudent to measure the effects on the forecast of a few of these assumptions. Therefore, in Section V, each of several critical assumptions has been evaluated in order to measure the effect of material changes in assumptions on final estimates.

Staging of the Future Forecasting Program

The domestic air passenger market is without doubt the most important element of today's air transportation, and should

therefore take priority in the long-range forecasting program. The other components of the market, however, may be of equal ultimate importance and, therefore, will be analyzed in equal detail as promptly as an orderly program will permit. Overseas travel, domestic cargo, overseas cargo, business and private flying, and the helicopter traffic markets will be studied in future stages of the program. Meanwhile, complete analyses and forecasts will be maintained and adjusted to new facts as they develop.

Section I

SUMMARY OF FORECAST

Assuming normal growth of the American economy, with economic and social benefits distributed among all categories of the population in proportion to their present participation in the goods and services of the national economy:

90,000,000 domestic air trips will be taken in 1965
and
167,000,000 domestic air trips will be taken in 1975

Assuming that the proportion of those trips that will originate or terminate in Port Authority Airports will continue its historical trend:

21,000,000 domestic air trips will originate or terminate at Port Authority Airports in 1965
and
38,000,000 domestic air trips will originate or terminate at Port Authority Airports in 1975

A comparison of actual air passenger volumes in 1955 with this forecast follows:

	1955 (Act.)	*1965*	*1975*
U S. Domestic Air Passengers (millions of originating trips)	38.7	90.0	167.0
N. Y. Domestic Air Passengers (millions of originating or terminating trips at Port Authority Airports)	9.5	21.0	38.0

Section II

CHARACTERISTICS OF THE AIR TRAVEL MARKET

A. *Findings of the Survey*

The basic criteria used for this forecast have been developed by analyzing the results of a National Travel Market Survey conducted for the Port Authority by the Survey Research Center of the University of Michigan. In 1955 the Survey Research Center interviewed a carefully selected random sample of some 4,000 adults, representing a cross-section of all American families, and secured from them detailed information concerning the travel habits of 8,200 adults.[1] The most significant findings concerning the population's travel characteristics by all modes of travel in general were:

1. Family income is the strongest single factor associated with differences in travel among individuals; whether they take trips at all, how many trips they take, and the modes they use.
2. The age and family situation of the person influence the amount and mode of his travel. Common carrier travel is concentrated among the young, tends to fall off while dependent children are young, and rises again after the children have left home.
3. Adults in white-collar occupations travel most frequently and are especially likely to travel by air. Business travel in particular is concentrated among professional and managerial workers.
4. Sixty percent of the adult population take a trip of over 100 miles during a 12 month period, but most travel only by auto. Only 20% travel by common carrier.
5. Most trips are taken for pleasure. The most common objective is to visit friends or relatives. Business trips and trips taken for personal reasons other than pleasure occur with about equal frequency.
6. The choice of a mode for any given trip depends principally upon the distance to be traveled and the number of traveling companions. Adults who take air trips almost always travel alone, whereas auto travelers usually go with one or more companions.

1 See Appendix 1.0 for copy of questions asked on travel.

The most important findings from the standpoint of estimating future air travel, were those specifically pertaining to the present air travel characteristics of the population. These findings, some of which are shown in broad scope only, are:

1. The number of personal air trips per 100 adults is high at the early stages of the "life cycle," falls during the years when there are dependent children in the home, and rises after the children leave home. The frequency of air travel within each of these stages of the cycle is shown below:

Stage in the "Life Cycle"	*Personal Air Trips per 100 Adults*
Young, single	17.9
Young, married, no children	10.7
Married with children:	
Youngest under 2 years	4.6
Youngest 2-4½ years	8.1
Youngest 5-14½ years	4.8
Youngest 15-17 years	11.2
Older, married, no children under 18	9.4
Older, single	6.8
Average, all stages	8.5

2. The differences in travel frequency by occupation groups is evident in the following comparison:

Occupation of the Adult	*Percent of All Adults in This Occupation Group*	*Percent of All Personal Air Trips Taken by Adults in This Occupation Group*
Professional and Managerial Workers	13	25
Clerical and Sales Workers	9	13
Blue Collar Workers	30	24
Farmers	4	1
Retired	4	2
Housewives, Students, Others Not Now Employed	40	35
	100%	100%

3. People who take business air trips tend to be concentrated in certain industries:

Industry	*Percent of Business Air Trips*
Manufacturing	42
Wholesale and Retail Trade	20
Government	9
Professional and Related Services	8
Business and Personal Services	5
Construction	3
Transport, Utilities	1
Other	12
	100%

4. Air travel is concentrated in those groups of the population with higher family income levels:

Family Income	*Percent of Adults at Each Income Level*	*Percent of Air Trips Accounted for by Adults at Each Income Level*
Under $3,000	27	3
$3,000-$5,999	45	23
$6,000-$9,999	20	23
$10,000-$19,999	7	30
$20,000 and Over	1	21
	100%	100%

5. The level of education is another important factor affecting the frequency of air travel. The survey revealed that air travel frequency of adults increases with more education even when family income remains constant.

Level of Education of Head of Family	*Number of Personal Air Trips per 100 Adults*
None, Grammar School	2.8
Some High School	3.7
Some High School plus Non-Academic	6.0
Completed High School	12.7
Completed High School plus Non-Academic	10.5
Some College	18.4
College Graduate	26.4
All Levels	8.5

B. *Application of the Survey Findings*

With these data reflecting the effects of age, occupation, industry, income, and education upon air travel, it was possible to study their simultaneous effects by distributing the total population surveyed into homogeneous groups associating the various characteristics in their several combinations.

The survey findings indicated that different types of information should be used in grouping and classifying the characteristics of the population making *business* trips and those making *personal* trips. For example, it was found unnecessary to include education as a separate factor when studying the characteristics of people making business trips, since educational level is generally implied by the person's occupation and, in part, in his industry affiliation. However, it was necessary to consider education as a separate factor in studying personal travel, since characteristics of personal travel differ between people in the same occupation, and even of the same income, but with different levels of education. For that reason, business and personal travel were analyzed separately by classifying the population according to those data which best correspond to the frequency of each type of air trip; i.e. Personal and Business. In studying business air travel three major controlling components were therefore used: occupation, industry, and income. For personal travel the four most significant components were used: age, occupation, income, and education.

Age

In analyzing the effect of age on personal air travel, it was decided to substitute age groupings for "life cycle" stages because of the lack of comprehensive census data which could be translated into similar stages of the "life cycle", and also, age itself is highly correlated with these "life cycle" stages. Therefore, four age ranges of groups were used—18-24, 25-44, 45-64, and 64 and over—and the basic survey findings were reclassified into these four age groups.

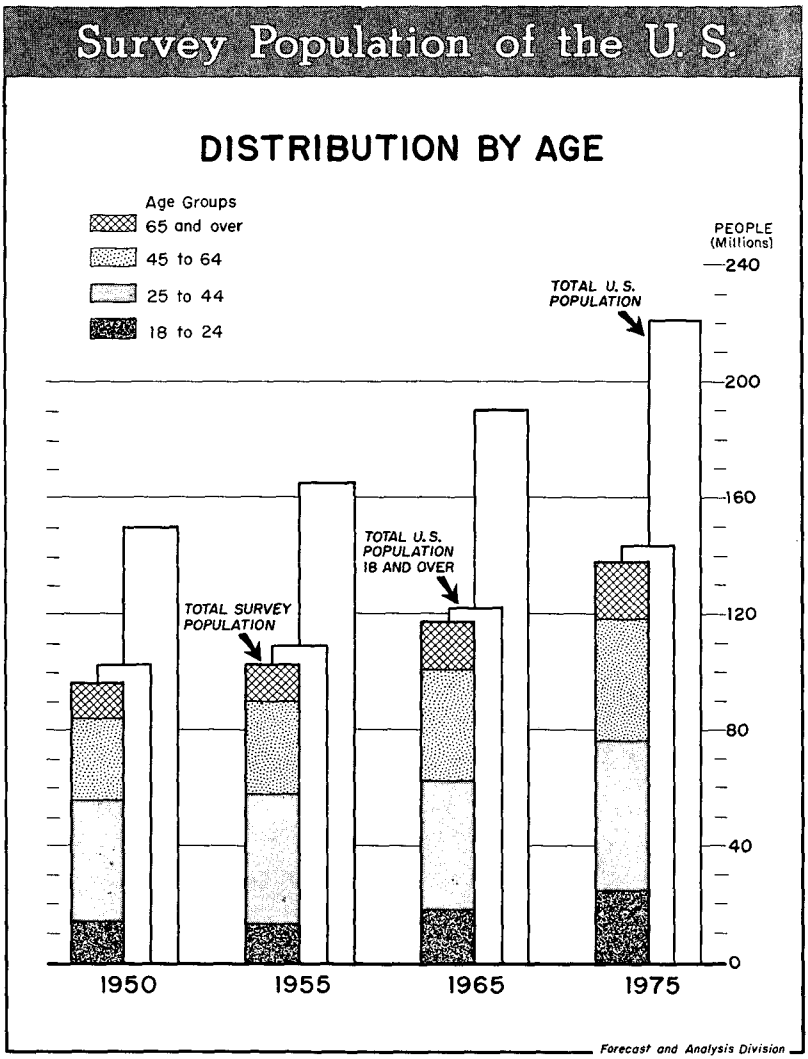

Survey Population of the U. S.
DISTRIBUTION BY AGE
Age Groups
65 and over
45 to 64
25 to 44
18 to 24
PEOPLE
(Millions)
240
200
160
120
80
40
0
TOTAL U. S. POPULATION
TOTAL U.S. POPULATION 18 AND OVER
TOTAL SURVEY POPULATION
1950
1955
1965
1975
Forecast and Analysis Division

CHART 1

Occupation

In order that the significance of occupation could be studied separately for business and personal travel, because each type of travel was affected in a different manner by "occupational" categories, the following occupational groups were used:

Business Travel

1. Professional, Technical
2. Managerial, Proprietor
3. Sales
4. Clerical and Labor
5. Farm: Owners, Managers and Foremen

Personal Travel

1. Professional, Managerial, Technical, Proprietors (Business Classes 1 and 2)
2. Clerical, Sales, Labor (Business Classes 3 and 4)
3. Farm: Owners, Managers, and Foremen (Business Class 5)
4. Housewives, Students, Unemployed
5. Retired

Industry

A review of the significance of industry affiliation as a travel indicator, as found in the survey, disclosed that the fourteen industry classifications could be categorized into three main groups: high travel industries, medium travel industries, and low travel industries.

The industries included in each of these major groups are:

High Travel

1. Mining
2. Manufacturing (except Printing & Publishing)
3. Government
4. Business Service

Medium Travel

1. Construction
2. Wholesale and Retail
3. Personal Service
4. Finance, Insurance, Real Estate
5. Professional Service

Low Travel

1. Agriculture, Forestry, Fishing
2. Transportation, Communication, Utilities
3. Repair Service
4. Amusement, Recreation
5. Printing & Publishing

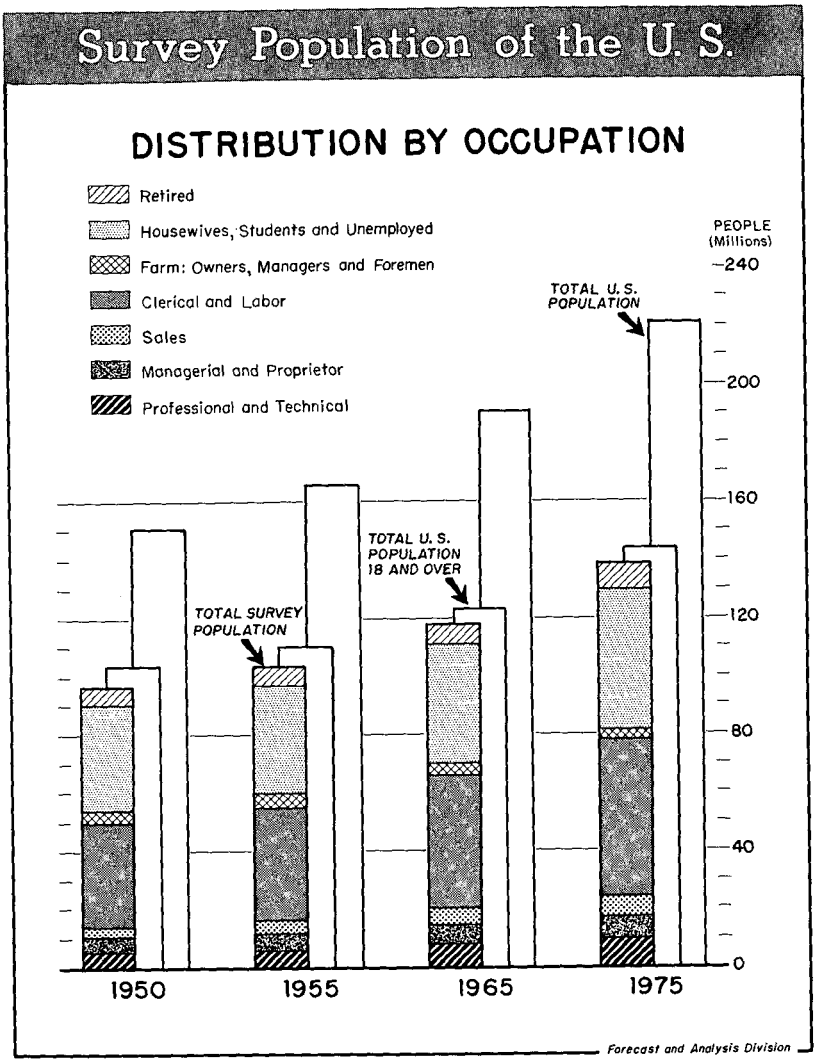

Survey Population of the U. S.
DISTRIBUTION BY OCCUPATION
Retired
Housewives, Students and Unemployed
Farm: Owners, Managers and Foremen
Clerical and Labor
Sales
Managerial and Proprietor
Professional and Technical
PEOPLE (Millions)
240
200
160
120
80
40
0
TOTAL U. S. POPULATION
TOTAL U. S. POPULATION 18 AND OVER
TOTAL SURVEY POPULATION
1950
1955
1965
1975
Forecast and Analysis Division

CHART 2

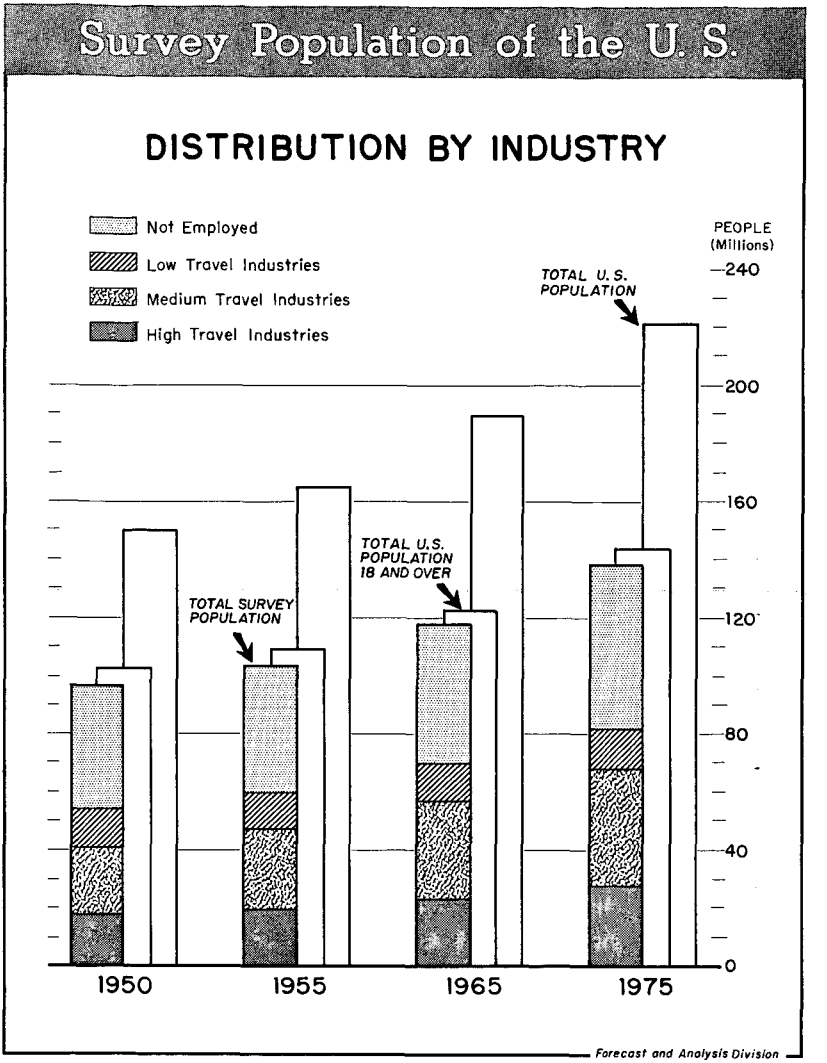

Survey Population of the U. S.
DISTRIBUTION BY INDUSTRY
Not Employed
Low Travel Industries
Medium Travel Industries
High Travel Industries
PEOPLE (Millions)
240
200
160
120
80
40
0
TOTAL U. S. POPULATION
TOTAL U.S. POPULATION 18 AND OVER
TOTAL SURVEY POPULATION
1950
1955
1965
1975
Forecast and Analysis Division

CHART 3

Income

Four income groups were found to be adequate in analyzing the relationship of income level to air travel:

1. Under $3,000
2. $3,000 - $5,999
3. $6,000 - $9,999
4. $10,000 and over

Education

Only two educational levels were used in the final analysis—high school graduates and non-high school graduates. Although the survey results indicated that the frequency of air travel increased almost directly with increases in the level of education, the most significant differences in travel frequency were observed at the turning point of graduation from high school.

Having established and categorized the population's air travel characteristics into these various groups it was then necessary to distribute the estimated total United States population into similar groups subdivided according to the established basic air travel criteria, as of the date of each estimate. As explained in sections which follow, two test estimates were made: 1950 and 1955; and two forecast estimates: 1965 and 1975. The steps followed in applying these criteria to the total population are explained in detail in the following section.

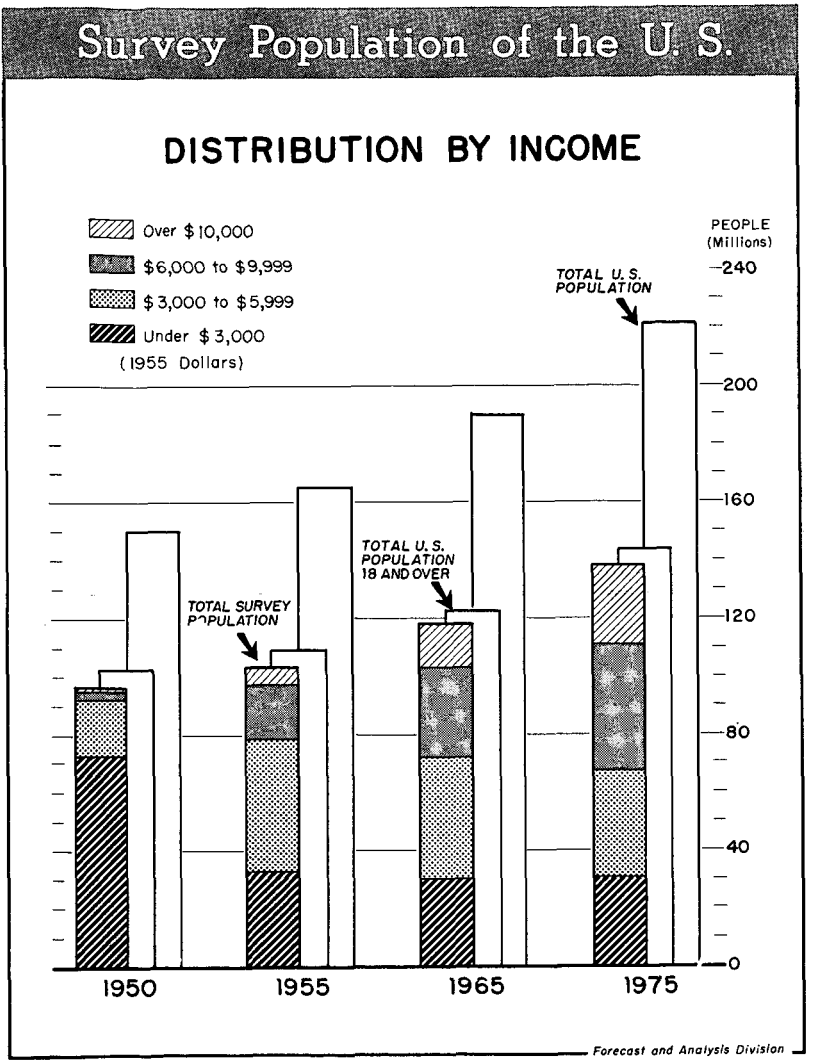

Survey Population of the U. S.
DISTRIBUTION BY INCOME
Over $10,000
$6,000 to $9,999
$3,000 to $5,999
Under $3,000
(1955 Dollars)
PEOPLE
(Millions)
240
200
160
120
80
40
0
TOTAL U. S. POPULATION
TOTAL U. S. POPULATION 18 AND OVER
TOTAL SURVEY POPULATION
1950
1955
1965
1975
Forecast and Analysis Division

CHART 4

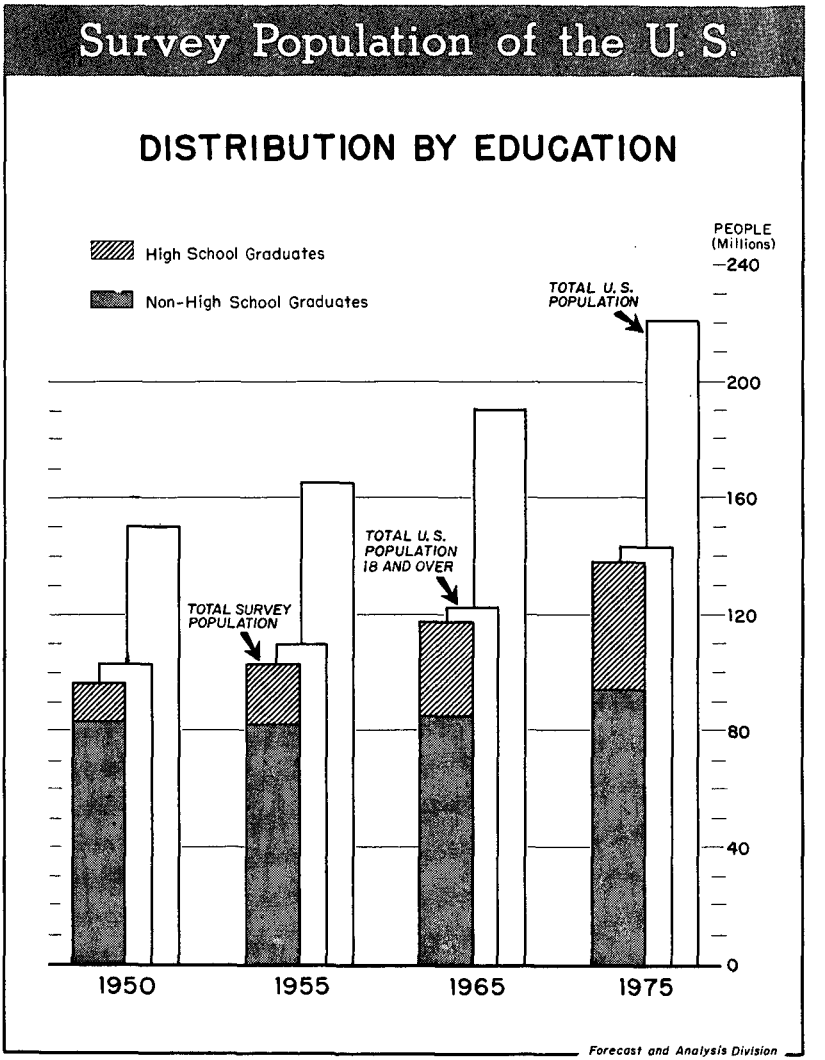

Survey Population of the U. S.
DISTRIBUTION BY EDUCATION
High School Graduates
Non-High School Graduates
PEOPLE (Millions)
240
200
160
120
80
40
0
TOTAL U. S. POPULATION
TOTAL U. S. POPULATION 18 AND OVER
TOTAL SURVEY POPULATION
1950
1955
1965
1975
Forecast and Analysis Division

CHART 5

Section III

THE FUTURE AIR TRAVEL MARKET

A. *Population Projections and Distribution*

In order to apply the characteristics of the air travel market to the estimated future population, it was necessary first to obtain population projections for the years of this forecast—1965 and 1975. The projections used were developed from basic data obtained from the Bureau of Census "A" projection of the 1965 and 1975 population, and related data provided by the Bureau of Labor Statistics.

However, because that portion of the population who were under 18 years of age, those living in institutions, and certain other categories were expressly excluded from the National Travel Market Survey upon which the estimates are based, it was necessary to adjust the estimated future total population to exclude these same categories, thus making the components of the current and future estimated populations comparable with the 1955 survey population.

Since different personal and economic conditions affect business and personal travel in varying manner and degree, the adjusted population was distributed into homogeneous groups reflecting the same four major characteristics affecting personal travel that were determined by the survey to be the most significant: (1) age, (2) occupation, (3) income, and (4) education; and according to the three similar major characteristics as respects business travel: (1) occupation, (2) industry, and (3) income.

1. PERSONAL TRAVEL CELLS

The past, present, and future adjusted total population was distributed into four predetermined age groups as follows:[2]

2 See Appendix 2.0 for method used to distribute survey population into age groups.

Table 1

AGE DISTRIBUTION OF THE SURVEY POPULATION
(in millions)

	Population			
Age Group	*1950*	*1955*	*1965*	*1975*
18-24	14.0	13.2	18.3	24.9
25-44	41.9	44.8	44.7	51.4
45-64	28.6	32.3	38.4	42.3
65 and over	11.9	13.0	16.6	19.9
Total	96.4	103.3	118.0	138.5

The Bureau of Labor Statistics provided estimates of the employed labor force, by occupation, for the future years, as well as estimates of those groups not in the labor force (housewives, students, and retired). The distribution of the population by occupation for the past was based on the 1950 census. The total survey population was then distributed into the five controlling occupation groups:[3]

Table 2

OCCUPATIONAL DISTRIBUTION OF THE SURVEY POPULATION
(in millions)

	Professional Managerial Technical Proprietor	*Clerical Sales Labor*	*Farm: Owners, Managers, and Foremen*	*Housewives Students Unemployed*	*Retired*	*Total*
1950	10.0	39.3	4.4	36.7	6.0	96.4
1955	11.3	43.4	4.6	37.5	6.5	103.3
1965	14.0	51.5	3.8	41.3	7.4	118.0
1975	16.7	61.0	3.3	48.7	8.8	138.5

Although the estimated distribution of the future population by occupation was available in the Bureau of Labor Statistics estimates, it was necessary to refer to the 1950 Bureau of Census population survey to distribute the future population into the selected significant age groups within the various occupations.

[3] See Appendix 3.0 to 3.4.

The distribution of population by occupation was then cross-classified with the age distribution to yield 20 composite groups or cells containing the distribution of the population by both age and occupation.[4]

Table 3

AGE BY OCCUPATION DISTRIBUTION OF THE SURVEY POPULATION
(in millions)

		OCCUPATION					
Age		*Professional Managerial Technical Proprietor*	*Clerical Sales Labor*	*Farm: Owners, Managers, and Foremen*	*Housewives Students Unemployed*	*Retired*	*Total*
18-24	1950	.8	7.0	.2	6.0	—	14.0
	1955	.8	7.0	.2	5.2	—	13.2
	1965	1.3	9.6	.4	7.0	—	18.3
	1975	1.7	13.4	.3	9.5	—	24.9
25-44	1950	5.2	19.2	1.8	15.7	—	41.9
	1955	5.7	21.4	1.9	15.8	—	44.8
	1965	6.6	21.3	1.3	15.5	—	44.7
	1975	8.2	24.9	1.2	17.1	—	51.4
45-64	1950	3.5	11.5	1.8	10.7	1.1	28.6
	1955	4.2	13.1	1.9	12.1	1.0	32.3
	1965	5.1	17.5	1.5	13.0	1.3	38.4
	1975	5.8	19.0	1.3	14.7	1.5	42.3
65 &	1950	.5	1.6	.6	4.3	4.9	11.9
over	1955	.6	1.9	.6	4.4	5.5	13.0
	1965	1.0	3.1	.6	5.8	6.1	16.6
	1975	1.0	3.7	.5	7.4	7.3	19.9
Total	1950	10.0	39.3	4.4	36.7	6.0	96.4
	1955	11.3	43.4	4.6	37.5	6.5	103.3
	1965	14.0	51.5	3.8	41.3	7.4	118.0
	1975	16.7	61.0	3.3	48.7	8.8	138.5

[4] See Appendix 4.0.

Each of the 20 "age by occupation" cells was then subdivided into the four predetermined income groups: (1) under $3,000, (2) $3,000-$5,999, (3) $6,000-$9,999, and (4) $10,000 and over. Future income distribution was estimated on the basis of the distribution of family income by occupation as found by the Bureau of the Census in 1954, the most current data available. From this source it was possible to determine the proportion of each occupation group falling within each of the four income classifications. This income distribution was then adjusted for a 25% estimated increase in per capital income from 1954 to 1965, and a 55% expected increase to 1975, expressed in terms of 1955 dollars. After distributing future income in each occupation among the four income classifications, it was necessary to divide the income groups among the four age categories within each occupation group. Special tabulations of the 1950 Census were used as the base to determine this distribution.[5]

After the income distribution was assigned to each of the 20 "age by occupation" cells, the resulting 80 "age by occupation by income" cells were further divided into the two educational groups: (1) high school graduates and (2) non-high school graduates. The 1950 Census was used to determine the proportion of the population in each of the 80 cells that will probably fall into each of the two education classes in 1965 and 1975.[6]

As the population groups over 18 years of age move forward in time, they will ordinarily maintain their present high school graduation status on the assumption that there will be no future radical change in their level of high school education. For example, that portion of the population who will be in the 45 to 64 age group in 1965 was, for the most part, in the 25 to 44 age group in 1950. Therefore, the educational level attained in 1950 by the 25 to 44 age group was applied to the 45 to 64 age group of 1965. For that portion of the population who will fall into the 18 to 24 age group of the future, estimates of their educational levels were made by adjusting the 1950 proportion of high school

5 See Appendix 5.0 to 5.4 for basic data and illustrations of methodology used.

6 See Appendix 6.0 to 6.8.

graduates upward according to the historically rising trend in the percentage of high school graduates to the total population of high school age. By subdividing "age by occupation by income" cells into their two education levels, 160 "age by occupation by income by education" cells were constructed as shown in Table 5. These 160 cells were separately used in calculating the estimates of *personal* air travel for the total survey population as of each year estimated.

2. BUSINESS TRAVEL CELLS

Since the non-employed segment of the population was excluded from business air trips, only the employed labor force was considered in the formation of business travel cells. These were distributed into the five established occupation groups as follows:[7]

Table 4

OCCUPATIONAL DISTRIBUTION OF SURVEY POPULATION
(in millions)

(18 Years of Age and Over)

	1950	*1955*	*1965*	*1975*
Professional, Technical	5.0	5.5	7.5	9.0
Managerial, Proprietor	5.0	5.8	6.5	7.7
Sales	3.6	4.6	5.8	7.1
Clerical, Labor	35.7	38.8	45.7	53.9
Farm: Owners, Managers, Foremen	4.4	4.6	3.8	3.3
Total Employed Labor Force	53.7	59.3	69.3	81.0
Not Employed	42.7	44.0	48.7	57.5
Total Survey Population	96.4	103.3	118.0	138.5

This occupational distribution of the employed labor force was then cross-classified with the distribution by industry in which the labor force was employed. Estimates of this distribution of occupation by industry were obtained from the Bureau

7 See Appendix 3.0.

Table 5 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

1950, 1955, 1965, 1975

Age	Education	Year	PROFESSIONAL, TECHNICAL, MANAGERIAL AND PROPRIETOR — FAMILY INCOME: Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	CLERICAL, SALES, LABOR — FAMILY INCOME: Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	HOUSEWIVES, STUDENTS, UNEMPLOYED — FAMILY INCOME: Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000
18-24	Non-High School Grads.	1950	298	80	6	-	5,375	963	15	2	4,614	60	2	2
		1955	168	166	24	-	2,920	2,777	325	18	1,895	1,986	68	200
		1965	242	229	54	20	3,067	3,497	824	88	2,107	2,299	147	695
		1975	289	252	83	45	3,551	4,084	1,804	270	2,477	2,452	259	1,599
	High School Grads.	1950	356	86	7	2	608	122	2	2	1,163	13	1	-
		1955	223	173	32	14	398	452	91	19	567	378	83	23
		1965	363	274	82	36	767	929	321	107	820	649	188	95
		1975	472	334	136	89	1,122	1,361	849	359	1,166	862	358	327
25-44	Non-High School Grads.	1950	881	1,133	267	111	9,963	6,776	462	55	13,389	261	15	10
		1955	346	1,106	692	278	3,487	10,699	3,151	515	4,920	5,333	1,181	321
		1965	256	884	927	601	2,174	8,071	4,862	1,547	3,624	4,611	1,494	788
		1975	214	759	1,181	1,088	1,506	5,762	7,402	2,449	3,337	4,639	1,912	1,911
	High School Grads.	1950	851	1,229	420	202	824	874	142	39	2,084	85	17	4
		1955	345	1,293	1,136	504	237	1,515	1,384	362	774	2,374	759	138
		1965	314	1,038	1,512	1,068	242	1,206	2,083	1,075	1,082	2,071	1,493	337
		1975	322	929	1,772	1,935	377	1,532	2,878	2,994	1,298	1,308	2,434	261
45-64	Non-High School Grads.	1950	803	816	319	187	6,049	4,150	446	67	9,444	207	28	16
		1955	303	762	707	446	2,022	6,379	2,943	342	2,901	3,899	2,055	513
		1965	152	482	815	775	1,574	5,979	5,554	998	1,952	3,296	2,423	1,174
		1975	120	354	826	1,176	1,106	4,237	7,411	1,839	1,707	2,606	3,133	2,016
	High School Grads.	1950	352	537	323	221	352	325	73	25	899	41	13	13
		1955	142	532	785	523	121	555	570	168	273	799	1,330	330
		1965	194	482	1,037	1,163	195	815	1,388	997	488	492	2,424	751
		1975	152	355	1,052	1,765	137	578	1,853	1,839	427	389	3,133	1,289
65 and Over	Non-High School Grads.	1950	173	82	36	37	1,065	388	38	9	3,963	80	21	12
		1955	77	86	90	101	503	885	274	54	1,041	1,241	1,056	440
		1965	73	45	110	200	528	1,112	706	277	901	1,170	1,206	789
		1975	48	52	94	291	421	891	1,067	579	850	998	1,682	1,461
	High School Grads.	1950	66	60	22	33	45	26	4	6	234	22	4	1
		1955	30	75	52	89	22	64	58	40	61	392	124	45
		1965	35	73	125	299	34	97	145	201	89	369	771	505
		1975	23	45	105	342	27	78	218	419	84	315	1,075	935
TOTAL - Over 18	TOTAL Non-High School Grads.	1950	2,155	2,111	628	335	22,452	12,277	961	133	31,410	608	66	40
		1955	894	2,120	1,513	825	8,932	20,740	6,693	929	10,757	12,459	4,360	1,474
		1965	723	1,640	1,906	1,598	7,343	18,659	11,948	2,910	8,584	11,376	5,270	3,446
		1975	671	1,417	2,184	2,600	6,584	14,974	17,684	5,137	8,371	10,695	6,986	6,987
	TOTAL High School Grads.	1950	1,625	1,912	772	458	1,829	1,347	221	72	4,380	161	35	18
		1955	740	2,073	2,005	1,130	778	2,586	2,103	589	1,675	3,943	2,296	536
		1965	906	1,867	2,756	2,566	1,238	3,047	3,937	2,380	2,479	3,581	4,876	1,688
		1975	969	1,663	3,065	4,131	1,663	3,549	5,798	5,611	2,975	2,874	7,000	2,812
GRAND TOTAL (Survey Population)		1950	3,780	4,023	1,400	793	24,281	13,624	1,182	205	35,790	769	101	58
		1955	1,634	4,193	3,518	1,955	9,710	23,326	8,796	1,518	12,432	16,402	6,656	2,010
		1965	1,629	3,507	4,662	4,162	8,581	21,706	15,883	5,290	11,063	14,957	10,146	5,134
		1975	1,640	3,080	5,249	6,731	8,247	18,523	23,482	10,748	11,346	13,569	13,986	9,799

Population of Personal Travel Cells: Occupation x Age x Income x Education--(Thousands)

FARM: OWNERS, MANAGERS, AND FOREMEN				RETIRED				TOTAL OCCUPATION				
	FAMILY INCOME				FAMILY INCOME				FAMILY INCOME			
Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	GRAND TOTAL
203	30	3	1	-	-	-	-	10,490	1,133	26	5	11,654
145	27	5	-	-	-	-	-	5,128	4,956	422	218	10,724
252	68	14	4	-	-	-	-	5,668	6,093	1,039	807	13,607
155	62	18	5	-	-	-	-	6,472	6,850	2,164	1,919	17,405
13	3	-	-	-	-	-	-	2,140	224	10	4	2,378
15	5	2	1	-	-	-	-	1,203	1,008	208	57	2,476
44	16	2	1	-	-	-	-	1,994	1,868	593	239	4,694
37	19	3	1	-	-	-	-	2,797	2,576	1,346	776	7,495
1,242	347	105	38	-	-	-	-	25,475	8,517	849	214	35,055
1,203	397	131	49	-	-	-	-	9,956	17,535	5,155	1,163	33,809
721	304	105	68	-	-	-	-	6,775	13,870	7,388	3,004	31,037
500	282	140	97	-	-	-	-	5,557	11,442	10,635	5,545	33,179
46	26	15	5	-	-	-	-	3,805	2,214	594	250	6,863
51	40	21	8	-	-	-	-	1,407	5,222	3,300	1,012	10,941
46	34	12	10	-	-	-	-	1,684	4,349	5,100	2,490	13,623
88	66	16	11	-	-	-	-	2,085	3,835	7,100	5,201	18,221
1,259	288	101	28	984	79	15	5	18,539	5,540	909	303	25,291
1,275	350	118	46	827	79	13	9	7,328	11,469	5,836	1,356	25,989
902	297	122	65	906	120	33	13	5,486	10,174	8,947	3,025	27,632
684	293	128	90	983	163	63	22	4,600	7,653	11,561	5,143	28,957
43	21	8	7	58	10	5	5	1,704	934	422	271	3,331
55	30	15	11	53	11	7	1	644	1,927	2,707	1,033	6,311
58	33	13	10	186	23	6	13	1,121	1,845	4,868	2,934	10,768
44	32	12	23	202	32	12	23	962	1,386	6,062	4,939	13,349
464	71	21	4	4,339	148	32	11	10,004	769	148	73	10,994
455	79	34	5	4,840	218	42	10	6,916	2,509	1,496	610	11,531
432	90	37	10	5,162	250	40	34	7,096	2,667	2,099	1,310	13,172
316	98	35	20	5,845	538	96	40	7,480	2,577	2,974	2,391	15,422
18	4	1	-	268	30	7	8	631	142	38	48	859
19	5	2	1	310	57	13	10	442	593	249	185	1,469
18	6	5	2	511	55	21	27	687	600	1,067	1,034	3,388
14	7	5	5	579	119	50	33	727	564	1,453	1,734	4,478
3,168	736	230	71	5,323	227	47	16	64,508	15,959	1,932	595	82,994
3,078	853	288	100	5,667	297	55	19	29,328	36,469	12,909	3,347	82,053
2,307	759	278	147	6,068	370	73	47	25,025	32,804	19,473	8,146	85,448
1,655	735	321	212	6,828	701	159	62	24,109	28,522	27,334	14,998	94,963
120	54	24	12	326	40	12	13	8,280	3,514	1,064	573	13,431
140	80	40	21	363	68	20	11	3,696	8,750	6,464	2,287	21,197
166	89	32	23	697	78	27	40	5,486	8,662	11,628	6,697	32,473
183	124	36	40	781	151	62	56	6,571	8,361	15,961	12,650	43,543
3,288	790	254	83	5,649	267	59	29	72,788	19,473	2,996	1,168	96,425
3,218	933	328	121	6,030	365	75	30	33,024	45,219	19,373	5,634	103,250
2,473	848	310	170	6,765	448	100	87	30,511	41,466	31,101	14,843	117,921
1,838	859	357	252	7,609	852	221	118	30,680	36,883	43,295	27,648	138,506

Table 6 BUSINESS TRAVEL CELL POPULATION PROJECTIONS[1]

1950, 1955, 1965, 1975

	PROFESSIONAL, TECHNICAL				MANAGERIAL, PROPRIETOR				SALES			
	1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975
HIGH TRAVEL INDUSTRIES												
Mining	35	41	60	64	42	43	40	42	-	-	-	-
Manufacturing	627	782	1,540	1,892	686	697	904	1,111	287	254	290	472
Government	333	331	387	433	233	288	213	238	1	6	7	8
Business Service	148	169	470	563	63	71	85	102	26	51	38	46
High Travel Industries	-	-	-	-	-	-	-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES												
Construction	134	163	249	296	296	351	456	540	9	12	22	26
Wholesale, Retail	189	257	400	470	2,390	2,988	3,155	3,702	2,646	3,502	4,544	5,333
Personal Service	96	94	208	249	206	197	245	295	24	24	54	65
Finance, Insurance, Real Estate	55	77	231	279	337	412	434	524	448	555	621	750
Professional Service	2,878	3,152	3,332	4,000	118	132	244	293	8	10	14	17
Medium Travel Industries	-	-	-	-	-	-	-	-	-	-	-	-
LOW TRAVEL INDUSTRIES												
Agriculture, Forestry, Fishing	52	68	112	96	19	18	32	27	6	5	10	9
Transportation, Communications, Utilities	143	170	252	290	284	305	349	402	10	21	25	28
Repair Service	5	9	25	29	146	132	158	190	14	14	18	22
Amusement, Recreation	158	151	167	200	111	110	126	152	14	16	23	28
Printing, Publishing	89	80	95	118	70	70	80	99	47	123	152	188
Low Travel Industries	-	-	-	-	-	-	-	-	-	-	-	-
GRAND TOTAL	4,942	5,544	7,528	8,979	5,001	5,814	6,521	7,717	3,540	4,593	5,818	6,992

* Includes 255 industries, not reported.

1 Bureau of Labor Statistics, "Employment in Major Occupational Groups for Selected Industries in 1955, and Estimates for 1965 and 1975", Aug. 8, 1956.
1950 Data from Census Bureau Special Tabulations.

Population of Business Travel Cells: Occupation x Industry—

(Thousands)

CLERICAL, LABOR				FARM: OWNERS, MANAGERS, AND FOREMEN				TOTAL OCCUPATIONS			
1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975
-	-	-	-	-	-	-	-	77	84	100	106
-	-	-	-	-	-	-	-	1,600	1,733	2,734	3,475
-	-	-	-	-	-	-	-	567	625	607	679
-	-	-	-	-	-	-	-	237	291	593	711
14,465	16,263	18,808	22,590	-	-	-	-	14,465	16,263	18,808	22,590
-	-	-	-	-	-	-	-	439	526	727	862
-	-	-	-	-	-	-	-	5,225	6,747	8,099	9,505
-	-	-	-	-	-	-	-	326	315	507	609
-	-	-	-	-	-	-	-	840	1,044	1,286	1,553
-	-	-	-	-	-	-	-	3,004	3,294	3,590	4,310
13,398	15,605	19,475	23,136	-	-	-	-	13,398	15,605	19,475	23,136
-	-	-	-	4,415	4,551	3,800	3,266	4,492	4,642	3,954	3,398
-	-	-	-	-	-	-	-	437	496	626	720
-	-	-	-	-	-	-	-	165	155	201	241
-	-	-	-	-	-	-	-	283	277	316	380
-	-	-	-	-	-	-	-	206	273	327	405
7,687	6,920	7,344	8,237	-	-	-	-	7,687	6,920	7,344	8,237
35,550	38,788	45,627	53,963	4,415	4,551	3,800	3,266	53,703*	59,290	69,294	80,917

Table 7 BUSINESS TRAVEL CELL POPULATION PROJECTIONS

1950, 1955, 1965,1975

		FAMILY INCOME	PROFESSIONAL, TECHNICAL				MANAGERIAL, PROPRIETOR			
			1950	1955	1965	1975	1950	1955	1965	1975
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	8	4	3	2	12	10	5	3
		$3,000 - $5,999	19	22	24	15	16	20	16	12
		$6,000 - $9,999	5	9	19	26	6	7	10	15
		Over $10,000	3	6	14	21	8	6	9	12
	MANUFACTURING	Under $3,000	120	52	62	40	141	125	95	61
		$3,000 - $5,999	369	307	424	301	246	230	252	241
		$6,000 - $9,999	123	290	575	664	161	210	278	323
		Over $10,000	15	133	479	887	138	132	279	486
	GOVERNMENT	Under $3,000	85	13	9	5	73	36	15	8
		$3,000 - $5,999	188	143	112	63	122	110	64	47
		$6,000 - $9,999	48	127	154	168	33	94	73	80
		Over $10,000	12	48	112	197	5	48	61	103
	BUSINESS SERVICE	Under $3,000	30	22	41	29	16	21	16	13
		$3,000 - $5,999	87	62	140	112	25	19	24	27
		$6,000 - $9,999	22	49	141	173	10	14	19	22
		Over $10,000	9	36	148	249	12	17	26	40
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	29	15	15	12	80	57	51	40
		$3,000 - $5,999	69	79	80	55	112	140	135	109
		$6,000 - $9,999	28	55	98	120	65	100	150	183
		Over $10,000	8	14	56	109	39	54	120	208
	WHOLESALE, RETAIL	Under $3,000	49	24	26	21	942	520	375	296
		$3,000 - $5,999	87	111	125	88	904	1,060	893	752
		$6,000 - $9,999	38	95	154	174	350	900	994	1,122
		Over $10,000	15	27	95	187	194	508	893	1,532
	PERSONAL SERVICE	Under $3,000	55	25	43	42	116	77	75	73
		$3,000 - $5,999	27	44	78	64	63	74	82	80
		$6,000 - $9,999	11	19	56	83	13	31	53	79
		Over $10,000	3	6	31	60	14	15	35	63
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	14	4	8	7	92	36	25	18
		$3,000 - $5,999	27	25	46	32	132	106	77	67
		$6,000 - $9,999	10	33	91	86	68	140	134	125
		Over $10,000	4	15	86	154	45	130	198	314
	PROFESSIONAL SERVICE	Under $3,000	1,525	187	137	108	44	15	19	15
		$3,000 - $5,999	986	1,256	860	600	40	40	52	45
		$6,000 - $9,999	219	1,139	1,205	1,344	21	35	67	74
		Over $10,000	148	570	1,130	1,948	13	42	106	159
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		52	68	112	96	19	18	32	27
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		143	170	252	290	284	305	349	402
	REPAIR SERVICE		5	9	25	29	146	132	158	190
	AMUSEMENT, RECREATION		158	151	167	200	111	110	126	152
	PRINTING, PUBLISHING		89	80	95	118	70	70	80	99
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
	GRAND TOTAL (Survey Population)		4,942	5,544	7,528	8,979	5,001	5,814	6,521	7,717

* Includes 255 industries not reported.

Population of Business Travel Cells: Occupation x Industry x Income–

(Thousands)

SALES				CLERICAL, LABOR				FARM: OWNERS, MANAGERS AND FOREMEN				TOTAL OCCUPATION			
1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975
-	-	-	-	-	-	-	-	-	-	-	-	20	14	8	5
-	-	-	-	-	-	-	-	-	-	-	-	35	42	40	27
-	-	-	-	-	-	-	-	-	-	-	-	11	16	29	41
-	-	-	-	-	-	-	-	-	-	-	-	11	12	23	33
87	34	26	22	-	-	-	-	-	-	-	-	348	211	183	123
133	112	98	108	-	-	-	-	-	-	-	-	748	649	774	650
43	85	104	175	-	-	-	-	-	-	-	-	327	585	957	1,162
24	23	62	167	-	-	-	-	-	-	-	-	177	288	820	1,540
1	-	-	-	-	-	-	-	-	-	-	-	159	49	24	13
-	6	7	8	-	-	-	-	-	-	-	-	310	259	183	118
-	-	-	-	-	-	-	-	-	-	-	-	81	221	227	248
-	-	-	-	-	-	-	-	-	-	-	-	17	96	173	300
8	11	7	5	-	-	-	-	-	-	-	-	54	54	64	47
14	16	13	13	-	-	-	-	-	-	-	-	126	97	177	152
2	14	10	13	-	-	-	-	-	-	-	-	34	77	170	208
2	10	8	15	-	-	-	-	-	-	-	-	23	63	182	304
-	-	-	-	14,465	16,263	18,808	22,590	-	-	-	-	14,465	16,263	18,808	22,590
4	2	2	2	-	-	-	-	-	-	-	-	113	74	68	54
5	5	8	6	-	-	-	-	-	-	-	-	186	224	223	170
-	4	8	10	-	-	-	-	-	-	-	-	93	159	256	313
-	1	4	8	-	-	-	-	-	-	-	-	47	69	180	325
1,705	584	527	416	-	-	-	-	-	-	-	-	2,696	1,128	928	733
752	1,540	1,545	1,216	-	-	-	-	-	-	-	-	1,743	2,711	2,563	2,056
144	1,080	1,595	1,952	-	-	-	-	-	-	-	-	532	2,075	2,743	3,248
45	298	877	1,749	-	-	-	-	-	-	-	-	254	833	1,865	3,468
17	9	16	15	-	-	-	-	-	-	-	-	188	111	134	130
4	11	21	20	-	-	-	-	-	-	-	-	94	129	181	164
2	3	12	21	-	-	-	-	-	-	-	-	26	53	121	183
1	1	5	9	-	-	-	-	-	-	-	-	18	22	71	132
149	53	39	29	-	-	-	-	-	-	-	-	255	93	72	54
206	204	154	124	-	-	-	-	-	-	-	-	365	335	277	223
67	215	234	242	-	-	-	-	-	-	-	-	145	388	459	453
26	83	194	355	-	-	-	-	-	-	-	-	75	228	478	823
7	1	1	1	-	-	-	-	-	-	-	-	1,576	203	157	124
1	4	4	3	-	-	-	-	-	-	-	-	1,027	1,300	916	648
-	4	6	6	-	-	-	-	-	-	-	-	240	1,178	1,278	1,424
-	1	3	7	-	-	-	-	-	-	-	-	161	613	1,239	2,114
-	-	-	-	13,398	15,605	19,475	23,136	-	-	-	-	13,398	15,605	19,475	23,136
6	5	10	9	-	-	-	-	4,415	4,551	3,800	3,266	4,492	4,642	3,954	3,398
10	21	25	28	-	-	-	-	-	-	-	-	437	496	626	720
14	14	18	22	-	-	-	-	-	-	-	-	165	155	201	241
14	16	23	28	-	-	-	-	-	-	-	-	283	277	316	380
47	123	152	188	-	-	-	-	-	-	-	-	206	273	327	405
-	-	-	-	7,687	6,920	7,344	8,237	-	-	-	-	7,687	6,920	7,344	8,237
3,540	4,593	5,818	6,992	35,550	38,788	45,627	53,963	4,415	4,551	3,800	3,266	53,703*	59,290	69,294	80,917

of Labor Statistics data, for each of the estimated years, and were adjusted to exclude those in the labor force under 18 years of age to make this grouping comparable to that of the survey, which likewise excluded this age category.

Because significant differences in travel characteristics were found to exist among that portion of the population in the professional, managerial, and sales occupations, when they were employed in different industries, these occupations were further cross-classified under each of the 14 industrial distributions. The clerical and labor occupations were cross-classified only under the three main divisions of industry: high travel, medium travel, and low travel, since the travel characteristics of these occupations did not vary substantially within each such industry group. The farm owners, managers, and foremen required cross-classification only within the agricultural, forestry, and fishing industries. The cross-classification of the labor force by occupation and industry resulted in 46 cells as shown in Table 6.

These 46 cells were then further cross-classified with income distribution in each cell by the same methods used in the personal travel cells. However, the "occupation by industry" cells of the clerk and labor occupational groups in all industrial classifications, and the professional, managerial, and sales occupational groups in the low travel industries were not broken into the four predetermined income groups because there was no significant difference in travel in these groups that appeard to be attributable to differences in income. This cross-classification of 46 "occupation by industry" cells by income groups resulted in the 130 "occupation by industry by income" cells relating to business travel, as shown in Table 7. These cells were separately used in calculating the forecast of *business* air travel for each estimated year.

B. *Air Travel Frequency Characteristics of Each Cell*

1. PERSONAL TRAVEL

From the National Travel Market Survey it was possible to determine the 1955 air travel frequency per capita of the popula-

tion reported by survey respondents of each of the 160 cells. In order to forecast future volumes of air travel, it was necessary to estimate the future travel frequency characteristics of each cell, which could then be applied to the future population of each of the cells to determine the number of trips made by the cell population in the estimated year. The following data derived from the survey, were used to estimate future travel frequency:

1. The number of people and percent of the total population in each cell who *had never flown before the beginning of the survey year.* These were designated as *"non-fliers."* Included in this group, also, are those who flew for the first time during the survey year.
2. The number of personal air trips per 1,000 "non-fliers."
3. The number of people and percent of the total population in each cell who *had flown prior to the survey year.* These were designated as *"fliers."*
4. The number of personal air trips per 1,000 "fliers."

The survey strongly indicates that the most significant reason for the constantly increasing volume of air trips recorded in the last few years has been the increase in the rate of acceptance of air as a mode of travel by former non-fliers. In order to take into account this continuing rate of acceptance and project its effect into the future, an "acceptance" or "learning" factor was developed for each cell, which measured the annual rate at which *non-fliers* become *fliers.* From the data collected in the survey it was possible to determine the proportion of each cell's population that was "non-flier" in 1955. This established one point on a curve used to measure the theoretical non-flier segment of the cell's population in any given year (before or after the survey year). A second point was established by going back in time to a year in which it might reasonably be assumed that *100% of the cell population was "non-fliers".* For most of the population cells it was assumed that 1935 was the year in which practically 100% of the population was "non-fliers". (That was the initial year of operation of the first efficient commercial air carrier, the DC-3, and was also the year in which sizeable increases in air travel were recorded.) Understandably, the only age group for which this assumption would not hold was the 18 to 24 age group, for most of them were born later than 1935. For this age

Table 8 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	Year	PROFESSIONAL, TECHNICAL, MANAGERIAL AND PROPRIETOR INCOME Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	CLERICAL, SALES, LABOR INCOME Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	HOUSEWIVES, STUDENTS, UNEMPLOYED INCOME Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000
18 - 24	Non-High	1950	4.1	2.4	0.5	-	156.4	50.1	1.9	0.6	81.3	2.2	0.1	0.3
	School	1955	2.4	5.6	2.6	-	96.4	187.2	50.1	6.4	40.6	132.2	6.6	37.1
	Graduates	1965	4.5	10.3	7.6	7.3	137.1	345.6	159.8	35.6	69.1	256.9	21.8	183.1
		1975	5.5	11.6	11.7	16.5	163.3	407.1	353.6	109.6	83.5	277.2	39.3	423.8
	High	1950	60.7	50.5	5.4	2.3	66.0	20.8	1.4	1.7	38.2	0.8	0.4	-
	School	1955	44.4	106.0	25.6	16.8	55.9	101.1	57.6	16.9	27.1	34.4	35.5	28.8
	Graduates	1965	114.2	185.0	74.0	50.5	168.0	314.9	289.1	124.0	65.8	94.3	103.0	187.3
		1975	152.5	226.3	123.6	125.1	247.8	475.3	772.9	417.0	95.8	127.5	196.9	647.5
25 - 44	Non-High	1950	13.7	33.9	18.8	25.8	135.5	147.2	24.4	18.7	166.0	4.7	0.9	1.4
	School	1955	6.3	38.6	55.4	66.8	55.8	268.4	182.0	208.1	61.0	101.6	86.4	50.7
	Graduates	1965	5.1	34.7	84.0	146.7	40.0	274.7	339.5	751.6	50.7	156.8	162.2	157.6
		1975	4.7	33.1	118.6	266.6	31.3	259.1	614.0	1,385.8	56.1	259.7	294.1	466.3
	High	1950	35.3	149.6	140.4	85.6	52.0	94.9	29.9	22.7	61.7	6.7	2.5	2.0
	School	1955	19.0	194.2	397.4	226.3	19.2	176.8	296.0	217.2	26.6	234.6	125.2	71.0
	Graduates	1965	18.1	178.5	546.9	504.3	26.0	158.1	461.3	700.9	49.3	282.4	303.4	199.0
		1975	17.7	176.0	657.3	926.0	52.9	225.6	655.4	2,036.0	77.4	230.7	619.6	171.9
45 - 64	Non-High	1950	5.4	17.9	15.6	14.4	97.1	48.3	25.1	8.5	111.5	7.4	1.7	1.6
	School	1955	2.2	18.3	38.9	36.8	33.2	86.4	217.1	53.9	37.7	148.2	131.6	51.4
	Graduates	1965	1.4	15.9	56.5	72.1	31.3	143.5	587.1	239.8	26.5	133.1	181.8	139.4
		1975	1.3	15.5	65.3	111.7	27.4	158.1	1,041.3	572.6	23.2	111.5	272.6	278.5
	High	1950	7.3	28.6	43.5	104.8	6.4	63.1	6.5	6.1	26.5	3.1	3.6	6.5
	School	1955	3.3	32.2	113.8	250.4	2.1	133.7	60.9	46.4	8.3	67.2	394.1	184.2
	Graduates	1965	10.1	46.2	204.8	560.7	6.2	323.0	210.1	319.5	18.8	55.2	879.2	463.0
		1975	12.0	44.5	241.0	852.0	6.4	309.5	352.7	643.8	21.4	54.1	1,289.8	834.6
65 and Over	Non-High	1950	-	-	-	-	-	-	-	-	53.9	4.1	1.6	1.8
	School	1955	-	-	-	-	-	-	-	-	15.1	65.9	92.3	79.8
	Graduates	1965	-	-	-	-	-	-	-	-	21.2	74.0	123.6	158.2
		1975	-	-	-	-	-	-	-	-	23.0	67.3	193.4	339.5
	High	1950	-	12.8	9.0	13.0	-	-	-	-	4.4	1.6	0.8	0.4
	School	1955	-	20.3	26.0	45.0	-	-	-	-	1.3	28.5	25.7	23.0
	Graduates	1965	-	23.3	67.0	257.0	-	-	-	-	1.7	32.3	171.6	312.7
		1975	-	17.3	68.0	308.0	-	-	-	-	1.9	30.9	264.8	639.3
TOTAL - Over 18	TOTAL Non-High	1950	23.2	54.2	35.0	40.2	389.0	245.6	51.3	27.8	412.7	18.5	4.3	5.0
	School	1955	10.9	62.5	96.9	103.6	185.3	542.0	449.2	268.3	154.4	447.9	316.9	218.9
	Graduates	1965	11.0	60.9	148.0	226.0	208.5	763.9	1,086.4	1,027.0	167.6	620.8	489.4	638.3
		1975	11.4	60.2	195.5	394.8	222.1	824.3	2,008.9	2,067.9	185.7	715.8	799.3	1,508.1
	TOTAL High	1950	103.3	241.5	198.3	205.8	124.4	178.8	37.7	30.6	130.8	12.1	7.2	8.9
	School	1955	66.8	352.7	562.9	538.5	77.2	411.6	414.4	280.5	63.3	364.6	580.4	306.9
	Graduates	1965	142.5	432.9	892.8	1,372.5	200.1	796.0	960.5	1,144.3	135.6	464.1	1,457.2	1,161.9
		1975	182.2	464.1	1,089.9	2,211.0	307.1	1,010.4	1,781.0	3,096.8	196.6	443.1	2,371.0	2,293.3
GRAND TOTAL (Survey Population)		1950	126.5	295.7	233.2	246.0	513.3	424.4	89.1	58.4	543.5	30.6	11.5	13.9
		1955	77.6	415.1	659.7	642.1	262.5	953.5	863.5	548.9	217.8	812.5	897.3	525.8
		1965	153.4	493.8	1,040.8	1,598.4	408.6	1,559.9	2,046.9	2,171.3	303.2	1,084.9	1,946.6	1,800.2
		1975	193.6	524.3	1,285.4	2,605.8	529.2	1,834.6	3,789.9	5,164.7	382.3	1,158.9	3,170.3	3,801.4

Note: Figures may not add to exact totals because of rounding.

Number of Personal Air Trips—1950, 1955, 1965, 1975 (Thousands of Round Trips)

FARM: OWNERS, MANAGERS AND FOREMEN				RETIRED				TOTAL OCCUPATION				
INCOME				INCOME				INCOME				
Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	Under $3,000	$3,000-$5,999	$6,000-$9,999	Over $10,000	GRAND TOTAL
-	7.5	0.3	-	-	-	-	-	241.7	62.2	2.8	0.9	307.6
-	10.8	0.4	-	-	-	-	-	139.4	335.8	99.7	43.5	578.3
-	41.9	0.6	-	-	-	-	-	210.8	654.8	189.8	226.0	1,281.3
-	38.6	0.8	-	-	-	-	-	252.3	734.5	405.3	549.9	1,942.0
-	0.4	-	-	-	-	-	-	164.9	72.5	7.1	4.0	248.5
-	0.9	-	-	-	-	-	-	127.5	242.4	118.7	62.5	551.0
-	3.8	-	-	-	-	-	-	348.0	598.0	466.1	361.7	1,773.8
-	4.5	-	-	-	-	-	-	496.2	833.5	1,093.4	1,189.6	3,612.6
10.7	10.3	10.1	-	-	-	-	-	325.9	196.1	54.1	45.9	622.1
13.0	14.1	15.1	-	-	-	-	-	136.1	422.5	338.9	325.5	1,223.0
10.0	21.4	18.9	-	-	-	-	-	105.8	487.6	604.5	1,055.9	2,253.8
7.5	31.5	34.0	-	-	-	-	-	99.5	583.4	1,060.7	2,118.6	3,862.3
1.7	2.1	2.4	-	-	-	-	-	150.7	253.4	175.2	110.2	689.5
2.0	3.9	4.0	-	-	-	-	-	66.8	609.5	822.5	514.5	2,013.4
1.9	4.8	2.9	-	-	-	-	-	95.3	623.8	1,314.5	1,404.1	3,437.7
3.8	12.1	4.3	-	-	-	-	-	151.8	644.4	1,936.7	3,133.9	5,866.9
7.4	5.6	4.1	-	-	-	-	-	221.3	79.2	46.5	24.5	371.5
8.1	7.9	5.5	-	-	-	-	-	81.2	260.8	393.0	142.0	877.0
9.4	8.6	6.9	-	-	-	-	-	68.6	301.1	832.2	451.3	1,653.2
11.1	10.3	8.2	-	-	-	-	-	63.0	295.4	1,387.3	962.7	2,708.5
-	0.8	1.8	6.4	-	-	-	-	40.2	95.6	55.4	123.9	315.1
-	1.1	3.8	10.6	-	-	-	-	13.7	234.1	572.6	491.6	1,312.0
1.0	2.3	4.7	14.3	-	-	-	-	36.1	426.6	1,298.8	1,357.5	3,119.1
1.3	3.3	4.6	34.6	-	-	-	-	41.1	411.4	1,888.0	2,365.0	4,705.5
-	-	-	-	68.1	18.6	8.6	3.8	122.0	22.7	10.2	5.6	160.4
-	-	-	-	85.3	30.0	13.2	3.7	100.4	95.9	105.5	83.5	385.2
-	-	-	-	159.5	47.7	16.6	17.8	180.7	121.7	140.2	176.0	618.6
-	-	-	-	213.9	117.7	48.3	24.7	236.9	185.0	241.7	364.2	1,027.7
-	-	-	-	16.3	3.9	2.0	5.5	20.7	18.2	11.8	18.9	69.6
-	-	-	-	22.8	7.9	3.8	7.5	24.1	56.6	55.5	75.5	211.6
-	-	-	-	56.5	10.0	7.4	23.5	58.2	65.5	246.0	593.2	962.8
-	-	-	-	77.6	24.5	19.0	30.0	79.5	72.7	351.8	977.3	1,481.2
18.1	23.4	14.4	-	68.1	18.6	8.6	3.8	911.0	360.2	113.6	76.8	1,461.6
21.1	32.8	21.0	-	85.3	30.0	13.2	3.7	457.0	1,115.1	897.0	594.5	3,063.6
19.3	71.9	26.4	-	159.5	47.7	16.6	17.8	565.9	1,565.2	1,766.8	1,909.1	5,806.9
18.6	80.4	43.0	-	213.9	117.7	48.3	24.7	651.7	1,798.4	3,095.0	3,995.4	9,540.5
1.7	3.3	4.2	6.4	16.3	3.9	2.0	5.5	376.5	439.6	249.4	257.2	1,322.7
2.0	6.0	7.8	10.6	22.8	7.9	3.8	7.5	232.0	1,142.6	1,569.3	1,144.1	4,088.0
3.0	10.9	7.6	14.3	56.5	10.0	7.4	23.5	537.6	1,713.8	3,325.4	3,716.5	9,293.4
5.2	19.9	9.0	34.6	77.6	24.5	19.0	30.0	768.6	1,961.9	5,269.9	7,665.7	15,666.2
19.7	26.7	18.6	6.4	84.4	22.4	10.6	9.3	1,287.5	799.8	363.0	334.0	2,784.3
23.1	38.7	28.8	10.6	108.1	37.9	17.0	11.2	689.0	2,257.7	2,466.3	1,738.6	7,151.6
22.3	82.8	34.0	14.3	216.1	57.7	24.0	41.3	1,103.5	3,279.0	5,092.2	5,625.1	15,100.3
23.7	100.3	52.0	34.6	291.5	142.2	67.3	54.7	1,420.3	3,760.3	8,364.9	11,661.2	25,206.7

group in 1955, the first postwar year, 1945, was chosen as the year in which 100% were "non-fliers." For this age group in the future population, the year of their birth was taken as the base year.

By connecting these two plotted points for each cell—the 1955 proportion of "non-fliers," and 100% in the base year (either 1935, 1945, or year of birth)—on semi-logarithmic graph paper, and extending this assumed growth-curve into the future to 1975, it was possible to estimate from the chart the proportion of the population in each cell that would be "non-fliers" at any future or past point in time. The difference between the percentage of "non-fliers" at any date and 100%, therefore, would be the estimated percent of the cell population who were "fliers" on that date. This technique assumes that the "non-flier" proportion of the population in each cell decreases at a constant rate from the first year of their exposure to commercial aviation to the year 1955 when the survey was completed, and will so continue to some future point in time when (by arbitrary limitation) only 10% of the population in any cell may still remain "non-fliers". For example, the survey indicated that in 1955, 35% of the professional and managerial group, aged 25 to 44, earning between $6,000 and $9,999, high school graduates, were "non-fliers" (or, conversely 65% were "fliers"). By 1965, based on the "acceptance" curve plotted for this cell, 22% of the population will not have flown (or, 78% will be "fliers"), and by 1975 only 12% will still be "non-fliers".[8]

2. BUSINESS TRAVEL

The National Travel Market Survey results indicate that the business traveler had apparently already completed the "learning process" by 1955 since only a relatively few of the business travelers had taken their first air trip during the survey year. Therefore no distinction was made between the *business* air travel characteristics of "fliers" and "non-fliers". The 1955 business air travel frequency characteristics were ascertained for the

[8] See Appendix 7.0 for illustration of this technique.

total population of each business-cell by computing the average number of business air trips during 1955 per 1,000 population of the cell. Although no "learning factor" was applied to business travel, it was assumed that the frequency of air travel per 1,000 population in each cell would nevertheless continue to increase at an arithmetic rate equal to the average annual rate of growth during the period 1935 to 1955. This rate of increase was determined by assuming that during the base year of 1935, the first business trips were taken.

Connecting this "zero" point in 1935 and the point representing the average number of business trips per 1,000 found in 1955, yielded a trend describing the estimated rate of change in the frequency of business air travel per capita for the cell. For example, in 1955, professionals, in the manufacturing industry, earning between $3,000 and $5,999, took 600 trips per 1,000. On the basis of the above estimate, they made 450 trips per 1,000 in 1950 and are expected to make 900 trips per 1,000 by 1965 and 1,200 per 1,000 by 1975.[9]

C. *Forecast of Domestic Air Travel, 1965 and 1975*

1. PERSONAL TRAVEL

After developing the proportions of "fliers" and "non-fliers" in each cell, the population of each cell falling into each of these categories was computed for 1965 and 1975. That portion of the cell population estimated to be "fliers" in the future year was assumed to have the same traveling frequency per capita as did the "fliers" found in the National Travel Market Survey in 1955. The total number of air trips per cell, therefore, was calculated by adding:[10]

Trips by "Fliers" = Number of "fliers" X the average number of trips per "flier"

plus

Trips by "Non-Fliers" = Number of "non-fliers" X the average number of trips per "non-flier"

9 See Appendix 8.0 for illustration of this technique.

10 See Appendix 9.0 to 9.12.

Table 9 BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

			PROFESSIONAL, TECHNICAL				MANAGERIAL, PROPRIETOR			
			1950	1955	1965	1975	1950	1955	1965	1975
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	-	-	-	-	6.1	10.0	11.5	11.8
		$6,000 - $9,999	2.3	5.4	16.9	30.7	4.5	7.0	15.0	30.0
		Over $10,000	2.3	6.0	21.0	42.0	30.4	30.0	64.8	117.6
	MANUFACTURING	Under $3,000	33.0	17.3	31.0	27.0	28.2	31.3	36.1	30.5
		$3,000 - $5,999	166.1	184.2	381.6	355.2	61.5	71.8	113.4	144.6
		$6,000 - $9,999	73.8	226.5	678.5	916.3	72.5	126.0	250.2	381.1
		Over $10,000	22.5	266.0	1437.0	3548.0	1028.1	1309.0	4073.4	9331.2
	GOVERNMENT	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	43.2	42.9	48.2	37.2	46.4	55.0	46.7	46.5
		$6,000 - $9,999	10.6	37.1	63.1	90.7	72.6	273.4	313.9	480.0
		Over $10,000	7.4	38.4	134.4	315.2	15.0	192.0	366.0	803.4
	BUSINESS SERVICE	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	7.0	6.2	16.8	20.2	9.5	9.5	18.0	26.5
		$6,000 - $9,999	24.9	73.5	315.8	519.0	7.5	14.0	28.5	44.0
		Over $10,000	20.3	108.0	666.0	1444.2	18.0	34.0	78.0	160.0
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	51.8	79.0	120.0	110.0	-	-	-	-
		$6,000 - $9,999	8.4	22.0	58.8	93.6	2.3	5.3	9.9	15.5
		Over $10,000	3.0	7.0	40.6	106.8	19.9	36.9	120.0	274.6
	WHOLESALE, RETAIL	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	-	-	-	-	45.2	73.1	89.3	105.3
		$6,000 - $9,999	28.5	95.0	231.0	348.0	50.8	150.3	238.6	359.0
		Over $10,000	45.0	108.0	570.0	1458.6	145.5	508.0	1339.5	3064.0
	PERSONAL SERVICE	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	-	-	-	-	6.0	8.9	13.5	16.0
		$6,000 - $9,999	.9	1.9	7.4	13.9	1.6	4.7	11.9	23.7
		Over $10,000	.4	.9	7.0	18.0	2.1	2.6	8.8	22.0
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	4.1	5.0	13.8	12.8	9.9	10.6	10.2	11.2
		$6,000 - $9,999	3.0	13.2	54.6	67.1	10.2	28.0	35.6	41.7
		Over $10,000	1.8	9.0	76.5	181.7	20.3	78.0	178.2	376.8
	PROFESSIONAL SERVICE	Under $3,000	-	-	-	-	-	-	-	-
		$3,000 - $5,999	164.7	280.1	258.0	240.0	8.0	10.0	19.8	22.5
		$6,000 - $9,999	49.3	341.7	542.3	779.5	5.8	11.6	33.5	50.0
		Over $10,000	78.4	393.3	1163.9	2688.2	12.4	52.5	201.4	397.5
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		26.0	45.4	110.9	125.8	-	-	-	-
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		25.0	37.7	78.1	118.9	21.3	27.8	41.9	70.4
	REPAIR SERVICE		-	-	-	-	-	-	-	-
	AMUSEMENT, RECREATION		-	-	-	-	-	-	-	-
	PRINTING, PUBLISHING		23.1	26.6	48.5	80.2	14.0	17.5	31.2	49.5
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-	-	-
	GRAND TOTAL (Survey Population)		926.5	2477.3	7191.7	13788.8	1775.3	3188.8	7798.8	16506.9

Note: Figures may not add to exact totals because of rounding.

Number of Business Air Trips—1950, 1955, 1965, 1975 (Thousands of Round Trips)

SALES				CLERICAL, LABOR				FARM: OWNERS, MANAGERS, AND FOREMEN				TOTAL OCCUPATION			
1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975	1950	1955	1965	1975
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	6.1	10.0	11.5	11.8
-	-	-	-	-	-	-	-	-	-	-	-	6.8	12.4	31.9	60.7
-	-	-	-	-	-	-	-	-	-	-	-	32.7	36.0	85.8	159.6
-	-	-	-	-	-	-	-	-	-	-	-	61.2	48.6	67.1	57.5
99.8	112.0	147.0	216.0	-	-	-	-	-	-	-	-	327.4	368.0	642.0	715.8
35.3	92.7	166.4	358.7	-	-	-	-	-	-	-	-	181.6	445.2	1095.1	1656.1
120.0	149.5	607.6	2171.0	-	-	-	-	-	-	-	-	1170.6	1724.5	6118.0	15050.2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	89.6	97.9	94.9	83.7
-	-	-	-	-	-	-	-	-	-	-	-	83.2	310.5	377.0	570.7
-	-	-	-	-	-	-	-	-	-	-	-	22.4	230.4	500.4	1118.6
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	16.5	15.7	34.8	46.7
-	-	-	-	-	-	-	-	-	-	-	-	32.4	87.5	344.3	563.0
-	-	-	-	-	-	-	-	-	-	-	-	38.3	142.0	744.0	1604.2
-	-	-	-	723.3	975.8	1880.8	3049.7	-	-	-	-	723.3	975.8	1880.8	3049.7
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	51.8	79.0	120.0	110.0
-	-	-	-	-	-	-	-	-	-	-	-	10.7	27.3	68.7	109.1
-	-	-	-	-	-	-	-	-	-	-	-	22.9	43.9	160.6	381.4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8	64.7	92.7	97.3	-	-	-	-	-	-	-	-	70.0	137.8	182.0	202.6
40.3	368.3	829.4	1366.4	-	-	-	-	-	-	-	-	119.6	613.6	1299.0	2073.4
6.8	59.6	233.3	584.2	-	-	-	-	-	-	-	-	197.3	675.6	2142.8	5106.8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	6.0	8.9	13.5	16.0
-	-	-	-	-	-	-	-	-	-	-	-	2.5	6.6	19.3	37.6
-	-	-	-	-	-	-	-	-	-	-	-	2.5	3.5	15.8	40.0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.8	29.2	33.9	37.2	-	-	-	-	-	-	-	-	39.8	44.8	57.9	61.2
8.4	32.2	52.6	72.6	-	-	-	-	-	-	-	-	21.6	73.4	142.8	181.4
3.3	12.5	43.7	106.5	-	-	-	-	-	-	-	-	25.4	99.5	298.4	665.0
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	172.7	290.1	277.8	262.5
-	-	-	-	-	-	-	-	-	-	-	-	55.1	353.3	575.8	829.5
-	-	-	-	-	-	-	-	-	-	-	-	90.8	445.8	1365.3	3085.7
-	-	-	-	221.1	343.3	623.2	1018.0	-	-	-	-	221.1	343.3	623.2	1018.0
-	-	-	-	-	-	-	-	36.1	64.2	129.4	226.4	62.1	109.6	240.3	352.2
-	-	-	-	-	-	-	-	-	-	-	-	46.3	65.5	120.0	189.3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	37.1	44.1	79.7	129.7
-	-	-	-	57.7	69.2	110.2	164.7	-	-	-	-	57.7	69.2	110.2	164.7
364.3	920.7	2206.6	5009.9	1002.0	1388.3	2614.2	4232.4	36.1	64.2	129.4	226.4	4104.1	8039.3	19940.7	39764.4

2. BUSINESS TRAVEL

As explained previously, no "acceptance factor" for business travelers was estimated; it was assumed that those who must make business trips had "learned to fly" by 1955. Therefore, to estimate future business air trips it was necessary only to multiply the population of each cell by the trips per capita determined for that cell in 1955, as increased for the forecast year in accordance with the estimated arithmetic rate of growth in frequency of trips per capita indicated during the past 20 years.[11]

3. FORECAST

By summarizing the estimated future air trips calculated for each of the personal and business cells, estimated by the methods outlined above, as shown in Tables 8 and 9, a forecast of air trips by the "survey population" is obtained. In order to estimate *total* future trips made by the *total* future population, the forecast obtained from the "survey population" was expanded by using the comparisons between "enplaned passengers" in 1950 and 1955 as reported by the Civil Aeronautics Administration and estimated trips accounted for by the "survey population" in those years, as fully explained in Section IV.

The forecast for 1965 and 1975 was obtained as follows:

	1965	*1975*
Estimated *round trips* by "survey population"		
Personal	15,100,000	25,207,000
Business	19,941,000	39,764,000
Total *round trips*	35,041,000	64,971,000
Total *trips* by "survey population" (round trips doubled)	70,082,000	129,942,000
Forecast (128.3% of total trips by "survey population")	90,000,000	167,000,000

[11] See Appendix 10.0, 10.1.

Section IV

TEST OF RELIABILITY

Until future National Travel Market Surveys determine more accurately the trends of growth rates in the several segments of the air travel market, it is not possible to confirm the accuracy of growth rates used to project the air travel frequency of the population of each of the 290 cells used in the forecast. The measurements and techniques can, however, be tested over-all by applying them "in reverse" to determine their composite difference from the traffic levels actually experienced in past periods. To this end, the methods used in estimating the future volume of air travel were applied "in reverse" to 1950 and 1955 and results were compared with the air travel volumes reported by the C.A.A. for those years. The comparison seems to confirm the accuracy of the assumptions and methods with respect to growth trends during this five-year period, and gives confidence to the basic reasonableness of the procedures used to estimate the future market.

To conduct this test it was necessary to determine the population of each of the 290 population cells in 1950 and 1955 and to estimate the air travel characteristics of the population of each cell during the same year. Then, by following the methods of air trip calculation used in the forecast, as described in the foregoing sections, it was possible to estimate the number of air trips made by the "survey population" in each year.

The 1950 population was supplied by the Bureau of the Census distributed in form to meet the survey classifications. In order to make this distribution directly comparable with the 1955 "survey population", an adjustment was made in the reported income distribution to make it comparable with 1955 purchasing power.[12]

Cell populations for 1955 were computed from data by the

[12] See Table 5 (page 40) and Table 7 (page 45).

Census Bureau, Bureau of Labor Statistics, and other sources.[13]

As explained in Section III, an "acceptance curve" was constructed for each *personal* travel cell, and a "travel frequency curve" for each *business* travel cell. From these curves the estimated proportion of "fliers" and "non-fliers" could be determined for each year for each *personal* travel cell, and the frequency of business trips per capita could be determined for each year for each *business* travel cell. By applying these readings for 1950 and 1955 to the population distributions, it was possible to determine the estimated number of trips to be accounted for by the "survey population" of these years.[14]

Since the resulting estimates of air trips refer to the "survey population" only, they explicitly exclude trips made by those components of the population that were excluded from the survey: children under 18; armed forces living on post; persons living in hotels, boarding houses, schools and other institutions; foreigners traveling in the U.S.; and other special groups.

On the other hand, the C.A.A. reports of "enplaned passengers", used as the control for 1950 and 1955 estimates, include a substantial duplication of "trips" as defined herein, since passengers transferring from one airline to another, or interrupting a single trip by a stop-over enroute, may be counted twice in the C.A.A. reports. These reports exclude non-scheduled airline passengers, but were adjusted in the present report to compensate for this omission.

Comparison of 1950 and 1955 estimates with C.A.A. reports of "enplaned passengers" for these years, follows:

Estimated trips by "survey population"	*1950*	*1955*
Personal	5,569,000	14,303,000
Business	8,208,000	16,079,000
Total	13,777,000	30,382,000
"Enplaned passengers" reported by C.A.A. (adjusted to include non-scheduled passengers)	17,806,000	38,665,000
Per cent of reported "enplaned passengers" of estimated trips by "survey population"	129.2%	127.3%

[13] See Table 5 (p. 40) and Table 7 (p. 45). [14] See Appendix 11.0 to 11.12 and 12.0, 12.1.

The close comparability of the ratio of reported "enplaned passengers" to estimated trips by the survey population in the two years seems to confirm the accuracy of the forecast methods as a basis for measuring the growth rates of the total air travel market in terms of air trips taken by the "survey population". If, therefore, the estimates for 1950 and 1955 were expanded by 28.3%, representing the average net differences attributable to trips taken by population groups excluded from the "survey population" and duplications of trips included in "enplaned passenger" reports, the variance between the estimates and reports in this is less than one percentage point of the reported totals of "enplaned passengers".

The assumptions, methods, and measurements used in the development of the forecast therefore appear to be reliable in the light of conditions and air traffic growth experienced during the last five years and may be considered as reasonable means for evaluating the future air travel market on the assumption that future changes in aviation will continue to develop the market at rates commensurate with those experienced between 1950 and 1955.

Section V

EFFECT OF CHANGES IN BASIC ASSUMPTIONS

This forecast is based on the set of assumptions stated in the Introduction. Material changes in any of these assumptions would affect the forecast in some degree. An evaluation of certain reasonable changes in the assumptions follows, to indicate the sensitivity of the forecast to presently unforeseen material changes.

A. *Changes in Estimated Frequency of Air Trips in Business Travel Cells*

The forecast assumes that the number of business trips per 1,000 population of each business cell of the "survey population" will increase at the same average arithmetic rate assumed during the period 1935-1955. This assumption takes into account the fact that air travel in 1955 accounted for only 60% of the total business travel by common carrier, and that as air service improves and as younger generations, who are accustomed to air travel, take the place of their more conservative elders in the business world, there will be a gradual transition from rail or bus to air travel. In addition, the market for business travel will continue to increase without foreseeable limit.

If it were assumed that the present frequency of air trips per 1,000 population in all business cells remained constant throughout the next 20 years, the forecast for 1965 would be reduced from 90,000,000 trips to 72,700,000, or 19%; and the estimate for 1975 would be reduced from 167,000,000 to 116,000,000, a reduction of approximately 30%. On the other hand, if the growth rate of business travel increases during the next 20 years at a rate appreciably faster than that anticipated in the assumptions, corresponding major increases in business travel volume would result.

B. *Changes in Estimated "Rate of Acceptance" in Personal Travel Cells*

This forecast assumes that the proportion of "fliers" in the population in each of the 160 personal travel cells will increase, at a constant rate, to an arbitrary maximum limit of 90% of the total population of the cell. As more and more "non-fliers" take their first air trip, and thus by definition become "fliers", it has been assumed that the frequency of air trips per 1,000 of such new fliers will be the same as that of the "fliers" of the 1955 "survey population".

If the proportion of "fliers" and "non-fliers" in each personal cell were to remain constant, and the frequency of air trips per 1,000 population of each cell were not to change during the period of the forecast, the estimated number of air trips in 1965 would be reduced from 90,000,000 to 82,100,000, or 9%; and in 1975 the forecast would be reduced from 167,000,000 to 149,200,000, or 21%.

On the other hand, if, as may reasonably be expected, the frequency of personal air travel per 1,000 population were assumed to increase over the course of time, the effect would be to increase the forecast to a similar degree. If this rate in frequency per 1,000 of population were to increase annually at the arithmetic rate assumed for the period 1935-1955, the estimate of personal air trips would be 20% greater than that forecast for 1965, and 46% greater than the forecast for 1975. In 1965 this would represent an increase of 7,500,000 trips, or 8% increase in the total forecast, and by 1975 the increase would amount to 29,400,000, or 18% over the present forecast.

C. *Change in the Annual Rate of Growth of National Income*

The forecast assumes an average annual increase in national income of 3% during the period 1955-1965 and approximately 3¾% during the succeeding ten-year period. (See Appendix 5.1)

If the annual growth rate during the entire twenty-year period were raised to 4%, the effect on the estimate would be to increase the 1965 forecast from 90,000,000 to 97,300,000 air trips, or 8%; and in 1975, from 167,000,000 to 185,700,000, or approximately 11%.

Section VI

FORECASTS OBTAINED BY USING ALTERNATIVE METHODS

In order to compare the results of this newly-developed technique of forecasting with other established forecasting methods, projections of air passenger volumes for 1965 and 1975 were made by using the "National Income" method formerly employed in our projections, and a "City Analysis" approach, explained below.

A. *National Income Method*

Essentially, this method centers upon the relationship between total inter-city common carrier traffic and national income. The relationship between these two factors yields an estimate of total U. S. inter-city common carrier passenger-miles. By estimating air's share of total inter-city common carrier passenger-miles, total air passenger-miles are computed. By applying the estimated average length of air trips to total air passenger-miles, estimated passenger-miles may be translated into total air passenger trips.

B. *City Analysis Approach*

This approach was undertaken to study and project the relationship between a city's population and the air passenger traffic it generates. In 1955 it was found that 90% of the total domestic air passenger traffic was generated by 87 cities or metropolitan areas. A similar study of the same 87 cities in 1953 and 1950 indicated that they also represented 90% of the total traffic generated in those years. The air trips generated by each city were then related to its population for each of these three periods to yield a series of passenger-population ratios. By pro-

jecting population for these areas to 1965 and 1975, and applying the projected passenger-population ratio, total air passenger volumes were computed for each city or metropolitan area. For a few of these cities the passenger-population index was adjusted because it appeared that the trend between the three periods studied was grossly abnormal.

C. *Comparison*

A comparison of the forecasts made by other methods with the forecast developed by the new market analysis technique is shown below:

	Market Analysis Technique	*National Income Method*	*City Analysis Approach*
U. S.			
1965	90,000,000	78,000,000	90,000,000
1975	167,000,000	121,600,000	177,000,000
Port Authority Airports (23%)			
1965	21,000,000	18,000,000	21,000,000
1975	38,000,000	27,000,000	40,700,000

APPENDIX

Appendix 1.0

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

Survey Research Center
University of Michigan

October 1955
Study 635

ADULTS List here all adults in Dwelling Unit (age 18 or over):

No.	Relation to Head	Check Respondent	A Age	B Sex	C Marital Status
1	HEAD			M F	M S
2	Wife of Head (Omit line if head not married)			F	M S
3		X		M F	M S
4		X		M F	M S
5		X		M F	M S

CHILDREN List here all children in family (age 17 or less):
(include children away at school or college)

1	X		M F	
2	X		M F	
3	X		M F	
4	X		M F	
5	X		M F	
6	X		M F	

For each person including children ask:

A. How old is ... ?

B. Sex (if age 15 or over)

C. Is ... married now? (if age 18 or over)

[Check M if married, S if single]

Appendix 1.0 *(Cont'd)*

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

Ask Q. T1-T5 about head and about each additional adult who works regularly

		Employed family members (18 or over) (Fill in relation to head and also the number used for this person on the record sheets.)		
		Head (1)	( )	( )
T1.	What kind of work does (head) do?			
	IF APPROPRIATE T1a. What kind of business is that in?			
	T1b. Does (head) work for himself or someone else or what?	self / someone else	self / someone else	self / someone else
IF WORKS FOR SOMEONE ELSE T2.	Did he (she) have a vacation with pay of a week or more anytime in the last 12 months?	yes / no	yes / no	yes / no
If had a vacation with pay	T2a. How long did he have off altogether in the year?			
	T2b. Did he take his paid vacation all at one time, or how?			
	(If all at one time) T3. During his vacation did he take a trip to a point 100 miles or more away?	trip / no trip	trip / no trip	trip / no trip
	T3a. Where did he go? (town, state)	_____	_____	_____
	(If not all at one time) T4. During his most recent vacation of a week or more, did he take a trip?	trip / no trip	trip / no trip	trip / no trip
	T4a. Where did he go? (town, state)	_____	_____	_____
	T5. Altogether, how many of the vacations involved a trip?			

Appendix 1.0 *(Cont'd)*

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

FREQUENCY OF TRAVEL (INCLUDES BUSINESS TRIPS)

Air			Rail		Auto
Q. T6 Have you (has he) ever taken a trip to a place 100 miles or more away by air?	T6a.(IF YES) How many trips to places more than 100 miles away did you (he) take by air in the last 12 months?	T6b. (IF AIR TRIP IN LAST 12 MONTHS) Did you take your first air trip in the last 12 months?	Q. T7 Have you (has he) ever taken a trip to a place 100 miles or more away by rail?	T7a.(IF YES) How many trips to places more than 100 miles away did you (he) take by rail in the last 12 months?	Q. T8 Have you (has he) ever taken a trip to a place 100 miles or more away by auto?
Yes / Never	None / ___	Yes / No	Yes / Never	None / ___	Yes / Never
Yes / Never	None / ___	Yes / No	Yes / Never	None / ___	Yes / Never
Yes / Never	None / ___	Yes / No	Yes / Never	None / ___	Yes / Never
Yes / Never	None / ___	Yes / No	Yes / Never	None / ___	Yes / Never
Yes / Never	None / ___	Yes / No	Yes / Never	None / ___	Yes / Never
	(IF TOOK AIR TRIP IN LAST 12 MONTHS, ENTER THE NUMBER OF TRIPS.)			(IF TOOK RAIL TRIP IN LAST 12 MONTHS, ENTER THE NUMBER OF TRIPS)	

FOR OCTOBER INTERVIEWS: the "last 12 months" are from November 1954 through October 1955.

FOR NOVEMBER INTERVIEWS: the "last 12 months" are from December 1954 through November 1955.

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

FREQUENCY OF TRAVEL (INCLUDES BUSINESS TRIPS)					FREQUENCY OF BUSINESS TRAVEL			
Auto	Bus							
T8a. (IF YES) How many trips to places more than 100 miles away did you (he) take by auto in the last 12 months?	Q. T9 Have you (has he) ever taken a trip to a place 100 miles or more away by bus?		T9a. (IF YES) How many trips to places more than 100 miles away did you (he) take by bus in the last 12 months?	Q. T10 Were any of your trips in the last 12 months business trips - I mean, trips in connection with your work?	Q. T11 (IF ANY BUSINESS TRIPS) How many of your air trips were business trips? your rail trips? your auto trips? your bus trips?			
					Air	Rail	Auto	Bus
None ___	Yes	Never	None ___	Bus. trips / No bus. trips	None ___	None ___	None ___	None ___
None ___	Yes	Never	None ___	Bus. trips / No bus. trips	None ___	None ___	None ___	None ___
None ___	Yes	Never	None ___	Bus. trips / No bus. trips	None ___	None ___	None ___	None ___
None ___	Yes	Never	None ___	Bus. trips / No bus. trips	None ___	None ___	None ___	None ___
None ___	Yes	Never	None ___	Bus. trips / No bus. trips	None ___	None ___	None ___	None ___
(IF TOOK AUTO TRIP IN LAST 12 MONTHS, ENTER THE NUMBER OF TRIPS.)			(IF TOOK BUS TRIP IN LAST 12 MONTHS, ENTER THE NUMBER OF TRIPS.)	INTERVIEWER: Q. T10 SHOULD NOT BE ASKED ABOUT ADULTS WHO DO NOT WORK. (SEE Q. T1.) FOR SUCH ADULTS SIMPLY CHECK "NO BUSINESS TRIPS."				

Appendix 1.0 *(Cont'd)*

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

If RESPONDENT took one or more trips in the last 12 months, ask about RESPONDENT'S most recent trip to a place 100 miles or more away. (If respondent took trip but not in last 12 months, omit Questions T12 through T31. If respondent never took trip, omit Questions T12 through T34.)

T12. When did you last take a trip to a place 100 miles or more away?

/Nov. '54/ /Dec. '54/ /Jan. '55/ /Feb. '55/ /March '55/ /April '55/ /May '55/

/June '55/ /July '55/ /Aug. '55/ /Sept. '55/ /Oct. '55/ /Nov. '55/

T13. What was the purpose of the trip? _____

_____

_____

_____

T13a. Was there any other reason for the trip? _____

_____

_____

_____

T14. Where did you go? (town and state) _____

T15. How long were you away? /back the same day/ /1-2 days/ /3-6 days/

/week to 10 days/ /11 days to 2 weeks/ /3-4 weeks/

/5-6 weeks/ /over 6 weeks/

T16. Did anyone go with you? (How many went besides yourself?) _____

Appendix 1.0 *(Cont'd)*

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

T17. How did you travel? /auto/ /rail/ /bus/ /air/

/mixed modes/ (specify) _____

/other/ (specify) _____

T18. How did you happen to choose this way of traveling instead of some other?

_____

_____

T18a. Were there any (other) advantages of going this way? _____

_____

(IF "BAD CONNECTIONS") T18b. In what way were the connections bad?

_____

_____

_____

If rail or air	T19. Did you travel coach or first class? /coach/ /first class/ _____

If by rail, air, or bus	T20. Did you buy your ticket from a travel agent or did you buy it directly from the (railroad) (bus line) (airline), or what? /from travel agent/ /directly from carrier/ /other/ T21. Was it one of these all-expense tour packages? /no/ _____

If trip on this page was by common carrier - omit Questions T22 through T31.

If trip on this page was by auto - go to Q. T22 provided R. took a trip by common carrier in last 12 months.

Appendix 1.0 *(Cont'd)*

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

RESPONDENT'S most recent trip by common carrier. - Ask this page for R's whose most recent trip of all in Q. T12-T21 was by auto but who did take a common carrier trip in past 12 months.

T22. When did you last take a trip to a place 100 miles or more away by plane, bus, or train?

/Nov. '54/ /Dec. '54/ /Jan. '55/ /Feb. '55/ /March '55/ /April '55/ /May '55/
/June '55/ /July '55/ /Aug. '55/ /Sept. '55/ /Oct. '55/ /Nov. '55/

T23. What was the purpose of the trip? _____

_____

_____

T23a. Was there any other reason for the trip? _____

_____

_____

T24. Where did you go? (town and state) _____

T25. How long were you away? /back the same day/ /1-2 days/ /3-6 days/
/week to 10 days/ /11 days to 2 weeks/ /3-4 weeks/
/5-6 weeks/ /over 6 weeks/

T26. Did anyone go with you? (How many went besides yourself?) _____

T27. How did you travel? /rail/ /bus/ /air/
/mixed modes/ (specify) _____
/other/ (specify) _____

T28. How did you happen to choose this way of traveling instead of some other?

_____

_____

T28a. Were there any (other) advantages of going this way? _____

_____

(IF "BAD CONNECTIONS") T28b. In what way were the connections bad?

_____

_____

_____

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

If rail or air	T29. Did you travel coach or first class? /coach/ /first class/_____

T30. Did you buy your ticket from a travel agent or did you buy it directly from the (railroad) (bus line) (airline), or what?

/from travel agent/ /directly from carrier/ /other/_____

T31. Was it one of these all-expense tour packages? /no/_____

ASK ALL RESPONDENTS WHO HAVE EVER TAKEN ANY TRIP TO A PLACE 100 MILES OR MORE AWAY: (see Q. T6-T9 for respondent):

T32. Now I have a few questions about how people choose the way they travel.

T32a. Why do you think some people travel by train? _____

_____

_____

T32b. What might keep some people from traveling by train? _____

_____

_____

IF "BAD CONNECTIONS" What do you have in mind? _____

_____

T32c. Why do you think some people travel by plane? _____

_____

_____

T32d. What might keep some people from traveling by plane? _____

_____

_____

NATIONAL TRAVEL MARKET SURVEY QUESTIONNAIRE

Questions asked on travel

ASK ALL RESPONDENTS WHO HAVE EVER TAKEN A RAIL TRIP OF 100 MILES OR MORE AWAY:
(see Q. T7 for respondent):

T33. Thinking of your own last trip by train, we're interested in what you liked most about it and what you liked least about it. What did you like most?

_____

_____

T33a. What did you like least? _____

_____

ASK ALL RESPONDENTS WHO HAVE EVER TAKEN AN AIR TRIP OF 100 MILES OR MORE AWAY:
(see Q. T6 for respondent):

T34. Thinking of your own last trip by plane, we're interested in what you liked most about it and what you liked least about it. What did you like most?

_____

_____

T34a. What did you like least? _____

_____

_____

Appendix 2.0 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

	1950		1955			
Age Group	Special Census Tabulations	Rounded Figure Used	Basic Data 1/	Institutional Population and Other 2/	Armed Forces 3/	Population Excluding Institutional & Armed Forces (Rounded)
18-24	14.032	14.0	15.107	.300	1.600	13.2
25-44	41.918	41.9	46.945	.900	1.300	44.8
45-64	28.622	28.6	33.429	1.000	.100	32.3
65 & Over	11.853	11.9	14.127	1.100	-	13.0
Total Survey Population	96.425	96.4	-	-	-	103.3
Total U. S. Population, 18 Years and Older	103.189 4/	103.2	109.608	3.300	3.000	103.3
Total U. S. Population "A" Projection	150.697 4/	150.7	165.248	-	-	

1 Bureau of the Census, Current Population Reports, "Revised Projections of the Population of the U.S., by Age and Sex: 1960 to 1975," Series P-25, No. 123, Oct. 20, 1955.

2 See Appendix 3.3, Derivation of "Institutional" and "Others" population.

Derivation of Age Distributions—1950, 1955, 1965, 1975 (Millions)

1965				1975			
Basic Data 1/	Institutional Population and Other 2/	Armed Forces 3/	Population Excluding Institutional & Armed Forces (Rounded)	Basic Data 1/	Institutional Population and Other 2/	Armed Forces 3/	Population Excluding Institutional & Armed Forces (Rounded)
20.043	.200	1.600	18.3	26.759	.300	1.600	24.9
46.373	.400	1.300	44.7	53.212	.500	1.300	51.4
39.125	.600	.100	38.4	43.152	.700	.100	42.3
17.371	.800	-	16.6	20.655	.800	-	19.9
-	-	-	118.0	-	-	-	138.5
122.912	2.000	3.000	118.0	143.778	2.300	3.000	138.5
190.296	-	-	-	221.522	-	-	

3 Armed Forces Distribution by Age Developed from 1950 Census, Special Report PE No. 1A, Table 1 (Total Labor Force less Civilian Labor Force for each Age Group):

18-24	52%
25-44	44%
45-64	4%
65 & Over	0%
Total Armed Force Population	100%

4 1950 Census of Population, Vol. II, Part 1, Page 1-3.

Appendix 3.0 PERSONAL TRAVEL CELL POPULATION PROJECTIONS[1]

Occupation	1950		1955			
	Basic Data 2/	Rounded Figure Used	Basic Data	16/ Adjustment	Adjusted Data	Rounded Figure Used
Professional, Technical	4.967	5.0	5.622	98 %	5.510	5.5
Managerial, Proprietor	5.029	5.0	5.932	98 %	5.813	5.8
Total *	9.996	10.0	11.554 10/		11.323	11.3
Sales	3.554	3.6	4.892	94 %	4.599	4.6
Clerk, Labor	35.738	35.7	41.282	94 %	38.788	38.8
Total *	39.292	39.3	46.174 10/		43.387	43.4
Farm: Owners, Managers, Foremen *	4.415	4.4	4.838 13/	93.5%	4.524	4.6
Total Employed	53.703	53.7	62.567 10/	-	59.252	59.3
Unemployed	2.681 3/	2.7	2.654 14/	95 %	2.521	2.5
Civilian Labor Force	56.384	56.4	65.221	-	61.773	61.8
Armed Forces	.965 4/	1.0	3.000 14/	-	-	3.0
Total Labor Force	57.349	57.4	68.221	-	-	64.8
Housewives 17/	31.996 5/	32.0	33.648	-	33.200	33.2
Students 18/	2.041 6/	2.0	-	-	-	1.8
Unemployed 12/	2.681 3/	2.7	-	-	-	2.5
Sub-Total *	36.718	36.7	-	-	-	37.5
Retired * 20/	6.004 7/	6.0	-	-	-	6.5
Institutional 19/ and Others	5.799 8/	5.8	-	-	-	3.3
Total Survey Population *	96.425	96.4	-	-	-	103.3
Total U.S. Population 18 Years and Older	103.189 9/	103.2	109.608 11/	-	-	109.6
Total U.S. Population "A" Projection	150.697 9/	150.7	165.248 11/	-	-	165.3

1 Occupational Projections, indicated by asterisks, include only that portion of the population covered by the National Travel Market Survey; excluding the population under 18 years of age and in institutions.

2 Source: 1950 Special Census Bureau tabulations, except where otherwise designated.

3 U. S. Census of Population: 1950 Report P.E. No. 1A – difference between Civilian Labor Force and gainfully employed 18 years old and over.

4 Ibid: Difference between total Labor Force and Civilian Labor Force, 18 years and over.

5 Ibid: Not in Labor Force, "Keeping House", 18 years old and over.

6 Residual arrived at after deducting Housewives and Unemployed from the Sub-total.

7 Includes age group 55 years old and over of "Unable To Work" and "Other" categories.

8 "Institutional" and "Others" derived from total U. S. population, 18 years and older, minus the total survey population and the Armed Forces.

9 1950 Census of Population, Vol. II, Part 1, Page 1-3.

10 Bureau of Labor Statistics, "Employment in Major Occupational Groups for Selected Industries in 1955 and Estimates for 1965 and 1975", (14 years old and over). August 8, 1956.

Derivation of Occupational Distributions—1950, 1955, 1965, 1975 (Millions)

1965				1975			
Basic Data	16/ Adjustment	Adjusted Data	Rounded Figure Used	Basic Data	16/ Adjustment	Adjusted Data	Rounded Figure Used
7.679	98 %	7.525	7.5	9.162	98 %	8.979	9.0
6.655	98 %	6.522	6.5	7.875	98 %	7.718	7.7
14.334 10/		14.047	14.0	17.037 10/		16.696	16.7
6.192	94 %	5.820	5.8	7.440	94 %	6.993	7.1
48.539	94 %	45.627	45.7	57.407	94 %	53.963	53.9
54.730 10/		51.447	51.5	65.047 10/		60.956	61.0
4.064 13/	93.5%	3.800	3.8	3.493 13/	93.5%	3.266	3.3
73.128 10/	-	69.294	69.3	85.577 10/	-	81.106	81.0
3.047 12/	95 %	2.895	2.9	3.565 12/	95 %	3.387	3.4
76.175	-	72.189	72.2	89.142	-	-	84.4
3.000 15/	-	-	3.0	3.000 15/	-	-	3.0
79.175	-	-	75.2	92.142	-	-	87.4
-	-	-	36.0	-	-	-	42.0
-	-	-	2.4	-	-	-	3.3
-	-	-	2.9	-	-	-	3.4
-	-	-	41.3	-	-	-	48.7
-	-	-	7.4	-	-	-	8.8
-	-	-	2.0	-	-	-	2.3
-	-	-	118.0	-	-	-	138.5
122.912 11/	-	-	123.0	143.778 11/	-	-	143.8
190.296 11/	-	-	190.3	221.522 11/	-	-	221.5

11 Bureau of the Census, Current Population Reports, "Revised Projections of the Population of the U. S., by Age and Sex: 1960 to 1975", Series P-25, No. 123, Oct. 20, 1955. Total U. S. population, 18 years and older, also equals total survey population plus "Institutional and Other" and "Armed Forces".

12 Assume unemployment to be 4% of Civilian Labor Force.

13 Consists of 80% of B.L.S. category "Farm Workers and Owners", the remaining 20% included in our "Clerk, Labor" category.

14 *Economic Report of the President*, Table D-17, Pg. 182, Jan. 1956.

15 Assume Armed Forces of 3 million.

16 Adjustment to subtract 14-17 age group; based on 1950 Census age distribution.

17 See Appendix 3.1 for 1965 and 1975 derivation; for 1955 See "Current Population Survey — Employment Status of the Population by Age and Sex for the U. S.: 1955 Annual Average".

18 See Appendix 3.2; Derivation of Students.

19 See Appendix 3.3; Derivation of "Institutional" and "Others".

20 See Appendix 3.4; Derivation of "Retired" population.

Appendix 3.1

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Derivation of "Housewives", 18 years Old and Over—1955, 1965, 1975 (Millions)

	Housewives As Proportion of Total Female Population		Female Population 2/		Housewives	
Year	1955 1/	Estimates 1965, 1975	1965	1975	1965	1975
14-19	15.1%	14%	10.221	11.037	1.4	1.5
20-24	48.7%	46%	6.666	9.514	3.0	4.4
25-34	63.6%	61%	11.119	15.409	6.8	9.4
35-44	57.0%	53%	12.297	11.132	6.5	5.9
45-54	54.4%	50%	11.401	12.027	5.7	6.0
55-64	64.1%	61%	8.962	10.651	5.5	6.5
65 & Over	74.4%	73%	9.748	11.966	7.1	8.7
Total			70.414	81.736	36.0	42.4
Rounded Figure Used					36.0	42.0

1 Computed from "Employment Status of the Population by Age and Sex for the United States; 1955 Annual Average" Bureau of Census, letter dated July 20, 1956.

2 Bureau of Census, Series P-25, No. 123.

Appendix 3.2

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Derivation of "Students", 18 years Old and Over—1955, 1965, 1975 (Millions)

	Students 18-24	Population 18-24 1/	Population Increase	Estimated Number of Students 3/	Rounded Figure Used
1955	1,800 2/	15,107	-	1.80	1.8
1965	-	20,043	33%	2.40	2.4
1975	-	26,759	77%	3.24	3.3

1 Bureau of Census, Series P-25, No. 123.

2 Ibid. Nineteen Percent of the total students, 14-19 years of age, are 18 years of age and over.

3 Increase at a rate similar to that of the increase in population, 18-24 years of age; 1975 estimate further adjusted upward to 80%.

Appendix 3.3

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Derivation of "Institutional" and "Others" Population—1965—1975[1] (Millions)

Age	1965 MALE Total Pop.	1965 MALE Institutional and Others 2/	1965 FEMALE Total Pop.	1965 FEMALE Institutional and Others 2/	TOTAL Institutional and Other	Final Adjusted Rounded Figure Used
18-24	10.153	.125	9.890	.090	.215	.2
25-44	22.957	.300	23.416	.140	.440	.4
45-64	18.762	.300	20.363	.245	.545	.6
65 & Over	7.623	.345	9.748	.295	.640	.8
Total					1.840	2.0
	1975					
18-24	13.583	.165	13.176	.120	.285	.3
25-44	26.671	.345	26.541	.160	.505	.5
45-64	20.474	.330	22.678	.275	.605	.7
65 & Over	8.689	.390	11.966	.360	.750	.8
Total					2.145	2.3

[1] The 1950 institutional population by age is given in the 1950 Special Census Tabulations. The Composition of the 1955 "Institution" and "Other" population is given in the "Employment Status of the Population by Age and Sex for the United States: 1955 Annual Average" as follows:

	(Millions)
Institutions	1.4
Other (Under 45 Yrs. of Age)	1.7
Adjustment	.2
	3.3

This was distributed by age on the basis of the source data as follows:

	(Millions)
18-24	.3
25-44	.9
44-65	1.0
65 & Over	1.1
	3.3

[2] Derived by applying to the 1965 and 1975 Male and Female population by age, the following percentages, developed on the basis of the 1955 age distribution, and rounded to the nearest 5,000:

Age	Male	Female
18-24	1.2%	.9%
25-44	1.3%	.6%
45-64	1.6%	1.2%
65 & Over	4.5%	3.0%

Appendix 3.4

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Derivation of "Retired" Population—1965, 1975[1] (Millions)

1965								
Age Group	MALE			FEMALE			TOTAL RETIRED	
	Pop. 2/	% Retired 3/	No. Retired	Pop. 2/	% Retired 3/	Retired		(Rounded)
55-64	8.080	12%	.975	8.962	3%	.275	1.250	1.3
65 and over	7.623	60%	4.575	9.748	15%	1.475	6.050	6.1
Total								7.4

1975								
Age Group	MALE			FEMALE			TOTAL RETIRED	
	Pop. 2/	% Retired 3/	No. Retired	Pop. 2/	% Retired 3/	Retired		(Rounded)
55-64	9.213	15%	1.375	10.651	4%	.425	1.800	1.8
65 and Over	8.689	60%	5.200	11.966	15%	1.800	7.000	7.0
Total								8.8

1 Retired includes: "Unable to Work" and "All Other" categories, age 55 and over.

2 Current Population Reports, Series P-25, No. 123, Oct. 20, 1955.

3 Developed from the Current Population Survey, "Employment Status of the Population by Age and Sex, for the United States: 1955 Annual Average."

Appendix 4.0 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Age	↓ Housewives, Students and Unemployed	1950	1955	1965	1975
→ 18 - 24	→ 42.6%		5.6	7.8	10.6
	↓ 16.4%		6.2	7.0	8.0
	Final Adjusted Figure	6.0	5.2	7.0	9.5
→ 25 - 44	→ 37.9%		17.0	17.0	19.5
	↓ 43.2%		16.2	17.8	21.0
	Final Adjusted Figure	15.7	15.8	15.5	17.1
→ 45 - 64	→ 37.6%		12.1	14.4	15.9
	↓ 29.1%		10.9	12.0	14.2
	Final Adjusted Figure	10.7	12.1	13.0	14.7
→ 65 and Over	→ 35.4%		4.6	5.9	7.0
	↓ 11.3%		4.2	4.7	5.5
	Final Adjusted Figure	4.3	4.4	5.8	7.4
Occupation Group Totals	↓ equals 100.0%	36.7	37.5	41.3	48.7

Age	↓ Professional, Technical Managerial, Proprietor	1950	1955	1965	1975
→ 18 - 24	→ 5.5%		.7	1.0	1.4
	↓ 8.0%		.9	1.1	1.3
	Final Adjusted Figure	.8	.8	1.3	1.7
→ 25 - 44	→ 11.7%		5.2	5.2	6.0
	↓ 50.7%		5.7	7.1	8.5
	Final Adjusted Figure	5.2	5.7	6.6	8.2
→ 45 - 64	→ 12.3%		4.0	4.7	5.2
	↓ 36.0%		4.1	5.1	6.0
	Final Adjusted Figure	3.5	4.2	5.1	5.8
→ 65 and Over	→ 4.3%		.6	.7	.9
	↓ 5.3%		.6	.7	.9
	Final Adjusted Figure	.5	.6	1.0	1.0
Occupation Group Totals	↓ equals 100.0%	10.0	11.3	14.0	16.7

1 Source: Percentages of Occupation by Age and Age by Occupation were computed from the 1950 census:

Special Report PE No. 1B—Occupational Characteristics, 1B-69, Table 6.

Special Report PE No. 1A—Employment and Personal Characteristics, 1A-62-64, Table 5, 1A-114, Table 12.

Derivation of Age x Occupation Distribution—1950, 1955, 1965, 1975[1] (Millions)

↓	Clerical, Sales, Laborers				↓	Farm: Owners, Managers and Foremen			
	1950	1955	1965	1975		1950	1955	1965	1975
→ 48.1%		6.4	8.8	12.0	→ 3.8%		.5	.7	.9
↓ 17.5%		7.6	9.0	10.7	↓ 10.8%		.5	.4	.4
Final Adjusted Figure	7.0	7.0	9.6	13.4	Final Adjusted Figure	.2	.2	.4	.3
→ 45.7%		20.5	20.4	23.5	→ 4.7%		2.1	2.1	2.4
↓ 49.3%		21.4	25.4	30.1	↓ 40.5%		1.9	1.5	1.3
Final Adjusted Figure	19.2	21.4	21.3	24.9	Final Adjusted Figure	1.8	1.9	1.3	1.2
→ 39.7%		12.8	15.3	16.8	→ 6.4%		2.1	2.5	2.7
↓ 29.1%		12.6	15.0	17.7	↓ 37.0%		1.9	1.4	1.2
Final Adjusted Figure	11.5	13.1	17.5	19.0	Final Adjusted Figure	1.8	1.9	1.5	1.3
→ 13.5%		1.8	2.2	2.7	→ 4.9%		.6	.8	1.0
↓ 4.1%		1.8	2.1	2.5	↓ 11.7%		.5	.5	.4
Final Adjusted Figure	1.6	1.9	3.1	3.7	Final Adjusted Figure	.6	.6	.6	.5
↓ equals 100.0%	39.3	43.4	51.5	61.0	↓ equals 100.0%	4.4	4.6	3.8	3.3

↓	Retired				AGE GROUP TOTALS			
	1950	1955	1965	1975	1950	1955	1965	1975
					→=100.0%	100.0%	100.0%	100.0%
					14.0	13.2	18.3	24.9
					→=100.0%	100.0%	100.0%	100.0%
					41.9	44.8	44.7	51.4
→ 4.0%		1.3	1.5	1.7	→=100.0%	100.0%	100.0%	100.0%
↓ 18.7%		1.2	1.4	1.6				
Final Adjusted Figure	1.1	1.0	1.3	1.5	28.6	32.3	38.4	42.3
→ 41.9%		5.4	7.0	8.3	→=100.0%	100.0%	100.0%	100.0%
↓ 81.3%		5.3	6.0	7.2				
Final Adjusted Figure	4.9	5.5	6.1	7.3	11.9	13.0	16.6	19.9
↓ equals 100.0%	6.0	6.5	7.4	8.8	96.4	103.3	118.0	138.5

Appendix 5.0 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Income	Clerical, Sales, Labor								
	Clerical	Sales	Craftsmen	Operatives	Service	Farm	Other Labor	Total	
								Number	%
Under $1,000	36	40	89	108	105	87	105	570	2.4
$1,000 - $1,999	74	97	240	397	246	120	345	1,519	6.5
$2,000 - $2,999	227	165	507	924	408	111	398	2,740	11.8
$3,000 - $3,999	440	253	1,036	1,537	535	79	573	4,453	19.1
$4,000 - $4,999	595	294	1,454	1,739	346	31	363	4,822	20.7
$5,000 - $5,999	421	272	1,255	981	260	16	190	3,395	14.5
$6,000 - $6,999	227	258	898	606	173	-	121	2,283	9.8
$7,000 - $9,999	292	346	1,056	750	168	7	94	2,713	11.6
$10,000 and Over	81	177	315	180	34	3	51	841	3.6
Total	2,392	1,902	6,850	7,222	2,275	454	2,240	23,336	100.0%

1 Census Bureau, Current Population Reports, Family Income in the U. S. 1954, 1953; Series P-60, No. 20, Dec. 1955, Table 7.

2 Ibid., Use total family distribution.

Income Distribution by Occupation—1954[1] (Thousands)

Professional, Technical		Managerial, Proprietor		Total: Professional, Technical, Managerial, Proprietor		Housewives, Students and Unemployed 2/		Farm: Owners, Managers & Foremen	
Number	%	Number	%	Number	%	Number	%	Number	%
29.7	1.0	202.4	4.3	232.1	3.0	3,690	8.8	997	31.9
56.4	1.9	216.5	4.6	272.9	3.6	4,613	11.0	732	23.4
115.7	3.9	390.7	8.3	506.4	6.6	4,990	11.9	485	15.5
317.4	10.7	536.6	11.4	854.0	11.2	6,458	15.4	328	10.5
358.9	12.1	555.4	11.8	914.3	11.9	6,542	15.6	188	6.0
522.0	17.6	522.4	11.1	1,044.5	13.6	4,990	11.9	156	5.0
364.8	12.3	536.6	11.4	901.4	11.8	3,564	8.5	84	2.7
697.0	23.5	856.7	18.2	1,553.7	20.3	4,655	11.1	78	2.5
501.3	16.9	875.5	18.6	1,376.8	18.0	2,432	5.8	78	2.5
2,963.0	100.0%	4,693.0	100.0%	7,656.0	100.0%	41,934	100.0%	3,126	100.0%

Appendix 5.1

GROWTH PROJECTIONS OF THE UNITED STATES ECONOMY

Derivation of Increase in Real Personal Income Per Capita—1965, 1975

		1965	*1975*
1. Total Population ("A" Projection)	(millions)	190.31	221.51
2. Total labor force (14 years of age and over)	(millions)	79.22	92.12
3. Armed Forces	"	3.03	3.03
4. Civilian Labor Force (line 2 — line 3)	(millions)	76.2	89.1
5. Unemployed (4% of civil labor force)	"	3.1	3.6
6. Employed (line 4 — line 5)	"	73.1	85.6
7. Average Weekly Hours		37.54	36.24
8. Average Yearly Hours (line 7 x 52)		1,950	1,882
9. Total Work Hours (line 8 x line 6)	(millions)	142,550	161,099
10. Output per man hour (1947-49 $)		$3.235	$4.135
11. Total Gross National Product (line 9 x line 10)	(billions)	$460.4	$665.3
12. Gross National Product 1955 $ (line 11 x 114.5%)6	"	$527.2	$761.8
Gross National Product 1949 $ (line 11 x 101.8%)6	"	$468.7	$677.3
13. Gross National Product (1947-49 $) (100.0%)	(billions)	$460.4	$665.3
a. Personal Consumption Expenditures (67.5%)7	"	310.8	452.4 (68%)
b. Private Domestic Investment (14.5%)7	"	66.8	99.8 (15%)
c. Government Expenditures (18%)7	"	82.8	113.1 (17%)
14. Gross National Product (1947-49)	(billions)	$460.4	$665.3
15. Capital Consumption Expenditures (8%)7	"	36.8	53.2
16. Indirect Business Taxes (9%)7	"	41.4	59.9
17. Total Lines 15 and 16	"	78.2	113.1
18. a. National Income (1947-49 $) (line 14 — line 17)	(billions)	$382.2	$552.2
b. National Income (1949 $) (line 18 x 101.8%)6	"	$389.1	$562.1
c. National Income (1955 $) (line 18 x 114.5%)6	"	$437.6	$632.3
19. a. Personal Income (1949 $) (95% of 18b)8	(billions)	$369.6	$534.0
b. Personal Income (1955 $) (95% of 18c)8	"	$415.7	$600.7
20. a. Personal Income per capita (1949 $) (line 19a ÷ line 1)		$1,942	$2,411
b. Personal Income per capita (1955 $) (line 19b ÷ line 1)		$2,184	$2,706
21. Personal Income Per Capita in 1950 — $1,382 (1950 $)9		—	—
22. Personal Income Per Capita in 1955 — $1,739 (1955 $)9		—	—
23. Real Increase in personal income per capita — over 1950 — (line 20a ÷ line 21)		40%	75%10
24. Adjust for 12% price increase from 1950 to 1955, as survey conducted in 1955 prices11		52%	87%
25. Real increase in personal income per capita — over 1955 — (line 20b ÷ line 22)		25%12	55%13
26. Real income per capita increase: 1955 over 1950 = 25% Increase includes real growth plus inflation (line 22 ÷ line 21)		—	—

1 "A" projections for 1965 and 1975 from Bureau of the Census, Current Population Reports, Series P-25, No. 123, page 25.

2 See Appendix 3.0: "Derivation of Occupational Distributions — 1950, 1955, 1965, 1975"

3 Ibid. 4 Estimates; based on historical series.

5 See Appendix 5.2: "Derivation of Output per man hour and Personal Income per capita: 1955".

6 Consumer Price Index, Bureau of Labor Statistics Monthly Report. Gross National Product was expressed in 1949 dollars since 1949 income was reported in the 1950 census.

7 Estimates; based on historical series. 8 Ibid. 9 See Appendix 5.2, Section B.

10 Rounded from 74%.

11 Proportionate increase in the Consumer Price Index from 1950 to 1955, rounded. The 12% adjustment accounted for in line 26.

12 Rounded from 26%. 13 Rounded from 56%.

Appendix 5.2

GROWTH PROJECTIONS OF THE UNITED STATES ECONOMY

Derivation of Output Per Man Hour and Personal Income Per Capita—1955

A. DERIVATION OF OUTPUT PER MAN HOUR (1955)

1. Gross National Product (current dollars)	$390.9 Billions[1]
2. Gross National Product (1947-49 dollars) (line 1 ÷ 114.5)[2]	341.4 Billions
3. Average Weekly Hours per Worker*	40.6
4. Average Yearly Hours per Worker (line 3 x 52)	2,111.2
5. Employed Civilian Labor Force	64,165 Thousands[3]
6. Total Work Hours (Line 4 x line 5)	135,465 Millions
7. Output per man hour (line 2 ÷ line 6)	$2.52
8. Output per man hour (at 2½% compound annual increase)	
1965 (x 128%)	$3.23
1975 (x 163.9%)	4.13

*Computation of average weekly hours per worker:

	(a)[4] *Hours* (Average Weekly)	(b)[5] *Employment* (Average monthly) (Thousands)
Durable	41.4	9,536
Non-Durable	39.8	7,029
Non-Manufacturing		
Metal	42.2	101
Anthracite	33.4	34
Bituminous Coal	39.6	217
Crude Petroleum and Natural Gas	40.4	312
Non-Metallic and Quarrying	44.0	107
Construction	36.7	2,780
Transportation, Utilities	43.7	4,056
Wholesale	40.8	2,858
Retail	39.4	7,945
Services	41.6	5,854
	Total (a x b) = 1,657,128.6	Total (b) = 40,800

Average Weekly Hours All Industries = 40.6
Total (a x b ÷ total (b)

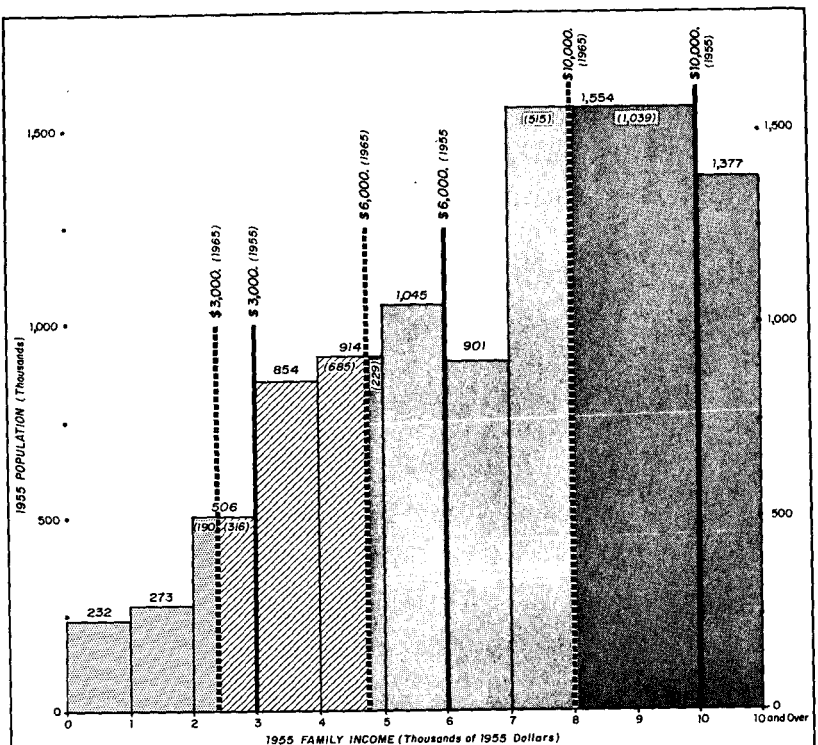
B. DERIVATION OF PERSONAL INCOME PER CAPITA

	1950	*1955*
1. Personal income (billions)	(1949) $206.8[6]	(1954) $287.3[6]
2. Population (millions)	149.6[7]	165.2[8]
3. Personal income per capita	$1,382	$1,739

1 Survey of Current Business, July 1956, Pg. 11.
2 Consumer Price Index, 1955.
3 Survey of Current Business, July 1956, Pg. S-11.
4 Ibid., Pg. S-12, 13.
5 Ibid., Pg. S-11.
6 Ibid., Pg. 13.
7 Bureau of the Census, Current Population Reports, Series P-20, No. 58, Pg. 3.
8 Bureau of the Census, Current Population Reports, Series P-25, No. 123, Pg. 8.

Appendix 5.3 TRAVEL CELL POPULATION PROJECTIONS

Derivation of Income Distribution: Professional, Managerial Occupation—1965



	Under $3,000		$3,000 - $5,999		$6,000 - $9,999		$10,000 and Over		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1955 2/	1,011	13.2%	2,813	36.7%	2,455	32.1%	1,377	18.0%	7,656	100.0%
1965 3/	695	9.1%	1,855	24.2%	2,690	35.1%	2,416	31.6%	7,656	100.0%
1965 estimate 4/	1,274		3,388		4,914		4,424		14,000 5/	

1 The broken lines indicate 25% increases in real income per capita in 1965 over 1955. For example, a person earning $2,400 in 1955 will be earning $3,000 (in constant dollars) by 1965. This results in a shifting of population from lower income brackets to higher income brackets.

2 See Appendix 5.0 "Income Distribution by Occupation: 1954."

3 To derive the 1965 income distribution proportions: Sum up the population figures between the broken lines and compute them as a percent of the 1955 total population of 7,656.

4 Apply the 1965 income distribution percentages against the 1965 total occupational population for the projected income distribution.

5 See Appendix 4.0 for the occupation by age, population estimates for 1965.

Appendix 5.4

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Derivation of Income Distribution: Professional, Managerial, Age 25-44 Cell—1965 (Thousands)

Income Group	Professional, Technical, Managerial, Proprietor	AGE GROUP [2]			
		18 - 24	25 - 44	45 - 64	65 & Over
Under $3,000	(100%) 1,274	(15.4%)	(45.4%) Unadj. 578 Adj. 570	(32.3%)	(6.9%)
$3,000- $5,999	(100%) 3,388	(4.8%)	(57.5%) Unadj. 1,948 Adj. 1,922	(33.9%)	(3.8%)
$6,000- $9,999	(100%) 4,914	(0.9%)	(50.3%) Unadj. 2,472 Adj. 2,439	(44.9%)	(3.9%)
$10,000 & over	(100%) 4,424	(0.4%)	(38.2%) Unadj. 1,690 Adj. 1,669	(52.2%)	(9.2%)
Total [1]	14,000	1,300	Unadj. 6,688 Adj. [3] 6,600	5,100	1,000

1 The total population of the Professional, Managerial group is distributed among the four income groups. See Appendix 5.3.
The total population of the Professional, Managerial group is distributed among the four age groups. See Appendix 4.0: "Derivation of Age by Occupation".

2 Each income by occupation cell is distributed among the four age groups on the basis of the 1950 Special Census Bureau Tabulations.

3 The unadjusted population figures in the 25 to 44-year-old age by income cells, totaling 6,688, are reduced by 1.3% so as to add up to the adjusted sum of 6,600.

Appendix 6.0 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

		Professional, Technical,		
		Under $3,000		$3,000
Age	Education	Number	Per cent to Total	Number
18-24	Non-High School Graduates	303	44.7%	46
	High School Graduates	375	55.3%	45
	Total	678	100.0%	91
25-44	Non-High School Graduates	930	50.1%	970
	High School Graduates	925	49.9%	1,133
	Total	1,855	100.0%	2,103
45-64	Non-High School Graduates	798	68.1%	728
	High School Graduates	374	31.9%	508
	Total	1,172	100.0%	1,236
65 and Over	Non-High School Graduates	166	72.5%	62
	High School Graduates	63	27.5%	54
	Total	229	100.0%	116
Total	Non-High School Graduates	2,197	55.8%	1,806
	High School Graduates	1,737	44.2%	1,740
	Total	3,934	100.0%	3,546

1 Source: 1950 Special Census Bureau Tabulations.

Educational Distribution of "Age x Occupation x Income" Groups—1950[1] (Thousands)

Managerial, Proprietor						
-$5,999	$6,000-$9,999		Over $10,000		Total	
Per cent to Total	Number	Per cent to Total	Number	Per cent to Total	Number	Per cent to Total
50.5%	4	44.4%	-	40.0%	353	45.3%
49.5%	5	55.6%	2	60.0%	427	54.7%
100.0%	9	100.0%	2	100.0%	780	100.0%
46.1%	164	37.9%	81	35.5%	2,145	46.4%
53.9%	268	62.1%	147	64.5%	2,473	53.6%
100.0%	432	100.0%	228	100.0%	4,618	100.0%
58.9%	195	47.4%	141	46.0%	1,862	59.6%
41.1%	216	52.6%	165	54.0%	1,263	40.4%
100.0%	411	100.0%	306	100.0%	3,125	100.0%
53.4%	28	63.6%	30	53.6%	286	64.3%
46.6%	16	36.4%	26	46.4%	159	35.7%
100.0%	44	100.0%	56	100.0%	445	100.0%
50.9%	391	43.6%	252	42.6%	4,646	51.8%
49.1%	505	56.4%	340	57.4%	4,322	48.2%
100.0%	896	100.0%	592	100.0%	8,968	100.0%

Appendix 6.1 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

		Clerical, Sales,		
		Under $3,000		$3,000-
Age	Education	Number	Per cent to Total	Number
18-24	Non-High School Graduates	5,564	89.7%	487
	High School Graduates	642	10.3%	63
	Total	6,206	100.0%	550
25-44	Non-High School Graduates	10,924	92.4%	5,270
	High School Graduates	901	7.6%	746
	Total	11,825	100.0%	6,016
45-64	Non-High School Graduates	6,553	94.4%	3,292
	High School Graduates	384	5.6%	284
	Total	6,937	100.0%	3,576
65 and Over	Non-High School Graduates	1,122	95.9%	264
	High School Graduates	48	4.1%	19
	Total	1,170	100.0%	283
Total	Non-High School Graduates	24,163	92.4%	9,313
	High School Graduates	1,975	7.6%	1,112
	Total	26,138	100.0%	10,425

1 Source. 1950 Special Census Bureau Tabulations.

Educational Distribution of "Age x Occupation x Income" Groups—1950[1] (Thousands)

Labor						
$5,999	$6,000-$9,999		Over $10,000		Total	
Per cent to Total	Number	Per cent to Total	Number	Per cent to Total	Number	Per cent to Total
88.0%	4	80.0%	2	50.0%	6,057	89.5%
12.0%	1	20.0%	2	50.0%	708	10.5%
100.0%	5	100.0%	4	100.0%	6,765	100.0%
87.6%	182	69.5%	40	58.8%	16,416	90.3%
12.4%	80	30.5%	28	41.2%	1,755	9.7%
100.0%	262	100.0%	68	100.0%	18,171	100.0%
92.0%	217	83.8%	45	67.1%	10,107	93.2%
8.0%	42	16.2%	22	32.9%	732	6.8%
100.0%	259	100.0%	67	100.0%	10,839	100.0%
93.3%	19	82.6%	7	58.3%	1,412	94.9%
6.7%	4	17.4%	5	41.7%	76	5.1%
100.0%	23	100.0%	12	100.0%	1,488	100.0%
89.3%	422	76.8%	94	62.3%	33,992	91.2%
10.7%	127	23.2%	57	37.7%	3,271	8.8%
100.0%	549	100.0%	151	100.0%	37,263	100.0%

		Farm: Owners,		
		Under $3,000		$3,000-
Age	Education	Number	Per cent to Total	Number
18-24	Non-High School Graduates	204	94.0%	19
	High School Graduates	13	6.0%	2
	Total	217	100.0%	21
25-44	Non-High School Graduates	1,282	96.4%	276
	High School Graduates	48	3.6%	26
	Total	1,330	100.0%	302
45-64	Non-High School Graduates	1,252	96.5%	224
	High School Graduates	46	3.5%	15
	Total	1,298	100.0%	239
65 and Over	Non-High School Graduates	468	96.1%	59
	High School Graduates	19	3.9%	3
	Total	487	100.0%	62
Total	Non-High School Graduates	3,206	96.2%	578
	High School Graduates	126	3.8%	46
	Total	3,332	100.0%	624

1 Source: 1950 Special Census Bureau Tabulations.

Educational Distribution of "Age x Occupation x Income" Groups—1950[1] (Thousands)

Managers and Foremen						
$5,999	$6,000-$9,999		Over $10,000		Total	
Per cent to Total	Number	Per cent to Total	Number	Per cent to Total	Number	Per cent to Total
90.5%	2	100.0%	1	100.0%	226	93.8%
9.5%	-	-	-	-	15	6.2%
100.0%	2	100.0%	1	100.0%	241	100.0%
91.4%	79	89.8%	32	86.5%	1,669	95.0%
8.6%	9	10.2%	5	13.5%	88	5.0%
100.0%	88	100.0%	37	100.0%	1,757	100.0%
93.7%	74	89.2%	22	81.5%	1,572	95.4%
6.3%	9	10.8%	5	18.5%	75	4.6%
100.0%	83	100.0%	27	100.0%	1,647	100.0%
95.2%	12	100.0%	3	100.0%	542	96.1%
4.8%	-	-	-	-	22	3.9%
100.0%	12	100.0%	3	100.0%	564	100.0%
92.6%	167	90.2%	58	85.3%	4,009	95.2%
7.4%	18	9.8%	10	14.7%	200	4.8%
100.0%	185	100.0%	68	100.0%	4,209	100.0%

Appendix 6.3 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

		Housewives, Students,		
		Under $3,000		$3,000
Age	Education	Number	Per cent to Total	Number
18-24	Non-High School Graduates	4,451	80.0%	26
	High School Graduates	1,115	20.0%	4
	Total	5,566	100.0%	30
25-44	Non-High School Graduates	12,981	86.4%	153
	High School Graduates	2,042	13.6%	68
	Total	15,023	100.0%	221
45-64	Non-High School Graduates	9,161	91.4%	146
	High School Graduates	864	8.6%	30
	Total	10,025	100.0%	176
65 and Over	Non-High School Graduates	3,854	94.5%	57
	High School Graduates	226	5.5%	18
	Total	4,080	100.0%	75
Total	Non-High School Graduates	30,447	87.8%	382
	High School Graduates	4,247	12.2%	120
	Total	34,694	100.0%	502

1 Source: 1950 Special Census Bureau Tabulations.

Educational Distribution of "Age x Occupation x Income" Groups—1950[1] (Thousands)

Unemployed						
-$5,999	$6,000-$9,999		Over $10,000		Total	
Per cent to Total	Number	Per cent to Total	Number	Per cent to Total	Number	Per cent to Total
86.7%	1	50.0%	2	100.0%	4,480	80.0%
13.3%	1	50.0%	-	-	1,120	20.0%
100.0%	2	100.0%	2	100.0%	5,600	100.0%
69.2%	14	60.9%	7	70.0%	13,155	86.1%
30.8%	9	39.1%	3	30.0%	2,122	13.9%
100.0%	23	100.0%	10	100.0%	15,277	100.0%
83.0%	17	60.7%	14	60.9%	9,338	91.9%
17.0%	11	39.3%	9	39.1%	914	8.1%
100.0%	28	100.0%	23	100.0%	10,252	100.0%
76.0%	17	89.5%	10	90.9%	3,938	94.1%
24.0%	2	10.5%	1	9.1%	247	5.9%
100.0%	19	100.0%	11	100.0%	4,185	100.0%
76.1%	49	68.1%	33	71.7%	30,911	87.5%
23.9%	23	31.9%	13	28.3%	4,403	12.5%
100.0%	72	100.0%	46	100.0%	35,314	100.0%

Appendix 6.4 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

		Retired		
		Under $3,000		$3,000-
Age	Education	Number	Per cent to Total	Number
18-24	Non-High School Graduates			
	High School Graduates			
	Total			
25-44	Non-High School Graduates			
	High School Graduates			
	Total			
45-64	Non-High School Graduates	899	94.2%	54.5
	High School Graduates	55	5.8%	7
	Total	954	100.0%	61.5
65 and Over	Non-High School Graduates	4,108	94.2%	10.2
	High School Graduates	254	5.8%	26
	Total	4,362	100.0%	128
Total	Non-High School Graduates	5,007	94.2%	156.5
	High School Graduates	309	5.8%	33
	Total	5,316	100.0%	189.5

1 Source: 1950 Special Census Bureau Tabulations.

Educational Distribution of "Age" x Occupation x Income Groups—1950[1] (thousands)

$5,999	$6,000-$9,999		Over $10,000		Total	
Per cent to Total	Number	Per cent to Total	Number	Per cent to Total	Number	Per cent to Total
88.6%	8.5	68.0%	4	53.3%	966	93.3%
11.4%	4	32.0%	3.5	46.7%	69.5	6.7%
100.0%	12.5	100.0%	7.5	100.0%	1,035.5	100.0%
79.7%	17	77.3%	8	53.3%	4,235	93.5%
20.3%	5	22.7%	7	46.7%	292	6.5%
100.0%	22	100.0%	15	100.0%	4,527	100.0%
82.6%	25.5	73.9%	12	53.3%	5,201	93.5%
17.4%	17.5	26.1%	10.5	46.7%	361.5	6.5%
100.0%	34.5	100.0%	22.5	100.0%	5,562.5	100.0%

Appendix 6.5 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Age	Family Income	Professional, Technical, Managerial and Proprietor: Derivation of Non High School Graduates: % [1]	AxOxI [2]	Number	High School Graduates: Number [3]	Clerical, Sales, Labor: Derivation of Non High School Graduates: % [1]	AxOxI [2]	Number	High School Graduates: Number [3]
18-24	Under $3,000	43%	391	168	223	88%	3,318	2,920	398
	$3,000 to $5,999	49%	339	166	173	86%	3,229	2,777	452
	$6,000 to $9,999	43%	56	24	32	78%	416	325	91
	Over $10,000	-	14	-	14	48%	37	18	19
	Total		800	358	442		7,000	6,040	960
25-44	Under $3,000	50.1%	691	346	345	92.4%	3,774	3,487	287
	$3,000 to $5,999	46.1%	2,399	1,106	1,293	87.6%	12,214	10,699	1,515
	$6,000 to $9,999	37.9%	1,828	692	1,136	69.5%	4,535	3,151	1,384
	Over $10,000	35.5%	782	278	504	58.8%	877	515	362
	Total		5,700	2,422	3,278		21,400	17,852	3,548
45-64	Under $3,000	68.1%	445	303	142	94.4%	2,143	2,022	121
	$3,000 to $5,999	58.9%	1,294	762	532	92.0%	6,934	6,379	555
	$6,000 to $9,999	47.4%	1,492	707	785	83.8%	3,513	2,943	570
	Over $10,000	46.0%	969	446	523	67.1%	510	342	168
	Total		4,200	2,218	1,982		13,100	11,686	1,414
65 and Over	Under $3,000	72.5%	107	77	30	95.9%	525	503	22
	$3,000 to $5,999	53.4%	161	86	75	93.3%	949	885	64
	$6,000 to $9,999	63.6%	142	90	52	82.6%	332	274	58
	Over $10,000	53.6%	190	101	89	58.3%	94	54	40
	Total		600	354	246		1,900	1,716	184

1 Percent "Non High School Graduates" computed from the educational distribution of the 1950 Special Census Tabulations, see appendices 6.0-6.4, after adjusting the 18-24 age group.

2 Population of each age x occupation x income cell. An example of derivation shown in Appendix 5.4.

3 Difference between Non High School Graduates and population of age x occupation x income cells.

Derivation of Educational Distribution—1955 (Thousands)

Farm: Owners, Managers, Foremen				Housewives, Students, Unemployed				Retired			
Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates
% [1]	AxOxI [2]	Number	Number [3]	% [1]	AxOxI [2]	Number	Number [3]	% [1]	AxOxI [2]	Number	Number [3]
90%	160	145	15	77%	2,462	1,895	567				
84%	32	27	5	84%	2,364	1,986	378				
95%	7	5	2	45%	151	68	83				
100%	1	-	1	90%	223	200	23				
	200	177	23		5,200	4,149	1,051				
96.4%	1,254	1,203	51	86.4%	5,694	4,920	774				
91.4%	437	397	40	69.2%	7,707	5,333	2,374				
89.8%	152	131	21	60.9%	1,940	1,181	759				
86.5%	57	49	8	70.0%	459	321	138				
	1,900	1,780	120		15,800	11,755	4,045				
96.5%	1,330	1,275	55	91.4%	3,174	2,901	273	94.2%	880	827	53
93.7%	380	350	30	83.0%	4,698	3,899	799	88.6%	90	79	11
89.2%	133	118	15	60.7%	3,385	2,055	1,330	68.0%	20	13	7
81.5%	57	46	11	60.9%	843	513	330	90%	10	9	1
	1,900	1,789	111		12,100	9,368	2,732		1,000	928	72
96.1%	474	455	19	94.5%	1,102	1,041	61	94.2%	5,150	4,840	310
95.2%	84	79	5	76.0%	1,633	1,241	392	79.7%	275	218	57
94.0%	36	34	2	89.5%	1,180	1,056	124	77.3%	55	42	13
90.8%	6	5	1	90.9%	485	440	45	53.3%	20	10	10
	600	573	27		4,400	3,778	622		5,500	5,110	390

Appendix 6.6, see page 106

Appendix 6.6, see page 106

Appendix 6.7 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Age	Family Income	Professional, Technical, Managerial and Proprietor				Clerical, Sales, Labor			
		Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates
		% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/
18-24	Under $3,000	40%	605	242	363	80%	3,834	3,067	767
	$3,000 to $5,999	45.5%	503	229	274	79%	4,426	3,497	929
	$6,000 to $9,999	40%	136	54	82	72%	1,145	824	321
	Over $10,000	36%	56	20	36	45%	195	88	107
	Total		1,300	545	755		9,600	7,476	2,124
25-44	Under $3,000	45%	570	256	314	90%	2,416	2,174	242
	$3,000 to $5,999	46%	1,922	884	1,038	87%	9,277	8,071	1,206
	$6,000 to $9,999	38%	2,439	927	1,512	70%	6,945	4,862	2,083
	Over $10,000	36%	1,669	601	1,068	59%	2,622	1,547	1,075
	Total		6,600	2,668	3,932		21,260	16,654	4,606
45-64	Under $3,000	44%	346	152	194	89%	1,769	1,574	195
	$3,000 to $5,999	50%	964	482	482	88%	6,794	5,979	815
	$6,000 to $9,999	44%	1,852	815	1,037	80%	6,942	5,554	1,388
	Over $10,000	40%	1,938	775	1,163	50%	1,995	998	997
	Total		5,100	2,224	2,876		17,500	14,105	3,395
65 and Over	Under $3,000	68%	108	73	35	94%	562	528	34
	$3,000 to $5,999	54%	158	85	73	92%	1,209	1,112	97
	$6,000 to $9,999	47%	235	110	125	83%	851	706	145
	Over $10,000	46%	499	200	299	58%	478	277	201
	Total		1,000	468	532		3,100	2,623	477

1 Percent "Non High School Graduates," as derived from the educational distribution of the 1950 Special Census Tabulations, see Appendices 6.0-6.4, are as follows:

For the 1965, 18-24 age group, increase the 1950, 18-24 age group proportion by 10 percent. See Appendix 6.6.

For the 1965, 25-44 age group, use the 1950, 18-24 age group percentages.

For the 1965, 45-64 age group, use the 1950, 18-24 age group percentages.

For the 1965, 65 and over age group, use the 1950, 45-64 age group percentages.

Retired weighted on basis of the other occupation groups.

2 Population of each age x occupation x income cell. An example of derivation shown in Appendix 5.4.

3 Difference between Non-High School Graduates and population of age x occupation x income cells.

Derivation of Educational Distribution—1965 (Thousands)

Farm: Owners, Managers, Foremen				Housewives, Students, Unemployed				Retired			
Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates
% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/
85%	296	252	44	72%	2,927	2,107	820				
81%	84	68	16	78%	2,948	2,299	649				
90%	16	14	2	44%	335	147	188				
90%	4	3.6	0.4	88%	790	695	95				
	400	337.6	62.4		7,000	5,248	1,752				
94%	767	721	46	77%	4,706	3,624	1,082				
90%	338	304	34	69%	6,682	4,611	2,071				
90%	117	105	12	50%	2,987	1,494	1,493				
87%	78	68	10	70%	1,125	788	337				
	1,300	1,198	102		15,500	10,517	4,983				
94%	960	902	58	80%	2,440	1,952	488	83%	1,092	906	186
90%	330	297	33	87%	3,788	3,296	492	84%	143	120	23
90%	135	122	13	50%	4,847	2,423	2,424	85%	39	33	6
87%	75	65	10	61%	1,925	1,174	751	51%	26	13	13
	1,500	1,386	114		13,000	8,845	4,155		1,300	1,072	228
96%	450	432	18	91%	990	901	89	91%	5,673	5,162	511
94%	96	90	6	76%	1,539	1,170	369	82%	305	250	55
89%	42	37	5	61%	1,977	1,206	771	66%	61	40	21
82%	12	10	2	61%	1,294	789	505	56%	61	34	27
	600	569	31		5,800	4,066	1,734		6,100	5,486	614

Appendix 6.8 PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Age	Family Income	Professional, Technical, Managerial and Proprietor				Clerical, Sales, Labor			
		Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates
		% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/
18-24	Under $3,000	38%	761	289	472	76%	4,673	3,551	1,122
	$3,000 to $5,999	43%	586	252	334	75%	5,445	4,084	1,361
	$6,000 to $9,999	38%	219	83	136	68%	2,653	1,804	849
	Over $10,000	34%	134	45	89	43%	629	270	359
	Total		1,700	669	1,031		13,400	9,709	3,691
25-44	Under $3,000	40%	536	214	322	80%	1,883	1,506	377
	$3,000 to $5,999	45%	1,688	759	929	79%	7,294	5,762	1,532
	$6,000 to $9,999	40%	2,953	1,181	1,772	72%	10,280	7,402	2,878
	Over $10,000	36%	3,023	1,088	1,935	45%	5,443	2,449	2,994
	Total		8,200	3,242	4,958		24,900	17,119	7,781
45-64	Under $3,000	44%	272	120	152	89%	1,243	1,106	137
	$3,000 to $5,999	50%	709	354	355	88%	4,815	4,237	578
	$6,000 to $9,999	44%	1,878	826	1,052	80%	9,264	7,411	1,853
	Over $10,000	40%	2,941	1,176	1,765	50%	3,678	1,839	1,839
	Total		5,800	2,476	3,324		19,000	14,593	4,407
65 and Over	Under $3,000	68%	71	48	23	94%	448	421	27
	$3,000 to $5,999	54%	97	52	45	92%	969	891	78
	$6,000 to $9,999	47%	199	94	105	83%	1,285	1,067	218
	Over $10,000	46%	633	291	342	58%	998	579	419
	Total		1,000	485	515		3,700	2,958	742

1 Percent "Non High School Graduates", as derived from the educational distribution of the 1950 Special Census Tabulations, see Appendices 6.0-6.4, are as follows:

For the 1975, 18-24 age group, increase the 1950, 18-24 age group proportion by 16 percent. See Appendix 6.6.

For the 1975, 25-44 age group, use the 1965, 18-24 age group percentage.

For the 1975, 45-64 age group, use the 1950, 18-24 age group percentage.

For the 1975, 65 and over age group, use the 1950, 45-64 age group percentage.

Retired weighted on basis of the other occupation groups.

2 Population of each age x occupation x income cell. An example of derivation shown in Appendix 5.4.

3 Difference between Non-High School Graduates and population of age x occupation x income cells.

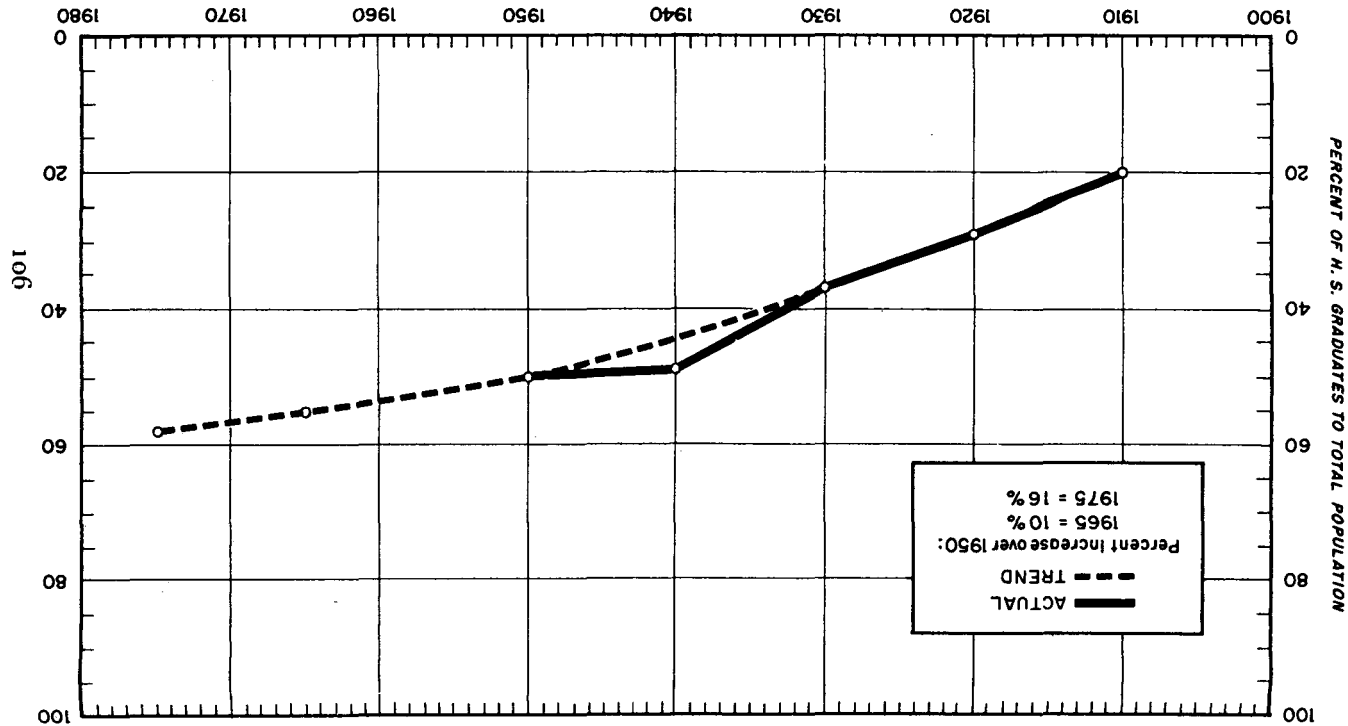
Derivation of Educational Distribution—1975 (Thousands)

Farm: Owners, Managers, Foremen				Housewives, Students, Unemployed				Retired			
Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates	Derivation of Non High School Graduates			High School Graduates
% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/	% 1/	AxOxI 2/	Number	Number 3/
81%	192	155	37	68%	3,643	2,477	1,166				
77%	81	62	19	74%	3,314	2,452	862				
85%	21	18	3	42%	617	259	358				
85%	6	5	1	83%	1,926	1,599	327				
	300	240	60		9,500	6,787	2,713				
85%	588	500	88	72%	4,635	3,337	1,298				
81%	348	282	66	78%	5,947	4,639	1,308				
90%	156	140	16	44%	4,346	1,912	2,434				
90%	108	97	11	88%	2,172	1,911	261				
	1,200	1,019	181		17,100	11,799	5,301				
94%	728	684	44	80%	2,134	1,707	427	83%	1,185	983	202
90%	325	293	32	87%	2,995	2,606	389	84%	195	163	32
90%	143	128	15	50%	6,266	3,133	3,133	85%	75	63	12
87%	104	90	14	61%	3,305	2,016	1,289	51%	45	22	23
	1,300	1,195	105		14,700	9,462	5,238		1,500	1,231	269
96%	330	316	14	91%	934	850	84	91%	6,424	5,845	579
94%	105	98	7	76%	1,313	998	315	82%	657	538	119
89%	40	35	5	61%	2,757	1,682	1,075	66%	146	96	50
82%	25	20	5	61%	2,396	1,461	935	56%	73	40	33
	500	469	31		7,400	4,991	2,409		7,300	6,519	781

Appendix 6.6

PERSONAL TRAVEL CELL POPULATION PROJECTIONS

Historical Trend of Percentage of High School Graduates, Age 18-24—1910-1950



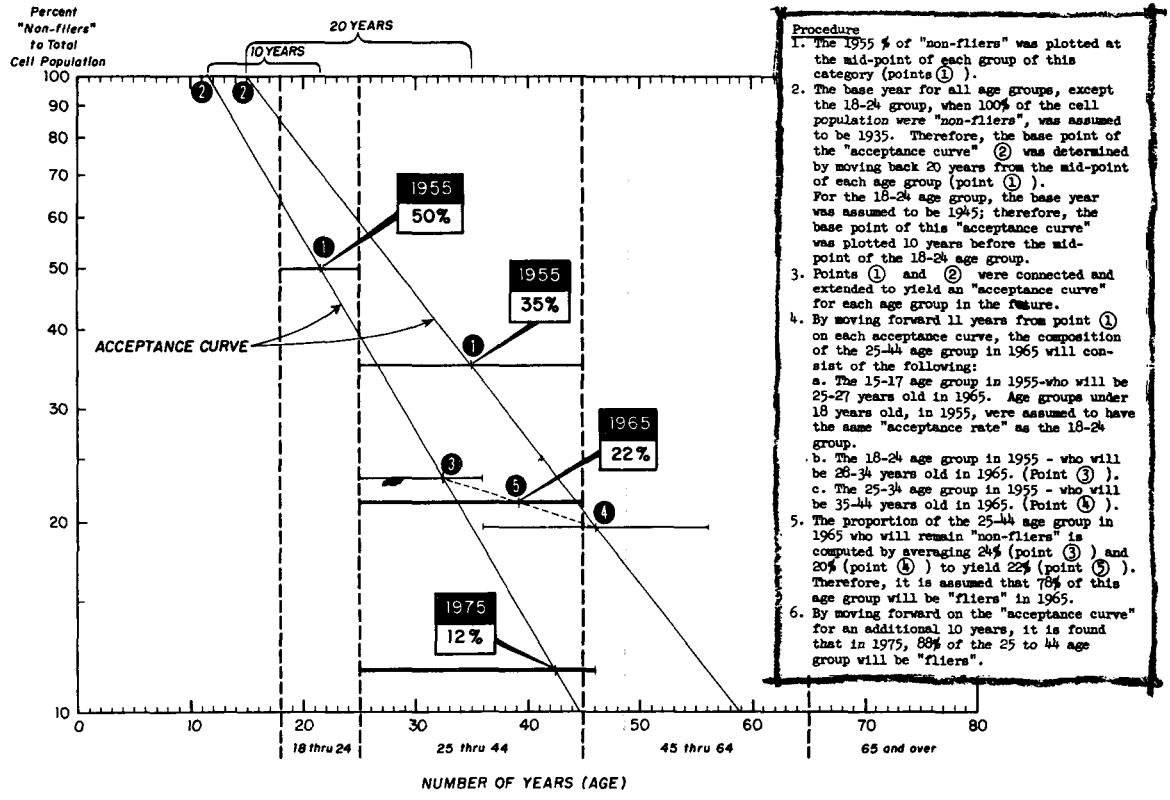
Source: 1950 U. S. Census of Population-Education, Special Report P-E No. 5B page 12.

Appendix 7.0

PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

"Acceptance Rate" of Personal Air Travel

Professional, Managerial Group, $6,999.-$10,000., High School Graduate, Age 25-44



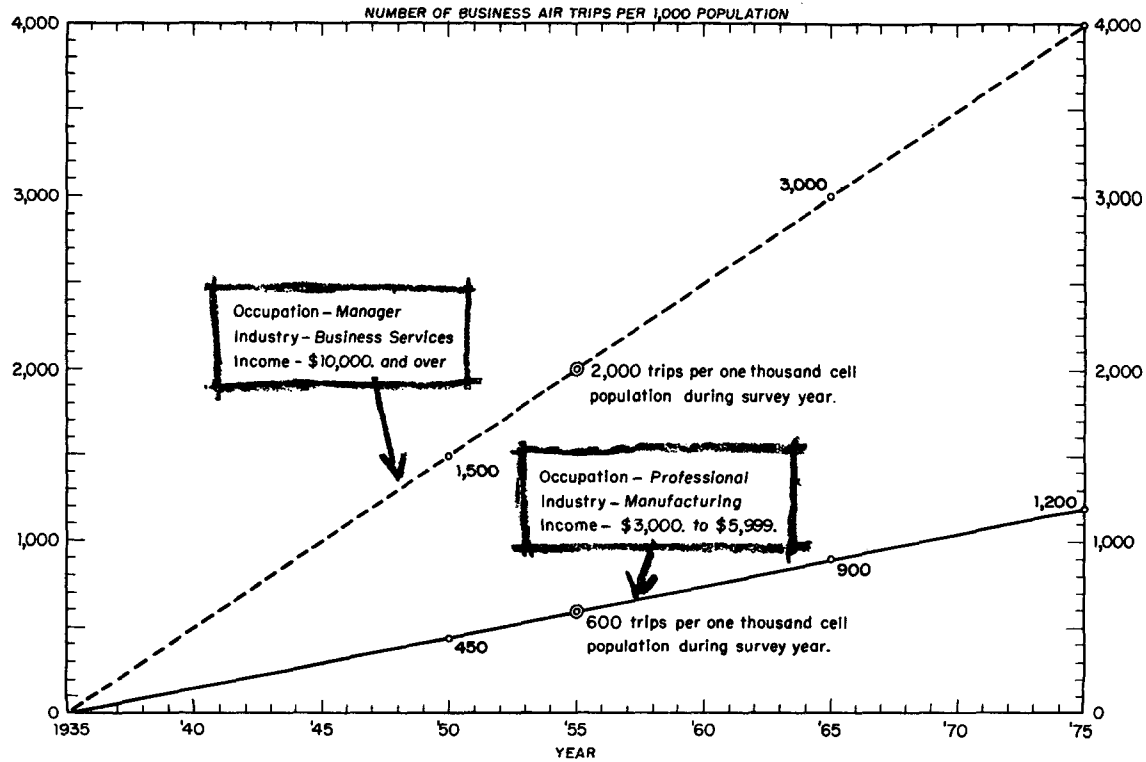
Procedure

1. The 1955 % of "non-fliers" was plotted at the mid-point of each group of this category (points ①).
2. The base year for all age groups, except the 18-24 group, when 100% of the cell population were "non-fliers", was assumed to be 1935. Therefore, the base point of the "acceptance curve" ② was determined by moving back 20 years from the mid-point of each age group (point ①). For the 18-24 age group, the base year was assumed to be 1945; therefore, the base point of this "acceptance curve" was plotted 10 years before the mid-point of the 18-24 age group.
3. Points ① and ② were connected and extended to yield an "acceptance curve" for each age group in the future.
4. By moving forward 11 years from point ① on each acceptance curve, the composition of the 25-44 age group in 1965 will consist of the following:
   a. The 15-17 age group in 1955-who will be 25-27 years old in 1965. Age groups under 18 years old, in 1955, were assumed to have the same "acceptance rate" as the 18-24 group.
   b. The 18-24 age group in 1955 - who will be 28-34 years old in 1965. (Point ③).
   c. The 25-34 age group in 1955 - who will be 35-44 years old in 1965. (Point ④).
5. The proportion of the 25-44 age group in 1965 who will remain "non-fliers" is computed by averaging 24% (point ③) and 20% (point ④) to yield 22% (point ⑤). Therefore, it is assumed that 78% of this age group will be "fliers" in 1965.
6. By moving forward on the "acceptance curve" for an additional 10 years, it is found that in 1975, 88% of the 25 to 44 age group will be "fliers".

Appendix 8.0

BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

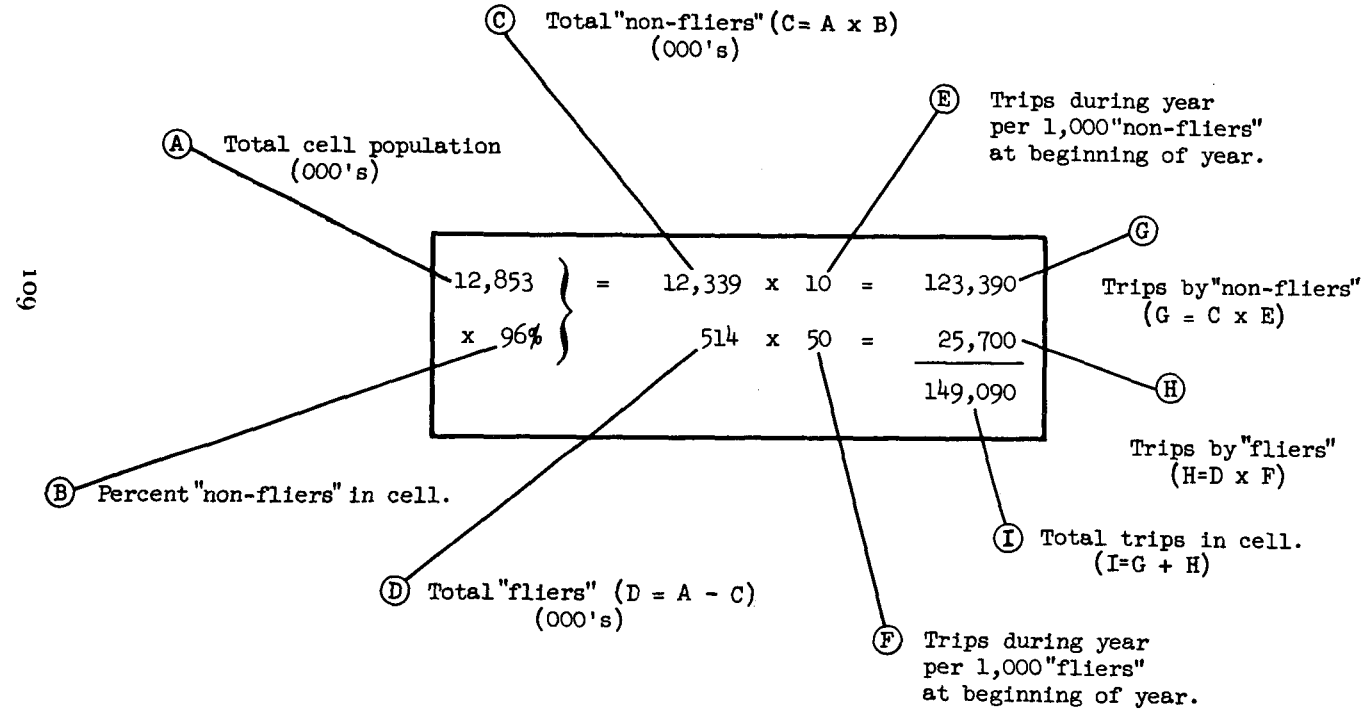
"Frequency Rate" of Business Air Travel



Appendix 9.0

PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Derivation of Personal Air Round Trips by Cell: Key



Appendix 9.1 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Professional, Technical, Managerial, Proprietor

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	242 78.5%	190 52	10 50	1,900 2,600 4,500	229 68.5%	157 72	20 100	3,140 7,200 10,340
	High School Graduates	363 63%	229 134	60 750	13,740 100,500 114,240	274 30%	82 192	500 750	41,000 144,000 185,000
25 - 44	Non-High School Graduates	256 75%	192 64	10 50	1,920 3,200 5,120	884 65%	575 309	20 75	11,500 23,175 34,675
	High School Graduates	314 47%	148 166	10 100	1,480 16,600 18,080	1,038 27%	280 758	50 217	14,000 164,486 178,486
45 - 64	Non-High School. Graduates	152 74%	112 40	5 20	560 800 1,360	482 70%	337 145	15 75	5,055 10,875 15,930
	High School Graduates	194 53%	103 91	10 100	1,030 9,100 10,130	482 40%	193 289	25 143	4,825 41,327 46,152
65 and Over	Non-High School Graduates	73 78%	57 16	- -	- - -	45 78%	35 10	- -	- - -
	High School Graduates	35 77%	27 8	- -	- - -	73 58%	42 31	- 750	- 23,250 23,250
Total Air Trips - By Income					153,430				493,833
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips

—1965

INCOME							
$6,000 - $9,999				Over $10,000			
54	23	60	1,380	20	3	150	450
43.5%	31	200	6,200	15%	17	400	6,800
			7,580				7,250
82	20	600	12,000	36	5	800	4,000
24%	62	1,000	62,000	15%	31	1,500	46,500
			74,000				50,500
927	375	40	15,000	601	72	200	14,400
40.5%	552	125	69,000	12%	529	250	132,250
			84,000				146,650
1,512	333	290	96,570	1,068	139	286	39,754
22%	1,179	382	450,378	13%	929	500	464,500
			546,948				504,254
815	334	25	8,350	775	109	50	5,450
41%	481	100	48,100	14%	666	100	66,600
			56,450				72,050
1,037	311	75	23,325	1,163	145	462	66,990
30%	726	250	181,500	12.5%	462	485	493,730
			204,825				560,720
110	50	-	-	200	39	-	-
45%	60	-	-	19.5%	161	-	-
			-				-
125	58	-	-	299	42	-	-
46%	67	1,000	67,000	14%	257	1,000	257,000
			67,000				257,000
			1,040,803				1,598,424
							3,286,490

Appendix 9.2 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	3,067 81%	2,484 583	20 150	49,680 87,450 137,130	3,497 59.5%	2,081 1,416	30 200	62,430 283,200 345,630
	High School Graduates	767 62.5%	479 288	50 500	23,950 144,000 167,950	929 47.5%	441 488	69 583	30,429 284,504 314,933
25 - 44	Non-High School Graduates	2,174 79%	1,717 457	10 50	17,170 22,850 40,020	8,071 66%	5,327 2,744	15 71	79,905 194,824 274,729
	High School Graduates	242 65%	157 85	30 250	4,710 21,250 25,960	1,206 51%	615 591	87 177	53,505 104,607 158,112
45 - 64	Non-High School Graduates	1,574 86%	1,354 220	15 50	20,310 11,000 31,310	5,979 80%	4,783 1,196	5 100	23,915 119,600 143,515
	High School Graduates	195 76%	148 47	10 100	1,480 4,700 6,180	815 59%	481 334	18 941	8,658 314,294 322,952
65 and Over	Non-High School Graduates	528 94%	496 32	- -	- - -	1,112 86%	956 156	- -	- - -
	High School Graduates	34 88%	30 4	- -	- - -	97 65%	63 34	- -	- - -
Total Air Trips - By Income					408,550				1,559,871
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Clerical, Sales, Labor—1965

INCOME							
$6,000 - $9,999				Over $10,000			
824	437	100	43,700	88	42	300	12,600
53%	387	300	116,100	48%	46	500	23,000
			159,800				35,600
321	93	167	15,531	107	20	400	8,000
29%	228	1,200	273,600	19%	87	1,333	115,971
			289,131				123,971
4,862	2,820	40	112,800	1,547	743	200	148,600
58%	2,042	111	226,662	48%	804	750	603,000
			339,462				751,600
2,083	729	200	145,800	1,075	258	500	129,000
35%	1,354	233	315,482	24%	817	700	571,900
			461,282				700,900
5,554	3,721	10	37,210	998	529	10	5,290
67%	1,833	300	549,900	53%	469	500	234,500
			587,110				239,790
1,388	680	31	21,080	997	329	100	32,900
49%	708	267	189,036	33%	668	429	286,572
			210,116				319,472
706	487	-	-	277	161	-	-
69%	219	-	-	58%	116	-	-
			-				-
145	80	-	-	201	62	-	-
55%	65	-	-	31%	139	-	-
			-				-
			2,046,901				2,171,333
							6,186,655

Appendix 9.3 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	252 - -	- - -	- - -	- - -	68 42.5% -	29 39 -	100 1,000 -	2,900 39,000 41,900
	High School Graduates	44 - -	- - -	- - -	- - -	16 24% -	4 12 -	50 300 -	200 3,600 3,800
25 - 44	Non-High School Graduates	721 80.5% -	580 141 -	5 50 -	2,900 7,050 9,950	304 59% -	179 125 -	15 150 -	2,685 18,750 21,435
	High School Graduates	46 83.5% -	38 8 -	30 100 -	1,140 800 1,940	34 40% -	14 20 -	60 200 -	840 4,000 4,840
45 - 64	Non-High School Graduates	902 88% -	794 108 -	5 50 -	3,970 5,400 9,370	297 79% -	235 62 -	10 100 -	2,350 6,200 8,550
	High School Graduates	58 92% -	53 5 -	10 100 -	530 500 1,030	33 73% -	24 9 -	20 200 -	480 1,800 2,280
65 and Over	Non-High School Graduates	432 95% -	410 22 -	- - -	- - -	90 79% -	71 19 -	- - -	- - -
	High School Graduates	18 - -	- - -	- - -	- - -	6 84% -	5 1 -	- - -	- - -
	Total Air Trips - By Income				22,290				82,805
	Total Air Trips - By Occupation								

Derivation of Personal Air Round Trips: Farm: Owners, Managers, Foremen—1965

INCOME							
$6,000 - $9,999				Over $10,000			
4	5	125	625	4	-	100	-
34.5%	9	-	-	-	-	-	-
			625				-
2	-	-	-	1	-	-	-
18.5%	-	-	-	-	-	-	-
			-				-
105	46	25	1,150	68	-	-	-
44%	59	300	17,700	-	-	-	-
			18,850				-
12	3	70	210	10	-	100	-
24.5%	9	300	2,700	-	-	500	-
			2,910				-
122	66	20	1,320	65	-	40	-
54%	56	100	5,600	-	-	100	-
			6,920				-
13	4	40	160	10	3	100	300
34.5%	9	500	4,500	34.5%	7	2,000	14,000
			4,660				14,300
37	20	-	-	10	-	-	-
54%	17	-	-	-	-	-	-
			-				-
5	2	-	-	2	1	-	-
34.5%	3	-	-	34.5%	1	-	-
			-				-
			33,965				14,300
							153,360

Appendix 9.4 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	2,107 88%	1,854 253	10 200	18,540 50,600 69,140	2,299 62.5%	1,437 862	15 273	21,555 235,326 256,881
	High School Graduates	820 63%	517 303	10 200	5,170 60,600 65,770	649 55.5%	360 289	21 300	7,560 86,700 94,260
25 - 44	Non-High School Graduates	3,624 90%	3,262 362	10 50	32,620 18,100 50,720	4,611 75%	3,458 1,153	12 100	41,496 115,300 156,796
	High School Graduates	1,082 68%	736 346	20 100	14,720 34,600 49,320	2,071 59%	1,222 849	40 275	48,880 233,475 282,355
45 - 64	Non-High School Graduates	1,952 88%	1,718 234	10 40	17,180 9,360 26,540	3,296 87%	2,868 428	30 110	86,040 47,080 133,120
	High School Graduates	488 82%	400 88	25 100	10,000 8,800 18,800	492 69%	339 153	50 250	16,950 38,250 55,200
65 and Over	Non-High School Graduates	901 85%	766 135	10 100	7,660 13,500 21,160	1,170 85%	995 175	48 150	47,760 26,250 74,010
	High School Graduates	89 89.5%	80 9	10 100	800 900 1,700	369 75%	277 92	50 200	13,850 18,400 32,250
Total Air Trips - By Income					303,150				1,084,872
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Housewives, Students, Unemployed—1965

INCOME							
$6,000 - $9,999				Over $10,000			
147	84	35	2,940	695	292	75	21,900
57%	63	300	18,900	42%	403	400	161,200
			21,840				183,100
188	89	267	23,763	95	34	125	4,250
47.5%	99	800	79,200	36%	61	3,000	183,000
			102,963				187,250
1,494	956	29	27,724	788	394	100	39,400
64%	538	250	134,500	50%	394	300	118,200
			162,224				157,600
1,493	769	65	49,985	337	113	175	19,775
51.5%	724	350	253,400	33.5%	224	800	179,200
			303,385				198,975
2,423	1,817	50	90,850	1,174	763	75	57,225
75%	606	150	90,900	65%	411	200	82,200
			181,750				139,425
2,424	1,248	125	156,000	751	207	300	62,100
51.5%	1,176	615	723,240	27.5%	544	737	400,928
			879,240				463,028
1,206	953	50	47,650	789	556	75	41,700
79%	253	300	75,900	70.5%	233	500	116,500
			123,550				158,200
771	393	100	39,300	505	126	75	9,450
51%	378	350	132,300	25%	379	800	303,200
			171,600				312,650
			1,946,552				1,800,228
							5,134,802

Appendix 9.5 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates								
	High School Graduates								
25 - 44	Non-High School Graduates								
	High School Graduates								
45 - 64	Non-High School Graduates	906 -	- -	- -	- - -	120 -	- -	- -	- -
	High School Graduates	186 -	- -	- -	- - -	23 -	- -	- -	- -
65 and Over	Non-High School Graduates	5,162 89%	4,594 568	10 200	45,940 113,600 159,540	250 80.5%	201 49	91 600	18,291 29,400 47,691
	High School Graduates	511 71%	363 148	20 333	7,260 49,284 56,544	55 68%	37 18	75 400	2,775 7,200 9,975
Total Air Trips - By Income					216,084				57,666
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Retired—1965

INCOME							
$6,000 - $9,999				Over $10,000			
33 -	- -	- -	- - -	13 -	- -	- -	- - -
6 -	- -	- -	- - -	13 -	- -	- -	- - -
40 64%	26 14	100 1,000	2,600 14,000 16,600	34 51.5%	18 16	100 1,000	1,800 16,000 17,800
21 50%	10.5 10.5	200 500	2,100 5,250 7,350	27 27%	7 20	500 1,000	3,500 20,000 23,500
			23,950				41,300
							339,000

Appendix 9.6, see page 131

Appendix 9.6, see page 131

Appendix 9.7 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Professional, Technical, Managerial, Proprietor

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	289 78%	225 64	10 50	2,250 3,200 5,450	252 67.5%	170 82	20 100	3,400 8,200 11,600
	High School Graduates	472 62%	292 180	60 750	17,520 135,000 152,520	334 29%	97 237	500 750	48,500 177,750 226,250
25 - 44	Non-High School Graduates	214 70%	150 64	10 50	1,500 3,200 4,700	759 57%	433 326	20 75	8,660 24,450 33,110
	High School Graduates	322 50%	161 161	10 100	1,610 16,100 17,710	929 16.5%	153 776	50 217	7,650 168,392 176,042
45 - 64	Non-High School Graduates	120 63%	76 44	5 20	380 880 1,260	354 52%	184 170	15 75	2,760 12,750 15,510
	High School Graduates	152 24%	36 116	10 100	360 11,600 11,960	355 15%	53 302	25 143	1,325 43,186 44,511
65 and Over	Non-High School Graduates	48 72%	35 13	- -	- - -	52 72%	37 15	- -	- - -
	High School Graduates	23 71%	16 7	- -	- - -	45 49.5%	22 23	- 750	- 17,250 17,250
Total Air Trips - By Income					193,600				524,273
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips

—1975

INCOME							
$6,000 - $9,999				Over $10,000			
83	35	60	2,100	45	6	150	900
42.5%	48	200	9,600	14%	39	400	15,600
			11,700				16,500
136	31	600	18,600	89	12	800	9,600
23%	105	1,000	105,000	14%	77	1,500	115,500
			123,600				125,100
1,181	342	40	13,680	1,088	109	200	21,800
29%	839	125	104,875	10%	979	250	244,750
			118,555				266,550
1,772	213	290	61,770	1,935	194	286	55,484
12%	1,559	382	595,538	10%	1,741	500	870,500
			657,308				925,984
826	231	25	5,775	1,176	118	50	5,900
28%	595	100	59,500	10%	1,058	100	105,800
			65,275				111,700
1,052	126	75	9,450	1,765	177	462	81,774
12%	926	250	231,500	10%	1,588	485	770,180
			240,950				851,954
94	33	-	-	291	33	-	-
35%	61	-	-	11.5%	258	-	-
			-				-
105	37	-	-	342	34	-	-
35%	68	1,000	68,000	10%	308	1,000	308,000
			68,000				308,000
			1,285,388				2,605,788
							4,609,049

Appendix 9.8 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	3,551 80%	2,841 710	20 150	56,820 106,500 163,320	4,084 59%	2,410 1,674	30 200	72,300 334,800 407,100
	High School Graduates	1,122 62%	696 426	50 500	34,800 213,000 247,800	1,361 45.5%	619 742	69 583	42,711 432,586 475,297
25 - 44	Non-High School Graduates	1,506 73%	1,099 407	10 50	10,990 20,350 31,340	5,762 46.5%	2,679 3,083	15 71	40,185 218,893 259,078
	High School Graduates	377 50%	188 189	30 250	5,640 47,250 52,890	1,532 33%	506 1,026	87 177	44,022 181,602 225,624
45 - 64	Non-High School Graduates	1,106 72%	796 310	15 50	11,940 15,500 27,440	4,237 66%	2,796 1,441	5 100	13,980 144,100 158,080
	High School Graduates	137 59%	81 56	10 100	810 5,600 6,410	578 44%	254 324	18 941	4,572 304,884 309,456
65 and Over	Non-High School Graduates	421 92%	387 34	- -	- - -	891 82%	731 160	- -	- - -
	High School Graduates	27 75%	20 7	- -	- - -	78 57%	44 34	- -	- - -
Total Air Trips - By Income					529,200				1,834,635
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Clerical, Sales, Labor—1975

INCOME							
$6,000 - $9,999				Over $10,000			
1,804	938	100	93,800	270	127	300	38,100
52%	866	300	259,800	47%	143	500	71,500
			353,600				109,600
849	238	167	39,746	359	66	400	26,400
28%	611	1,200	733,200	18.5%	293	1,333	390,569
			772,946				416,969
7,402	2,924	40	116,960	2,449	820	200	164,000
39.5%	4,478	111	497,058	33.5%	1,629	750	1,221,750
			614,018				1,385,750
2,878	460	200	92,000	2,994	299	500	149,500
16%	2,418	233	563,394	10%	2,695	700	1,886,500
			655,394				2,036,000
7,411	4,076	10	40,760	1,839	708	10	7,080
55%	3,335	300	1,000,500	38.5%	1,131	500	565,500
			1,041,260				572,580
1,853	602	31	18,662	1,839	441	100	44,100
32.5%	1,251	267	334,017	24%	1,398	429	599,742
			352,679				643,842
1,067	651	-	-	579	281	-	-
61%	416	-	-	48.5%	298	-	-
			-				-
218	100	-	-	419	90	-	-
46%	118	-	-	21.5%	329	-	-
			-				-
			3,789,897				5,164,741
							11,318,473

Appendix 9.9 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	155 -	- -	- -	- - -	62 41.5%	26 36	100 1,000	2,600 36,000 38,600
	High School Graduates	37 -	- -	- -	- - -	19 23.5%	5 14	50 300	250 4,200 4,450
25 - 44	Non-High School Graduates	500 78%	390 110	5 50	1,950 5,500 7,450	282 28.5%	80 202	15 150	1,200 30,300 31,500
	High School Graduates	88 81%	71 17	30 100	2,130 1,700 3,830	66 12%	8 58	60 200	480 11,600 12,080
45 - 64	Non-High School Graduates	684 75%	513 171	5 50	2,565 8,550 11,115	293 72%	211 82	10 100	2,110 8,200 10,310
	High School Graduates	44 78%	34 10	10 100	340 1,000 1,340	32 52.5%	17 15	20 200	340 3,000 3,340
65 and Over	Non-High School Graduates	316 93.5%	295 21	- -	- - -	98 74%	73 25	- -	- - -
	High School Graduates	14 -	- -	- -	- - -	7 79%	6 1	- -	- - -
Total Air Trips - By Income					23,735				100,280
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Farm: Owners, Managers, Foremen—1975

INCOME							
$6,000 - $9,999				Over $10,000			
18	6	125	750	5	-	100	-
33.5%	12	-	-	-	-	-	-
			750				-
3	1	-	-	1	-	-	-
18%	2	-	-	-	-	-	-
			-				-
140	29	25	725	97	-	-	-
21%	111	300	33,300	-	-	-	-
			34,025				-
16	2	70	140	11	-	100	-
10%	14	300	4,200	-	-	500	-
			4,340				-
128	57	20	1,140	90	-	40	-
44.5%	71	100	7,100	-	-	100	-
			8,240				-
12	3	40	120	23	6	100	600
24.5%	9	500	4,500	24.5%	17	2,000	34,000
			4,620				34,600
35	16	-	-	20	-	-	-
44.5%	19	-	-	-	-	-	-
			-				-
5	1	-	-	5	1	-	-
24.5%	4	-	-	24.5%	4	-	-
			-				-
			51,975				34,600
							210,590

Appendix 9.10 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	2,477 87.5%	2,168 309	10 200	21,680 61,800 83,480	2,452 62%	1,520 932	15 273	22,800 254,436 277,236
	High School Graduates	1,166 62%	723 443	10 200	7,230 88,600 95,830	862 54.5%	470 392	21 300	9,870 117,600 127,470
25 - 44	Non-High School Graduates	3,337 83%	2,770 567	10 50	27,700 28,350 56,050	4,639 50%	2,320 2,319	12 100	27,840 231,900 259,740
	High School Graduates	1,298 50.5%	655 643	20 100	13,100 64,300 77,400	1,308 42%	549 759	40 275	21,960 208,725 230,685
45 - 64	Non-High School Graduates	1,707 88%	1,502 205	10 40	15,020 8,200 23,220	2,606 84%	2,189 417	30 110	65,670 45,870 111,540
	High School Graduates	427 66.5%	284 143	25 100	7,100 14,300 21,400	389 55.5%	216 173	50 250	10,800 43,250 54,050
65 and Over	Non-High School Graduates	850 81%	689 161	10 100	6,890 16,100 22,990	998 81%	808 190	48 150	38,784 28,500 67,284
	High School Graduates	84 86%	72 12	10 100	720 1,200 1,920	315 68%	214 101	50 200	10,700 20,200 30,900
Total Air Trips - By Income					382,290				1,158,905
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Housewives, Students, Unemployed—1975

INCOME							
$6,000 - $9,999				Over $10,000			
259 56%	145 114	35 300	5,075 34,200 39,275	1,599 41.5%	664 935	75 400	49,800 374,000 423,800
358 47%	168 190	267 800	44,856 152,000 196,856	327 35.5%	116 211	125 3,000	14,500 633,000 647,500
1,912 43.5%	832 1,080	29 250	24,128 270,000 294,128	1,911 28%	535 1,376	100 300	53,500 412,800 466,300
2,434 33.5%	815 1,619	65 350	52,975 566,650 619,625	261 22.5%	59 202	175 800	10,325 161,600 171,925
3,133 63%	1,974 1,159	50 150	98,700 173,850 272,550	2,016 49.5%	998 1,018	75 200	74,850 203,600 278,450
3,133 41.5%	1,300 1,833	125 615	162,500 1,127,295 1,289,795	1,289 20.5%	264 1,025	300 737	79,200 755,425 834,625
1,682 74%	1,245 437	50 300	62,250 131,100 193,350	1,461 63%	920 541	75 500	69,000 270,500 339,500
1,075 41.5%	446 629	100 350	44,600 220,150 264,750	935 16%	150 785	75 800	11,250 628,000 639,250
			3,170,329				3,801,350
							8,512,874

Appendix 9.11 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates								
	High School Graduates								
25 - 44	Non-High School Graduates								
	High School Graduates								
45 - 64	Non-High School Graduates	983 -	- -	- -	- - -	163 -	- -	- -	- - -
	High School Graduates	202 -	- -	- -	- - -	32 -	- -	- -	- - -
65 and Over	Non-High School Graduates	5,845 86% 	5,027 818 	10 200 	50,270 163,600 213,870	538 75% 	403 135 	91 600 	36,673 81,000 117,673
	High School Graduates	579 63.5% 	368 211 	20 333 	7,360 70,263 77,623	119 60% 	71 48 	75 400 	5,325 19,200 24,525
Total Air Trips - By Income					291,493				142,198
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Retired—1975

INCOME							
$6,000 - $9,999				Over $10,000			
63	-	-	-	22	-	-	-
-	-	-	-	-	-	-	-
			-				-
12	-	-	-	23	-	-	-
-	-	-	-	-	-	-	-
			-				-
96	53	100	5,300	40	17	100	1,700
55.5%	43	1,000	43,000	41.5%	23	1,000	23,000
			48,300				24,700
50	20	200	4,000	33	6	500	3,000
40%	30	500	15,000	18%	27	1,000	27,000
			19,000				30,000
			67,300				54,700
							555,691

Appendix 9.12

SUMMARY OF PERSONAL AIR TRIPS—1975

(Thousands of Round Trips)

Occupation	Round Trips
Professional, Technical, Managerial, Proprietor 1/	4,609,049
Clerical, Sales, Labor 2/	11,318,473
Farm: Owners, Managers, Foremen 3/	210,590
Housewives, Students, Unemployed 4/	8,512,874
Retired 5/	555,691
Total	25,206,677

1 See Appendix 9.7.

2 See Appendix 9.8.

3 See Appendix 9.9.

4 See Appendix 9.10.

5 See Appendix 9.11.

Appendix 9.6

SUMMARY OF PERSONAL AIR TRIPS—1965

(Thousands of Round Trips)

Occupation	Round Trips
Professional, Technical, Managerial, Proprietor 1/	3,286,490
Clerical, Sales, Labor 2/	6,186,655
Farm: Owners, Managers, Foremen 3/	153,360
Housewives, Students, Unemployed 4/	5,134,802
Retired 5/	339,000
Total	15,100,307

1 See Appendix 9.1.

2 See Appendix 9.2.

3 See Appendix 9.3.

4 See Appendix 9.4.

5 See Appendix 9.5.

Appendix 10.0 BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

		FAMILY INCOME	PROFESSIONAL, TECHNICAL			MANAGERIAL, PROPRIETOR		
			Population	Trips per 1,000	Trips 1/	Population	Trips per 1,000	Trips 1/
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	3	-	-	5	-	-
		$3,000 - $5,999	24	-	-	16	720	11,520
		$6,000 - $9,999	19	890	16,910	10	1,500	15,000
		Over $10,000	14	1,500	21,000	9	7,200	64,800
	MANUFACTURING	Under $3,000	62	500	31,000	95	380	36,100
		$3,000 - $5,999	424	900	381,600	252	450	113,400
		$6,000 - $9,999	575	1,180	678,500	278	900	250,200
		Over $10,000	479	3,000	1,437,000	279	14,600	4,073,400
	GOVERNMENT	Under $3,000	9	-	-	15	-	-
		$3,000 - $5,999	112	430	48,160	64	730	46,720
		$6,000 - $9,999	154	410	63,140	73	4,300	313,900
		Over $10,000	112	1,200	134,400	61	6,000	366,000
	BUSINESS SERVICE	Under $3,000	41	-	-	16	-	-
		$3,000 - $5,999	140	120	16,800	24	750	18,000
		$6,000 - $9,999	141	2,240	315,840	19	1,500	28,500
		Over $10,000	148	4,500	666,000	26	3,000	78,000
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	15	-	-	51	-	-
		$3,000 - $5,999	80	1,500	120,000	135	-	-
		$6,000 - $9,999	98	600	58,800	150	66	9,900
		Over $10,000	56	725	40,600	120	1,000	120,000
	WHOLESALE, RETAIL	Under $3,000	26	-	-	375	-	-
		$3,000 - $5,999	125	-	-	893	100	89,300
		$6,000 - $9,999	154	1,500	231,000	994	240	238,560
		Over $10,000	95	6,000	570,000	893	1,500	1,339,500
	PERSONAL SERVICE	Under $3,000	43	-	-	75	-	-
		$3,000 - $5,999	78	-	-	82	165	13,530
		$6,000 - $9,999	56	133	7,448	53	225	11,925
		Over $10,000	31	225	6,975	35	250	8,750
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	8	-	-	25	-	-
		$3,000 - $5,999	46	300	13,800	77	133	10,241
		$6,000 - $9,999	91	600	54,600	134	266	35,644
		Over $10,000	86	890	76,540	198	900	178,200
	PROFESSIONAL SERVICE	Under $3,000	137	-	-	19	-	-
		$3,000 - $5,999	860	300	258,000	52	380	19,760
		$6,000 - $9,999	1,205	450	542,250	67	500	33,500
		Over $10,000	1,130	1,030	1,163,900	106	1,900	201,400
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		112	990	110,880	32	-	-
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		252	310	78,120	349	120	41,880
	REPAIR SERVICE		25	-	-	158	-	-
	AMUSEMENT, RECREATION		167	-	-	126	-	-
	PRINTING, PUBLISHING		95	510	48,450	80	390	31,200
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-
	TOTAL		7,528	-	7,191,713	6,521	-	7,798,830

1 Population (in thousands) x trips per 1000 = trips by business cell (round trips).

Derivation of Business Air Round Trips—1965

SALES			CLERICAL, LABOR			FARM: OWNERS, MANAGERS AND FOREMEN		
Population	Trips per 1,000	Trips 1/	Population	Trips per 1,000	Trips 1/	Population	Trips per 1,000	Trips 1/
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-
98	1,500	147,000	-	-	-	-	-	-
104	1,600	166,400	-	-	-	-	-	-
62	9,800	607,600	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
-	-	-	18,808	100	1,880,800	-	-	-
2	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
527	-	-	-	-	-	-	-	-
1,545	60	92,700	-	-	-	-	-	-
1,595	520	829,400	-	-	-	-	-	-
877	266	233,282	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-
154	220	33,880	-	-	-	-	-	-
234	225	52,650	-	-	-	-	-	-
194	225	43,650	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
-	-	-	19,475	32	623,200	-	-	-
10	-	-	-	-	-	3,800	34	129,371
25	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-
152	-	-	-	-	-	-	-	-
-	-	-	7,344	15	110,160	-	-	-
5,818	-	2,206,562	45,627	-	2,614,160	3,800	-	129,371

GRAND TOTAL - POPULATION	69,294
GRAND TOTAL - TRIPS	19,940,637

Appendix 10.1 BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

			PROFESSIONAL, TECHNICAL			MANAGERIAL, PROPRIETOR		
			Population	Trips Per 1,000	Trips 1/	Population	Trips Per 1,000	Trips 1/
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	2	-	-	3	-	-
		$3,000 - $5,999	15	-	-	12	980	11,760
		$6,000 - $9,999	26	1,180	30,680	15	2,000	30,000
		Over $10,000	21	2,000	42,000	12	9,800	117,600
	MANUFACTURING	Under $3,000	40	675	27,000	61	500	30,500
		$3,000 - $5,999	301	1,180	355,180	241	600	144,600
		$6,000 - $9,999	664	1,380	916,320	323	1,180	381,140
		Over $10,000	887	4,000	3,548,000	486	19,200	9,331,200
	GOVERNMENT	Under $3,000	5	-	-	8	-	-
		$3,000 - $5,999	63	590	37,170	47	990	46,530
		$6,000 - $9,999	168	540	90,720	80	6,000	480,000
		Over $10,000	197	1,600	315,200	103	7,800	803,400
	BUSINESS SERVICE	Under $3,000	29	-	-	13	-	-
		$3,000 - $5,999	112	180	20,160	27	980	26,460
		$6,000 - $9,999	173	3,000	519,000	22	2,000	44,000
		Over $10,000	249	5,800	1,444,200	40	4,000	160,000
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	12	-	-	40	-	-
		$3,000 - $5,999	55	2,000	110,000	109	-	-
		$6,000 - $9,999	120	780	93,600	183	85	15,555
		Over $10,000	109	980	106,820	208	1,320	274,560
	WHOLESALE, RETAIL	Under $3,000	21	-	-	296	-	-
		$3,000 - $5,999	88	-	-	752	140	105,280
		$6,000 - $9,999	174	2,000	348,000	1,122	320	359,040
		Over $10,000	187	7,800	1,458,600	1,532	2,000	3,064,000
	PERSONAL SERVICE	Under $3,000	42	-	-	73	-	-
		$3,000 - $5,999	64	-	-	80	200	16,000
		$6,000 - $9,999	83	167	13,861	79	300	23,700
		Over $10,000	60	300	18,000	63	350	22,050
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	7	-	-	18	-	-
		$3,000 - $5,999	32	400	12,800	67	167	11,189
		$6,000 - $9,999	86	780	67,080	125	334	41,750
		Over $10,000	154	1,180	181,720	314	1,200	376,800
	PROFESSIONAL SERVICE	Under $3,000	108	-	-	15	-	-
		$3,000 - $5,999	600	400	240,000	45	500	22,500
		$6,000 - $9,999	1,344	580	779,520	74	675	49,950
		Over $10,000	1,948	1,380	2,688,240	159	2,500	397,500
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		96	1,310	125,760	27	-	-
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		290	410	118,900	402	175	70,350
	REPAIR SERVICE		29	-	-	190	-	-
	AMUSEMENT, RECREATION		200	-	-	152	-	-
	PRINTING, PUBLISHING		118	680	80,240	99	500	49,500
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-
	TOTAL		8,979	-	13,788,771	7,717	-	16,506,914

1/ Population (in thousands) x trips per 1000 = trips by business cell (round trips).

Derivation of Business Air Round Trips—1975

SALES			CLERICAL, LABOR			FARM: OWNERS, MANAGERS AND FOREMEN		
Population	Trips Per 1,000	Trips 1/	Population	Trips Per 1,000	Trips 1/	Population	Trips Per 1,000	Trips 1/
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
108	2,000	216,000	-	-	-	-	-	-
175	2,050	358,750	-	-	-	-	-	-
167	13,000	2,171,000	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-
-	[illegible]	[illegible]	22,590	135	3,049,650	[illegible]	-	-
2	[illegible]	[illegible]	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-
8	-	-	-	-	-	-	-	-
416	-	-	-	-	-	-	-	-
1,216	80	97,280	-	-	-	-	-	-
1,952	700	1,366,400	-	-	-	-	-	-
1,749	334	584,166	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-
124	300	37,200	-	-	-	-	-	-
242	300	72,600	-	-	-	-	-	-
355	300	106,500	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
-	-	-	23,136	44	1,017,984	-	-	-
9	-	-	-	-	-	3,266	69	226,367
28	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
188	-	-	-	-	-	-	-	-
-	-	-	8,237	20	164,740	-	-	-
6,992	-	5,009,896	53,963	-	4,232,374	3,266	-	226,367

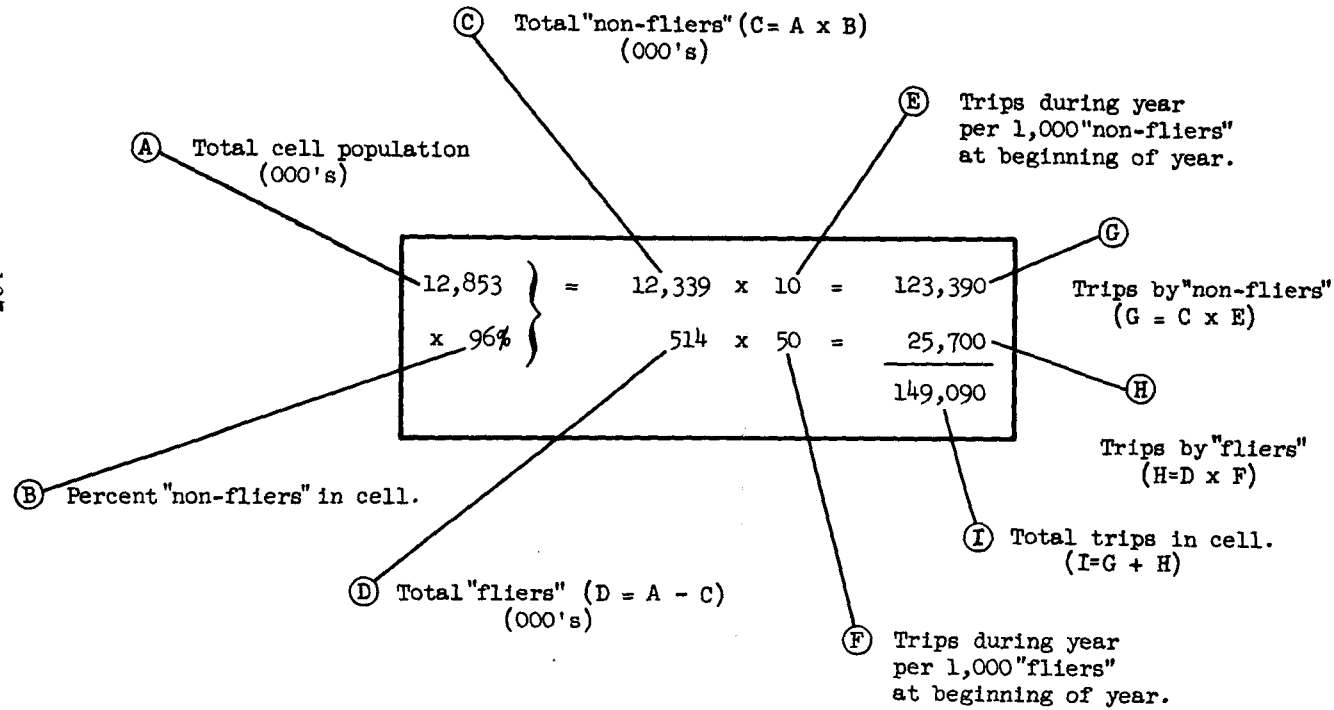
GRAND TOTAL - POPULATION	80,917
GRAND TOTAL - TRIPS	39,764,322

To keep these Appendix tables easily legible, we put each across facing pages. They continue on the next lefthand page, 138. In them will be found valuable market analysis projections.

Appendix 11.0

PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Derivation of Personal Air Round Trips by Cell: Key



Appendix 11.1 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS
Professional, Technical, Managerial, Proprietor

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	298 91%	271 27	10 50	2,710 1,350 4,060	80 87%	70 10	20 100	1,400 1,000 2,400
	High School Graduates	356 84%	299 57	60 750	17,940 42,750 60,690	86 65%	56 30	500 750	28,000 22,500 50,500
25 - 44	Non-High School Graduates	881 86%	758 123	10 50	7,580 6,150 13,730	1,133 82%	929 204	20 75	18,580 15,300 33,880
	High School Graduates	851 65%	553 298	10 100	5,530 29,800 35,330	1,229 57%	701 528	50 217	35,050 114,576 149,626
45 - 64	Non-High School Graduates	803 88.5%	711 92	5 20	3,555 1,840 5,395	816 88.5%	722 94	15 75	10,830 7,050 17,880
	High School Graduates	352 88%	310 42	10 100	3,100 4,200 7,300	537 76%	408 129	25 143	10,200 18,447 28,647
65 and Over	Non-High School Graduates	173 -	- -	- -	- - -	82 -	- -	- -	- - -
	High School Graduates	66 -	- -	- -	- - -	60 72%	43 17	- 750	- 12,750 12,750
Total Air Trips - By Income					126,505				295,683
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips –1950

INCOME							
$6,000 - $9,999				Over $10,000			
6	5	60	300	-	-	150	-
75%	1	200	200	48%	-	400	-
			500				-
7	4	600	2,400	2	1	800	800
60%	3	1,000	3,000	50%	1	1,500	1,500
			5,400				2,300
267	171	40	6,840	111	39	200	7,800
64%	96	125	12,000	35%	72	250	18,000
			18,840				25,800
420	218	290	63,220	202	72	286	20,592
52%	202	382	77,164	35.5%	130	500	65,000
			140,384				85,592
319	217	25	5,425	187	86	50	4,300
68%	102	100	10,200	46%	101	100	10,100
			15,625				14,400
323	213	75	15,975	221	99	462	45,738
66%	110	250	27,500	45%	122	485	59,170
			43,475				104,908
36	-	-	-	37	-	-	-
-	-	-	-	-	-	-	-
			-				-
22	13	-	-	33	20	-	-
59%	9	1,000	9,000	60%	13	1,000	13,000
			9,000				13,000
			233,224				246,000
							901,412

Appendix 11.2 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	5,375 93%	4,999 376	20 150	99,980 56,400 156,380	963 87%	838 125	30 200	25,140 25,000 50,140
	High School Graduates	608 87%	529 79	50 500	26,450 39,500 65,950	122 80%	98 24	69 583	6,762 13,992 20,754
25 - 44	Non-High School Graduates	9,963 91%	9,066 897	10 50	90,660 44,850 135,510	6,776 88%	5,963 813	15 71	89,445 57,723 147,168
	High School Graduates	824 85%	700 124	30 250	21,000 31,000 52,000	874 76%	664 210	87 177	57,768 37,170 94,938
45 - 64	Non-High School Graduates	6,049 97%	5,868 181	15 50	88,020 9,050 97,070	4,150 93%	3,860 290	5 100	19,300 29,000 48,300
	High School Graduates	352 91%	320 32	10 100	3,200 3,200 6,400	325 81%	263 62	18 941	4,734 58,342 63,076
65 and Over	Non-High School Graduates	1,065 -	- -	- -	- - -	388 -	- -	- -	- - -
	High School Graduates	45 84%	38 7	- -	- - -	26 80%	21 5	- -	- - -
Total Air Trips - By Income					513,310				424,376
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Clerical, Sales, Labor—1950

INCOME							
$6,000 - $9,999				Over $10,000			
15	13	100	1,300	2	2	300	600
84%	2	300	600	79%	-	500	-
			1,900				600
2	1	167	167	2	1	400	400
71%	1	1,200	1,200	64%	1	1,333	1,333
			1;367				1,733
462	379	40	15,160	55	41	200	8,200
82%	83	111	9,213	74%	14	750	10,500
			24,373				18,700
142	98	200	19,600	39	23	500	11,500
69%	44	233	10,252	59%	16	700	11,200
			29,852				22,700
446	375	10	3,750	67	51	10	510
84%	71	300	21,300	76%	16	500	8,000
			25,050				8,510
73	55	31	1,705	25	14	100	1,400
75%	18	267	4,806	57%	11	429	4,719
			6,511				6,119
38	-	-	-	9	-	-	-
-	-	-	-	-	-	-	-
			-				-
4	-	-	-	6	-	-	-
-	-	-	-	-	-	-	-
			-				-
			89,053				58,362
							1,085,101

Appendix 11.3 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Farm: Owners, Managers, Foremen

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	203 - -	- - -	- - -	- - -	30 84%	25 5	100 1,000	2,500 5,000 7,500
	High School Graduates	13 - -	- - -	- - -	- - -	3 74%	2 1	50 300	100 300 400
25 - 44	Non-High School Graduates	1,242 92%	1,143 99	5 50	5,715 4,950 10,665	347 89%	309 38	15 150	4,635 5,700 10,335
	High School Graduates	46 91.5%	42 4	30 100	1,260 400 1,660	26 83%	22 4	60 200	1,320 800 2,120
45 - 64	Non-High School Graduates	1,259 98%	1,234 25	5 50	6,170 1,250 7,420	288 89.5%	258 30	10 100	2,580 3,000 5,580
	High School Graduates	43 - -	- - -	10 100 -	- - -	21 92%	19 2	20 200	380 400 780
65 and Over	Non-High School Graduates	464 - -	- - -	- - -	- - -	71 -	- -	- -	- - -
	High School Graduates	18 - -	- - -	- - -	- - -	4 -	- -	- -	- - -
Total Air Trips - By Income					19,745				26,715
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips —1950

INCOME							
$6,000 - $9,999				Over $10,000			
3	2	125	250	1	-	100	-
76%	1	-	-	-	-	-	-
			250				-
-	-	-	-	-	-	-	-
64%	-	-	-	-	-	-	-
			-				-
105	78	25	1,950	38	-	-	-
74.5%	27	300	8,100	-	-	-	-
			10,050				-
15	9	70	630	5	-	100	-
60%	6	300	1,800	-	-	500	-
			2,430				-
101	75	20	1,500	28	-	40	-
74.5%	26	100	2,600	-	-	100	-
			4,100				-
8	4.8	40	192	7	4	100	400
60%	3.2	500	1,600	59.5%	3	2,000	6,000
			1,792				6,400
21	-	-	-	4	-	-	-
-	-	-	-	-	-	-	-
			-				-
1	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
			-				-
			18,622				6,400
							71,482

Appendix 11.4 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	4,614 96%	4,429 185	10 200	44,290 37,000 81,290	60 91%	55 5	15 273	825 1,365 2,190
	High School Graduates	1,163 88%	1,023 140	10 200	10,230 28,000 38,230	13 84%	11 2	21 300	231 600 831
25 - 44	Non-High School Graduates	13,389 94%	12,586 803	10 50	125,860 40,150 166,010	261 93%	243 18	12 100	2,916 1,800 4,716
	High School Graduates	2,084 88%	1,834 250	20 100	36,680 25,000 61,680	85 83%	71 14	40 275	2,840 3,850 6,690
45 - 64	Non-High School Graduates	9,444 94%	8,877 567	10 40	88,770 22,680 111,450	207 93%	192 15	30 110	5,760 1,650 7,410
	High School Graduates	899 94%	845 54	25 100	21,125 5,400 26,525	41 88%	36 5	50 250	1,800 1,250 3,050
65 and Over	Non-High School Graduates	3,963 96%	3,804 159	10 100	38,040 15,900 53,940	80 96%	77 3	48 150	3,696 450 4,146
	High School Graduates	234 90%	211 23	10 100	2,110 2,300 4,410	22 88.5%	19 3	50 200	950 600 1,550
Total Air Trips - By Income					543,535				30,583
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Housewives, Students, Unemployed—1950

INCOME							
$6,000 - $9,999				Over $10,000			
2	1.7	35	59	2	1.6	75	120
86%	.3	300	90	80%	.4	400	160
			149				280
1	.8	267	213	-	-	125	-
79%	.2	800	160	69%	-	3,000	-
			373				-
15	13	29	377	10	8	100	800
86%	2	250	500	80%	2	300	600
			877				1,400
17	12	65	780	4	2	175	350
72%	5	350	1,750	54%	2	800	1,600
			2,530				1,950
28	25	50	1,250	16	13	75	975
89%	3	150	450	83%	3	200	600
			1,700				1,575
13	9	125	1,125	13	7	300	2,100
70%	4	615	2,460	51%	6	737	4,422
			3,585				6,522
21	19	50	950	12	10	75	750
88.5%	2	300	600	80.5%	2	500	1,000
			1,550				1,750
4	2.6	100	260	1	.5	75	38
65%	1.4	350	490	50%	.5	800	400
			750				438
			11,514				13,915
							599,547

Appendix 11.5 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates								
	High School Graduates								
25 - 44	Non-High School Graduates								
	High School Graduates								
45 - 64	Non-High School Graduates	984 -	-	-	- - -	79 -	-	-	- - -
	High School Graduates	58 -	-	-	- - -	10 -	-	-	- - -
65 and Over	Non-High School Graduates	4,339 97% -	4,209 130 -	10 200 -	42,090 26,000 68,090	148 93% -	138 10 -	91 600 -	12,558 6,000 18,558
	High School Graduates	268 87% -	233 35 -	20 333 -	4,660 11,655 16,315	30 84.5% -	25 5 -	75 400 -	1,875 2,000 3,875
Total Air Trips - By Income					84,405				22,433
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Retired—1950

INCOME							
$6,000 - $9,999				Over $10,000			
15	-	-	-	5	-	-	-
-	-	-	-	-	-	-	-
			-				-
5	-	-	-	5	-	-	-
-	-	-	-	-	-	-	-
			-				-
32	26	100	2,600	11	8	100	800
80.5%	6	1,000	6,000	72.5%	3	1,000	3,000
			8,600				3,800
7	5	200	1,000	8	5	500	2,500
74.5%	2	500	1,000	59.5%	3	1,000	3,000
			2,000				5,500
			10,600				9,300
							126,738

Appendix 11.6, see page 159

Appendix 11.6, see page 159

Appendix 11.7 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Professional, Technical, Managerial, Proprietor

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	168 89%	150 18	10 50	1,500 900 2,400	166 83%	138 28	20 100	2,760 2,800 5,560
	High School Graduates	223 80%	178 45	60 750	10,680 33,750 44,430	173 55%	95 78	500 750	47,500 58,500 106,000
25 - 44	Non-High School Graduates	346 80%	276 70	10 50	2,760 3,500 6,260	1,106 73%	807 299	20 75	16,140 22,425 38,565
	High School Graduates	345 50%	172 173	10 100	1,720 17,300 19,020	1,293 40%	517 776	50 217	25,850 168,392 194,242
45 - 64	Non-High School Graduates	303 85%	258 45	5 20	1,290 900 2,190	762 85%	647 115	15 75	9,705 8,625 18,330
	High School Graduates	142 85%	121 21	10 100	1,210 2,100 3,310	532 70%	372 160	25 143	9,300 22,880 32,180
65 and Over	Non-High School Graduates	77 -	- -	- -	- - -	86 -	- -	- -	- - -
	High School Graduates	30 -	- -	- -	- - -	75 65%	48 27	- 750	- 20,250 20,250
Total Air Trips - By Income					77,610				415,127
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips
–1955

INCOME							
$6,000 - $9,999				Over $10,000			
24	16	60	960	-	-	150	-
67%	8	200	1,600	40%	-	400	-
			2,560				-
32	16	600	9,600	14	6	800	4,800
50%	16	1,000	16,000	40%	8	1,500	12,000
			25,600				16,800
692	366	40	14,640	278	55	200	11,000
53%	326	125	40,750	20%	223	250	55,750
			55,390				66,750
1,136	397	290	115,130	504	120	286	34,320
35%	739	382	282,298	24%	384	500	192,000
			397,428				226,320
707	424	25	10,600	446	156	50	7,800
60%	283	100	28,300	35%	290	100	29,000
			38,900				36,800
785	471	75	35,325	523	141	462	65,142
60%	314	250	78,500	27%	382	485	185,270
			113,825				250,412
90	-	-	-	101	-	-	-
-	-	-	-	-	-	-	-
			-				-
52	26	-	-	89	44	-	-
50%	26	1,000	26,000	50%	45	1,000	45,000
			26,000				45,000
			659,703				642,082
							1,794,522

Appendix 11.8 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	2,920 90%	2,628 292	20 150	52,560 43,800 96,360	2,777 78%	2,166 611	30 200	64,980 122,200 187,180
	High School Graduates	398 80%	318 80	50 500	15,900 40,000 55,900	452 70%	316 136	69 583	21,800 79,290 101,090
25 - 44	Non-High School Graduates	3,487 85%	2,964 523	10 50	29,640 26,150 55,790	10,699 82%	8,773 1,926	15 71	131,600 136,750 268,350
	High School Graduates	237 77%	182 55	30 250	5,460 13,750 19,210	1,515 67%	1,015 500	87 177	88,300 88,500 176,800
45 - 64	Non-High School Graduates	2,022 96%	1,941 81	15 50	29,100 4,050 33,150	6,379 91%	5,805 574	5 100	29,025 57,400 86,425
	High School Graduates	121 92%	111 10	10 100	1,110 1,000 2,110	555 76%	421 134	18 941	7,578 126,094 133,672
65 and Over	Non-High School Graduates	503 -	- -	- -	- - -	885 -	- -	- -	- - -
	High School Graduates	22 80%	17 5	- -	- - -	64 75%	48 16	- -	- - -
Total Air Trips - By Income					262,520				953,517
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Clerical, Sales, Labor—1955

INCOME							
$6,000 - $9,999				Over $10,000			
325	237	100	23,700	18	13	300	3,900
73%	88	300	26,400	70%	5	500	2,500
			50,100				6,400
91	50	167	8,350	19	9	400	3,600
55%	41	1,200	49,200	45%	10	1,333	13,330
			57,550				16,930
3,151	2,363	40	94,500	515	324	200	64,800
75%	788	111	87,500	63%	191	750	143,250
			182,000				208,050
1,384	803	200	160,600	362	181	500	90,500
58%	581	233	135,370	50%	181	700	126,700
			295,970				217,200
2,943	2,296	10	22,960	342	239	10	2,390
78%	647	300	194,100	70%	103	500	51,500
			217,060				53,890
570	387	31	11,997	168	78	100	7,800
68%	183	267	48,861	47%	90	429	38,610
			60,858				46,410
274	-	-	-	54	-	-	-
-	-	-	-	-	-	-	-
			-				-
58	-	-	-	40	-	-	-
-	-	-	-	-	-	-	-
			-				-
			863,538				548,880
							2,628,455

Appendix 11.9 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	145 - -	- - -	- - -	- - -	27 66%	18 9	100 1,000	1,800 9,000 10,800
	High School Graduates	15 - -	- - -	- - -	- - -	5 50%	2.5 2.5	50 300	125 750 875
25 - 44	Non-High School Graduates	1,203 87%	1,047 156	5 50	5,235 7,800 13,035	397 85%	337 60	15 150	5,055 9,000 14,055
	High School Graduates	51 89%	45 6	30 100	1,350 600 1,950	40 73%	29 11	60 200	1,740 2,200 3,940
45 - 64	Non-High School Graduates	1,275 97%	1,237 38	5 50	6,185 1,900 8,085	350 86%	301 49	10 100	3,010 4,900 7,910
	High School Graduates	55 - -	- - -	10 100 -	- - -	30 89%	27 3	20 200	540 600 1,140
65 and Over	Non-High School Graduates	455 - -	- - -	- - -	- - -	79 -	- -	- -	- - -
	High School Graduates	19 - -	- - -	- - -	- - -	5 -	- -	- -	- - -
Total Air Trips - By Income					23,070				38,720
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Farm: Owners, Managers, Foremen—1955

INCOME							
$6,000 - $9,999				Over $10,000			
5	3	125	375	-	-	100	-
60%	2	-	-	-	-	-	-
			375				-
2	1	-	-	1	-	-	-
45%	1	-	-	-	-	-	-
			-				-
131	88	25	2,200	49	-	-	-
67%	43	300	12,900	-	-	-	-
			15,100				-
21	10	70	700	8	-	100	-
50%	11	300	3,300	-	-	500	-
			4,000				-
118	79	20	1,580	46	-	40	-
67%	39	100	3,900	-	-	100	-
			5,480				-
15	8	40	320	11	6	100	600
50%	7	500	3,500	50%	5	2,000	10,000
			3,820				10,600
34	-	-	-	5	-	-	-
-	-	-	-	-	-	-	-
			-				-
2	-	-	-	1	-	-	-
-	-	-	-	-	-	-	-
			-				-
			28,775				10,600
							101,165

Appendix 11.10 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY							
		Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates	1,895 94%	1,781 114	10 200	17,800 22,800 40,600	1,986 80%	1,589 397	15 273	23,840 108,400 132,240
	High School Graduates	567 80%	454 113	10 200	4,540 22,600 27,140	378 75%	283 95	21 300	5,940 28,500 34,440
25 - 44	Non-High School Graduates	4,920 94%	4,625 295	10 50	46,250 14,750 61,000	5,333 92%	4,906 427	12 100	58,870 42,700 101,570
	High School Graduates	774 82%	635 139	20 100	12,700 13,900 26,600	2,374 75%	1,780 594	40 275	71,200 163,350 234,550
45 - 64	Non-High School Graduates	2,901 90%	2,610 291	10 40	26,100 11,640 37,740	3,899 90%	3,509 390	30 110	105,270 42,900 148,170
	High School Graduates	273 93%	254 19	25 100	6,350 1,900 8,250	799 83%	663 136	50 250	33,150 34,000 67,150
65 and Over	Non-High School Graduates	1,041 95%	989 52	10 100	9,890 5,200 15,090	1,241 95%	1,179 62	48 150	56,600 9,300 65,900
	High School Graduates	61 87%	53 8	10 100	530 800 1,330	392 85%	333 59	50 200	16,650 11,800 28,450
Total Air Trips - By Income					217,750				812,470
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Housewives, Students, Unemployed—1955

INCOME							
$6,000 - $9,999				Over $10,000			
68	52	35	1,820	200	132	75	9,900
76%	16	300	4,800	66%	68	400	27,200
			6,620				37,100
83	58	267	15,500	23	14	125	1,750
70%	25	800	20,000	61%	9	3,000	27,000
			35,500				28,750
1,181	945	29	27,400	321	228	100	22,800
80%	236	250	59,000	71%	93	300	27,900
			86,400				50,700
759	493	65	32,050	138	63	175	11,025
65%	266	350	93,100	46%	75	800	60,000
			125,150				71,025
2,055	1,767	50	88,350	513	410	75	30,750
86%	288	150	43,200	80%	103	200	20,600
			131,550				51,350
1,330	865	125	108,130	330	135	300	40,500
65%	465	615	285,980	41%	195	737	143,700
			394,110				184,200
1,056	898	50	44,900	440	330	75	24,750
85%	158	300	47,400	75%	110	500	55,000
			92,300				79,750
124	71	100	7,100	45	18	75	1,350
57%	53	350	18,550	40%	27	800	21,600
			25,650				22,950
			897,280				525,825
							2,453,325

Appendix 11.11 PERSONAL TRAVEL CELL AIR TRIP PROJECTIONS

Age	Education	FAMILY Under $3,000				$3,000 - $5,999			
18 - 24	Non-High School Graduates								
	High School Graduates								
25 - 44	Non-High School Graduates								
	High School Graduates								
45 - 64	Non-High School Graduates	827 -	- -	- -	- - -	79 -	- -	- -	- - -
	High School Graduates	53 -	- -	- -	- - -	11 -	- -	- -	- - -
65 and Over	Non-High School Graduates	4,840 96% 194	4,646 194 200	10 200	46,460 38,800 85,260	218 91% 20	198 20 600	91 600	18,018 12,000 30,020
	High School Graduates	310 83% 53	257 53 333	20 333	5,140 17,650 22,790	57 80% 11	46 11 400	75 400	3,450 4,400 7,850
Total Air Trips - By Income					108,050				37,870
Total Air Trips - By Occupation									

Derivation of Personal Air Round Trips: Retired—1955

INCOME							
$6,000 - $9,999				Over $10,000			
13	-	-	-	9	-	-	-
-	-	-	-	-	-	-	-
			-				-
7	-	-	-	1	-	-	-
-	-	-	-	-	-	-	-
			-				-
42	32	100	3,200	10	7	100	700
75%	10	1,000	10,000	65%	3	1,000	3,000
			13,200				3,700
13	9	200	1,800	10	5	500	2,500
67%	4	500	2,000	50%	5	1,000	5,000
			3,800				7,500
			17,000				11,200
							174,120

Appendix 11.12

SUMMARY OF PERSONAL AIR TRIPS–1955

(Thousands of Round Trips)

Occupation	Round Trips
Professional, Technical, Managerial, Proprietor 1/	1,794,522
Clerical, Sales, Labor 2/	2,628,455
Farm: Owners, Manager, Foremen 3/	101,165
Housewives, Students, Unemployed 4/	2,453,325
Retired 5/	174,120
Total	7,151,587

1 See Appendix 11.7.

2 See Appendix 11.8.

3 See Appendix 11.9.

4 See Appendix 11.10.

5 See Appendix 11.11.

Appendix 11.6

SUMMARY OF PERSONAL AIR TRIPS—1950

(Thousands of Round Trips)

Occupation	Round Trips
Professional, Technical, Managerial, Proprietor 1/	901,412
Clerical, Sales, Labor 2/	1,085,101
Farm: Owners, Managers, Foremen 3/	71,482
Housewives, Students, Unemployed 4/	599,547
Retired 5/	126,738
Total	2,784,280

1 See Appendix 11.1.

2 See Appendix 11.2.

3 See Appendix 11.3.

4 See Appendix 11.4.

5 See Appendix 11.5.

Appendix 12.0 BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

		FAMILY INCOME	PROFESSIONAL, TECHNICAL Population	Trips per 1,000	Trips [1]	MANAGERIAL, PROPRIETOR Population	Trips per 1,000	Trips [1]
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	8	-	-	12	-	-
		$3,000 - $5,999	19	-	-	16	380	6,080
		$6,000 - $9,999	5	450	2,250	6	750	4,500
		Over $10,000	3	750	2,250	8	3,800	30,400
	MANUFACTURING	Under $3,000	120	275	33,000	141	200	28,200
		$3,000 - $5,999	369	450	166,050	246	250	61,500
		$6,000 - $9,999	123	600	73,800	161	450	72,450
		Over $10,000	15	1,500	22,500	138	7,450	1,028,100
	GOVERNMENT	Under $3,000	85	-	-	73	-	-
		$3,000 - $5,999	188	230	43,240	122	380	46,360
		$6,000 - $9,999	48	220	10,560	33	2,200	72,600
		Over $10,000	12	620	7,440	5	3,000	15,000
	BUSINESS SERVICE	Under $3,000	30	-	-	16	-	-
		$3,000 - $5,999	87	80	6,960	25	380	9,500
		$6,000 - $9,999	22	1,130	24,860	10	750	7,500
		Over $10,000	9	2,250	20,250	12	1,500	18,000
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	29	-	-	80	-	-
		$3,000 - $5,999	69	750	51,750	112	-	-
		$6,000 - $9,999	28	300	8,400	65	35	2,275
		Over $10,000	8	380	3,040	39	510	19,890
	WHOLESALE, RETAIL	Under $3,000	49	-	-	942	-	-
		$3,000 - $5,999	87	-	-	904	50	45,200
		$6,000 - $9,999	38	750	28,500	350	145	50,750
		Over $10,000	15	3,000	45,000	194	750	145,500
	PERSONAL SERVICE	Under $3,000	55	-	-	116	-	-
		$3,000 - $5,999	27	-	-	63	95	5,985
		$6,000 - $9,999	11	80	880	13	125	1,625
		Over $10,000	3	125	375	14	150	2,100
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	14	-	-	92	-	-
		$3,000 - $5,999	27	150	4,050	132	75	9,900
		$6,000 - $9,999	10	300	3,000	68	150	10,200
		Over $10,000	4	450	1,800	45	450	20,250
	PROFESSIONAL SERVICE	Under $3,000	1,525	-	-	44	-	-
		$3,000 - $5,999	986	167	164,662	40	200	8,000
		$6,000 - $9,000	219	225	49,275	21	275	5,775
		Over $10,000	148	530	78,440	13	950	12,350
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		52	500	26,000	19	-	-
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		143	175	25,025	284	75	21,300
	REPAIR SERVICE		5	-	-	146	-	-
	AMUSEMENT, RECREATION		158	-	-	111	-	-
	PRINTING, PUBLISHING		89	260	23,140	70	200	14,000
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-
	TOTAL		4,942	-	926,497	5,001	-	1,775,290

* Includes 255 industries not reported.

1 Population (in thousands) x trips per 1000 = trips by business cell (round trips).

Derivation of Business Air Round Trips—1950

SALES			CLERICAL, LABOR			FARM: OWNERS, MANAGERS AND FOREMEN		
Population	Trips per 1,000	Trips [1/]	Population	Trips per 1,000	Trips [1/]	Population	Trips per 1,000	Trips [1/]
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
87	-	-	-	-	-	-	-	-
133	750	99,750	-	-	-	-	-	-
43	820	35,260	-	-	-	-	-	-
24	5,000	120,000	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
-	-	-	14,465	50	723,250	-	-	-
4	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
1,705	-	-	-	-	-	-	-	-
752	33	24,816	-	-	-	-	-	-
144	280	40,320	-	-	-	-	-	-
45	150	6,750	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
149	-	-	-	-	-	-	-	-
206	125	25,750	-	-	-	-	-	-
67	125	8,375	-	-	-	-	-	-
26	125	3,250	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	13,398	16.5	221,067	-	-	-
6	-	-	-	-	-	4,415	8	36,075
10	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-
-	-	-	7,687	7.5	57,653	-	-	-
3,540	-	364,271	35,550	-	1,001,970	4,415	-	36,075

GRAND TOTAL - POPULATION	53,703 *
GRAND TOTAL - TRIPS	4,104,103

Appendix 12.1 BUSINESS TRAVEL CELL AIR TRIP PROJECTIONS

		FAMILY INCOME	PROFESSIONAL, TECHNICAL			MANAGERIAL, PROPRIETOR		
			Population	Trips per 1,000	Trips [1]	Population	Trips per 1,000	Trips [1]
HIGH TRAVEL INDUSTRIES	MINING	Under $3,000	4	-	-	10	-	-
		$3,000 - $5,999	22	-	-	20	500	10,000
		$6,000 - $9,999	9	600	5,400	7	1,000	7,000
		Over $10,000	6	1,000	6,000	6	5,000	30,000
	MANUFACTURING	Under $3,000	52	333	17,316	125	250	31,250
		$3,000 - $5,999	307	600	184,200	230	312	71,760
		$6,000 - $9,999	290	781	226,490	210	600	126,000
		Over $10,000	133	2,000	266,000	132	9,917	1,309,044
	GOVERNMENT	Under $3,000	13	-	-	36	-	-
		$3,000 - $5,999	143	300	42,900	110	500	55,000
		$6,000 - $9,999	127	292	37,084	94	2,909	273,446
		Over $10,000	48	800	38,400	48	4,000	192,000
	BUSINESS SERVICE	Under $3,000	22	-	-	21	-	-
		$3,000 - $5,999	62	100	6,200	19	500	9,500
		$6,000 - $9,999	49	1,500	73,500	14	1,000	14,000
		Over $10,000	36	3,000	108,000	17	2,000	34,000
	HIGH TRAVEL INDUSTRIES		-	-	-	-	-	-
MEDIUM TRAVEL INDUSTRIES	CONSTRUCTION	Under $3,000	15	-	-	57	-	-
		$3,000 - $5,999	79	1,000	79,000	140	-	-
		$6,000 - $9,999	55	400	22,000	100	53	5,300
		Over $10,000	14	500	7,000	54	684	36,936
	WHOLESALE, RETAIL	Under $3,000	24	-	-	520	-	-
		$3,000 - $5,999	111	-	-	1,060	69	73,140
		$6,000 - $9,999	95	1,000	95,000	900	167	150,300
		Over $10,000	27	4,000	108,000	508	1,000	508,000
	PERSONAL SERVICE	Under $3,000	25	-	-	77	-	-
		$3,000 - $5,999	44	-	-	74	120	8,880
		$6,000 - $9,999	19	100	1,900	31	150	4,650
		Over $10,000	6	150	900	15	175	2,625
	FINANCE, INSURANCE, REAL ESTATE	Under $3,000	4	-	-	36	-	-
		$3,000 - $5,999	25	200	5,000	106	100	10,600
		$6,000 - $9,999	33	400	13,200	140	200	28,000
		Over $10,000	15	600	9,000	130	600	78,000
	PROFESSIONAL SERVICE	Under $3,000	187	-	-	15	-	-
		$3,000 - $5,999	1,256	223	280,088	40	250	10,000
		$6,000 - $9,999	1,139	300	341,700	35	333	11,655
		Over $10,000	570	690	393,300	42	1,250	52,500
	MEDIUM TRAVEL INDUSTRIES		-	-	-	-	-	-
LOW TRAVEL INDUSTRIES	AGRICULTURE, FORESTRY, FISHING		68	667	45,356	18	-	-
	TRANSPORTATION, COMMUNICATIONS, UTILITIES		170	222	37,740	305	91	27,755
	REPAIR SERVICE		9	-	-	132	-	-
	AMUSEMENT, RECREATION		151	-	-	110	-	-
	PRINTING, PUBLISHING		80	333	26,640	70	250	17,500
	LOW TRAVEL INDUSTRIES		-	-	-	-	-	-
	TOTAL		5,544	-	2,477,314	5,814	-	3,188,841

1 Population (in thousands) x trips per 1000 = trips by business cell (round trips).

Derivation of Business Air Round Trips—1955

SALES			CLERICAL, LABOR			FARM: OWNERS, MANAGERS AND FOREMEN		
Population	Trips per 1,000	Trips [1]	Population	Trips per 1,000	Trips [1]	Population	Trips per 1,000	Trips [1]
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-
112	1,000	112,000	-	-	-	-	-	-
85	1,091	92,735	-	-	-	-	-	-
23	6,500	149,500	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-
-	-	-	16,263	60	975,780	-	-	-
2	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
584	-	-	-	-	-	-	-	-
1,540	42	64,680	-	-	-	-	-	-
1,080	341	368,280	-	-	-	-	-	-
292	200	59,600	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
53	-	-	-	-	-	-	-	-
204	143	29,172	-	-	-	-	-	-
215	150	32,250	-	-	-	-	-	-
83	150	12,450	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
-	-	-	15,605	22	343,310	-	-	-
5	-	-	-	-	-	4,551	14	64,248
21	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-
123	-	-	-	-	-	-	-	-
-	-	-	6,920	10	69,200	-	-	-
4,593	-	920,667	38,788	-	1,388,290	4,551	-	64,248

GRAND TOTAL - POPULATION	59,290
GRAND TOTAL - TRIPS	8,039,360

THE PORT OF NEW YORK AUTHORITY

THE PORT OF NEW YORK AUTHORITY is the self-supporting corporate agency of the States of New Jersey and New York. Operating without burden to the taxpayer, it was created in 1921 by treaty between the two states to deal with the planning and development of terminal and transportation facilities, and to improve and protect the commerce of the Port District.

Port Authority Commissioners, six from each state, are appointed by the Governors of New Jersey and New York. They serve without pay for terms of six years.

The Authority's Lincoln and Holland Tunnels and George Washington Bridge spanning the Hudson River, and its Bayonne and Goethals Bridge and Outerbridge Crossing connecting Staten Island and New Jersey, join the states into one vast industrial, residential and recreational area.

The bi-state agency's terminal facilities include the Port Authority Bus Terminal; the Port Authority Building, housing the Union Railroad Freight Terminal; the New York Union Motor Truck Terminal; the Port Authority Grain Terminal; the Brooklyn-Port Authority Piers; La Guardia Airport; New York International Airport; and the Port Authority-West 30th Street Heliport in New York; Newark Airport; Teterboro Airport; Port Newark; Hoboken-Port Authority Piers; and the Newark Union Motor Truck Terminal in New Jersey.

Charged by statute with the protection of port commerce, the Port Authority appears before such regulatory bodies as the Interstate Commerce Commission, the Civil Aeronautics Board and the Federal Maritime Board in the interest of the welfare of the unified Port Area. It maintains branch offices in Washington, D.C., Chicago, Cleveland and Rio de Janeiro, Brazil in the interest of promoting the movement of commerce through the Port of New York.