

# BENEFICIARIES

# study

VOLUME 1



PROGRAM PLANNING AND EVALUATION: San Francisco Regional Office

# SUBSIDIZED HOUSING

# EVALUATION

June, 1973



# **BENEFICIARIES** *study*

Spring, 1973

VOLUME I: Findings and Conclusions

Program Planning and Evaluation Office  
SAN FRANCISCO REGIONAL OFFICE  
U. S. Department of Housing and Urban Development  
450 Golden Gate Avenue  
San Francisco, California

Peter Clute, Interregional Study Director  
Vicki Elmer, Interregional Technical Director

BENEFICIARIES STUDY TEAM

Astrid Trauth, Principal  
David Taylor  
Phyllis Jarreau  
Joel Posner  
Jayne Hulbert  
Therry Lee Fowler

TECHNICAL CONSULTANTS

Thomas Rothenberg, Professor, Department of Economics,  
University of California at Berkeley  
Peter Sperlich, Professor, Department of Political Science  
University of California at Berkeley  
Michael Teitz, Professor, Department of City and Regional Planning  
University of California at Berkeley  
Andrejs Skaburskis, Department of City and Regional Planning  
University of California at Berkeley

NATIONAL SUBSIDIZED HOUSING EVALUATION

BENEFICIARIES STUDY

Table of Contents

Volume 1

I. SUMMARY

- A. Purpose
- B. Major Findings

II. BACKGROUND AND PURPOSE

- A. Study Purpose
- B. Study Approach
- C. Parameters

III. METHODOLOGY

- A. Sampling Plan and Procedures
- B. Data Collection
- C. Data Validation
- D. Data Analysis

IV. FINDINGS AND CONCLUSIONS

V. APPENDICES

Volume 2

- A. Data Analysis
- B. Sampling Plan and Procedures
- C. Interview Instruments and Procedures

Summary

Summary

Summary

# **I. Summary**

- a. Purpose
- B. Major findings

## BACKGROUND OF THE STUDY

### General

The January moratorium on federally-subsidized housing programs offered a unique challenge and opportunity to determine whether these efforts to improve housing and living conditions for low and moderate income people have worked; whether they should be continued in their present form; or whether they should be changed, terminated, or replaced with new approaches.

Federal programs all-too-often are either blindly continued year after year or precipitously uprooted with little attention given to what has made them work or fail, or to succeed to greater or lesser degrees. Concerted or systematic attention is hardly ever devoted to what can be learned from these experiences. Evaluation is seldom undertaken to extract understandings which can make existing programs work better or lay foundations for new and improved program directions.

This situation is unique, however, in that the challenge and opportunity of a searching evaluation of the subsidized housing programs has been accepted by the Department. This challenge is at the core of both the national evaluation and of the five studies undertaken as part of this national effort by three of HUD's Regions.

These five studies were:

- o Production Costs of Private Market & HUD Subsidized Programs
- o Causes of Financial Failure in Multifamily Projects
- o Filtration Effects of Subsidized Housing
- o Housing Beneficiaries
- o Causes of Singlefamily Defaults

## Overall Study Approach

Following the January announcement of a moratorium on subsidized housing programs, a Team of Region IX field staff identified a number of issues which they felt, based on their operating experience, should be included in any evaluation of the subsidy approach to provide housing for low and moderate income persons. With the advice and concurrence of Team 2 and the Assistant Secretary for Policy Development and Research, these dozen or so issues were narrowed down to the study areas noted above. In order to provide national experience and perspective, two other geographically dispersed regions -- Philadelphia and Fort Worth -- were selected to participate in several of the studies.

From the outset, these regional studies had a different perspective than many other portions of the national evaluation. In the first place, the focus was on issues affecting all of the programs, rather than on the performance of individual programs. Secondly, the studies relied upon originally collected data rather than existing and secondary data sources.

With the support and direction of their Regional Administrators, the three regions established Core Teams which together developed detailed evaluation designs for each of the studies. Sample populations for study were selected and data collection instruments were developed. Data was collected through file reviews and interviews with HUD and private sector personnel as well as from eligible program beneficiaries and defaulting mortgagors. The data was then processed through a computer and analyzed by a wide variety of statistical and analytical techniques.

For three of the studies -- Filtration, Beneficiaries, and Single-Family Failures -- much of the field data was collected by professional interviewing firms. For the other two studies -- Production Costs and Multifamily Failures -- HUD staff collected the data. Professional samplers and statistical consultants were employed on all studies. As the individual study reports indicate, high degrees of confidence can be placed in the data and the findings as a result of the rigorous sampling, data collection, validation, and analysis techniques which were utilized.

In the ten-week course of this evaluation, fifty staff members from the three Regions worked full-time in developing and carrying out the studies. Another 200 regional personnel participated for two- and three-week periods in collecting the necessary field data. Staff from Region IX provided technical direction and coordination but in every sense of the word this was an inter-regional effort with the Core Team members from each Region putting in endless hours and the Regional Administrators providing overall guidance and support.

## Overall Study Parameters

While specific parameters and constraints within which each of the studies operated are noted in the individual evaluation reports, it is appropriate to cite several that were generally common to all of them.

First, the time constraints severely restricted the degree to which each study could be pursued. Although the broad outlines for most of these evaluations had been identified as early as late January and further refined during February and March, it was not until mid-April that the final go-ahead was given. The interregional teams began work on April 23, which left only a little over two months to develop specific study designs; select and draw samples of files and populations for study; design interview and survey instruments; collect, code and edit data; analyze the findings; and develop five separate reports. Many knowledgeable professionals have indicated they would not have touched such a job without at least four to six months working time. It is clear now that at least two or three more weeks should have been made available for data analysis and careful report writing.

Second, compounding the time problem was the fact that every data base used in the five studies had to be created from scratch. Among other things this meant identifying total universes of projects and populations from which statistical samples could be drawn and then tracking down specific addresses and files. In part, this was necessitated by the nature of the studies; but in part it also reflects the inadequacies and inaccuracies of HUD's data files and systems.

Third, although utilizing one of the largest "software" computer firms in the country, it was necessary to construct new computer packages as the study progressed to handle the data and types of analysis needed for the studies. In fact, practically every computer program utilized had to be modified from some other source during the last month of the study. This caused inevitable problems in providing an orderly and timely flow of data once it was collected, with most of the data not becoming available until the closing days and hours of the analysis and writing phases.

Fourth, despite the limitations noted here and elsewhere in these reports, this series of regional studies is probably the most comprehensive field evaluation ever made by the Department into the performance and impact of its programs. While this effort is to be commended on the one hand, it should also serve as a pointed reminder that crash programs of this type become necessary because the Department does not have a coordinated, on-going program of evaluation.

Fifth, the findings, conclusions, and recommendations presented in these reports are soundly supported by the data and, as noted

previously, can be accorded a high level of confidence. The very limited time that was available for data analysis, however, means that full use has not yet been made in several cases of the very rich data base developed by these studies. In a very real sense, then, these reports should be viewed as a good beginning, but not the end, and more analysis in most areas is warranted. We strongly recommend that the data base be preserved and that funds be made available to continue this analysis in areas of highest priority. In the course of these reports several of these areas are suggested.

The remainder of this volume is concerned with the Housing Beneficiaries study. A supplementary volume contains the Interview Instruments and Procedures.

## HOUSING BENEFICIARIES SUMMARY

The Beneficiaries Study sought to answer the following questions:

- o Are there differences in the demographic, social and economic characteristics of beneficiaries and non-beneficiaries which might define patterns of exclusion of eligible non-beneficiaries?
- o Does the nature of the "housing packages" (the units, the neighborhood, the amount of subsidy) provided by subsidized programs cause self exclusion of eligible low and moderate income people?
- o Does part of the intermediary system (the manager/broker system) designed to deliver the various subsidy programs cause exclusion of particular groups of eligible low and moderate income people?

This study was predicated on the theory that there were major differences between the actual beneficiaries of housing subsidies -- the "fortunate few" -- and the intended beneficiaries (defined as eligible non-beneficiaries). It was expected that important differences in demographic, economic, and life style characteristics of the two groups could be isolated and that by describing and measuring these differences, patterns of exclusion would emerge. It was further postulated that these patterns of exclusion could be explained either as self-exclusion by the intended beneficiaries themselves (housing packages exclusion) or as decision exclusions caused by the action of intermediaries.

The four most important findings of the Beneficiaries Study are:

- o There appear to be only a few important differences between the actual and intended beneficiaries and it does not appear that these differences can be described as systematic patterns of exclusion;
- o In fact, the similarities between the beneficiaries and non-beneficiaries are so striking that systematic patterns of participation can be more readily described;
- o Although intermediaries hold negative attitudes toward applicants and residents, and may discriminate against certain groups in isolated areas, no pattern of exclusion could be discerned; and
- o That the extent to which the distribution of program resources is, in fact, inequitable, does not appear to be directly related to demographic, economic, or life style differences between the beneficiaries and non-beneficiaries, or to the composition of HUD's housing packages or the action of intermediaries.

Background & Purpose

Background & Purpose

Background & Purpose

## **II. Background & Purpose**

- A. Study Purpose
- B. Study Approach
- C. Parameters

## A. PURPOSE OF THE STUDY

The President's Budget Message as well as statements by Administration Officials have emphasized the point that subsidized housing programs have not been delivered equitably to the poor; that they have not served the intended beneficiaries; and that only a "fortunate few" have benefited while others of comparable means have had to pay more for unsubsidized housing.

The purpose of this evaluation has been to determine whether there are factors, other than the availability of program resources, that may have caused patterns of exclusion among financially eligible beneficiaries. Further, the study has tried to identify for the Department's decision-makers, policy variables which, if adjusted, could effect a more equitable distribution of the benefits of subsidized housing programs, or their successors, to the intended beneficiaries.

This evaluation has focused on the "people" rather than the fiscal side of the housing equation. It has examined whether certain relationships among sets of human characteristics and behavior patterns intervene in the housing delivery system to exclude large segments of the eligible population.

Specifically, the study has sought to answer the following questions:

- o Are there differences in the demographic, social and economic characteristics of beneficiaries and non-beneficiaries which might define patterns of exclusion of eligible non-beneficiaries?
- o Does the nature of the "housing packages" (the units, the neighborhood, the amount of subsidy) provided by subsidized programs cause self exclusion of eligible low and moderate income people?
- o Does part of the intermediary system (the manager/broker system) designed to deliver the various subsidy programs cause exclusion of particular groups of eligible low and moderate income people?

## B. STUDY APPROACH

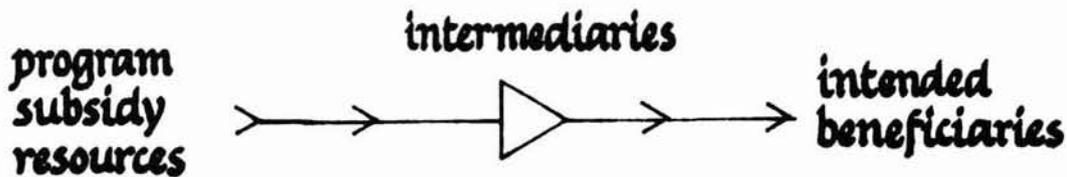
This study has focused on the characteristics of two of the major groups of people involved in the subsidized housing system in Region IX:

- The Beneficiaries/Non-Beneficiaries -- low and moderate income people who are financially eligible for subsidies.
- The Intermediaries -- the brokers and managers of subsidized housing who make the decisions to include or exclude eligible beneficiaries.

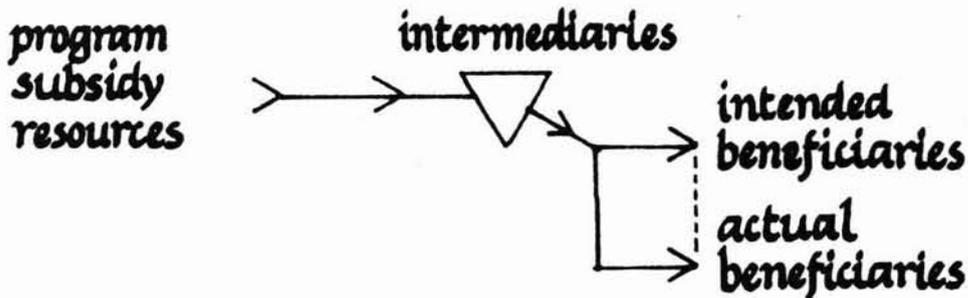
Each of these two groups is the subject of a separate part of the overall Beneficiaries Study; both parts are studies in their own right.

The Housing System:

The ideal (or intended) subsidized housing delivery system can be described in terms of a decision-making continuum as diagrammed below:

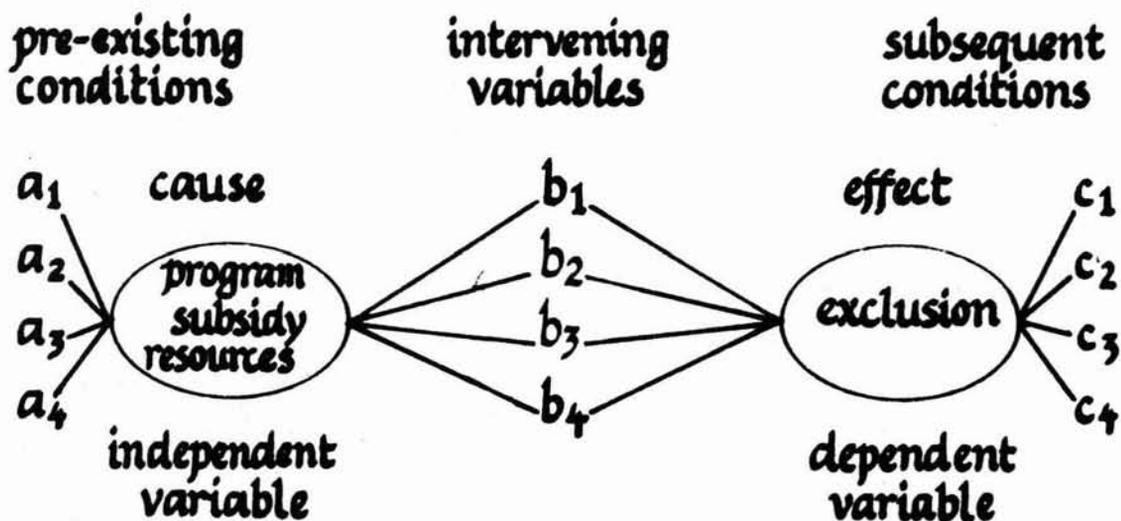


The major concern of this study has been to determine if the ideal reflects reality or if the actual situation appears to look as follows:



In other words, are subsidy resources being deflected to certain groups of the eligible population at the expense of other eligible groups?

The first phase of the study measured all differences between the actual and intended beneficiaries. The second phase examined the reasons for the difference. The second or explanatory phase of the study, presented diagrammatically below, is discussed in greater detail in the Methodology and Data Analysis Sections of this report.



In the above diagram the "a" variables are the problems the housing programs were meant to solve. The "c" variables are the conditions the study is describing and measuring. The "b" variables are the hypotheses of intervention the study has tested.

The third phase of the study is the synthesis. Once the way in which each group intervenes separately was identified, the areas in which their interventions appeared related were defined. Inferential conclusions were then made about the relative contribution of each group to the inequitable distribution of resources and the extent to which their combined intervention might have resulted in patterns of exclusion.

The emphasis of this study is not on subsidized programs but rather on subsidy levels. Inasmuch as income is the primary determinant of eligibility for subsidy, there was no utility for the study to examine excluded people by program categories. Subsidy programs were defined as deep or shallow, depending on the income level of the beneficiary. Deep subsidy programs include low-rent and RS. Shallow subsidy corresponds to 235, 236, 221(d)(3) BMIR and 221(d)(3) MR.

## Categories of Exclusion:

Three broad categories of exclusion were defined and tested in order to answer the basic study questions. They are Demographic, Housing Packages, and Intermediaries Exclusions.

### o Demographic Exclusion:

Basic demographic characteristics and life style indicators, both social and economic, of beneficiaries and non-beneficiaries were compared to determine the magnitude of the differences between the two groups. A composite picture of the beneficiary and eligible non-beneficiary populations was developed and from this, indications of the nature of exclusionary patterns emerged.

The exclusion variables examined in this part of the study fall into two major areas: Basic demographic and Socio-economic status.

### o Housing Packages Exclusion:

Differences in housing preferences between beneficiaries and eligible non-beneficiaries were compared to see if eligible non-beneficiaries chose not to participate in the programs and if so, whether the differences could be explained by the demographic patterns which emerged in the first phase.

The exclusion variables tested in this section of the study included preferences in terms of location, neighborhood characteristics, and housing expense.

### o Intermediaries Exclusion:

The legitimate goals of managers/brokers and HUD staff for financially successful projects may conflict with the equally legitimate goals of beneficiaries for improved housing conditions. The Intermediaries Study examined the degree to which this conflict in objectives is responsible for the patterns of exclusion described in the first phase and second tests of exclusion.

The exclusion variables tested in this section include Intermediaries' decisions relating to: application and outreach processes, location of units, characteristics of units, and provision of amenities and services.

### C. PARAMETERS

This study attempted to measure, as accurately as possible, subsidy benefits received. In fact, the study is the first ever to interview directly any sizeable number of recipients of housing subsidies. Yet, because of the number of indirect benefits associated with housing, it often became difficult to determine which benefits were caused by housing and which were merely coincidentally associated with it. Even with the use of multivariate analysis, the study required many judgmental decisions by the program staff. When these involved conclusions, however, they are clearly stated.

As indicated in the Methodology Section, the sample of eligible non-beneficiaries live in the lower-income census tracts within 18 out of the 20 SMSA's in Region IX.

For several reasons, two important groups of intermediaries--local government officials and investors/sponsors--were not included in the study. Although local government officials, through zoning power and land-use regulation, and lenders-owners, are important intermediaries in determining project location and occupant selection, time and resource constraints prevented their inclusion.

Several technical constraints developed during the sampling, interviewing and analysis. To the extent they are relevant to the conclusions of the study, they are stated in the findings.

The study did not interview individuals from a sample of those who had been rejected from projects. Although these individuals are an important sub-group of non-beneficiaries, they have been consciously excluded from the sample because the study team was unable to obtain a listing of this universe.

Methodology

Methodology

Methodology

### **III. Methodology**

- a. Sampling Plan & Procedures
- B. Data Collection
- C. Data Validation
- D. Data Analysis

The following section describes the analytical framework which was established in order to answer the basic evaluation questions of this study. It outlines the broad hypotheses which were used to test the accuracy of the categories of exclusion defined in the previous section. These hypotheses are experimental in nature and have been framed only as working assumptions. They provide something to measure against and from which conclusions could be drawn. It also briefly describes the survey design and sample, the survey instruments, the data validation procedures and the method of analysis.

## A. HYPOTHESES

The three categories of exclusion -- demographic, housing packages, intermediaries -- described in Section II were approached with two styles of analysis -- descriptive and explanatory.

### 1. Descriptive Hypotheses for Analysis

The hypotheses tested in this category of analysis fall into four major groups.

- o Significant demographic differences between beneficiaries and non-beneficiaries exist and they identify patterns of exclusion.
- o Real or perceived differences in economic/employment status and stability result in patterns of exclusion.
- o Differences in life style preferences (neighborhood, locations, associations) between the two groups tend to describe the beneficiaries as more closely resembling the more affluent norm than the non-beneficiaries.
- o Financial and management concerns of intermediaries results in attitudes and behavior on their part that exclude eligible beneficiaries.

### 2. Explanation Hypotheses for Analysis

The following hypotheses were tested in order to explain the patterns of exclusion which were identified in the descriptive phase.

- o The distribution of the benefits of subsidies cause exclusion.
- o Self-selection by the beneficiaries themselves causes exclusion of certain groups.
- o The housing packages offered by HUD programs cause exclusion.

- o The value of the subsidy is not sufficient for certain groups, and thus causes the exclusion of those groups.
- o Economic/demographic/life style preferences of intended beneficiaries cause exclusion.
- o Rent/mortgage requirements of subsidized programs cause exclusion.
- o The actions of intermediaries cause exclusion.

#### B. SURVEY DESIGN AND SAMPLE

Four major instruments were designed for the two sub-studies. The Beneficiaries/Non-Beneficiaries Study involved interviewing 305 actual beneficiaries of the subsidized programs and 294 income eligible people who were not receiving subsidies.

A random distributed sample of units/projects was drawn from a list of all 235, 236, 236RS, 221(d)(3) MR, 221(d)(3) BMIR, and low-rent projects in Region IX. It was stratified by project size in the case of multifamily projects. The sample was not program oriented; for example, 236 projects were not sampled proportionate to the incidence of 236 projects in the universe, because of the small number of projects. Section 235 homeowners, however, were sampled separately in proportion to their share of the unit universe.

Non-beneficiaries were sampled at random from a list of low-income census blocks in 19 of the 20 SMSA's in Region IX. The blocks selected are proportionate to their number in the SMSA's.

The Intermediaries Study involved interviewing 70 persons -- LHA Occupancy Officers, 235-236 brokers/managers, and HUD staff. Since FHA records do not reflect resale of 235 houses, it proved impossible to match up the original buyers and brokers of 235 houses. Therefore, the tie to the Beneficiaries single family sample was broken and the 235 Intermediary respondents were selected from a list of active developers in the Region. However, comparisons are still possible.

#### C. SURVEY INSTRUMENTS

The Beneficiaries/Non-Beneficiaries questionnaire contains 190 direct questions to respondents and some two dozen observations of neighborhood or unit characteristics and information provided by subsidized project managers. This instrument formed the data base of some 350 data items.

The questionnaire was largely pre-coded. However, nine open-ended questions were included in order to offset the arbitrary limitations on possible responses caused by the pre-coded format.

Three separate Intermediaries questionnaires were designed for this study. About 65% of the questions in two of the instruments -- those for LHA's and 235-236 managers/sales people -- were identical and thus provided a basis for comparisons between the two groups of respondents. The questionnaire for HUD staff was specific to that group but the attitude questions were designed to facilitate cross-comparison with the other two groups. All survey instruments are included in the Appendix.

#### D. DATA VALIDATION PROCEDURES

Each questionnaire was put through three separate validation procedures. First the interviewing firm manually reviewed each questionnaire for completeness and to make sure that the skip patterns had been followed correctly. After keypunching, each file was run through the validation program described in the Appendix and corrected directly in the computer where necessary. Finally, the first univariate run was examined for possible errors and the data was corrected as needed.

#### E. METHODS OF DATA ANALYSIS

##### 1. Overview

The studies were analyzed in two fundamental stages -- descriptive and explanatory -- employing three basic levels of analysis:

- o Univariate Analysis
- o Bivariate and Trivariate Analysis
- o Correlation and Multivariate Analysis

The study did not employ the traditional sequence of analysis beyond the univariate stage. Instead some multivariate techniques were used during the descriptive phase of analysis in order to determine the relationships of the large numbers of variables this study generated. For example, principal components analysis was run at the same time as the bivariate tables.

## 2. Descriptive Analysis

### Univariate Analysis

Several univariate runs were used for each study, in order to edit the data base, as well as to determine the mean, standard deviation, frequency, for each variable. Variables with poor distribution or missing observations were eliminated at this point.

This list was used for two major purposes. Creating composite tables presented in the section on Findings and Conclusions of this report, and forming the base for two and three-way cross tabulations also presented later in this report. The referred list is attached as Appendix D to this report.

### Bivariate Analysis:

Two and three-way cross-tabulations were used during analysis. The bulk of them are presented in Appendix D. In addition to traditional two and three cross-tabulations, a principal components matrix was developed during the descriptive stage to identify the most important relationships among all the variables. This resulted in a cluster of related variables the most important of which were then isolated using factor analysis.

## 3. Explanatory Analysis

Multivariate techniques were used exclusively during this phase of analysis. Appendix E of this report contains a more detailed description of the overall data analysis plan and the actual equations used for multivariate analysis. Only two relatively simple multivariate models were designed for this study. However, both ordinary least squares and PROBIT techniques were used to test all of the explanatory hypotheses.

Findings & Conclusions

Findings & Conclusions

Findings & Conclusions

**IV. findings & Conclusions**

## A. OVERVIEW

### 1. Introduction

The first part of this section of the report presents findings and conclusions for each hypothesis of exclusion postulated in Section II of this Report. For every general hypothesis there is a major finding or conclusion. This is followed by a presentation of two kinds of sub-findings -- those which lead directly to the conclusion and those that provide interesting information about the eligible population which might be useful for general policy development. The last part presents general observations on the study as a whole.

### 2. Parameters

The findings presented below are subject to some constraints of interpretation. Generalizations cannot be made to Region IX as a whole. It is possible to generalize only to the eligible population in the Region, i.e., the financially eligible intended beneficiaries living in low income Census Tracts<sup>1</sup> or in subsidized housing units. In some instances, three and four way cross-tabulations had to be used in order to discern the relationships among many interacting variables. This sometimes resulted in having very few cases per cell which limited the confidence level of some of the generalizations. Time constraints made it impossible to run the many regressions and probit analyses that would have been required to increase the confidence level of the generalizations, by overcoming this problem of very small cells.

## B. GENERAL FINDINGS AND CONCLUSIONS

This study was predicated on the theory that there were major differences between the actual beneficiaries of housing subsidies -- the "fortunate few" -- and the intended beneficiaries (defined as eligible non-beneficiaries). It was expected that important differences in demographic, economic, and life style characteristics of the two groups could be isolated and that by describing and measuring these differences, patterns of exclusion would emerge. It was further postulated that these patterns of exclusion could be explained either as self-exclusion by the intended beneficiaries themselves (housing packages exclusion) or as decision exclusions caused by the

---

<sup>1</sup> The low income Census Tracts were those in the lowest 25% by median income.

action of intermediaries. It was expected that, taken together, these factors would provide new insights into the issues surrounding the policy question of how best to insure the equitable distribution of housing subsidy resources. The four most important findings of this Study are:

- o That there appear to be only a few important differences between the actual and intended beneficiaries and it does not appear that these differences can be described as systematic patterns of exclusion;
- o That in fact, the similarities between the beneficiaries and non-beneficiaries are so striking that systematic patterns of participation can be more readily described, and that a rule of similarity emerges;
- o That although intermediaries hold negative attitudes toward applicants and residents, and many discriminate against certain groups in isolated cases, no pattern of exclusion could be discerned; and
- o That the extent to which the distribution of program resources is, in fact, inequitable, does not appear to be directly related to demographic, economic, or life style differences between the beneficiaries and non-beneficiaries or the composition of HUD's housing packages or the action of intermediaries.

Naturally, there are exceptions to this rule of similarity. They are the predictable demographic factors of race, sex, family size and composition for which differences between certain sub-groups of the population did emerge. In general, these three exceptions do indeed, indicate the existence of exclusion. They do not, however, operate consistently and in some instances their effect is not particularly systematic, as in the case of overall family size and number of children which tend to operate at cross purposes

Therefore, even when exclusion did emerge no strong patterns could be identified. On the contrary, their combined effect sometimes produced unexpected patterns of participation rather than exclusion.

The following sections of this Report document and describe how these conclusions were reached. The unexpected finding -- the rule of similarity -- is discussed first. The similarity section generally covers all of the major areas this Study investigated -- demographic, economic, "housing packages" and preferences characteristics of the beneficiaries and non-beneficiaries as well as the action of the intermediaries. Then, the differences between the two groups that did emerge are discussed separately for each of these areas. In this way, the rule of similarity can be explained by describing the specific exceptions to it.

action of intermediaries. It was expected that, taken together, these factors would provide new insights into the issues surrounding the policy question of how best to insure the equitable distribution of housing subsidy resources. The four most important findings of this Study are:

- o That there appear to be only a few important differences between the actual and intended beneficiaries and it does not appear that these differences can be described as systematic patterns of exclusion;
- o That in fact, the similarities between the beneficiaries and non-beneficiaries are so striking that systematic patterns of participation can be more readily described, and that a rule of similarity emerges;
- o That although intermediaries hold negative attitudes toward applicants and residents, and many discriminate against certain groups in isolated cases, no pattern of exclusion could be discerned; and
- o That the extent to which the distribution of program resources is, in fact, inequitable, does not appear to be directly related to demographic, economic, or life style differences between the beneficiaries and non-beneficiaries or the composition of HUD's housing packages or the action of intermediaries.

Naturally, there are exceptions to this rule of similarity. They are the predictable demographic factors of race, sex, family size and composition for which differences between certain sub-groups of the population did emerge. In general, these three exceptions do indeed, indicate the existence of exclusion. They do not, however, operate consistently and in some instances their effect is not particularly systematic, as in the case of overall family size and number of children which tend to operate at cross purposes

Therefore, even when exclusion did emerge no strong patterns could be identified. On the contrary, their combined effect sometimes produced unexpected patterns of participation rather than exclusion.

The following sections of this Report document and describe how these conclusions were reached. The unexpected finding -- the rule of similarity -- is discussed first. The similarity section generally covers all of the major areas this Study investigated -- demographic, economic, "housing packages" and preferences characteristics of the beneficiaries and non-beneficiaries as well as the action of the intermediaries. Then, the differences between the two groups that did emerge are discussed separately for each of these areas. In this way, the rule of similarity can be explained by describing the specific exceptions to it.

### C. THE RULE OF SIMILARITY

Differences between beneficiaries and non-beneficiaries in all the major areas the study investigated were expected to result in patterns of exclusion and no hypothesis to test similarities was developed. Table I presents the pattern of the similarity of the two groups in graphic form. It is followed by a general discussion of the finding.

#### Finding Number One

Whereas important differences between the beneficiaries and non-beneficiaries in terms of demographic, economic, and housing packages preferences had been expected to emerge from this Study, the contrary seems to be the case. There are more similarities than differences between the two groups. With the exceptions noted above, the differences which did emerge were found to have no effect on inclusion or exclusion. Table I on page 5 presents the patterns of the similarities between the two groups in graphic form.<sup>2</sup>

By and large both groups are rather young. Sixty percent of the beneficiaries and 52% of the non-beneficiaries are under the age of forty. There is a modest difference in the incidence of middle-aged people (15% for the beneficiaries as opposed to 22% for the non-beneficiaries) but for elderly the two groups are identical at 23% and 24% respectively. Nor do the two groups differ dramatically in terms of the number of elderly people living with the family. Twenty percent of the beneficiaries and 23% of the non-beneficiaries had one person over 62 living with them.

In terms of marital status, the two groups are virtually the same. About 50% of both groups are married and over 80% are living together.

Although the important differences between beneficiaries and non-beneficiaries regarding the relationship of sex and family size to sub-groups of the population will be discussed in detail in Section D below, the mean differences are worth noting here because they are so small. In terms of total family size the average for beneficiaries is 3.3 whereas for non-beneficiaries it is 2.9. The figures for numbers of children are similar. Beneficiaries average 1.74 children per family while the average for non-beneficiaries the figure is 1.5.

---

<sup>2</sup> In order to provide as comprehensive an overview as possible the list in this table includes the three demographic characteristics where major differences occur. These are marked with in a double asterisk \*\*.

In terms of income the two groups are also similar. Fifty percent of both groups make between \$3,000 and \$4,000 per year and 22% of the beneficiaries and 27% of the non-beneficiaries earn \$4,000 - \$6,000 a year. The average incomes for the two groups are \$4,197 and \$4,090 respectively. Further, about 66% of both groups reported that their income is steady and does not fluctuate. Both groups are equally dependent on public assistance with 80% of the beneficiaries and 79% of the non-beneficiaries who receive public assistance of any sort (including Social Security) reporting that it was the largest part of their income.

Likewise, in terms of employment characteristics, the two groups are similar. More than 65% of the working population (65.5% for beneficiaries - 67.5% for non-beneficiaries) in both groups reported that there had been no extended periods of unemployment during the last three years. For those who had been unemployed there is no difference at all between the beneficiaries and non-beneficiaries.

Overall, beneficiaries and non-beneficiaries are satisfied equally on such factors as location and neighborhood characteristics, although holding them in varying degrees of importance. For example, both beneficiaries and non-beneficiaries ranked safety from crime highest in priority and were satisfied at experiencing the same level with this feature of their neighborhood. Although closeness to school was ranked much higher by beneficiaries than non-beneficiaries, both groups were equally satisfied. The widest difference was the factor of public transportation with a spread in satisfaction of 83% of the non-beneficiaries satisfied and 71% of the beneficiaries satisfied.

Every characteristic tested is presented in Table XII, Location and Neighborhood Characteristics, Section F.

What emerges from this list of similarities is a composite view or profile of the eligible population. The actual and the eligible non-beneficiaries form a relatively stable, although frequently publicly supported, population which does not fall comfortably within the confines of conventional wisdom which often describes the clients of subsidized housing as uniformly being unstable chronically unemployed welfare recipients without aspiration.

Most of the eligible population is relatively young. Many of them are married and living with their spouses. They have fewer than three children. Those who work, are employed fulltime at one moderately-skilled job which they have held for a year or more. They have completed 11 or more years of education and most of them have some kind of credit. As will become evident from Section F of this

Report, they tend to have desires which are not very different from the more affluent segments of the population. They prefer to live in attractive neighborhoods in convenient locations close to work and shopping and where they feel safe.

The next three sections of this Report will further refine this description of the eligible population in terms of their demographic, economic and preference characteristics. These Sections will concentrate on the differences between the beneficiaries and non-beneficiaries instead of the similarities and describe in detail some of these differences regardless of whether they relate to exclusion.

Some of the interesting comparisons which were made do not relate directly to exclusion or participation. They are included because they reveal in greater depth the characteristics of the eligible population which, it is hoped will provide useful information for policy consideration.

Report, they tend to have desires which are not very different from the more affluent segments of the population. They prefer to live in attractive neighborhoods in convenient locations close to work and shopping and where they feel safe.

The next three sections of this Report will further refine this description of the eligible population in terms of their demographic, economic and preference characteristics. These Sections will concentrate on the differences between the beneficiaries and non-beneficiaries instead of the similarities and describe in detail some of these differences regardless of whether they relate to exclusion.

Some of the interesting comparisons which were made do not relate directly to exclusion or participation. They are included because they reveal in greater depth the characteristics of the eligible population which, it is hoped will provide useful information for policy consideration.

TABLE I

DEMOGRAPHIC, ECONOMIC & PREFERENCE SIMILARITIES  
OF  
BENEFICIARIES AND NON-BENEFICIARIES

## Demographic

QUESTION NO. & SIMILARITY	BENEFICIARIES		NON-BENEFICIARIES	
	# RESP.	% OF SAMPLE	# RESP.	% OF SAMPLE
Q 3 - Sex of Head of Household				
Male	151	50	185	63
Female	154	50	109	37
Q 7 - Total Occupants in Unit				
1	63	21	78	27
2	43	14	80	28
3	66	22	37	13
4	60	20	39	14
5-6	52	17	34	12
7+	20	6	8	3
Q 8 - Occupants under age 18				
No children	88	29	165	57
1-2	126	23	77	27
3,4-5	80	26	38	13
6+	6	2	9	3
Q21 - Household members 62+ yrs.				
One	59	20	9	3
Two	66	23	23	8
Q44 - Marital Status				
Married	166	54	144	49
Single	139	46	250	51
Q45 - Spouse living at home				
Yes	136	81	128	87
No	31	19	20	14

QUESTION NO. & SIMILARITY	BENEFICIARIES		NON-BENEFICIARIES	
	# RESP.	% OF SAMPLE	# RESP.	% OF SAMPLE
Q46 - Racial Background				
White	182	60	126	44
Black	81	27	81	28
Other Minorities	40	13	82	28
Q68 - # Job changes/past 3 years				
0	77	53	91	56
1	20	14	22	14
2	19	13	15	9
3	17	12	17	11
Q70 - Education				
Mean years of completion	11.9		11.5	
Q77 - Renting or Buying Residence				
Renting	238	79	214	74
Buying	64	21	37	13
Owning	0		31	11
Other	0		7	2
Q87 - Length at address				
Less than 6 months	26	9	24	12
6 mos. to one year	86	30	56	28
one to three years	75	26	63	31
more than three years	98	34	60	30
Q89 - Source of Locating Unit				
Newspaper	41	14	27	13
Friends	114	40	96	47
Federal Programs	20	7	0	0
Social Services	35	12	1	.5
Real Estate	7	3	15	7
Q101- No. of Previous Housing Choices				
Lots	24	9	26	13
Few	58	21	47	23
No Places	79	28	68	34
Didn't look	119	43	61	30
Q106- Residential Preference				
Buy	194	64	194	66
Rent	86	28	64	22
Doesn't matter	25	8	36	12
Q164- Preference to live w/same race				
Same Race	55	18	54	18
Difference Races	81	27	56	19
Doesn't matter	169	55	184	67

QUESTION NO. & SIMILARITY	BENEFICIARIES		NON-BENEFICIARIES	
	# RESP.	% OF SAMPLE	# RESP.	% OF SAMPLE
Q165- Choice bet. friends/unit				
House	240	81	212	75
Friends	57	19	72	25
Q184- Stigma about Sub.Programs				
Yes	95	32	46	34
No	165	55	62	46
Don't Know	39	13	27	20
O/E*- Head of Household Occupation				
Private & Service Workers	34	23	36	20
Laborers	18	12	28	15
Operatives	12	8	26	14
Craftsmen	33	23	20	11
Clerical	22	15	38	21
Mgrs, admstrs.	14	10	11	6
Teachers, social&rec. advisors	3	2	10	5
Professional, technical	9	6	15	8
O/E*- Age of Head of Household				
18-29 years	101	39	56	32
30-39	51	20	36	21
40-59	39	16	39	22
60+	59	24	43	25
Q 66- No. times Unemployed/last 3 yrs.				
none	97	66	110	68
once	27	18	24	15
twice	6	4	7	4
more than twice	18	12	22	14
Economic				
Q 9 - Gross Annual Income				
Less than \$2,000	17	6	24	8
\$2,000 to \$3,000	88	30	65	23
\$3,000 to \$4,000	46	16	42	15
\$4,000 to \$6,000	66	22	81	28
\$6,000 to \$8,000	47	16	60	21
\$8,000 to \$10,000	25	8	16	7
\$10,000 to \$12,000	8	3	1	.3

QUESTION NO. & SIMILARITY	BENEFICIARIES		NON-BENEFICIARIES	
	# RESP.	% OF SAMPLE	# RESP	% OF SAMPLE
Q47 - Receiving Public Assistance				
Yes	137	45	103	36
No	166	55	186	64
Q50 - Savings Account				
Yes	113	37	137	47
No	191	63	155	53
Q51 - Gas Credit Card				
Yes	48	16	52	18
No	256	84	242	82
Q57 - Chief Wage Earner				
Head	138	50	143	50
No Wager Earner	156	52	125	44
Q69 - Income Trend				
Stayed about same	100	68	108	66
Up & Down	47	32	56	34
Q71 - Buying Ability				
Better	104	34	64	22
Same	104	34	106	36
Worse	96	32	119	40
Q85 - Fairness of Housing Payment				
Yes	269	89	181	70
No	34	11	77	30
O/E** Housing Cost to Income Ratio				
Less than 20%	66	22	36	15
21-29%	122	41	61	25
30-39%	61	21	65	26
40-59%	35	12	52	21
60-99%	14	4	34	14

\*Post coded/open ended question  
\*\*Constructed variable

D. DEMOGRAPHIC DIFFERENCES

The original hypothesis for this section of the study was that there would be significant demographic differences between beneficiaries and non-beneficiaries which would begin to isolate patterns of exclusion. While it had been anticipated that there would be significant numbers of important differences which would define exclusion, this turned out not to be the case.

Finding Number Two

- o There are three demographic differences between certain sub-groups of the beneficiaries and non-beneficiaries which can be directly related to exclusion of intended beneficiaries -- race, sex, family size and composition.

While these differences tend to support the belief that only a "fortunate few" are being served, in some cases, the composition of the "few" was unexpected.

Sub-Finding 1

Race of head of household

Of the three this is the most obvious form of exclusion the study identified, White households tend to be better served both proportionately to their incidence in the sample and absolutely in terms of their numbers in the sample.

The Table below presents the overall racial breakdown of the sample by race and beneficiary status.

TABLE II  
SEX AND RACE OF HEAD OF HOUSEHOLD  
BY BENEFICIARY STATUS

	% BENEFICIARIES	% NON-BENEFICIARIES
White	58	42
Black	51	49
Spanish American	39	61
Oriental	12	88

Comparisons to the Region as a whole are more difficult because Census data is not comparable<sup>3</sup> and the 50-50 sample reduces the accuracy of generalizations. Table III below was prepared using Census income data to calculate the proportion of income eligible people in the universe and comparing these percentages with our sample. The Table is presented to suggest orders of magnitude, not precise proportions.<sup>4</sup>

TABLE III

Comparison of Beneficiary Status by Income and Race to the Eligible Population of Region IX

% of Eligible Population by Income Range in Region IX				Benes.		Non-Benes.	
RACE	\$1,000-\$5,999	\$6,000-\$11,990	Total	#	%	#	%
White	34%	36%	70%	182	59	126	41
Black	51%	35%	86%	81	50	81	50
Spanish-American	41%	36%	77%	35	39	54	61

Note: Census data for Oriental and Other Minorities is incomplete.

<sup>3</sup> 1970 Census

<sup>4</sup> Because of the time and costs constraints of this study the decision was made to draw two independent samples of equal size. While it is accurate to make definite statements within each sample cell, it is not as accurate to make such statements in situations where the likelihood of being a beneficiary or non-beneficiary is the object of a comparison. The reason for this is that when both samples are combined, the likelihood of being a beneficiary or non-beneficiary is exactly 50%, even though this is unrealistically high in terms of the "real" world. We do not know what the true percentages of participation and non-participation are, but we can compare the figures we have obtained to each other in terms only of their relative quantitative importance. For example, when it is said that x has a 25% better chance than y of being a beneficiary, these percentages reflect an order of magnitude. They are not accurate statements of probability.

From the Table, one can infer, albeit tentatively, that Whites also tend to be served more in proportion to their incidence in the entire universe than Blacks and other minority groups. It suggests that whereas 70% of the Whites in the Region are eligible and 60% of them are being served (according to the sample) 86% of the Blacks in the Region are eligible, 50% are being served. Seventy-seven percent of the Spanish Americans in the Region are income eligible but only 39% are being served.

Taken by itself, race is perhaps the most important of the three factors of exclusion. Its effect on the probabilities of exclusion can best be explained as follows. One can assume that two White families with identical characteristics would presumably have an equal chance of being included or excluded. Multivariate analysis indicates that changing the race of the family from White to Black, however, tends to increase the probability of the Black family being excluded from something like .5 to .7.<sup>5</sup>

## Sub-Finding 2

### Sex of Head of Household

The sex of the head of household was also revealed as an important factor in exclusion but some unexpected relationships emerged. It had been anticipated that female heads of household would be excluded. In fact, this is not the case. Using simple percentages, male heads of household have approximately a 12 percentage point (p.p.) lower chance of being included than female heads of household.

Breaking this down by race, however, it appears that White male heads of household tend to be included more often than other males. Again using simple percentage calculations, White males are included at a rate of 70% as opposed to the 57% rate of inclusion for other males. Conversely, female heads of household tend to be included but here the race variable changes in direction. White female heads of household appear to have an 8.5 p.p. lower chance of being included than minority female heads of household.

---

<sup>5</sup> See Appendix A for detailed explanation of these regression and probit analysis results.

This reversal is entirely accounted for by the predominance of Black female heads of household who after White households, are the second most frequently included group. The results of regression analysis suggest that Black female heads of household have only a .1 lower probability of being included than White households whereas Black males and Spanish American households have a .25 lower probability of being included.<sup>6</sup>

### Sub-Finding 3

#### Family Size and Composition

There seems to be a slight but systematic tendency for larger families made up of adults to be excluded.<sup>7</sup> However, families with children tend to be included.

Regression analysis indicated that the effect of doubling the size of a family from three to six members (this is in terms of numbers of adults and holding the number of children constant) would be to increase its chances of being excluded by .5.

In comparing this coefficient with the race coefficient, however, gross family size is the less important of the two. For example, the size of the family would have to increase from three to seven or eight people before a regression coefficient equal to that for race--<sup>7</sup>-- would be achieved. This indicates that race is the much more powerful factor of exclusion.

The number of children, however, exerts the most powerful influence of the three. Virtually every form of analysis shows this as the most important variable. Moreover, the number of children seems to describe a pattern of inclusion rather than exclusion as had been expected.

---

<sup>6</sup> These regression coefficients are explained in Appendix A but it should be noted that these figures are approximate because they are not corrected for the sampling constraint.

<sup>7</sup> Trivariate analysis hardly showed this tendency at all and then only when almost meaningless gross total figures were used. This tendency, however, did appear clearly during regression analysis where the number of children was held constant.

The difference between having children and not appears to be the critical factor; the number of children itself does not matter so much. The relative magnitude of the difference between not having a child and having one is about 28 p.p. Table IV below presents this finding in graphic form. That is, having one child increases the chances for inclusion by 28p.p. Having three children increases the chances for inclusion by 39 p.p. If a family of four adults were to be compared with a family of one adult and three children, analysis suggests that the latter would have a one and a half times greater chance of being included. Even holding sex, race, and welfare constant this is the order of magnitude of the chances of being a beneficiary, if there are children in the family.

#### Sub-Finding 4

Taken together race, sex of head of household and family composition result in the following pattern. Whites seem to be most frequently included, regardless of sex of head of household, especially if they have children.

Black families are the second most included group but the factor of children is less powerful than for Whites. Whereas having one child appears to increase a White family's chances for inclusion by 37 p.p., having one child tends to increase a Black female head of household's chances of being included by only 30 p.p. It should be noted that receipt of public assistance, like income in general, has no effect on inclusion. Therefore, the theory that single Black female heads of household with children on welfare are excluded is not true. They are included regardless of welfare.

Black male heads of household and Spanish American households, (regardless of sex) are the most frequently excluded. So few other minorities appeared in the sample that analysis of inclusion or exclusion generated insufficient data for reporting.

Table VI below presents graphically the numerical figures on which most of the demographic findings were based. Tables IV and V show the trivariate table percentages which were used to calculate the percentage point differences in the chances for participation.

TABLE IV

TOTAL - Sex of Head of Household  
by Race  
and Occupants Under 18

	WHITE					BLACK					SPANISH AMERICAN				
	0	1	2	3-4	5+	0	1	2	3-4	5+	0	1	2	3-4	5+
B	40%	77%	83%	85%	100%	31%	58%	42%	76%	50%	15%	50%	59%	53%	27%
NB	60%	23%	17%	15%	-0-	69%	42%	58%	14%	50%	85%	50%	41%	47%	73%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	171	44	48	39	6	45	40	26	29	22	26	16	17	19	11

MALE Sex of Head of Household

by Race

and Occupants Under 18

	WHITE					BLACK					SPANISH AMERICAN				
	0	1	2	3-4	5+	0	1	2	3-4	5+	0	1	2	3-4	5+
B	33%	78%	81%	80%	100%	14%	40%	25%	63%	45%	11%	46%	58%	50%	25%
NB	67%	22%	19%	20%	-0-	86%	60%	75%	37%	55%	89%	54%	42%	50%	75%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	84	32	37	25	2	22	15	12	11	7	18	13	12	10	8

FEMALE Sex of Head of Household

by Race

and Occupants Under 18

	WHITE					BLACK					SPANISH AMERICAN				
	0	1	2	3-4	5+	0	1	2	3-4	5+	0	1	2	3-4	5+
B	47%	75%	91%	90%	100%	48%	68%	57%	83%	60%	25%	67%	60%	56%	33%
NB	53%	25%	9%	10%	0%	52%	32%	43%	17%	40%	75%	33%	40%	44%	66%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	87	12	11	14	4	23	25	14	18	15	8	3	5	9	3

TABLE V  
TOTAL Sex of Head of Household  
by Race  
Total Number of Occupants

	WHITE						BLACK						SPANISH AMERICAN					
	1	2	3	4	5	6+	1	2	3	4	5	6+	1	2	3	4	5	6+
B	49%	35%	76%	79%	67%	89%	42%	46%	56%	54%	67%	37%	13%	25%	53%	44%	50%	42%
NB	51%	65%	24%	21%	33%	11%	58%	55%	44%	46%	33%	63%	87%	75%	47%	56%	50%	58%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	99	66	54	48	21	19	33	33	27	26	12	41	8	16	15	16	10	24

36

MALE Sex of Head of Household

by Race

Total Number of Occupants

	WHITE						BLACK						SPANISH AMERICAN					
	1	2	3	4	5	6+	1	2	3	4	5	6+	1	2	3	4	5	6+
B	36%	32%	74%	79%	56%	87%	23%	18%	42%	18%	67%	36%	-0-	18%	50%	46%	20%	44%
NB		68%	26%	21%	44%	13%	77%	82%	58%	82%	33%	64%	100%	82%	50%	54%	80%	56%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	32	41	38	38	16	15	13	11	12	11	6	14	4	11	12	13	5	16

FEMALE Sex of Head of Household

by Race

Total Number of Occupants

	WHITE						BLACK						SPANISH AMERICAN					
	1	2	3	4	5	6+	1	2	3	4	5	6+	1	2	3	4	5	6+
B	54%	40%	81%	80%	100%	100%	55%	60%	67%	80%	67%	59%	25%	40%	67%	33%	80%	38%
NB	46%	60%	19%	20%	-0-	-0-	45%	40%	33%	20%	33%	41%	75%	60%	33%	67%	20%	62%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number	68	25	16	10	5	4	20	22	15	15	6	17	4	5	3	3	5	8

TABLE VI

Public Assistance Recipients by Sex of Head of Household  
by Beneficiary Status

	Number of People Stratified by Sex of Head of Household	
	Beneficiaries	Non-Beneficiaries
On Welfare, or Other Public Assistance**		
White, Female	42	23
White, Male	16	11
Black, Female	51	25
Black, Male	6	16
Other, Female	13	10
Other, Male	9	18
Total	137	103
Not on Welfare of other Public Assistance		
White, Female	35	28
White, Male	89	64
Black, Female	9	10
Black, Male	15	30
Other, Female	2	11
Other, Male	16	43
Total	166	186
TOTAL	303	289
* White, Female	77	51
* White, Male	105	75
* Black, Female	60	35
* Black, Male	21	46
** Other, Female	15	21
* Other, Male	25	61

\* Break down by Sex of Head of Household not including Public Assistance

\*\* Includes all forms of assistance, social security, etc. as well as welfare.

E. ECONOMIC, EMPLOYMENT AND STABILITY CHARACTERISTICS & DIFFERENCES

The general economic hypothesis which was tested was:

- o There are important differences in economic stability and income characteristics between beneficiaries and non-beneficiaries which define patterns of exclusion.

Finding Number Three

There are few highly significant economic differences between beneficiaries and non-beneficiaries which would indicate the existence of important patterns of economic exclusion.

Following are the sub-findings which lead to this conclusion. In addition, however, the findings themselves provide important information regarding the population whose needs for subsidy programs is apparent even though these findings do not add up to patterns of exclusion.

1. Income Characteristics

Sub-Finding 1

There is no significant exclusionary relationship between income and beneficiary status.

It had been expected that beneficiaries would have either much higher or much lower incomes (depending on subsidy level) than non-beneficiaries and that the differences would reveal a pattern of exclusion. Except for the predictable clustering of the shallow subsidy population toward the high end of the income scale and deep subsidy population toward the other, no particular pattern is revealed. Table VII illustrates this in graphic form.

TABLE VII

Income by Beneficiary Status

	\$0-3,000	\$4,000-7,000	\$8,000+
Beneficiary	51%	38%	11%
Non-Beneficiary	45%	49%	6%

Nor did income appear as an important factor of inclusion or exclusion after multivariate analysis when all other family and economic characteristics were held constant.

Sub-Finding 2

In comparing income to race, however, a familiar pattern emerged. While this does not seem to reflect a pattern of exclusion, Blacks again are at the lowest end of the range. Whereas the mean income for Whites is \$4,645 and Spanish Americans \$4,534, the mean income for Blacks is only \$3,947. It would appear from this that Blacks have a relatively greater need for subsidy assistance than any group of the intended beneficiaries.

Table VIII below compares the mean income statistics by race of beneficiaries to the median incomes for the region and supports this finding graphically.

TABLE VIII

Mean-Median Income Comparisons by Race

Race	Mean Income of Sample	Regional Median Income	Percent Beneficiaries
White	\$4,645	\$9,500	58
Black	\$3,947	\$5,900	51
Spanish	\$4,534	\$7,600	39
Oriental	\$5,488	--	12

Sub-Finding 3

Nor is there a very powerful relationship between beneficiaries status and welfare as the primary source of income among the deep subsidy eligible population.

Although it had been anticipated that Beneficiaries would be less dependent on welfare than non-beneficiaries, this does not appear to be the case. Eighty percent of the deep subsidy beneficiaries and 79 percent of the same category of non-beneficiaries who receive public assistance of any sort reported that welfare was the largest part of their income. In short, both groups appear equally dependent on welfare.

#### Sub-Finding 4

Comparing income, sex and beneficiary status reveals an interesting pattern of participation.

Very low income male heads of household tend to be excluded, while very low income female heads of households are included. However, as a male's income increases so do his chances of participating but as a female's income increases her chances of participation decrease.

For example, 75% of the female non-beneficiaries make between \$1,000 and \$4,000 as compared with 88% of the female beneficiaries. But as female head of household's income increases from \$5,000 to \$8,000, the pattern shifts. Whereas 33% of the non-beneficiary females make between \$5,000 and \$8,000 only 11% of the female beneficiaries fall into this income range.

Male heads of household exhibit, to a lesser degree, the opposite tendency. Whereas 36% of the male beneficiary heads of household make between \$1,000 and \$4,000, 48% of the male non-beneficiaries fall into this income category.

In terms of overall participation these two opposite tendencies appear to cancel each other out and no pattern of exclusion is apparent.

## 2. Employment Characteristics

Although the opposite had been expected, the employment and occupation patterns of the beneficiaries and non-beneficiaries are relatively similar and neither employment nor occupation factors appeared too important in determining exclusion or inclusion. Nonetheless one difference between the two groups presents an interesting profile of the eligible population.

#### Sub-Finding 1

There are differences in the level of skills between beneficiaries and non-beneficiaries when job classifications are compared to race. Both groups are concentrated in the low to moderately skilled occupations. The differences appear to be within skill classifications and do not, taken as a whole, appear to reflect a pattern of exclusion.

Table IX describes graphically the skill levels of beneficiaries and non-beneficiaries broken out by race.

TABLE IX  
Occupation By Race / By Beneficiary Status

Job Level	Beneficiaries			Non-Beneficiaries		
	Whites	Blacks	S-A *	Whites	Blacks	S-A *
Low Skilled	46%	64%	20%	54%	46%	80%
Moderately Skilled	60%	22%	33%	40%	78%	67%
Highly Skilled	51%	40%	43%	49%	60%	57%
Number	97	28	18	79	44	38

NOTE: For purposes of this Table the nine major occupational classifications have been grouped according to presumed skill or prestige levels. The classifications are those used by the Bureau of the Census and appear here in the same order.

Low Skilled

Domestic-workers  
Service-workers

Moderately Skilled

Laborers  
Operators  
Craftsmen etc.  
Clerical

Highly Skilled

Managers  
Social/Teachers  
-Recreation  
Professionals

\*Spanish American

### 3. Stability Characteristics and Differences

It had been anticipated that the beneficiaries were far more "stable" (that is more steadily employed, less transient, more physically mobile etc.) than non-beneficiaries in terms of economic characteristics and residential aspirations and that they were included because intermediaries perceived them as more desirable. It does not appear that this is the case. Both groups are stable with a slight advantage to the beneficiaries.

#### Sub-Finding 1

While there is no important difference between beneficiaries and non-beneficiaries in terms of residential stability and mobility some interesting similarities emerge. Almost 75% of each group moved less than 15 miles from their previous addresses to their current ones. Sixty percent of both groups had lived at their current addresses three years. Taken together these two factors indicate that both groups tend to have lived in the same geographical area for a sufficient period of time to infer that both groups are relatively settled.

#### Sub-Finding 2

While it had been anticipated that beneficiaries, both renters and owners, would prefer to own their own homes far more often than non-beneficiaries, the actual differences appear slight with non-beneficiaries having the edge. Whereas 64% of the beneficiaries prefer to own their own homes, 66% of the non-beneficiaries do. In statistical terms, this difference is insignificant but considering the large difference which had been expected, it becomes an interesting finding.

#### Sub-Finding 3

One of the shibboleths of urban sociology is that low income people prefer to live in familiar surroundings close to friends and relatives over housing amenities. However, if given the choice, both groups would overwhelmingly prefer to live in a good house that meets their needs rather than being close to family and friends.

Eighty-one percent of the beneficiaries and 75% of the non-beneficiaries would prefer to live in a house they liked than being close to friends. Both groups, however, appear relatively satisfied with their current conditions with respect to where they live.

#### 4. Housing Expense Differences

Comparisons of housing costs and income are treated in this section as a separate economic difference between beneficiaries and non-beneficiaries because of concerns that beneficiaries either pay too much for housing or are getting a "free ride".

This concern is related directly to the value of subsidies and to the equity of their distribution both horizontally and vertically. While it had been hoped that this study might begin to explain the various equity factors involved in the economics of housing, time constraints did not permit the use of the sophisticated techniques necessary to implement the complicated regression equations which were developed to measure vertical and horizontal equity. The equations are nonetheless still contained in the data analysis plan (Appendix A) in the event that future studies might use the data base.

The major hypothesis tested in this section was that while both groups will pay more than the recommended 25% of their income on rent, beneficiaries will pay substantially less than non-beneficiaries.

#### Finding Number Four

While there are important differences in the "rent" to income ratios between beneficiaries and non-beneficiaries, there is no evidence to suggest that the differences cause significant exclusion. Again, patterns of participation emerge more prominently.

In an attempt to identify any economic patterns that might affect the housing cost to income ratio, several demographic and economic comparisons were made. These tests resulted in several unexpected findings which are of interest even though collectively they do not suggest patterns of exclusion.

### Sub-Finding 1

As expected the original hypothesis that beneficiaries proportionately pay less of their income for housing than non-beneficiaries appears to be the case.

The average housing cost percentage for beneficiaries is 29%--for the non-beneficiaries it is 37%. What was not expected, however, is that 75% of the entire sample would pay less than 30% of their incomes for housing.

### Sub-Finding 2

The contradictory concerns regarding beneficiaries paying too much or too little of their income for shelter are supported by similarly contradictory findings. Shallow subsidy beneficiaries are much better off than any other group. Whereas 84% of shallow subsidy beneficiaries pay 20% or less of their income for housing, only 55% of the shallow subsidy non-beneficiaries pay so little for housing. Similarly, 56% of the deep subsidy beneficiaries and 32% of the deep subsidy non-beneficiaries pay 20% of their income on housing.

Table X below describes this finding in graphic form. Extrapolating from the previous results of this comparison, however, a somewhat alarming fact remains--25% of the sample is still made up of people who pay more than 40% of their income on rent and many of them (18% of the deep subsidy non-beneficiaries) pay in excess of 50%. Indications of need of this magnitude raise an important policy issue even if they cannot be causally related to exclusion.

### Sub-Finding 3

The sex of head of household for beneficiaries did not seem to affect the housing cost to income ratio, except, perhaps, to exclude males. There are more female than male beneficiaries who pay less than 10% of their income on rent. For the non-beneficiary group, sex of head of household made a substantial difference. For example, 70% of the males and 44% of the female non-beneficiaries pay less than 30% of their income on rent.

TABLE XII

## Housing Cost to Income Ratio by Subsidy Level

Ratio	Beneficiary		Non-Beneficiary	
	Shallow	Deep	Shallow	Deep
1-10%	9%	25%	25%	11%
11-20%	76%	31%	37%	23%
21-30%	11%	24%	31%	24%
31-50%	2%	15%	10%	13%
51-70%	2%	4%	2%	18%
71-100%	-0-	1%	-0-	11%
Total	100%	100%	100%	100%
Number	54	228	68	180

#### Sub-Finding 4

Race as it relates to housing costs does not appear to be a factor of exclusion. All races have approximately the same housing cost to income ratio with a mean housing cost to income ratio of between 30% and 36%. A slightly larger proportion of the Spanish speaking non-beneficiaries pay less than 30%. Once again, the study has shown that a larger proportion of the beneficiaries than non-beneficiaries pay less than 30% of income for shelter as indicated in the following table:

TABLE XIII  
Race/Housing Costs

Race	Benes. Ratio Less than 30%	N-Benes. Ratio Less than 30%
White	88%	62%
Black	85%	60%
Spanish	73%	68%
All Others	100%	100%

The similarity in percentage point spread among the races and beneficiary status, suggests that race is not a contributing factor to the housing costs to income ratio.

## F. HOUSING PACKAGES PREFERENCE

This Study tested the hypothesis that the nature of HUD housing packages meets the needs of only certain groups of the eligible population and that other groups, due to different life-style preferences, exclude themselves from subsidized units which are not suited to their needs and tastes.

Additudinal data was collected regarding the relative importance and degree of satisfaction which respondents assigned to various aspects of the housing packages, including location, neighborhood and unit characteristics, and housing expense. The major findings are summarized below, followed by supporting data and explanations organized by preference categories.

### Finding Number Five

The sum of these findings indicate, again, that the similarities between beneficiaries and non-beneficiaries are more striking than the differences. The nature of the housing packages does not seem to generate patterns of self-exclusion as had been anticipated. The evidence does not support a finding that non-beneficiaries are systematically excluded from subsidized housing as the result of their own conscious choices and preferences.

#### Sub-Finding 1

There is no evidence that beneficiaries and non-beneficiaries differ in terms of what they consider to be important in their living environments. The value and order of importance given to the tested characteristics were nearly identical for both groups (refer to Tables XII and XIII. Examination of the many patterns of similarity suggests that there are no patterns of self-exclusion which result from differing life-style preferences.

#### Sub-Finding 2

There is a high degree of satisfaction among both beneficiaries and non-beneficiaries, and the pattern of satisfaction is nearly parallel for the two groups. Each group finds relatively similar levels of satisfaction in the same characteristics (refer to Table XIII e.g., "Closeness to Schools" and "Safety from Crime.") Again, this pattern of similarity suggests that there is not a pattern of self-exclusion due to displeasure with what the subsidized housing projects provide.

TABLE XII

LOCATION & NEIGHBORHOOD CHARACTERISTICS

Ranking in Importance by Total Sample Responses	% Importance		% Satisfaction	
	B	NB	B	NB
1. Safety from Crime (95.6%)	94.3%	96.7%	56.9%	59.0%
2. Physical Appearance (90.0%)	93.7%	86.1%	78.7%	69.5%
3. Closeness to Shopping (86.6%)	84.1%	89.2%	79.2%	82.3%
4. Noise Level (75.9%)	77.0%	74.5%	75.5%	67.8%
5. Traffic Level (74.8%)	77.7%	71.4%	72.3%	67.4%
6. Public Transportation (69.9%)	64.9%	75.3%	70.8%	83.0%
7. Closeness to Playgrounds and Parks (57.7%)	65.8%	49.5%	79.9%	75.3%
8. Closeness to Work (51.7%)	52.9%	50.4%	74.3%	77.0%
9. Closeness to School (50.9%)	62.1%	39.9%	96.4%	90.5%
10. Closeness to Friends and Relatives	*	*	83.8%	82.8%
<p>* This question was asked in a different form, as were those regarding distance from last address, racial preference, and distance to Central City; therefore, they are not included on this Table.</p> <p>B=Beneficiary NB=Non-Beneficiary</p>				

TABLE XIII  
UNIT CHARACTERISTICS

Ranking in Importance by Total Response	% Importance		% Satisfaction	
	B	NB	B	NB
1. Interior Appearance (97.7%)	99.3%	96.3%	86.8%	74.8%
2. Utilities (93.6%)	93.3%	94.1%	*	*
3. Exterior Appearance (89.2%)	91.1%	87.1%	82.8%	72.6%
4. Overall Size (88.0%)	90.1%	85.6%	86.9%	76.5%
5. Number of Bedrooms (85.2%)	89.4%	80.4%	85.8%	70.4%
6. Outside Yard (75.8%)	77.7%	73.4%	*	*
7. Parking Space (64.4%)	66.7%	60.1%	84.0%	85.1%
8. Privacy	*	*	80.5%	85.1%
9. Management	*	*	77.8%	79.5%
* These questions were posed in a different form and, therefore, cannot be reflected on this Table.				
B=Beneficiary NB=Non-Beneficiary				

### Sub-Finding 3

Beneficiaries tend to be satisfied to a greater degree than are non-beneficiaries, and more often compare their current residences favorably with their previous residences than do non-beneficiaries. This indicates a lack of motivation for self-exclusion.

### Sub-Finding 4

Non-beneficiaries do not appear to be more reluctant to move than beneficiaries. Preliminary examination of the mobility patterns of each suggests that this does not generate a pattern of self-exclusion.

### Sub-Finding 5

Beneficiaries and non-beneficiaries respond almost equally in their perceptions of the stigma attached to living in subsidized housing, and, thus, it appears that there is not a pattern of self-exclusion on this basis.

### Sub-Finding 6

The observation of the physical conditions of all residences by the interviewers indicates that the neighborhood and unit conditions of beneficiaries are superior to those of non-beneficiaries. Again, housing conditions do not appear to suggest a pattern of self-exclusion.

## 1. Levels of Importance and Satisfaction

This study considered the factors listed in Appendix A in order to determine degrees of importance, satisfaction and comparison of the living conditions of beneficiaries and non-beneficiaries:

In the preceding Tables XII and XIII these factors are ranked in descending order of importance as determined by the total eligible population sampled. The degrees of importance and satisfaction for each of the beneficiaries and the non-beneficiaries are also broken out. With only minor exceptions, each group tends to rank the factors in the same order of importance.

The overall relative importance of each of these factors often changes substantially when identified by sub-groups of the eligible population (e.g., by age). However, the similarities between beneficiary and non-beneficiary sub-groups persist. For example, 64.4% of the total sample feels that parking space is important; among the beneficiar-

ies, 67% feel this is important, and among non-beneficiaries, 60% feel they are important. When taken by age group, the percentages appear as follows:

TABLE XIV

Respondents Identifying Parking Spaces  
as Important

	HH Under 50 Years	HH 50 Years or Older
Beneficiaries	74%	38
Non-Beneficiaries	69%	42%

Although there is a substantial difference between age groups, there is minimal difference between beneficiaries and non-beneficiaries of the same age group.

There is a wealth of attitudinal data such as this which can be combined to reflect various expressions of personal preferences and levels of satisfaction -- which can be of assistance in making housing decisions. However, no data has emerged which identifies distinct patterns of attitudinal differences between beneficiaries and non-beneficiaries.

Referring again to Tables XII and XIII, it is interesting to note that beneficiaries are more satisfied than non-beneficiaries in 11 out of 17 cases tested. Of these 11 cases, those in the area of neighborhood characteristics are less important because the percentage point range between the satisfaction levels of the two groups varies only between 1 and 9 points. However, those cases related to unit characteristics are more important, as beneficiaries are more satisfied by a range of 10 to 15 percentage points. In all cases, but one, where non-beneficiaries are more satisfied, the range is 5 percentage points or less. The overall pattern of greater satisfaction among beneficiaries is apparent.

The most notable exception to this pattern is the issue of Public Transportation, which merits additional discussion.

1. Non-beneficiaries live closer to work than beneficiaries:

	<u>w/in 3 mi.</u>	<u>w/in 5 mi.</u>
Beneficiaries	48%	62%
Non-Beneficiaries	20%	33%

2. Beneficiaries are less satisfied than non-beneficiaries with their closeness to work (Beneficiaries 74%; Non-Beneficiaries 77%)<sup>8</sup>
3. More beneficiaries travel to work by automobile (drive or ride) than do non-beneficiaries. (Beneficiaries 87%; Non-Beneficiaries 67%).
4. More non-beneficiaries use buses to get to work (15%) than do beneficiaries (5%).
5. Beneficiaries are less satisfied with the closeness to shopping than are non-beneficiaries. (Beneficiaries 79%; Non-Beneficiaries 83%).
6. More beneficiaries use automobiles (drive or ride) for shopping than do non-beneficiaries (Beneficiaries 76%; Non-Beneficiaries 65%)
7. Beneficiaries are less satisfied than non-beneficiaries with the convenience of public transportation (Beneficiaries 71%; Non-Beneficiaries 83%).

The overall pattern of these observations indicates that subsidized housing projects are probably not as conveniently located as are the units of non-beneficiaries. While this is an aspect worthy of further study; it does not appear significant enough to suggest a pattern of purposeful self-exclusion by non-beneficiaries. Although the discrepancies are interesting, they do not seem sufficiently great to refute the larger pattern of similarity.

As mentioned earlier, there are other attitudinal issues such as this which are interesting (e.g., the high degrees of importance of and dissatisfaction with safety from crime) and would provide the basis for further study. However, for the purposes of this study, they do not present significant differences between beneficiaries and non-beneficiaries.

Beyond the questions of satisfaction and importance, respondents were asked to compare elements of their current residence with those of their previous residence.

For example, the question was asked, "Are you more satisfied, less satisfied or is there no difference in the overall size of this place from your last address?"

---

<sup>8</sup> Although the chi square indication is that these are not statistically significant differences, programmatically it is interesting in that it breaks the general pattern of greater beneficiary satisfaction.

TABLE XV

## Satisfaction with Overall Size Compared to Last Address

	Worse	Same	Better
Beneficiaries	15	19	66
Non-Beneficiaries	29	17	54

These comparative responses were then compared to the level of satisfaction for each group to determine how many of those who were satisfied felt that their current situations were worse, the same or better.

Charts A & B graphically suggest that there is not only a pattern of greater satisfaction among beneficiaries, but also that of the satisfied group, beneficiaries more often perceive their current residences as superior to their previous ones than do non-beneficiaries. It is possible to infer from this that the degree of satisfaction among beneficiaries might have increased upon moving into subsidized housing units.

It is important to note that there are also some cases where the obverse is true. Of the eligible population which is dissatisfied, beneficiaries more often tend to believe that their current situations are "worse" than their previous ones. In other words, for those who are dissatisfied, it appears that this dissatisfaction has increased upon moving into subsidized housing.

However, this finding does not appear to reveal a source or cause of self-exclusion on the part of non-beneficiaries. The percentage point spread between beneficiaries and non-beneficiaries in Chart B never exceeds 7 points. This minimum degree of statistical spread again supports the rule of similarity.

Further, the percent of beneficiaries who are satisfied and feel their situations are better, is greater than the percent who are dissatisfied and feel their situation is worse.

# CHART A

## A COMPARISON OF NEIGHBORHOOD AND UNIT

### CHARACTERISTICS

<u>Characteristics</u>	<u>Beneficiaries</u>	<u>Nonbeneficiaries</u>
Households Who Are Both Satisfied with Proximity to Schools and Who Feel Their Position Relative to Schools Has Improved.	5	4
Households Who Are Both Satisfied with Safety from Crime and Who Feel Their Position Relative to Their Last Residence Has Improved.	26%	18%
Households Who Are Both Satisfied with Proximity to Families and Friends and Who Feel They Have Improved Their Position Relative to This Characteristic.	28%	22%
Households Who Are Both Satisfied with Noise Levels and Who Feel They Have Improved Their Position Relative to this Characteristic.	30%	23%
Households Who are Both Satisfied with Traffic Conditions and Who Feel They Have Improved Their Position Relative to this Characteristic.	35%	19%
Households Who are Both Satisfied with the Appearance of their Neighborhoods and Who Feel Their Present Neighborhoods are Better than Their Last Neighborhoods.	43%	23%
Households Who are Both Satisfied with Parks and Recreation Facilities and Also Feel their Present Neighborhoods are better in this Regard than in their Previous Neighborhood.	45%	30%
Households Who are Both Satisfied with the Size of their Units and Also Feel Their Present Units are Better than Prior Residence Relative to Unit Size.	64%	45%
Households Who Are Both Satisfied with the Number of Bedrooms in their Units and Also Feel That Their Present Units Have More Desirable Number of Bedrooms than Previous Residence.	56%	25%
Households Who Are Both Satisfied With Public Transportation and Who Feel Their Position Relative to Public Transportation Has Improved.	30%	27%

A COMPARISON OF NEIGHBORHOOD AND

UNIT CHARACTERISTICS

<u>Characteristics</u>	<u>Beneficiaries</u>	<u>Nonbeneficiaries</u>
Households Who Are Both Dissatisfied with Proximity to Schools and Who Feel Their Position Relative to Schools has Worsened.	14%	17%
Households Who are Both Dissatisfied with Safety from Crime and Who Feel Their Position Relative to Safety in their Last Residence Has Worsened.	29%	22%
Households Who Are Both Dissatisfied with Proximity to Families and Friends and Who Feel They Have Not Improved Their Position Relative to this Characteristic.	9%	8%
Households Who Are Both Dissatisfied with Noise Levels and Who Feel They Have Not Improved Their Position Relative to This Characteristic.	20%	19%
Households Who are Both Dissatisfied with Traffic Conditions and Who Feel They Have Worsened Their Position Relative to This Characteristic.	15%	18%
Households Who are Both Dissatisfied with the Appearance of Their Neighborhoods and Who Feel Their Present Neighborhoods are Worse Than Their Last Neighborhoods.	14%	17%
Households Who are Both Dissatisfied with Parks and Recreation Facilities and Also Feel Their Present Neighborhoods are Worse in This Regard Than in Their Previous Neighborhood.	12%	9%
Households Who are Both Dissatisfied with the Size of Their Units and Also Feel Their Present Units are Worse Than Prior Residence Relative to Unit Size.	7%	14%
Households Who Are Both Satisfied with the Number of Bedrooms in Their Units and Also Feel That Their Present Units Have a More Desirable Number of Bedrooms than Previous Residence.	4%	14%
Households Who Are Both Dissatisfied with Public Transportation and Who Feel Their Position Relative to Public Transportation Has Not Improved.	14%	7%

TABLE XVII  
BENEFICIARIES

	Satisfied & Better	Dissatisfied & Worse
Closeness to School	5%	14%
Safety from Crime	26%	29%
Proximity to Friends	28%	9%
Noise Levels	30%	20%
Traffic Conditions	35%	15%
Neighborhood Appearance	43%	14%
Parks & Recreational Facilities	45%	12%
Unit Size	64%	7%
No. of Bedrooms	56%	4%
Public Transportation	30%	14%

## Willingness to Move

This study tested the hypothesis that "beneficiaries are more physically mobile than non-beneficiaries to the extent that they have moved further from previous residence to current address than non-beneficiaries."

The purposes of testing this hypothesis was to determine whether or not there was a greater reluctance on the part of non-beneficiaries to move from their familiar surroundings, and if this could be a potential source of self-exclusion:

1. 80% of beneficiaries live within 20 miles of their last address, whereas 75% of the non-beneficiaries live within 20 miles of their last address.
2. More non-beneficiaries (39%) have lived at their current address for five years or more than have beneficiaries (10%).
3. However, since this fact is almost inevitable in light of the short period of time that subsidized housing has been available, a comparison was drawn between the length of time at their last permanent addresses with the results shows as follows:

	<u>Lived at last address less than 3 years</u>	<u>Live at last address 3 years or more</u>
Beneficiaries	66%	34%
Non-Beneficiaries	70%	30%

4. When asked if they consider the closeness to friends or the condition of the housing unit more important in seeking a home, the respondents answered as follows:

	<u>Unit Condition More Important</u>	<u>Closeness to Friends More Important</u>
Beneficiaries	81%	10%
Non-Beneficiaries	75%	25%

The combination of these factors indicates that there are no major differences between beneficiaries and non-beneficiaries in terms of their residential mobility or willingness to move.

One of the theories of exclusion which had been postulated was that eligible people excluded themselves because of the stigma attached to subsidized housing. Taken overall, this does not seem to be the case. In total, only 32% of the beneficiaries and 34% of the non-beneficiaries felt that people living in subsidized housing were looked down on. The greatest acknowledgement of stigma, however, is found in the shallow subsidy population where, 39% of the non-beneficiaries and 33% of the beneficiaries felt that people looked down on subsidized housing programs. A six percentage point difference, however, is probably not an indication of self-exclusion as a result,

#### Housing Conditions

In addition to the attitudinal responses of the residents, observations of the general housing conditions were recorded by the interviewers. The results are as follows:

Presence of:	Beneficiaries	Non-Beneficiaries
Boarded up buildings or broken windows in area	18%	34%
Broken glass, trash/garbage on the streets in area	22%	41%
Visible abandoned autos in area	3%	15%
Sidewalks, curbs, streets in area in need of repair	3%	20%
Broken plaster, peeling paint in units	3%	9%
Broken windows in dwelling unit	4%	5%

The observations of the interviewers indicate that the neighborhoods and units of beneficiaries are in better condition than those of non-beneficiaries. There is no indication from our sample that non-beneficiaries have cause to exclude themselves from subsidized housing due to the physical condition of the neighborhoods or units.

## Summary

In testing the hypothesis that the nature of the housing packages causes self-exclusion of eligible low and moderate income people, the data available provided a notable lack of causes for self-exclusion.

The similarities in preferences between beneficiaries and non-beneficiaries would indicate that factors other than self-exclusion are the cause of their differing status.

One could, for example, infer that since non-beneficiaries are generally satisfied with their situations, perhaps the motivation to seek alternative housing is reduced. (Of the non-beneficiaries interviewed, only 8% have ever applied for entrance into subsidized housing.) The study did not produce sufficient data to thoroughly test this hypothesis.

It is also possible that lack of knowledge of HUD subsidized housing programs could explain why some of the eligible population is included and others are not. Of the non-beneficiaries interviewed 55% had never heard of HUD's subsidized housing. Of those persons who are currently beneficiaries 64% found their subsidized units through informal means, such as from friends, relatives or co-workers.

## G. EFFECT OF INTERMEDIARIES DECISIONS

Intermediaries exclusion, studied along with demographic and housing exclusion, had as its basic hypothesis that: The legitimate goals of managers/brokers and HUD staff for financially successful projects may conflict with the equally legitimate goals of beneficiaries for improved housing conditions.

The study tested hypotheses related to patterns of intermediaries decision exclusions in order to attempt to isolate specific points in the intermediaries/beneficiaries relationship where exclusion could be identified. These decision points included application and outreach processes, location of units, characteristics of units, provision of services and amenities, credit ratings and referrals. Direct questions were also asked to test the intermediaries' feelings towards the programs and beneficiaries.

### Finding Number Six

No systematic pattern of decision exclusion by intermediaries could be identified. At selected points in the process of dealing with beneficiaries, opportunities for exclusion exist. In a number of cases, without question exclusionary techniques were practiced. However, no distinct relationship between attitudes and practices could be identified. Instead, intensely felt negative and hostile attitudes towards the programs' clientele and very specific negative feelings toward the programs were found. Both of these sets of attitudes might well have translated into exclusionary practices. They seemed, however, more reflective of discriminatory feelings than of administrative or programmatic instruments of exclusion.

This finding is qualified by the disparate nature of responses to individual questions. We expected more similarity among responses and were surprised by the degree to which widely different reasons and answers were given to a question. With a larger sample, perhaps more commonalities might have emerged.

The process of "collapsing" the varied responses resulted in several threads, or themes, which serve as the basis for the following overall findings:

- o Intermediaries hold negative attitudes towards beneficiaries both as applicants and residents. Although these attitudes are sometimes modified by positive feelings, virtually every respondent identified at least one specific group which causes special management and financial problems.

- o Intermediaries hold negative attitudes towards the programs and recited substantial lists both of grievances about the programs and recommendations for changing them.
- o Mixed responses indicated ambivalence toward the programs' objectives of providing decent, safe and sanitary housing to eligible applicants. Positive feelings that the living condition of residents is improved by the programs were somewhat offset by negative feelings about these improvements and beneficiaries' ability to take advantage of the housing opportunity provided.
- o There was no apparent uniformity either in the provision of services to residents or perceptions of what these services ought to be.
- o Responses showed no uniformity in outreach, application, credit checks and referral procedures except in low rent housing.

The following series of hypotheses and findings indicate the avenues of inquiry that were pursued with the managers of HUD subsidized projects and which lead to the conclusions noted above. The specific questions asked in response to these hypotheses are noted in the Intermediaries Questionnaires included in the Appendix.

#### Hypotheses and Findings

##### Financial Management Concerns

Financial management concerns of intermediaries may be in conflict with the economic and social interests of the beneficiaries. This conflict would result in attitudes and behavior on the part of the intermediaries which exclude eligible beneficiaries.

##### Sub-finding 1

Resident managers' concerns are oriented to daily operating problems rather than overall financial success of their projects. Feelings of discrimination appear more prevalent than exclusionary practices.

Whereas strong negative attitudes about beneficiaries emerged from the answers to questions aimed at assessing this hypothesis, we concluded that respondents, by virtue of their project management responsibilities, are more concerned about the behavior of residents than the financial success of the project.

## Social Responsibility

Intermediaries may not see it as their responsibility to solve urban social problems, although those intermediaries who do initiate socially oriented programs tend to have financially successful projects.

### Sub-Finding 2

Provision of shelter was the foremost goal of the respondent. No relationship between the provision of socially oriented programs and financial success was found. None of the responses equated these two factors. A relationship between provision of services and the manager's satisfaction with the program was found. Recreation facilities were found more than social services.

A number of respondents reported serving as informal counselors or making referrals to social service agencies. Again, the specific problems of minorities welfare recipients and large families were cited in negative terms, suggesting that these groups were the cause of management problems and should be turned away if the opportunity was presented.

## Exclusion of "Less Desirables"

### Sub-Finding 3

"Less desirables" and undesirables were identified throughout the responses. Significantly, in only a few cases did the responses indicate that they were excluded

Screening was mentioned in the pre-application phase as a way of excluding, but the number of respondents who mentioned this was too small to substantiate this theory. Many responses suggested that the applicants' success as a tenant could be determined in advance by the behavior of his/her children, or the cleanliness of his/her car; but no evidence of active exclusion was found.

## Provision of Information

It was postulated that beneficiaries considered by intermediaries as "less desirable" might not be given as much information or as clear an understanding of eligibility requirements as "more desirable" prospective tenants.

Resident managers in multifamily and occupancy specialists in low-rent projects do not seem to share a stake in the financial success of the project. Had the same questions been asked of sponsors, the financial concerns might have been different.<sup>9</sup> Instead, responses clustered around specific groups who were not maintaining their units or were "skipping" on rent, but these reactions were never translated into concerns for potential default or foreclosure.

Residents' social and economic "problems" were seen in terms of creating impediments to their being able to take advantage of the housing opportunity. The programs were seen as providing shelter, rather than as part of an overall social program. There were a few cases in which intermediaries saw the economic status of residents as improved as a result of reduced housing costs.

In short, a concern for financial success being translated into exclusion could not be identified. Rather, strong evidence of discriminatory feelings were found which occasional respondents connected to excluding certain groups of the eligible population.

Questions asking if management or financial problems were caused by any special group resulted in responses which listed numerous racial and social groups. The responses clustered around the single female head of household and her unsupervised children as causing the most serious management and financial problems. This was always in terms of everyday operating costs. Since female heads of household emerged as a frequently included group from the survey, it does not appear that intermediaries acted on this observation by excluding this group.

Respondents were asked if there were problems of "too many of one kind of tenant" they had defined as "problem cases." Again, many felt that this was a problem but management rather than financial concerns were expressed.

---

<sup>9</sup> Refers to questions asked regarding special financial/management problems caused by a specific group of tenants/owners.

#### Sub-finding 4

No evidence of either of these practices was found. Instead a series of responses from 235 sales brokers and 236 managers suggested that in some cases tenants or buyers might not be "suited" for a particular project or tract. Their basic criteria, however, was eligibility and ability to pay rent or make mortgage payments.

#### Credit Requirements

It is widely believed that requiring credit reports may discourage potential beneficiaries from following through on applications for subsidized housing.

#### Sub-finding 5

No uniformity in use of credit reports was found, except in 235 processing. Low rent respondents indicated no use of credit reports -- multifamily respondents expressed concern about the tenants' ability to pay rent and mentioned checking previous landlords for this kind of information.

Some credit checks are made in multifamily but not consistently. Some respondents noted having developed a "sixth sense" for credit problems and listed groups who might be poor credit risks. One respondent noted, "If the person is marginal and the report is marginal he's out; if the person is good and the report is marginal, he's in."

In multifamily the strong trend is to check the previous landlord. Several responses suggested that this results in the applicant getting notice from his landlord or the landlord, desirous of getting rid of a bad tenant, lying about the tenants poor credit or rent record.

#### Waiting Lists

Waiting lists, application fees, nuisance interviews are used to deter undesirable tenants and buyers. Waiting lists are used in all programs to varying degrees and are kept by unit sizes, undesirable and desirable tenants and other categories. First come - first serve is the major alternative to waiting lists.

#### Sub-finding 6

Those responses which indicated exclusion did not indicate the use of these kinds of tactics. Rather, the ability to pay rent or make mortgage payments appear to be the governing factor in acceptance. Strongly felt negative attitudes towards applicants of certain races or family types suggest that covert forms of discrimination must be present in some cases. In several instances the respondent indicated that people were told that their tenancy "just wouldn't work out." But there was no evidence of the exclusionary practices hypothesized being employed.

In discussing waiting lists there were responses indicating that there are several types of lists based on unit sizes, applicants from the community, relatives of tenants and desirables and "undesirables". Where exclusion appears to occur is in the use of waiting lists as an application pool. Several responses suggested that people are placed on a waiting list and only the most desirable applicants called when a vacancy occurs.

Data from the statistical survey from the Beneficiaries Survey indicates that 57% of beneficiaries were wait-listed. Ten percent of beneficiaries indicated that they had to call the project nine times or more before they could find out if they were accepted. 68% of the Black women beneficiaries were wait-listed; in general all women heads of households appear to be listed more frequently than men.

#### Contacts with Citizens' Interest Groups

Sales forces and managers find that the technical requirements of subsidized programs and the growing influence of fair housing groups and legal aid societies created difficulties and whether this diminished their interest in participating in subsidized programs.

#### Sub-finding 7

Contact with fair housing and legal aid groups was infrequent in the projects sampled. Among those visited, both groups had a substantial impact. Dissatisfaction with complicated or technical requirements was noted, but not described as enough to stop respondent's participation.

The responses, with few exceptions, indicated some grievances with "red tape" and resentment of "interference" by HUD and legal aid and fair housing groups. It was the isolated cases, however, in which the hypotheses were borne out rather than in intensity which would prove the hypotheses. Most responses indicated that legal aid and fair housing groups had not visited or contacted the projects. With the exception of low rent, respondents had had little or no post construction contact with HUD/FHA. It appears that, by and large, the subsidized programs run almost completely independently.

#### Contacts with HUD

Staffing shortages in HUD Area and Insuring Offices result in less than adequate compliance monitoring of managers and brokers who are aware of this situation.

Sub-finding 8

Most contacts with HUD/FHA are routine, with few audits or reviews noted.

Low rent respondents indicated fairly frequent contact with HUD--235/236 responses discussing relationships with HUD/FHA suggested some validity to this hypothesis. Almost no instances of post construction monitoring or review were noted by resident managers and sales brokers. The contacts go in the other direction -- from the project staffs to HUD/FHA for explanation, interpretation and clearances. Some complaints were noted.

Several sub-hypotheses concerning certain kinds of deterioration of the living environment because the incidence of crime dictated increased operating costs were postulated. The need for more security, maintenance and other higher costs were substantiated by responses, but were expressed more as problems in maintaining control or as dissatisfaction with "problem cases" than a concern for financial success. Since resident managers formed a large part of the sample these attitudes can be readily understood.

## H. SUMMARY

This study has attempted to answer the basic question of why many financially eligible people are not receiving the benefits of housing subsidies. Various kinds of exclusion which might have the effect of causing unequal distribution of subsidy resources were tested. In each case, the findings suggest that systematic patterns of exclusion do not exist. While three demographic characteristics are related to exclusion they do not seem to operate systematically as patterns of exclusion nor do they seem powerful enough by themselves to answer the basic question completely. By a process of elimination it would appear, therefore, that the availability of program resources may be the important determinant of the distribution of subsidy resources.

Appendices

Appendices

Appendices

## **V. Appendices**

a. Data Analysis

b. Sampling Plan + Procedures (contained in Vol 2)

c. Interview Instruments + Procedures

(contained in supplementary volume #2)

# *A. Data Analysis*

BENEFICIARIES STUDY

DATA ANALYSIS PLAN

A. OVERVIEW

Both studies will be analyzed in with univariate, bivariate and multivariate analysis techniques.

Each stage of analysis will determine the magnitude and nature of successive stages. Therefore, the results of descriptive univariate analysis (proportions, averages, frequency distributions, standard deviations, etc.) will in large part determine the final design of the bivariate/trivariate analysis program. Similarly, the details of the multivariate analysis design will depend on the apparent importance of relationships among variables described by the cross-tabulations of Stage 2. However, a model for the beneficiaries substudy has been developed for regression analysis that is included in this section.

It is anticipated that much of the synthesis of the beneficiaries and intermediaries substudy will be done on a judgmental basis.

B. BENEFICIARIES ANALYSIS PROCESS

1. Univariate

- a. Variable Construction: In some 17 cases, variables will have to be constructed from within the questionnaire itself. A mini-program will have to be written to construct variables.

A list of variables to be constructed is attached as Part D. It is anticipated that others will be added throughout the course of analysis.

- b. Standard statistical manipulations will be performed to edit and analyze all responses/variables. Most but not all of the following tests will be conducted. (The ones marked \* are most obvious and important.)

- \* a. Frequency for each response category
- \* b. Percent for each response category
- c. Mode
- \* d. Median
- e. Quartiles
- \* f. Mean
- \* g. Standard Deviation
- \* h. Variance

- i. Skewness
- j. Kurtosis
- k. Range
- l. Histogram

## 2. Bivariate Analysis

- a. The basic bivariate analysis will compare beneficiaries and non-beneficiaries by most of the critical study variables.

The first step will be to determine whether, in fact, significant differences in their characteristics exist.

In about 15 instances, this basic comparison will be augmented by adding the subsidy level (deep/moderate) the respondent either receives or is eligible for.

- b. In other instances, the number of variables might be increased along the horizontal axis, in order to get four and six-way comparisons. If not, two tables for each category along the horizontal axis will have to be printed out. A list of these multivariable comparisons is attached as Part C, in addition to a fold-out matrix of the variables selected.

### c. Table Analysis

1. Table format will most often be as described with marginals, totals and column percentages.
2. Measures of association and tests of significance will be computed for each table.
3. One-way analysis of variance: The computation of appropriate means, standard deviations and variances of nominal and ordinal response categories will be performed as necessary.

## 3. Multivariate Analysis

Although the final definitions of the variables for the hypotheses to be tested during the multivariate portion of the study will probably be predicted on the descriptive results of univariate/bivariate analysis, the following section describes briefly the information that may result from correlation analysis, principal components analysis, and regression analysis.

- Analysis of Correlations: Descriptive analysis will continue but the statistical procedure will be changed. It will be useful to look at the correlations between economic-demographic characteristics and the beneficiary status of the two groups. Bivariate analysis is convenient for hypothesis testing but this kind of correlation analysis will yield information in a form that is easier to digest.
- Principal Components Analysis: The preceding kind of analysis will yield information about means, variances and correlations. However, if as many as thirty economic, demographic and preference characteristics were to be considered simultaneously, then the covariances must also be examined. The analysis would, therefore, need to estimate and interpret 495 parameters. If characteristics of the two populations were to be compared, three times this number of parameters would have to be examined.

To gain an overview of the relationship between many characteristics and the incidence of subsidy, characteristics should be grouped into manageable, distinct and ordered sets. A multivariate technique, principal components analysis, may help us to do this. Principal components analysis should be used to supplement other techniques. For example, ascribing significance to the factors may be impossible if most of the characteristic variables appear equally correlated.

Using household characteristics as an illustration, the rotation of the variance/covariance matrix will yield several uncorrelated vectors that explain most of the variance in the household characteristics matrix. The determined coefficients for each variable will describe its correlation with the principle factor. An interpretation is given to the factor by looking at the variables most closely correlated to it.

If "principal components" are run for both populations, separately, we may identify differences in the factors and, thus, be able to describe the general differences in the characteristics of the two groups. If we do principal components for the whole set and include a variable to identify non-beneficiaries we would see how this variable correlates to the explaining factors. Should it load (correlate) more on one factor than another we will suspect that this factor describes the characteristics of the excluded population.

- Regression Analysis: Two other multivariate techniques--Probit and Ordinary Least Squares--will identify broad sets of relationships. These forms of

analysis will allow us to isolate the most important variables in the various sets -- the variables which define relationships from which we can begin to draw causal inferences.

-- Attached as Part E to this plan is the first draft of some of the models which might be used to test these hypotheses. Others will be developed during the course of analysis.

### C. THE INTERMEDIARIES STUDY ANALYSIS PROCESS

#### 1. Univariate Analysis:

- a. Variable Construction: The nature of this questionnaire will probably require significant variable construction once the coding has been done. The extent of this construction is complicated by the need to make the response categories comparable to the beneficiaries questionnaire insofar as this is possible.
- b. Once the variables have been constructed, standard editing and analysis procedures as outlined on page 9 will be performed.

#### 2. Bivariate Analysis:

A later version of the list of hypotheses (Part A) will outline the proposed comparisons although it cannot be an exhaustive list until all the variables are identified and sub-hypotheses formulated.

- a. For this study the number of bivariate descriptive tables will probably be limited and the bulk of the analytical emphasis will be placed on multivariate analysis.
- b. Tabular format and tests of association requirements will be identical to the Beneficiaries Study.
- c. Some bivariate and trivariate tables will also be prepared but it is difficult to estimate their content at this point.

ATTACHMENTS

## PART A

### BENEFICIARIES STUDY -- HYPOTHESES

#### A. Demographic Hypotheses

While both beneficiaries and non-beneficiaries will have many similar demographic characteristics, there will be significant differences between the two groups which will begin to isolate patterns of exclusions.

1. Female heads of households tend to be excluded from housing subsidy programs. The incidence will be higher for non-beneficiaries than for beneficiaries.
2. Single heads of households tend to be excluded. The incidence will be higher for non-beneficiaries than for beneficiaries.
3. Families with large numbers of children tend to be excluded. The shallow subsidy beneficiaries will have fewer children than the deep subsidy beneficiaries. Similarly, non-beneficiaries eligible for shallow subsidy will have fewer children than non-beneficiaries eligible for deep subsidy.
4. The higher the income, the smaller the family.
5. Minority groups tend to be excluded or steered to homogeneous neighborhoods or projects. There will be fewer minorities in the shallow subsidy group of beneficiaries than in the deep subsidy group.
6. People 25 and under tend to be excluded. There will be more heads of household aged 25 and under in non-beneficiaries than in beneficiaries.
7. People aged 62 and over are better served in proportion to their numbers than any other age group. Elderly are more attractive tenants; less disruptive; steadier income; more sedate.
8. More beneficiaries than non-beneficiaries will have been displaced by government action.
9. More beneficiaries than non-beneficiaries will have been veterans.

#### B. Economic Exclusion Hypotheses

Differences in economic stability between beneficiaries and non-beneficiaries may result in the exclusion of a significant number of intended beneficiaries.

1. Beneficiaries will have higher incomes than non-beneficiaries.
  - a. Shallow subsidy beneficiaries will have higher incomes than both deep subsidy beneficiaries and shallow subsidy non-beneficiaries.
  - b. Deep subsidy beneficiaries will have higher incomes than deep subsidy non-beneficiaries.

- 2.
2. Beneficiaries, as a whole, will be more economically stable than non-beneficiaries.
    - a. Shallow subsidy beneficiaries will be more stable than deep beneficiaries.
    - b. Beneficiaries will have more skilled and white collar workers than non-beneficiaries.
    - c. Beneficiaries will have changed jobs fewer times than non-beneficiaries.
    - d. Beneficiaries will have more credit than non-beneficiaries and will have savings accounts more often than non-beneficiaries.
    - e. Beneficiaries incomes will be steadier than non-beneficiaries, that is, there will be less fluctuation in beneficiaries income pattern than non-beneficiaries.
    - f. Beneficiaries have experienced fewer periods of unemployment than non-beneficiaries.
    - g. More people will be employed full time in beneficiary households than in non-beneficiary households.
    - h. More beneficiaries of heads of households will hold more than one job than non-beneficiaries.
  3. Beneficiary households pay less for housing than non-beneficiaries as a percentage of their income.
    - a. Beneficiary households pay more than the recommended ratio of 25 percent of their income for housing, except for public housing tenants.
    - b. Shallow subsidy beneficiaries will pay less of their income for rent than deep subsidy beneficiaries.
  4. Beneficiaries who used to live in non-subsidized housing have reduced their rent to income ratios while non-beneficiaries now pay more than at their previous address.
  5. Fewer beneficiaries than non-beneficiaries will depend almost entirely on public assistance payments.
    - a. Shallow subsidy beneficiaries will be less dependent on welfare than non-beneficiaries and deep subsidy beneficiaries.
    - b. There will be fewer single women on welfare among the beneficiaries than among the non-beneficiaries.

### C. General Location Exclusion Hypothesis

Therefore, subsidized housing programs ought to be located in better areas and maintained in a manner which have resulted in substantial improvements in the quality of life of beneficiaries.

1. Subsidized housing units are located closer to jobs than non-subsidized units.
  - a. The higher the income of households the lower the preference for closeness to work.
  - b. Beneficiaries will live closer to their jobs than non-beneficiaries.
  - c. Beneficiaries depend on cars to get to work less often than non-beneficiaries.
  - d. Beneficiaries care less about living close to work than non-beneficiaries.
  - e. Beneficiaries are less dependent on public transportation than non-beneficiaries.
2. Beneficiaries feel that their neighborhoods are better than non-beneficiaries.
  - a. More beneficiaries will feel that their neighborhoods are located near good schools than non-beneficiaries.
  - b. More beneficiaries will feel that public transportation meets their needs than non-beneficiaries.
  - c. More beneficiaries will feel that their neighborhoods have adequate shopping, laundry facilities, etc., than non-beneficiaries.
  - d. More beneficiaries than non-beneficiaries will feel that there are adequate recreation facilities in their neighborhoods.
  - e. More beneficiaries will feel that their neighborhoods are safe (from crime) than non-beneficiaries.
  - f. More beneficiaries will prefer ethnically and economically mixed neighborhoods than non-beneficiaries.
  - g. More beneficiaries than non-beneficiaries will feel their current neighborhoods are better than their previous ones.
  - h. Beneficiaries had a greater number of choices in selecting their current homes than non-beneficiaries.

- i. More beneficiaries than non-beneficiaries will know where other subsidized projects in their vicinity are located.
- j. More beneficiaries than non-beneficiaries will have had (more locator assistance from program related sources.
- k. More beneficiaries than non-beneficiaries will have learned about subsidized housing programs because they live in or near other areas where federal service programs are concentrated.

### 3. Project and Unit Characteristics Hypothesis

1. Subsidized housing is better designed and maintained than non-subsidized housing.
  - a. More beneficiaries will be more satisfied with the amount of interior space and number of bedrooms than non-beneficiaries.
  - b. More beneficiaries will feel that their building's exteriors are adequately maintained than non-beneficiaries.
  - c. More beneficiaries than non-beneficiaries will feel that the interiors of their buildings are adequately maintained.
  - d. More beneficiaries than non-beneficiaries feel that they have adequate plumbing, heating and electrical systems.
  - e. More beneficiaries than non-beneficiaries feel that they have enough parking places.
  - f. More beneficiaries than non-beneficiaries feel that the manager provides adequate service.
  - g. Fewer beneficiaries than non-beneficiaries feel that the rent is more than they could afford.
  - h. People living in subsidized units built since 1970 are more satisfied with their dwellings than people living in older projects.

### D. General Social/Life Style Hypotheses

We believe that while the traditional social/life style of beneficiaries and non-beneficiaries are similar, just as their demographic and economic characteristics are, there will be significant differences between the two groups which will tend to describe the beneficiaries as more closely resembling the norm than the non beneficiaries.

Further, non-beneficiaries may have excluded themselves or been excluded because:

- They are less physically mobile
- They are less upwardly mobile
- They are less economically stable
- They feel the stigma of subsidized housing programs more strongly.

1. Beneficiaries will have been living in their residence longer than non-beneficiaries.
2. Beneficiaries will be more physically mobile than non-beneficiaries to the extent that they have moved a greater distance from previous residence to current address than non-beneficiaries.
3. Beneficiaries will be more upwardly mobile socially and economically than non-beneficiaries.
  - a. More beneficiaries will perceive that their purchasing power has increased over the last 3 years than non-beneficiaries.
  - b. Beneficiaries will have better educations than non-beneficiaries.
4. Beneficiaries will exhibit more stable family characteristics than non-beneficiaries.
  - a. Beneficiaries will have fewer unrelated household members than non-beneficiaries.
  - b. Beneficiaries will have fewer numbers of persons in households than non-beneficiaries.
  - c. Shallow subsidy beneficiaries will have fewer numbers of persons in households than either deep subsidy beneficiaries or shallow subsidy non-beneficiaries.
  - d. Beneficiaries will have more households with spouses living together than non-beneficiaries.
5. More beneficiaries will prefer home-ownership to rental housing than non-beneficiaries.
6. Beneficiaries will be less concerned about the stigma associated with subsidized housing than non-beneficiaries.
7. More beneficiaries prefer physical amenities over proximity to family and friends than non-beneficiaries.
8. Beneficiaries are more able to overcome discriminatory practices because of their awareness of the programs and their educational level.

E. Impact of Intermediaries on Beneficiaries

1. The financial management concerns of the intermediaries may conflict with the economic and social interests of the beneficiaries and this conflict results in attitudes and behavior on the part of the intermediaries which exclude eligible beneficiaries.
2. Intermediaries may not see it as their responsibility to solve or help solve urban social problems like crime or anemie although those intermediaries who do initiate socially oriented programs tend to have financially successful projects.

- a. Intermediaries have defined a group of "less desirables" whom they tend to exclude by using the application process.

Beneficiaries were treated differently during the application process than non-beneficiaries.

- b. Potential beneficiaries considered possibly less desirable than others may not be given quite as much information as others to assist them in understanding the housing assistance process.
- c. Potential beneficiaries considered to be less desirable are not necessarily given a complete or clear understanding of eligibility requirements.
- d. Requiring of credit reports may discourage potential beneficiaries from following through on housing applications.
- e. Placing potential beneficiaries on long waiting lists may discourage less desirable households from applying.
- f. Fees required for application processing may result in less desirable beneficiaries being excluded in the application process.
- g. The number of contacts required during the application for less desirable potential beneficiaries tends to be greater for other potential beneficiaries.
- h. Personal interviews required from less desirable potential beneficiaries tend to be less complete and more biased than for more desirable beneficiaries.
- i. Requirements for personal interviews with other members of the family tend to be more frequent and demanding from less desirable beneficiaries than from others.
- j. Requirements for certification of the substandardness of current housing tend to be less rigid for more desirable potential beneficiaries than for less desirable potential beneficiaries.
- k. Rental and sales staffs tend to be more helpful in explaining requirements and application processes to more desirable beneficiaries than less desirable beneficiaries.
- l. Feelings of having been treated fairly by intermediaries tend to be less prevalent among less desirable potential beneficiaries than among more desirable potential beneficiaries.
3. Intermediaries tend to believe that the inclusion of less desirable beneficiaries will discourage the tenancy of more desirable beneficiaries, and will, therefore, reduce the financial success of the project.
- a. The inclusion of less desirable beneficiaries will cause the deterioration of the general living environment of the project by increasing the incidence of crime, juvenile delinquency, etc.
- b. The inclusion of less desirable beneficiaries will increase operating costs necessitated by the need for more security, more maintenance and other higher costs.

- 7.
4. Sales forces and managers find that the technical requirements of subsidized programs and the growing influence of fair housing groups and legal aid societies created difficulties which diminish their interest in participating in subsidized programs.
    - a. Managers find it difficult to explain housing programs to potential beneficiaries and would just as soon not become involved.
    - b. Beneficiary groups frequently make what management considers impossible demands such as eliminating rent increases.
    - c. Managers find that becoming involved with fair housing groups and legal aid societies adds to project expenses, particularly clerical and legal costs.
    - d. Managers feel that the time taken up in veing involved with fair housing groups and legal aid societies diminishes the time that should be spent with tenants and other matters relating to project operations.
  5. In the 235 program, although lenders are required to accept groups of loans (both high and low risk), some lenders and sponsors have developed techniques to exclude their more marginal eligible families.
  6. Staffing shortages in HUD Area and Insuring Offices result in less than adequate compliance monitoring of managers and brokers who are aware of this situation.
    - a. Equal Opportunity staff in some offices lack the necessary clerical help to keep track of and check on periodical reports required of managers, brokers and sponsors.
    - b. Counseling services have not been satisfactorily provided to make potential beneficiaries aware of their rights and privileges.
  7. Credit checks are not necessarily applied consistently in evaluating the potential for "successful" tenancy or ownership.
    - a. Some managers do not order credit checks on potential tenants.
    - b. Some managers use credit checks to exclude certain applicants whom they have already determined to be undesirable.
    - c. Credit checks are sometimes used without other verifying data in evaluating a potential tenant.
  8. Management and sales people frequently determine housing choices for eligibles because they are the main source of information concerning project application information.
    - a. HUD has not provided adequate public information or counseling to make project and eligibility information more widely available through other channels.
    - b. Management and sales people frequently lack familiarity with assistance programs other than the ones they themselves deal with.

9. Housing is not always located in market areas where the need is greatest because land costs and other factors are assumed to be more important determining factors.
  - a. Housing is frequently located in areas where land costs in a community are lowest.
  - b. Housing is frequently located in marginal areas where eligible families find the location less than ideal with regard to its facilities.
  - c. Housing is frequently developed on land the developer already owns rather than on land which is located in areas where housing is most critically needed.
  - d. Housing is frequently developed on land which is relatively easily acquired rather than on land in areas where housing need is most critical.
10. Builder/sponsors find large families less desirable and tend not to build large units as a result.

BENEFICIARIES STUDY -- BIVARIATE MATRIX

	166	70	3	44	8	45	21	9	66	195	68	69	191	48	63	64	114	192	122	193	7	60	58	194	87	91	45	106	184	165	50	
Awareness of Hsg.	166	++	0	0	0	+	+	0	0	0	0	0	0	+	0	0	0	0	0	+	0	0	0	0	0	0	0	0	+	0	0	0
Educ. Level	70		0	0	+	+	0	++	++	0	+	++	0	+	0	+	0	+	0	+	+	+	+	+	+	0	0	0	0	+	0	++
Sex of H of H	3			++	0	+	0	0	0	0	0	+	0	++	0	+	+	+	+	0	0	+	+	0	0	0	0	0	0	0	0	+
Marital Status	44				++	+	0	0	++	+	+	+	+	++	0	0	0	0	0	0	0	+	+	0	0	0	++	+	0	+	0	
No. of Children	8					+	+	+	0	+	+	+	++	++	0	+	0	+	0	+	++	+	+	+	0	0	++	++	0	+	++	
Race	46							++	++	+	+	+	++	+	++	+	+	+	+	+	+	+	+	0	0	0	+	0	+	0	+	
People 62+	21							++	+	+	0	+	++	++	0	++	0	+	++	+	+	0	0	0	+	+	++	+	+	++	+	
Gross Annual Income	9									+	+	+	++	++	+	+	0	0	+	+	+	++	++	++	0	+	0	+	++	0	++	
Freq. of Unemploy	66									+	+	+	+	+	+	+	0	0	0	0	0	+	+	0	0	+	+	0	0	0	+	
Credit	195															+	0	0	0	0	0	+	+	+	0	+	0	+	+	0	0	
Freq. of job change	68															+	+	+	+	+	+	0	0	0	0	0	+	++	+	+	0	+
Income trends	69															+	+	+	+	0	+	0	0	0	++	++	0	+	+	+	+	++
PIR	191															+	+	0	0	+	0	0	0	+	+	0	++	++	0	0	0	0
Pub. Assist.	48															0	+	0	0	+	+	+	+	+	0	0	+	++	0	+	0	+
Dist. home-job	63																++	++	++	+	+	0	0	0	++	0	0	0	+	0	0	0
Method of Travel (car)	64																+	++	+	+	0	0	0	+	0	0	0	0	0	0	0	0
Pref. for closeness to work	114																	+	+	+	0	0	0	+	0	0	0	0	0	0	++	0
Neighborhood Pref.	192																		0	+	++	0	0	++	++	0	0	+	0	+	0	
Dependence on Public Transportation	122																		0	0	0	0	+	0	0	0	+	0	0	0	+	
Attitude towards present neighborhood	193																			+	0	0	+	++	0	0	++	0	+	0	0	
Household Size	7																					+	+	++	0	0	+	0	+	+	++	
Fulltime Job	60																						+	0	0	0	0	0	0	0	+	
More than 1 job	58																							0	0	0	0	++	0	0	+	
Dwelling Unit Pref.	194																								++	0	0	+	+	+	0	
Length of Residence	87																									0	0	+	0	+	0	
Distance from last address	91																										0	0	0	0	0	
Spouse living here	45																											+	0	0	+	
Tenure Pref.	106																												+	0	0	
Attitude towards Sub. Hsg.	184																													+	0	
Pref. to live near friends/housing	165																														0	
Savings	50																															

++ = Strongly Related  
 + = Related to some extent  
 0 = Not related  
 190 = Construct Variable

85

ANALYSIS PLAN

PART B  
BENEFICIARIES STUDY  
DEFINITION & MODELS FOR MULTIVARIATE ANALYSIS

The following section describes preliminary definitions and models for multivariate analysis. As such, it represents the plan for analysis rather than the log of what was accomplished, which is included in another section of the Appendix.

## THE QUESTIONS:

Are there general patterns of exclusion? Do economic, demographic or racial characteristics contribute to the probability that a household will be excluded from participation? Which characteristics are most important? What are the causes of exclusion? What is the incidence for each cause? The study aims at discovering and explaining the prevalence of:

1. General exclusion.
2. Exclusion due to intermediaries.
3. Exclusion due to the nature of subsidized housing.
4. Exclusion due to housing preference patterns of eligible beneficiaries.
5. Exclusion due to high rents in subsidized housing.

Other questions of interest:

1. What is the perceived value of the subsidy to beneficiaries?  
What is the perceived monitoring value of the subsidy?
2. How are benefits distributed within the subsidy program?

## OVERVIEW OF THE ANALYSIS PLAN:

The analysis addresses questions of horizontal equity. It attempts to answer the question, "do all eligible and equally circumstanced people equally face the same chance of being excluded?" The analysis will also address questions related to vertical equity. Vertical inequity occurs when groups that are slightly differently circumstanced are treated very differently. Vertical inequity can also result when very different groups are treated similarly. "Equal Treatment" occurs when households have an equal opportunity of having their "need" fulfilled. The worse off a household is, the greater is its "need" and therefore the greater should be its chance of receiving public support. If poor households face the same chance of receiving benefits from the subsidy as do rich ones, then vertical inequity prevails. An operational definition of 'equal treatment' must be constructed before these questions are addressed in any detail. The present analysis will determine whether or not vertical inequity exists but it will not describe in detail the distribution patterns. Time does not permit questions such as, "do the less well off beneficiaries receive fewer benefits than do their richer counterparts?"

7  
Models and their theoretical rational will be used to explain the prevalence of inequitable exclusion patterns. The models parameters will be estimated by ordinary regression techniques. Classes of variables will be identified and justified by the use of theory. The available data items will be reviewed and a preliminary selection will be made on the basis of judgment. The final selection will be made after an indepth review of results from univariate analysis; from the preliminary regression runs; from the analysis of correlations; and from principal component and the principal factor analysis.

#### THE DATA AND THE EXPERIMENT IT REPRESENTS:

The ideal experiment to determine the prevalence of exclusion would first identify a group of eligible beneficiaries, then implement the subsidy programs and compare the characteristics of the beneficiaries and non-beneficiaries. The ideal experiment to determine the incidence of the exclusion caused by the actions of intermediaries would involve the identifying of all eligible non-beneficiaries who want subsidized units and who have been directly or indirectly turned away by intermediaries.

The available data describes characteristics of beneficiaries and eligible non-beneficiaries. It does not identify the population excluded by specific means. A theory of choice and exclusion is needed to supplement the available data. The theory is a bridge between the experiment the available data represents and the ideal experiment that would answer the question. The theory starts with the listing of causal factors and then proceeds with modeling of the choice situation the eligible household faces. Exclusion may have occurred for the following reasons:

1. Exclusion may be random. The subsidy program is limited and all cannot be accommodated. The subsidy is offered on a first come, first served basis and the opportunity to apply and be accepted is the same for all groups.
2. Self-exclusion may occur when households are satisfied with their present housing and simply choose not to move or not to inquire about subsidy programs.
3. Self-exclusion will occur when households are dissatisfied with their present housing but find the subsidy option even more unsatisfactory. The stigma and characteristics of the subsidized projects, their location, their racial and economic mix may contribute to a households desire not to accept subsidized housing.

4. Some households will be in need of subsidized housing but are excluded by the direct actions of intermediaries. Some households may not know about the program because information has been made available only to select groups.
5. Some households will be excluded because they cannot afford the subsidized rents.
6. Some households will exclude themselves because they find the value of the reduced rents too small to warrant the move.

## QUESTION 1: WHAT ARE THE PATTERNS OF EXCLUSION?

To describe the prevalence of types of exclusion, it is necessary to identify those who are in 'need' of subsidized housing and who do not receive it. At first, all eligible non-beneficiaries will be included in the study. Different definitions of the population will also be considered. The following model will describe the prevailing patterns of exclusion:

### THE DESCRIPTIVE MODEL:

$$1.j) E_i = F(c, HCl_i, u_i) \quad i=1, \dots, nj \quad j=1, \dots, 7$$

Where:

$E_i$  : Identifies the excluded population

$c$  : Is the constant term

$HCl_i$ : Is a vector of household characteristics, it may include the following variables:

- sex of household head
- household size
- households economic stability
- race of household head
- age of household head
- household income

$u_i$  : Is the random term

$nj$  : Is the number of observations in the sample.

### LIST OF ESTIMATES:

- 1.1) The model will first be run for all beneficiaries and all eligible non-beneficiaries. The estimated coefficients will describe the patterns of general exclusion.
- 1.2) . . . for all beneficiaries and all eligible non-beneficiaries who are not at least 'generally satisfied' with most aspects of their present housing. The sample includes all who are in the need of improved housing.
- 1.3) . . . for all deep subsidy beneficiaries and non-beneficiaries.

- 1.4) . . . for all shallow subsidy beneficiaries and non-beneficiaries. A comparison with coefficients estimated in 1.3 will provide information about vertical equity.
- 1.5) . . . for beneficiaries and for the eligible non-beneficiaries who do not have knowledge of the application procedure. The patterns of exclusion due to lack of information will be revealed. If low income people have a large chance of being excluded due to their lack of knowledge, then changes in recruiting strategy may correct the situation.
- 1.6) . . . for all beneficiaries and all eligible non-beneficiaries who have once applied for subsidized housing. The coefficients will show the incidence of exclusion due to the nature of subsidized housing or to the direct actions of intermediaries.
- 1.7) . . . for all beneficiaries and all eligible non-beneficiaries who have applied for subsidized housing and have been turned away by management. The coefficients will show the incidence of exclusion that is a direct result of intermediaries actions. This test will not be powerful if the sample is small. The coefficients will understate the discriminatory behavior of intermediaries if eligible beneficiaries are also turned away by indirect means.

#### THE STATISTICAL METHODS:

Coefficients will be estimated by OLSQ. A prediction of the probability of being excluded " $E_i$ " will be made for each case and both sides of all equations in model 1.1 will be divided by  $E_i x (1-E_i)$  to reduce heteroscedasticity. Coefficient will be estimated again by running OLSQ on the transformed data.

The coefficients will also be estimated by the PROBIT method. The generated coefficients are related to the household's probability of being excluded by the following equation:<sup>1</sup>

---

1 - D. R. Cox, Analysis of Binary Data, Mathuen & Co., Ltd., London 1970, p. 27.

Should the coefficients generated by PROBIT be close to zero, then no particular pattern of incidence exists, and it can be concluded that characteristics do not determine the households chance of being excluded. To determine the probability a household "k" has of being excluded, the number  $(c+b'xHC_k)$  is inserted in the above equation and the probability is calculated.

#### CRITICAL ASSUMPTIONS:

The functional form of equation  $F(c, HC_i, u_i)$  is assumed to be linear to avoid very complicated mathematical manipulations. This assumption is correct if the true contributions of household characteristics to the probability of it being excluded are indeed additive! If it is indeed true that women heads of house face a 10% greater chance of being excluded than do men, and if it is true that large households' experience a 5% greater chance of being excluded than do small households, and if it is also true that women heads of large households face a 15% greater chance of being excluded than do small households with male heads; then the linearity assumption is correct. It may well turn out that women heads of large households face a greater than the additional 15% chance of being excluded because the interaction effect itself contributes to the households probability of being excluded. The validity of the additivity assumption will be tested by introducing on the right hand side an interaction variable defined as "women heads of large households." If the estimated coefficient for this variable turns out to be significantly different from zero, then the additivity assumption will have been shown to be incorrect. If this proves to be the case, the models will be run several times with different sets of interaction variables. The number of interaction variables introduced at a time will be determined by the nature of the available data.

#### INTERPRETATION:

The estimated coefficients for 'c' and ' $HC_k$ ' will describe the probability that households with characteristics  $HC_k$  are excluded from participation. The case of exclusion may be due to any of the six factors listed above. The model yields descriptive not explanatory information and should not be used for hypothesis testing. The model can predict the chances that a household will be excluded from subsidized housing but it cannot predict the probability of a household which desires the subsidy has of being excluded.

If exclusion is purely random, then the household characteristics will not contribute to its probability of success and the coefficients for the HC vector will be insignificantly different from zero. If some characteristics account most for exclusion, then the size of their coefficients will reveal their relative importance.

## QUESTION 2: WHAT ARE THE EXPLANATIONS OF EXCLUSION?

Households may exclude themselves from the subsidy programs because they dislike both the move and the nature of available subsidized housing more than they like the differences in rent. Households desiring subsidized housing may be excluded both by direct and by indirect actions of intermediaries. The model will attempt to describe the incidence of exclusion caused by the reactions of intermediaries by controlling for household preferences, perceived rent differences, nature of housing options, need for subsidized housing and the mobility of households. The causal inferences are then made by a heuristic argument. After preferences, etc. have been controlled for there appears to be no other reason for any systematic patterns of exclusion due to household characteristics. The self-exclusion factors, the equity aspects of the program, the perceived benefits of the subsidy can also be studied with the help of the following exclusion-choice model.

### THE EXPLANATORY MODEL:

$$2.1) E_i = F(c, HC_i, DR_i, DPC_i, PR_i, ND_i, M_i, u_i) \quad i=1, \dots, n$$

Where:

$E_i$  : Identifies eligible non-beneficiaries.  
 $c$  : Is the constant term.

A.  $HC_i$  : Are the household demographic characteristics:

- Sex of head of household.
- Age of head of household.
- Race of head of household.
- Household size.

B.  $DR_i$  : Is the difference between subsidized and non-subsidized rent a household "i" is expected to perceive. The construction of this variable is described below.

C.  $DPC_i$  : Describes the difference between subsidized and private project characteristics. The construction of this variable is discussed below. The variables will describe differences in the following attributes:

- Number of bedrooms.
- Project size.
- Neighborhood and unit quality. (The characteristics are aggregated because data on each are inadequate.)

D.  $PR_i$  : Describes the household's tastes.

- Importance of location.
- Importance of units size.
- Importance of stigma.
- Importance of ownership/rent choice.
- Importance of overall project size.
- Importance of outside appearance.
- Importance of racial mix.

E.  $ND_i$  : Describes the households lack of need for the subsidy:

- Household income/household size.
- Change in household income over past 3 years.
- Economic Stability of household.

F.  $M_i$  : Describes the household's mobility:

- Distance of last move.
- Distance from work.
- Sense of choice in selecting dwelling unit.

$u_i$  : Is the random term.

$n$  : Is the number of cases in the sample.

All beneficiaries and eligible non-beneficiaries are included.

CONSTRUCTION OF  $DR_i$  &  $DPC_i$  VARIABLES:

2.2)  $PCO_{ji} = f(c, HC_i, PR_i, ND_i, u_i)$

2.31j)  $i=1, \dots, nn$

2.32j)  $i=1, \dots, mm$   
 $j=1, \dots, k$

2.3)  $R_i = f(C, HC_i, PCO_i, PR_i, ND_i, u_i)$

2.31)  $i=1, \dots, nn$

2,32)  $i=1, \dots, mm$

Where:

$PCO_{ji}$  : Describes project characteristic "j".

$R_i$  : Is the rent paid by household "i".

$HC_i$  : Is the household characteristic vector.

$PR_i$  : Is the households preference vector.

$ND_i$  : Is the households "need" vector.

Model 2.2 is estimated by OLSQ for each project characteristic and is run separately for beneficiaries and eligible non-beneficiaries. Using coefficients estimated with the beneficiary sample a prediction will be made for the characteristics that each non-beneficiary could expect to receive should he move to subsidized housing. Similarly, a prediction will be made for the project characteristics beneficiaries could expect to receive should they move into private housing. These predictions are named  $PCA_i$ .

Wanted, however, is  $DPC_i$ ; the difference between subsidized and private project characteristics as perceived by each household:

$$DPC_i = q_i (PCA_i - PCO_i)$$

Where:

- $q_i = 1$  if household is a non-beneficiary.
- $q_i = -1$  if household is a beneficiary.
- $q_i$  : makes the  $DPC_i$  variables represent the difference in perceived project characteristics as one moves from private to subsidized housing.

Model 2.3) is estimated by OLSQ separately for the two groups. Using coefficients gained in the beneficiary run and after replacing  $PCO_i$  with  $PCA_i$ , a prediction is made of the rent that non-beneficiaries may expect to pay in subsidized housing. A similar prediction is made for beneficiaries.

The rent presently paid in private housing by non-beneficiaries or that which would be paid in private housing by beneficiaries is subtracted from the rent that non-beneficiaries would pay in the subsidized sector or the rent that the beneficiaries are presently paying. This variable is named  $DR_i$ . It describes the difference in rents between subsidized and private housing.

**LIST OF HYPOTHESES TO BE TESTED:**

**A. The Demographic Characteristics, HC:**

The estimated coefficient for  $HC_k$  will describe household 'k' chances for being excluded. The cause of exclusion is attributed to intermediaries. The estimated coefficient will not overstate the effect if and only if all the other causes are adequately controlled for. The extent to which self-exclusion due to the household's preference and available choice for a particular size of unit are controlled for, the coefficient for household size will accurately reflect the effect of intermediaries. The variables selected to represent household characteristics must have good counterparts in the control variables. Family income would be a poor choice for a household characteristic variable because it cannot be properly controlled for. Higher income families have less need for subsidized housing than do poor households and therefore have less propensity to seek aid.<sup>2</sup> The estimated coefficient for family income will pick the effects of exclusion due to intermediaries and the effects of self-exclusion due to their tastes.

**Null Hypothesis A: Exclusion Due to Intermediaries:**

Intermediaries are not causing exclusion of households with particular characteristics. The estimated coefficients corresponding to the HC variables in Model 2.1 are not significantly greater than zero.

**B. The Difference in Rent; DR:**

Regardless of intermediaries, some households may exclude themselves simply because the perceived monetary benefit of the subsidy is too small to warrant the move. Several horizontal and vertical equity hypothesis may be tested. Cause for exclusion would be attributed to rent policy.

---

2 - Degree of choice, preference for subsidized housing, sense of stigma are available variables which will remove some of the self-exclusion effects. A conservative approach is taken because the control variables are not sensitive enough to account fully for the preference differences that accompany differences in income. Income is a rich and informative variable with a great range while the available control variables are at best 1-4 ordinal variables.

Null Hypothesis B1: Horizontal Equity Due to Rent Policy:

All households face the same possible monetary benefits should they move to subsidized housing. The estimated coefficients for HC in the following model are not significantly different from zero.

$$2.4) DR_i = f(c, HC_i, DPC_i, ND, PR_i, u_i) \quad i=1, \dots, n$$

Null Hypothesis B2: Vertical Equity Due to Rent Policy:

Households with greater need for subsidized housing perceive the subsidy programs as more valuable than do those with less need. The estimated coefficients for the ND variable in Model 2.4 are significantly less than zero. If the hypotheses is rejected, then the benefits a household can expect to receive do not increase when its need for improved housing increases.

Null Hypothesis B3: Vertical Equity Due to Rent Policy:

The greater is the household's 'need' the greater is the responsiveness of the agency. The coefficients for  $ND_i^2$  are significantly less than zero.

The constructed variable  $ND_i^2$  (income/household size, squared) is stepped into Model 2.4! If the coefficient turns out to be negative, then for each dollar increase in income a household gains, it can expect progressively less additional benefits from the subsidy programs. If the coefficient is positive, then the program is distributing benefits "progressively."

C. The Differences in Preferences, DPC:

The nature of housing packages are not adequately described by the data. A method of constructing housing package proxy variables from the good data on satisfaction is outlined in Appendix A, along with a method for estimating more precisely the incidence of self-exclusion.

Null Hypothesis C: Self-Exclusion Due to Household Packages

The attributes of subsidized housing do not cause self-exclusion. The coefficients for DPC in Model 2.1 are not significantly greater than zero.

A word of warning may be needed. This test is not powerful! If the null hypothesis is not rejected, then it may very well be due to the inadequacy of the data. The Model may have to be run for limited and more critical populations. If the hypothesis is not rejected, the methods outlined in Appendix A should be used.

D. The Preference Variables,  $PR_i$ :

The preferences of a household are defined by its reaction to the "importance of . . ." questions. The preference variables for which the responses are most varied will be included in the model. The estimated coefficients will indicate the extent of self-exclusion due to the nature of subsidized housing. If, for instance, households which consider location very important tend to be excluded after all the other factors are controlled for, the cause is clearly attributed to the location of subsidized projects.

Null Hypothesis D: Self-Exclusion Due to the Nature of Subsidized Housing Packages:

Households can accommodate themselves equally in subsidized or private projects. The coefficients for PR in Model 2.1 are not significantly different from zero. If the coefficients for some preference categories are greater than zero, then subsidized housing is inferior to private housing on that score.<sup>3</sup>

E. The Need Variable, ND:

The households lack of need is presently defined as the household's current income divided by the number of people in the household. Variables identifying changes in income and stability of income are also included.

Null Hypothesis D: Vertical Equity:

Households with greater need do not have a greater chance of being accepted than do households with less need. The estimated coefficients are not significantly less than zero. If this hypothesis is not rejected, then vertical inequity is caused by intermediaries, the nature of subsidized or by rent policy.

---

3 - The statistical method is more direct than the one presented in Appendix A but the causal inference is less direct.

F. The Mobility Variables, M:

Households may exclude themselves simply due to the fact that subsidized projects are inconveniently located. They may exclude themselves because the monetary, psychological and social costs of the move is perceived as not worth the rent differences.

Null Hypothesis E: Self-Exclusion Due to Location:

Subsidized housing is located in areas where most eligible beneficiaries live and therefore does not cause some to exclude themselves due to their lack of mobility. The estimated coefficients in Model 2.1 for the mobility variable are not significantly different from zero.

THE STATISTICAL METHODS:

The Model 2.1 will be estimated in exactly the same way as was the descriptive Model 1.1. The Models 2.2, 2.3, 2.4 will be estimated by OLSQ. Heteroscedasticity due to differences in income will be checked for.

## APPENDIX - A

### ALTERNATIVE ANALYSIS PLAN TO DETERMINE THE INCIDENCE SELF EXCLUSION DUE TO THE NATURE OF SUBSIDIZED HOUSING

The nature of subsidized housing qualities may make it unacceptable to some eligible non-beneficiaries. The dwelling units may be of inferior quality or of an unsuitable type or their location may be inconvenient.

#### METHOD I:

$$3.1 \quad S_{ji} = F_j(c, HC_i, PR_{ji}, ND_{ji}, M_{ji}, u_{ji})$$

$$\begin{aligned} & j=1, \dots, k \\ & 1) \quad i=1, \dots, n_3 \\ & 2) \quad i=1, \dots, m_3 \end{aligned}$$

Where:

- $S_{ji}$  : Indicates the household's satisfaction with project characteristic "j".
- $HC_{ji}$  : Are the household characteristics.
- $PR_{ji}$  : Are the preference characteristics.
- $M_{ji}$  : Are the mobility variables.
- $u_{ji}$  : Are the random terms.
- $K$  : Is the number of housing characteristics for which preference measures are of interest.
- $n_3$  : Is the number of beneficiaries in the sample.
- $m_3$  : Is the number of eligible non-beneficiaries.

The model will be estimated for both beneficiaries and all eligible non-beneficiaries. The estimate of differences in satisfaction a household may experience when moving from private to public housing is made by first predicting the satisfaction one group would have should it be relocated in the other housing sector. The expected satisfaction is then subtracted from the actual satisfaction to yield a 'difference variable.' The difference variable is multiplied by "-1" for all beneficiaries to insure that the predicted difference is one which would occur if the households were to move from private to subsidized housing.

Tastes of the two groups are assumed to be more or less the same. It is, however, reasonable to believe that non-beneficiaries, if moved to subsidized housing, would experience less satisfaction than do beneficiaries. The estimates would understate the true difference in satisfaction. It is also reasonable to believe that beneficiaries feel critical of subsidized housing and cause the estimate of the difference in satisfaction to be overstated. To the extent that the two factors cancel each other out, the bias is removed.

The difference in the predicted satisfaction and actual satisfaction is caused by the nature of the two housing packages. The incidence of exclusion due to the difference in valuation can be determined by running OLSQ on the following model.

$$3.3) DS_{ji} = F_j(c, HC_i) \quad \begin{array}{l} j=1, \dots, k \\ i=1, \dots, mm \end{array}$$

Where:

$DS_{ji}$  : Is the difference between actual satisfaction in housing characteristic "j" experienced by household "i" and the predicted satisfaction.

$HC_i$  : Is the vector of household characteristics.

Differences in satisfaction a household may experience where it to move from a private to a subsidized unit have been predicted. By running equation 3.4, the contribution of this difference " $DS_i$ " in housing characteristics to the probability, that the household will exclude itself from the subsidized housing, can be estimated by using the following model:

$$3.4) E_i = f(c, HC_i, DS_i, PC_i, ND_i, M_i, u_i) \quad i = 1, \dots, n$$

## METHOD II

$$3.1) S_{ji} = F_j(c, HC_i, PC_i, PR_i, ND_{ji}, M_{ji}, u_{ji}) \quad \begin{array}{l} j = 1, \dots, q \\ 1) i = 1, \dots, n3 \\ 2) i = 1, \dots, m3 \end{array}$$

$$3.2) PC_{ki} = F_j(c, HC_i, PR_{ki}, ND_{ki}, M_{ki}, u_{ki}) \quad \begin{array}{l} k = 1, \dots, r \\ 1) i = 1, \dots, n3 \\ 2) i = 1, \dots, m3 \end{array}$$

Satisfaction depends also on the project characteristic variables  $PC_i$ . Project characteristics received by household "i" are a function of its characteristics, preferences, needs and mobility.

Both equation are run separately for beneficiaries and eligible non-beneficiaries. To compute the satisfaction that may occur if a household were to move from private to subsidized housing, a prediction is made of the project characteristics the household is likely to receive. The predicted variables are introduced in the estimated model 3.1 along with all the households characteristic variables. The household's expected satisfaction is then predicted. The rest of the analysis the same as described in Method I.

## APPENDIX B

### EXCLUSION FROM BENEFITS WITHIN THE SUBSIDY PROGRAM

A household may participate in subsidized housing may not be receiving the due benefits. The benefits it receives will depend on at least the following:

- i) its rent/income ratio.
- ii) its person/room ratio.
- iii) the quality of unit it occupies.
- iv) the project amenities it can enjoy.
- v) the location and neighborhood quality of the project.
- vi) the monetary value of the delivered subsidy.

Exclusion from the benefits of the subsidy program can be described only in relative terms. The analysis will search for inequities that occur within the subsidy program. Inequity may result in the following ways:

- i) lower income groups systematically experience a higher rent/income ratio. As households with different tastes may desire different types of housing than would others, a multivariate technique is suggested.
- ii) large households may receive less benefits. Large households may not find adequate units. The null hypothesis may suggest that satisfaction with the "size of interior space" is not different for households of different size. Multivariate techniques will control for other related factors such as rent paid, satisfaction with other aspects of the dwelling unit and for the rent (or mortgage)/income ratio.
- iii) some beneficiary groups may find they are getting less quality per dollars of rent. This may be the result of rent scales: the better units may rent for only a little more than do the lesser units, but this difference may still be too much for the low income people.
- iv) deep subsidy households may be placed in older projects which provide fewer amenities.
- v) deep subsidy households may find less satisfaction with the location of available subsidized projects, their neighborhood and with the general project characteristics.



Variable	Related Question
<u>Low Priority Bivariate Cross Tabs</u>	
Method of Travel	64
Depend on Public Transportation	122
Number of Full-Time Jobs	60
More than 1 Job	58
Length of Residence	87
Spouse Living Here	45
Marital Status	44
Tenure Preference	108
Attitude Toward Present Neighborhood	193*
Attitude Toward Subsidized Housing	184
Awareness of HUD Programs	166
Preference of House vs. Friends	165

\* Constructed Variables

PART D

BENEFICIARIES STUDY

LIST OF CONSTRUCTED VARIABLES

1. Proportions of heads of household under 25 years of age in subsidized units.

Questions 12-21

2. Proportions of heads of households under 25 years of age in non-subsidized units.

Questions 12-21

3. Proportions of heads of household aged 62 and over in subsidized units.

Questions 12-21

4. Proportions of heads of household aged 62 and over in non-subsidized units.

Questions 12-21

5. Proportion of female heads of beneficiary households for whom welfare is the greatest part of income.

Questions 3, 48

6. Proportion of female heads of non-beneficiary households for whom welfare is the greatest part of income.

Questions 3, 48

7. Satisfaction of average beneficiaries with neighborhood characteristics.

Questions 108-116

8. Satisfaction of average non-beneficiaries with neighborhood characteristics.

Questions 108-116

9. Satisfaction of average beneficiary with project and unit characteristics.

Questions 140-146

10. Satisfaction of average non-beneficiaries with neighborhood characteristics.

Questions 140-146

11. Satisfaction of average shallow subsidy beneficiaries with neighborhood characteristics.

Questions 140-146

12. Satisfaction of average deep subsidy beneficiaries with neighborhood characteristics.

Questions 140-146

13. Current Rent to Income Ratios

Renters - Questions 78, 80, 9

Owners - Questions 81, 83, 84, 9

14. Attitude towards existing neighborhood characteristics.

Questions 120-139

15. Dwelling unit preferences.

Questions 140-146

16. Credit characteristics.

Questions 51-53

17. Current dwelling unit characteristics.

Questions 150-163

## Appendix on Multivariate Analysis

In any given group of families with similar economic and demographic characteristics, some families will be beneficiaries of subsidized housing and others will not. The fraction of non-beneficiaries can be thought of as an estimate of the probability that a randomly drawn family with these characteristics will be excluded from the subsidy program. It is hypothesized that this probability is a continuous function of various economic and demographic characteristics of the family. For example, families with low income and many children may be given special priority in subsidized housing and hence will have a higher probability of being a beneficiary than families with high income and few children.

The purpose of the multivariate analysis is to discover which economic and demographic characteristics of families are important determinants of the probability that a family will be excluded. One possible approach is to take a sample of households and define a variable (say Y) which is zero (0) if the household is a beneficiary and one (1) if not. Then one could regress Y on a list of variables which characterize the economic and demographic features of the family. The resulting regression coefficients can be interpreted as giving the increase in the probability of exclusion that would occur if the corresponding characteristic changed by one unit. There are, however, some difficulties with this approach. Since we know that the true probability must lie between zero and one, it is not plausible to assume that the relation between the probability and the other variables is linear. Straight lines have the unfortunate property of yielding negative probability estimates! Hence, nonlinear regression methods were used in the study. In particular, the so-called "probit" model was employed.

Probit is a non-linear regression program designed to fit to a given sample of data a curve  $Y = F(a_0 + a_1 X_1 + a_2 X_2 \dots a_k X_k)$ , where F is the standardized cumulative normal distribution function and the  $X_i$  are family characteristics. The function takes on values only between 0 and 1. Hence, probit is useful in estimating relations with dependent variables that take only the values zero and one. We may then interpret the estimated equation evaluated at some particular value as predicting the estimated equation evaluated at some particular value as predicting the probability that an individual with the given characteristics will have a Y value equal to one.

In our case we hope to interpret the Probit estimation as the probability that a particular class of families (defined by characteristics such as race, sex of head of household, size of family, income, etc.) has of being a nonbeneficiary of subsidized housing.

It should be recalled here that the Probit curve is nonlinear. Hence, the effect of a change in one characteristic on the probability of being a non-beneficiary depends upon the initial probability. If one had an eighty percent chance of being a non-beneficiary and then one has another child, the probability of being a non-beneficiary will change less than if one initially had a (.5) chance of being a non-beneficiary.

The nature of the sample actually run presents difficulties in the interpretation and analysis of the Probit output. Probit produces maximum likelihood estimators. These estimators maximize the probability of obtaining the observed sample. The actual sample was not randomly drawn. It was purposely designed so that the probability of being a non-beneficiary is roughly one-half. The real population does not face the same chance, as most housing is privately supplied. Probit has chosen parameters which maximize the probability of producing the given sample--one where non-beneficiaries form one-half the population. To properly interpret results we must determine the relation of these estimates to the actual distribution of beneficiaries and non-beneficiaries. In general, the absolute values of the estimated probabilities are of little interest since they depend on the peculiarities of the 50-50 sample. But the differences in probabilities between different family characteristics should hold in the actual population.

In general, the results of the Probit estimations support the inferences made from trial linear regression models. The parameters measured with greatest precision remain the same. Non-whites have a lower chance of being in subsidized housing. Larger households have less chance of being beneficiaries; those consisting of a high percentage of children have a greater probability. It seems that white families and those headed by a black female with no spouse present have the greatest chance of occupying subsidized housing. Non-black, non-white families and those headed by black males appear to have significantly smaller chances of occupying subsidized housing.

The parameter values associated with race, sex, size of family, and percent of children in family remained stable through a variety of regressions. Thus, we report only one Probit regression result. The estimated coefficients are given in Table 1 along with their standard errors. The implication of these coefficients for the estimated probabilities is given in Table 2 for some selected family types. Since some of the standard errors are rather large, one should consider these estimated probabilities as rough order of magnitude, not as the exact values obtainable from the actual population. Nevertheless, the estimates indicate a very strong pattern of exclusion of "stable" non-white families and inclusion of white families and large families led by black females. Again, it must be emphasized that the difference in probabilities between groups is more important than the probabilities themselves since the sample we have has a different mix

of beneficiaries and non-beneficiaries than does the actual population.

TABLE 1

## PROBIT RESULTS: ESTIMATED COEFFICIENTS

<u>Independent Variable</u>	<u>Definition</u>	<u>Estimated Coefficient</u>	<u>Estimated Standard Error</u>
C	Constant	.0423	.148
Sex	1 if Head of Household is female; 0 otherwise	-.2076	.150
Black	1 if Head is black; 0 otherwise	.6807	.143
Other Race	1 if Head is neither white nor black; 0 otherwise	.8879	.155
Number	Number of people in unit	.1436	.051
Children	Fraction of people under 18 years	-2.5190	.343
Public Assist	1 if major part of income came from public assistance; 0 otherwise	-.1716	.139
Female-Children Interaction	Number of children if head is female; 0 otherwise	.0546	.061

TABLE 2  
 PROBIT RESULTS: ESTIMATED EXCLUSION PROBABILITIES  
 FOR SELECTED FAMILY TYPES

Family Type	Conditional Probability of Given Family Type being a Non-beneficiary in a popula- tion containing half bene- ficiaries and half non- beneficiaries
White "Welfare Mother" Family <sup>1</sup>	.09
Black "Welfare Mother" Family <sup>1</sup>	.18
White "Stable" Family <sup>2</sup>	.26
White Single Person	.50
Black "Stable" Family <sup>2</sup>	.55
Other "Stable" Family <sup>2</sup>	.60
Black Single Person	.70

<sup>1</sup>A family with female head of household, on public assistance, no spouse present, and three children.

<sup>2</sup>A family with both parents present, two children, male head, no public assistance.