FHA TECHNIQUES OF HOUSING MARKET ANALYSIS

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
TECHNIQUES DEVELOPED BY
FHA ECONOMIC AND MARKET ANALYSIS DIVISION

F H A T E C H N I Q U E S

O F

H O U S I N G M A R K E T A N A L Y S I S

For information, address
FHA Economic and Market Analysis Division
Washington, D. C. 20411

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price $2.50

FOREWORD

This publication, FHA Techniques of Housing Market Analysis, like the numerous locality housing market analyses which are made by the Agency's staff, is intended primarily to serve the needs of FHA. Its principal uses in the Agency are to aid in the training of new analysts and, as a ready reference, to facilitate improvement and greater uniformity in the quality of market analysis work by all analysts. Secondarily, the publication is useful in providing the basis for a better understanding of the methodology of market analysis among the Agency's administrative and operating staff, thus enhancing the usefulness of current analyses as an aid in mortgage insurance operations. As a published document, its primary purpose is to describe and explain FHA's approach to housing market analysis and the methods of implementing this approach and as such, may be useful as a guide to communities, financial institutions, real estate developers, consultants, and others interested in the evaluation of effective quantitative and qualitative locality housing demand, both subsidized and nonsubsidized, in near-future years. Minor revisions and corrections have been incorporated in this August 1970 reprinting.

It is to be emphasized that housing market analysis does not consist of a fixed routine of procedures nor a standardized end product. The principles of market analysis may be applied to the examination of the current and prospective interplay of economic demand and supply forces relating to any identifiable object of exchange in the housing field, ranging from one extreme of the aggregate of all housing units potentially available for exchange within a market area to the other extreme of a single housing unit or even a portion of a unit. In FHA experience, market analysis has developed as primarily an examination of near future (one to three years) demand-supply relationships within an entire housing market area or a major geographic or economic segment thereof. Studies relating to single units, projects, or neighborhoods are typically considered analyses of marketability rather than market analyses.

In FHA's early years it became evident that comprehensive and integrated market information was needed as a supplement to data and observations assembled in routine review of insurance applications. The present guide contains techniques of housing market analysis developed over the past three decades by the analytical staff and incorporated in the development of current market studies. Housing market analyses developed by FHA's Central Office Market Analysis Staff have been reproduced and made available to the public since September 1964.

The techniques of housing market analysis thus far developed in FHA will facilitate the analysis of basic demand and supply factors, the preparation of estimates to fill data gaps, the projection of trends, and the derivation of demand estimates. A market analysis is developed systematically, embracing the collection, recordation, processing, analysis, and interpretation of data and information pertinent to past,

present, and future economic, population, and housing trends in the local market. It requires estimates of locality employment, incomes, population, households, residential construction and vacancies, as well as a consideration of external state, regional, national, and international influences.

The analysis of a housing market is not a precise process utilizing formulas to develop an unqualified and certain answer. It is limited by the accuracy of statistical data and derivations, the reliability of the estimates developed, the competency of the judgments which must be incorporated into the analytical process at every step, and the uncertainties of projections of future economic developments.

The basic over-all market analysis technique is discussed in Chapters II through VI without digressing to include modifications necessitated by problems of housing demand related to special factors or submarkets. These special market problems, such as military-impacted areas, housing for the elderly, nursing homes, mobile home courts, and others, are discussed in Chapter VII. Footnote references to that chapter are made in the course of the other chapters at various points where it appears appropriate to caution that modification in the standard procedure is required if a special market problem is involved. These references, however, do not encompass the entire group of special problems discussed in Chapter VII; hence, the analyst should familiarize himself with the scope of that chapter before undertaking an analysis.

Various gaps still exist in the present techniques, especially--but by no means exclusively--in the case of special market problems discussed in Chapter VII. These gaps can be filled only through continued research specifically designed to develop the additional tools required. As time and facilities permit, it is hopefully anticipated that not only will the present procedures be refined and modified as continued experience dictates, but that additional procedures will be developed and formalized. The mutual exchange of ideas and experience between FHA, other government analysts, and academic and other private interests would greatly accelerate progress in this field for the common good of all concerned.

The development of the techniques set forth in this handbook was made possible by the inquiring minds of the housing market analysis and research staff. Primary credit for the text set forth herein should be given to Mr. Stanley W. Kadow who, until his retirement, was Chief of FHA's Market Analysis and Research Section and to Mr. Frank A. Mucha, his successor in that position and now Deputy Director of FHA's Economic and Market Analysis Division, who wrote the original draft.

CONTENTS

Foreword

Chapter I.	Introduction	2
Chapter II.	Housing Market Area	8
Chapter III.	Economy of the Housing Market Area	17
Chapter IV.	Demographic Analysis	57
Chapter V.	Housing Stock and Market Conditions	99
Chapter VI.	Demand for Housing	154
Chapter VII.	Selected Submarkets of Housing Demand	183

Exhibits 241

Footnotes 284

CHAPTER I. INTRODUCTION

Page

Need for Housing Market Analysis in FHA 3
Legislative Considerations

Purpose of FHA Housing Market Analysis 4

Scope of FHA Housing Market Analysis 5

Limitations of Housing Market Analysis 7
Data Limitations
The Judgment Factor

CHAPTER I INTRODUCTION

The Federal Housing Administration's interest and active participation in the analysis of local housing markets stems from the nature of its operations and responsibilities as an insurer of residential mortgages and from basic legislative provisions. In the pursuit of this activity over the years, a type of analytical study has been developed which would meet FHA's particular needs and produce timely and reasonably accurate results. However, FHA's approach may not meet the requirements of all others who have need to undertake housing market studies. Different needs and objectives require variations in scope, emphasis, focus, and technique.

Need for Housing Market Analysis in FHA

In FHA's early years it became evident that comprehensive and integrated market information was needed to supplement the data and observations which the underwriting staff assembled in the course of processing operations. This need was focused on broad housing market perspective and considerations, both current and prospective, rather than on specific site, property, and neighborhood considerations, with respect to which data collection was specifically built into the processing procedures.

To meet this need the economist research staff of the Agency undertook the exploration, collection, and compilation of available market data and began the development of techniques which led to initial trials in the analysis of local residential real estate markets in 1936. Over the years since then, except for the war period when materials rationing and other building controls restricted the operation of free market forces, the approach and techniques used in FHA market analysis were modified, expanded, and refined in the direction of meeting more adequately the Agency's needs.

Legislative Considerations. The need for housing market analysis in FHA operations is implicitly indicated in certain fundamental considerations found in the basic legislation. The two principal long-range objectives of the National Housing Act, as amended, are to encourage improvement in housing standards and conditions and to assist in establishing and maintaining a sound mortgage market. The need for analytical services to assist the Commissioner in carrying out this responsibility is clearly recognized in Section 209 of the Act, which provides that he "shall cause to be made such statistical surveys and legal and economic studies as he shall deem useful to guide the development of housing and the creation of a sound mortgage market in the United States ...."

The National Housing Act requires, for most FHA programs, a finding of economic soundness, acceptable risk, or similar criterion as a prerequisite to mortgage insurance. The over-all evaluation of risk, whether it be to determine if the risk is "acceptable" or to determine "economic soundness,"

inherently involves the consideration of market conditions and prospects. Thus, in addition to considerations relating to the individual property, the neighborhood, and the borrower, the eligibility of a mortgage for insurance is fundamentally concerned with the over-all housing market. In other words, individual transactions must be examined in the perspective of current and prospective demand-supply relationships in the local market.

Purpose of FHA Housing Market Analysis

The purpose of FHA housing market analysis is to provide assistance and guidance to both the insuring offices and the central office in resolving market problems in the operation of mortgage insurance programs. Basically these problems are concerned with the quantity and quality of additional housing which a local housing market can absorb satisfactorily over a reasonable period of time. FHA market analysis provides an analytical opinion, together with the supporting economic and statistical information, to assist in the determination which must be made on the acceptability of individual projects and properties from the standpoint of market considerations.

Specifically, premised upon factors known on the "as of" date, market analysis provides assistance and guidance with reference to such matters as current market conditions and the prospective quantitative and qualitative demand for additional housing; the impact of expanded or curtailed economic activity on the demand for sales and rental housing; the effect on the market of proposed military housing projects; the disposition of acquired properties; and the scope of demand for urban renewal housing, relocation housing, housing for the elderly, proprietary nursing home beds, and certain subsidized types of housing. Conclusions based upon foreseeable factors on the "as of" date may be altered considerably by subsequent economic, demographic, or housing developments.

In considering the purpose of market analysis in FHA, an important distinction is to be noted in the matter of responsibility. This purpose is achieved by contributing to the resources of knowledge and information available to those who are responsible for making determinations on the acceptability of individual projects and properties for mortgage insurance. It is not within the purview of FHA market analysts to make or recommend such decisions. Hence, the analysis is directed at over-all market considerations and demand-supply relationships in the entire market area or its major geographic components (submarkets) and not at the demand for, or marketability of a specific property.

Scope of FHA Housing Market Analysis

As developed to meet FHA's needs, housing market analysis may be described briefly as a process of determining present and prospective housing demand-supply relationships in a local housing market, subject to change because of unforeseen developments. Its principal objective is the estimation of housing demand in quantitative and qualitative terms for the housing market as a whole or for major geographical submarkets. It entails a fairly comprehensive evaluation of the ascertainable current and prospective dynamic

forces affecting economic, demographic, and housing conditions and inventory trends. It proceeds in a systematic fashion, embracing the collection, recordation, processing, analysis, and interpretation of data and information pertinent to, and the presentation in a documented report of findings and conclusions concerning, past and prospective economic, population, and housing conditions and trends in the local market; and it requires the derivation of current estimates of employment, family incomes, population, households, residential construction, and vacancies, as well as the projection of these basic factors. The estimates of demand derived by the analyst are not to be construed as forecasts of building activity. In addition to these local factors, external influences--state, regional, national, and international--also affect the economic life of a community and must be taken into account. Furthermore, short term variations between estimated demand and actual production can always be accommodated within a housing market, especially in larger communities, by adjustment of holding or absorption periods causing a variation of existing vacancy ratios. Sustained differences between demand and production must eventually lead to significant changes in vacancy levels (either up or down) and corresponding impact on rents and prices, on employment, and on housing production and marketing.

In broad terms, housing market analysis in FHA is concerned with the following subject matter:

1. Delineation of the market area--the area within which dwelling units are competitive with one another.

2. The area's economy--principal economic activities, basic resources, economic trends.

3. Demand factors--employment, incomes, population, households, family size.

4. Supply factors--residential construction activity, housing inventory, conversions, demolitions.

5. Current market conditions--vacancies, unsold inventory, marketability of sales and rental units, prices, rents, building costs, mortgage defaults and foreclosures, disposition of acquired properties.

6. Quantitative and qualitative demand--prospective number of dwelling units that can be absorbed economically at various price and rent levels under conditions existing on the "as of" date.

The scope and sequence of subject matter considered in a comprehensive FHA housing market analysis report are shown more definitively in the outline presented in Exhibit A, p. 242. This outline does not purport to be all-inclusive in the identification of sub-items of subject matter pertinent to a housing market analysis. Its main purpose is to provide assistance in maintaining perspective and orientation through the detailed analysis and discussion of

subject matter in the succeeding chapters of this handbook. Items of related subject matter can be readily and appropriately fitted into the framework provided by this outline. An abbreviated report is typically employed for reports published by FHA. The abbreviation of outline in no way, however, infers any by-passing or unconcern for any of the pertinent analytical processes described in this volume.

To complete the perspective (and to forestall possible misunderstanding), several qualifications which in effect circumscribe the scope of FHA housing market analysis should be especially noted:

1. In strictest terms, housing market analysis is concerned with the privately financed nonsubsidized segment of housing operations; but, with consideration of subsidy elements, it may be expanded to other demand segments. Within this perspective, it is concerned only with nonfarm housing.

2. FHA housing market analysis is not concerned particularly with such factors as land use, zoning, public works, and transportation, per se, but only incidentally insofar as these considerations have a significant current or imminent bearing on housing demand-supply relationships in an area under study.

3. Except in unusual situations[1/], long-term projections are not required for FHA purposes. In such situations only the long-range prospects of the permanency and stability of the factor(s) involved (without attempting a measurement) need be evaluated. Quantitative and qualitative housing demand projections of one to three years are sufficient for FHA purposes in most instances; occasionally a projection of five years might be desired, but a longer projection would be rare and of questionable value for guidance in local mortgage insurance operations.

4. As indicated earlier, the prospective marketability of a specific housing proposal is not within the purview of FHA market analysis.

The emphasis in housing market analyses will vary, depending on the specific problem which occasions the need for an analysis. While usually an over-all view of a housing market is required, primary emphasis is sometimes needed on the sales portion of the market or on the rental portion. At other times, interest may be centered on the military family housing need or some other segment of the population, such as the elderly.

Of increasing general interest and concern are the housing conditions and extent of demand for new housing for low-income households, especially among minorities. The need for quantitative and qualitative information pertaining to this segment of the market is most urgent in those areas where

the number of low-income households is of appreciable size or proportion. In such areas, therefore, the analyst should assemble and present as much pertinent basic information as can be obtained and developed to evaluate this component of demand.

Regardless of the variation in emphasis, the market analysis is approached on the premise of a single market with a breakdown into appropriate components consistent with the purpose to be served in each instance; although the extensiveness or intensiveness of analysis may vary, the same basic factors require consideration in competent analytical processing.

Limitations of Housing Market Analysis

Housing market analysis is not a precise statistical or mathematical process utilizing formulas which produce a finite and certain answer. Any market analysis is limited by the availability and reliability of the basic data, by the reliability of the estimates made, and by the soundness of the judgments incorporated in the analytical process.

Data Limitations. Frequently the data available are fragmentary, unreliable, or in imperfect series. Other desired information may not be available in any form. At times estimates and improvisations necessary to fill these gaps can be made by utilizing established conceptually and statistically sound techniques. The estimates are reliable when they are carefully developed, qualified to the extent necessary, and presented within a reasonable range of economic or statistical probabilities. If analytical processing proves that either the procedure or the results are undependable, then the analyst necessarily must abandon or revise them.

The Judgment Factor. A market analysis, being essentially an analytical process and limited by the accuracy of the economic and statistical data and derivations, must depend heavily upon the exercise of competent judgment, for which there is no substitute. The function of data and information is to supplement and facilitate judgment, not supplant it. Experience, aptitude, and intellectual integrity are essential ingredients of the judgment factor. Deficiencies in any of these ingredients obviously obstruct the formulation of sound judgment.

Market analysis must be practical in application to achieve its purpose as a useful tool. In reaching his judgments, therefore, the analyst should conscientiously strive to be realistic. To the extent that unrealistic idealism is allowed to enter, the resulting judgments will be distorted and may negate the purpose of the entire effort.

CHAPTER II. HOUSING MARKET AREA

Page

Conceptual Considerations 9

Housing
Housing Market
Housing Market Area
Housing Submarkets and Submarket Areas
Urban Structure and Growth

Housing Market Area Delineation 11

Area Maps
The Commuting Area
Data Limitations
Delineation--Market Area and Submarket Areas
Presentation in Report

CHAPTER II HOUSING MARKET AREA

The first step in undertaking a housing market analysis is the delineation of the spatial entity which constitutes the housing market area with which the analysis is concerned. Unless otherwise indicated, the discussion here and in subsequent chapters pertains to the nonfarm segment of housing and related subject matter.

Conceptual Considerations

Housing

For purposes of housing market analysis, housing is considered as a commodity in the physical sense; it is identified and measured in terms of the dwelling unit or housing unit (house or apartment), which is also the entity envisioned in transactions consummated for the purchase or rental of housing. [1] In this sense it is distinguished from, although inclusive of, the legalistic concept (i.e., rights to the use of the commodity) and the service concept (i.e., services rendered by the commodity), both of which are not susceptible to convenient unit identification and measurement for market analysis purposes.

Housing Market

In simple terms the housing market is the composite of negotiations between buyers and sellers (including lessees and lessors) in free communication for the acquisition or disposition of individual dwelling units which are in some degree of competition with each other. The units may be regarded as linked in a chain of substitutability in varying degrees of closeness depending on qualitative considerations and buyer preferences; and the market may be considered as consisting of clusters of substitutes cross-linked in complex patterns. [2]

Weimer and Hoyt define "the market" as being "a highly informed series of negotiations" which have "no single geographical focus" inasmuch as the "market operates through scattered transactions of owners, brokers, and users"; there is no organized exchange where the transactions take place, as in the case of security and commodity markets. [3]

Housing Market Area

A housing market area is the geographic area "within which all dwelling units are linked together in a chain of substitution" or, in other words, the units are in competition with one another as alternatives for the users of housing. [4] A housing market area is restricted to local dimensions. [5]

Housing Submarkets and Submarket Areas

Within the framework described above, a housing market and a housing market area as whole entities are divisible into component parts. In individual market analyses, they may be segmented in varying degree to serve more effectively the purpose(s) for which each analysis is undertaken. For example, an analysis with a single conclusion that there is a prospective demand for "X" number of additional dwelling units in the subject locality has only general and very limited usefulness; but if the analysis is developed to segment the demand, e.g., qualitatively and geographically, its value and usefulness are greatly enhanced.

Within a housing market area, dwelling units are linked in various patterns on the basis of aggregates of individual scales of preferences as to the type, quality, location, etc., of dwelling unit desired. The specific purpose of a housing market analysis will determine the appropriate submarket segmentation. These submarkets are distinguished by specific characteristics, e.g., tenure (sales and rental housing), price, rent, size in terms of bedrooms, high-rise, special purpose (e.g., elderly, military), and location. Many more segmentations are conceivable, but those identified above are the most commonly used in current market analysis practice. 6/

The geographic aspect of submarkets is of primary importance in the further consideration of the housing market area in this chapter. Other aspects of submarkets are discussed subsequently in pertinent relationship to the subject matter of other chapters.

Urban Structure and Growth

The delineation of the housing market area and submarket areas therein, involves consideration of the physical structure and growth of the urban community. 7/ Perspective on the present pattern of urban development and general understanding of the theories of urban growth and structure, in their application to personal observations during the course of field investigation, assist in various judgments required in competent analysis, e.g., the direction of growth, the delineation and potential of submarket areas, the significance of internal shifts in the pattern of urban development, and the qualitative considerations attending the provision of additional housing to meet demand.

With the rapid growth in urban population, the increased use of automotive vehicles, the construction of beltways and expressways, the rise in incomes, changes in the American economy, and the enactment of redevelopment laws since the 1930's, modifications in the theories and principles of urban growth and structure have become necessary. 8/ For example, the construction of high-rise apartment and office buildings in outlying suburban areas of low density uses is not now uncommon even in the medium size metropolitan

areas; luxury-type apartment construction in redevelopment areas in or near the central business district has emerged and is gaining momentum; complete communities are being developed in the suburbs, with various types of residential, municipal, commercial, industrial, and recreational facilities.

Because of the modifications which have evolved over time in the basic pattern of an area's urban structure, as well as those which are in process currently, the analyst must observe carefully the present pattern and trends of development against the background of historical perspective. The first-hand knowledge of the area thus acquired will enhance the over-all quality of his analysis; it will assist him in delineating the market and submarket areas, in more quickly acquiring a "feel" of the market, in more thoroughly assimilating and evaluating the pertinent statistical data, in interpreting these data, and in formulating more realistically his judgments and final conclusions.

Housing Market Area Delineation

A housing market area is defined as the geographic entity within which nonfarm dwelling units are in mutual competition. Ideally, this definition implies a preciseness in area delineation which cannot be achieved. A technique is not available to determine the exact points at which specific dwelling units are just beyond the range of competition with other units so that the precise limits can be established for delineating the housing market area. Moreover, if such a technique were available, the limitations of available data would preclude its application.

Thus, a compromise is made between the idealistic and the practical aspects of delineating the housing market area with a view to determining the boundaries which will constitute the most reasonable and useful market area from the standpoint of the availability of data consistent with the analytical requirements, having due regard for adjustments [9/] that can be made in available data to serve this objective most satisfactorily. Within this framework and the available tools, together with careful firsthand observation throughout the area, the analyst can comply substantially with the criterion of dwelling unit competition in delineating the housing market area.

In approaching this part of his task, the analyst must keep in mind available transportation facilities, principal locations of nonagricultural employment, local commuting habits and preferences, trends in residential developments, topography, and the limitations of statistical information relative to geographical areas. Observations made in the course of his field work, together with the study of various maps available locally, will provide the analyst with the required perspective on the extent and structure of urban development, its direction of growth, and the pattern of its major residential sectors to aid him in the delineation of the over-all housing market area and, as may be necessary, submarket areas of particular interest or concern.

Area Maps

Maps of various types are of considerable use in grasping the fundamental characteristics of the structure and growth of the urban area under study. With the aid of area maps depicting salient factors of significance in urban structure and market analysis, the housing market area is realistically delineated and the potential spread of the settled area is quickly foreseen by the experienced analyst. Without access to such maps, the area characteristics have no sharp identification to the observer.

Topographic maps depict water courses, variations in land levels, and other characteristics of the area. Transportation maps may be designed for particular kinds of vehicular routes--streetcar, rail, bus, or air. Land use maps, available in many of the better financed planning commissions, are invaluable in revealing the use characteristics of different sections of an urban area. Population and housing characteristics for census tracts, blocks, wards, or other arbitrary area divisions have been mapped by interested local agencies, and a heterogeneous mass of information thus becomes visually useful. In some cases, superimposition of one map upon another will assist in revealing patterns which may not be visualized otherwise. 10/

In housing market areas involving several governmental jurisdictions, particularly the larger areas, there often is a "metropolitan" or "regional" planning body which compiles maps and data to provide area-wide perspective on various factors for coordinated planning purposes. Such maps will greatly facilitate the analyst's orientation in the urban structure of the over-all housing market area. Not infrequently, local maps may be out of date or not available; in this event, the area must be visualized with the aid of any fragmentary evidence available and, particularly in smaller areas, supplemented for historical perspective by questioning reliable older residents.

The Commuting Area

The location of actual and prospective employment centers and the availability of transportation facilities of all types underlie the selection of general locational alternatives as places of residence for the working population. Specific residential locations of individuals within these alternatives are finally determined, of course, on the basis of modifying considerations, e.g., specific type of accommodation desired, rent or price level, location of educational or religious institutions, environmental factors, etc.

The extent and pattern of urban development in any area depend upon the time and money costs of daily commutation from home to work. A deficient arterial access highway system will impede industrial and residential development. An hour is generally the maximum acceptable limit of transportation in terms of time cost. Money cost above that prevailing locally for one ride on the public transportation system marks a limit beyond which only a minority of

daily commuters will reside. Car pools may reduce an otherwise prohibitive money cost to acceptable limits. Local commuting habits also vary and limit the reasonable commuting distance.

The housing market area usually extends beyond the city limits, regardless of the magnitude of the market under consideration. In small markets, growth beyond the city limits occasioned by economic forces within the city may extend into one or more adjacent minor civil divisions in the same county. This extension may be either a continuous or broken formation of urban development. In the larger markets the market area may extend into several adjoining counties through the outward growth of the primary urban area.

There may be breaks or gaps in the pattern of development within the geographic entity which constitutes the housing market area. The various components of the market area as delineated, however, must be linked economically in sufficient degree to evidence significant interdependence in the over-all urban complex, usually reflected in cross-commutation of workers and shoppers between the several components.

Data Limitations

Limitations in housing market area (and submarket area) delineation are created by the data available. Labor market data, census data, and other types of data for which the analyst must rely on secondary sources usually are compiled on the basis of political subdivision boundaries, i.e., whole counties, cities, minor civil divisions of counties, or combinations of these entities. The labor market generally is defined to include all or most of the commuting population. Labor market areas for the larger communities generally coincide with the Standard Metropolitan Statistical Area (SMSA) as defined by the U. S. Bureau of the Budget. 11/ In smaller communities the labor market area will coincide with county or other political subdivision lines. In some instances, the labor market area will include one or more minor political subdivisions on the outer boundary of a major political subdivision more conveniently used for most housing market analytical purposes. In the latter cases, reconciliation is difficult and the best possible estimates must be obtained from labor market analysts.

In general the availability of census data on population, households, and housing vary in detail directly with the size of the geographic entity or its urban character; the larger or more urbanized the entity the greater is the detail of available information. Thus, for large urban areas some data on the characteristics of population and dwelling units are available on a block basis, with great detail on characteristics available for SMSA's and large cities and a progressive diminution of information as the size of the entity becomes smaller or less urbanized.

Even the primary source data which the analyst himself might find feasible to compile (e.g., vacancy data collected in post office surveys of residential

vacancies, inventory of unsold new houses enumerated in special surveys) cannot be tabulated to fit the pattern of a precisely delineated housing market area without great difficulty and exorbitant cost.

Delineation--Market Area and Submarket Areas

The actual delineation of a housing market area and submarket areas is determined primarily by census area definitions. This determination, however, must be conditioned by sound judgment in the use of statistical data, observation, the structure and growth of the urban area, transportation and commutation patterns, and the knowledge of well informed local residents experienced in the realistic aspects of the housing market under consideration.

For practical purposes, the Standard Metropolitan Statistical Area may be delineated as the housing market area in those cases where an SMSA has been established. Not all counties in the SMSA definition, however, need be included in the housing market area delineation if a modified definition can be justified for market analysis purposes. This situation might exist, for example, where an outlying county in the SMSA contains predominantly rural farm population and its nonfarm population constitutes an insignificant proportion of the SMSA total. Modifications to SMSA definitions can be made when justified.

In areas which do not meet the SMSA criteria, the county or a portion of the county may be defined as the housing market area, depending on the size and distribution of the nonfarm population of the locality under consideration and the economic relationship of the nonfarm communities or clusters. If these clusters are closely tied, even though widely distributed, the entire county may be delineated as the market area. Or, if the nonfarm population is concentrated in one community and its immediate environs, the market area may be delineated to encompass the community and one or more of the adjoining minor civil divisions, depending on the extent of urban development in various directions beyond the community boundary. 12/

Submarket area delineation is subject to many of the same limitations as the delineation of the over-all housing market area, and the same considerations are generally applicable. The problem, however, is more complex--not in the delineation itself but particularly in the analytical considerations because of the greater paucity of data and the greater difficulty of making reliable estimates for small areas.

Economic submarkets predicated on qualitative considerations (e.g., tenure, value or rent level, type of structure), though less frequently required, are less easily delineated and analyzed than the submarket areas comprised of political entities. At times, the delineation of geographic submarkets predicated partly on location and partly on qualitative considerations is

required, as illustrated by the central area of a city in which residential re-use is planned. These and the strictly qualitative type submarket areas can be delineated with the aid of block and census tract statistics where such census data are available. Where these data are not available, the delineation must be made on the basis of observation. In both situations, local planning bodies may be helpful in supplying data already collected or compiled by sub-areas, land use surveys and maps, and leads to other possible local sources of information.

Submarket areas are delineated and analyzed only when and to the extent required by the purpose of the market study or deemed appropriate for effective utilization of a market study. The specific purpose of a market analysis usually will be indicative as to whether submarket area considerations are a pertinent objective and the extent to which submarket area delineation is required. Rarely will it be necessary to subdivide the entire market area into sub-areas on a qualitative basis. In the case of a large SMSA comprised of several counties, the effectiveness of the analysis is enhanced if the projected qualitative demand (and the salient factors leading to its determination) is segmented by major submarket areas, i.e., principal cities and counties (or remainder of a county if it contains a principal city). It may be necessary to segment a small but populous housing market area, consisting of only one county or part of a county, by dividing the projected demand and its underlying analysis between the principal city and the remainder of the market area. Some further special sub-area delineation may be required to fulfill the purpose of the analysis.

The delineation of housing market and submarket areas is an important part of the whole process of housing market analysis. An erroneous or inadequate delineation undermines the reliability of the analysis, leads to unsound and misguiding conclusions, and, consequently, could cause costly mistakes in decisions predicated on the analysis. The analyst must guard against a perfunctory delineation of the housing market area and its sub-areas.

Presentation in Report

Appropriate orientation is provided by narrative description accompanied, in some cases, by a map of the area. It is concerned primarily with the physical aspects of the area. The narrative description should include subject matter germane to location, extent, size, urban structure, general character, and special features of the housing market area. The objective is to give a "thumbnail sketch" -- just enough to convey an over-all mental view of the area as a physical entity -- rather than a lengthy, detailed discussion. Repetition of subject matter contained in other sections of the analysis should be avoided.

If any geographic submarket areas are to be given special attention in the analysis, they should be identified, and the purpose of the geographic segmentation should be indicated.

Since most housing market areas thus described extend beyond the limits of urbanization, they almost invariably contain an element of farm population and housing. Where this element is significant (e.g., five percent or more), the statistical data used in the analysis should be adjusted by excluding the farm segment. The description of the market area should note the proportion of farm population if it has been excluded for analytical purposes.

A map of the housing market area is an aid in providing a clear description of the area, especially in the following instances: (1) large, complex markets composed of several counties, (2) markets where geographical features of importance in the analysis are not easily described or not readily understood from narrative description, (3) markets in which the location of specific components or factors is important and given special emphasis in the analysis, e.g., major employment centers, submarkets. In some instances a map of the principal city or the central portion thereof, as well as a map of the entire market area, may be justified, e.g., where urban renewal areas are of special concern. In still other instances a regional or district map may be needed, e.g., where the location of the subject market relative to other markets or to a military installation is an important consideration in the analysis.

Briefly, the housing market area map should show significant boundaries; major thoroughfares and highways should be detailed; principal communities should be identified; the location of factors especially important in the analysis should be spotted; and the submarket areas should be delineated.

CHAPTER III. ECONOMY OF THE HOUSING MARKET AREA

Page

Analytical Approach 18

Economic Base Theory of Urban Growth
Economic Analysis in FHA Housing Market Analysis

Concepts of Industry Development and Growth 20

The Resource Base
Individual Industry Growth
Industrial Development Patterns
Diversification and Stability
Effect of Federal Laws and Policies
Industrial and Occupational Patterns of Employment
Goods-producing and Service-producing Industries
Basic and Nonbasic Industry Concepts

Labor Force Concepts 30

Labor Force, Employment, and Unemployment
Labor Force Elasticity
Labor Force and Employment Participation Rates

Analysis of the Economy 35

Economic History and Character of the Area
Analysis of Employment
Manufacturing Employment Considerations
Individual Industry Considerations
Statistical Measurements

Prospective Labor Demand and Supply
Evaluating Labor Demand
Evaluating Labor Supply
The Prognosis

Incomes in Housing Market Analysis 48

Income Distributions
Wage and Salary Income
Change in Industry Pattern of Income
Change in Family Income Distribution

Estimates of Family Income Distributions
Estimating Technique
Selection of Appropriate Income Distributions

The Income Analysis

CHAPTER III ECONOMY OF THE HOUSING MARKET AREA

The analysis of local housing market conditions and prospective demand for additional housing is dependent, basically, on an analysis of the economy of the market area. Before any analytical work can be done on other facets of the market analysis, therefore, the economy of the area must be analyzed with the objective of projecting economic prospects in terms of employment. This dependence is inherent in the simplified relationship of the major quantitative forces leading to demand for additional increments of housing, i.e.; employment opportunities are the principal determinant of population growth; population is translated into households; and households are the units of demand for housing. Whether additional housing is economically feasible to meet this demand depends, of course, on the quantitative and qualitative adequacy of the existing supply of housing and the capacity of the households to pay for the increments required.

Analytical Approach

Analyses of the economy of local areas serve many purposes. [1/] They may be made as an end product for the direct benefits which can be derived from them, e.g., to determine any weaknesses that may exist in the local economy; or they may be made as an aid in projective planning studies to meet a wide range of public and private needs, e.g., in formulating a definitive planning program for industrial development; or they may be made in conjunction with other studies of specific problems, e.g., analysis of private or governmental capital expenditure needs and, as already noted, analysis of the housing market leading to a projection of economic demand for additional housing.

The analytical approach is essentially the same for all purposes, but the type of analysis in terms of scope, depth, and refinement may vary, depending (in part) upon the specific purpose, the cost in relation to available budget, and the time schedule requirement. The variation in types of analyses ranges from a relatively simple survey of business conditions and trends revealed by readily available statistics on the more commonly used business indicators to an intensive analysis of a community's economic support. The latter type of analysis has become identified as an "economic base" analysis, a term which has specific significance in theory and application.

The economic base theory of analysis is not applied directly in FHA housing market studies. A general knowledge of the theory and the mechanics of its application, however, is of material assistance in implementing FHA's analytical approach which is, in some respects, an adaptation of the economic base theory.

Economic Base Theory of Urban Growth

The economic base theory of urban analysis is simple enough as a working plan but it is quite difficult to implement. [2] [3] Unless generous allotments of time and funds are available, the application of the economic base approach is not practicable for housing market analysis purposes. [4] A number of difficult problems are involved in applying this analytical approach. In addition to area delineation, which is a problem common to all approaches, the more difficult problems relate to the classification of basic activity types, the selection of a unit of measurement of basic activity, the identification of individual basic activities and the measurement of their magnitude (particularly when an activity is a mix of basic and nonbasic), and the collection of data which ordinarily are not available in the form required to identify and measure basic activity. [5]

Economic Analysis in FHA Housing Market Studies

In consideration of the purpose and use of housing market analyses in FHA, emphasis necessarily is placed on timeliness, consistent with reasonableness in matters of accuracy and soundness of conclusions of each study. Intensive, time-consuming research and analytical work which defeats this objective is impractical, and more expeditious alternatives which are reasonably reliable must be utilized wherever possible.

The complexities entailed in the application of the "economic base" analysis in its strict sense and the consequent burden of work have led to a more direct approach by FHA in analyzing the economy of a housing market area. In this approach total employment is used as the basis for the analysis and projection; the segmentation of basic and nonbasic employment is eliminated. The basic industry segment of employment is not ignored, however, but is given consideration in the analysis and projection of over-all employment trends.

In the use of the total employment approach, due consideration must be given to basic industries as the prime growth element in the area's economy. Detailed segregation is not essential; it is sufficient to include in this consideration those industries which are dominantly basic in character. Care must be exercised, however, to assure that all such industries are encompassed, i.e., the providers of services and capital, as well as products, to consumers and users living or originating outside the housing market area.

As one of several major steps in a housing market study, the analysis of the economy need not be as exhaustive and intensive as would be required if it were prepared as an end product designed for long-range planning purposes, e.g., an economic development program, zoning ordinance, public or private capital improvement programs. For such purposes the economic

analysis would be broader in scope and more intensive in detail of economic subject matter. Most of this detail and enlarged scope is not essential in market analysis.

Concepts of Industry Development and Growth

The Resource Base

As previously indicated, employment opportunities constitute the dominant force in the growth of an area. The opportunity for gainful employment depends on the existence and exploitation of an area's resources. Thus, any analysis of the economy of an area is concerned with the identification of available resources and the evaluation of their potential as sources of further growth. The present and prospective use of natural resources is still the primary determinant of the future of the economy of many urban areas. A single water power development or the discovery of a mineral resource may affect the economic future of an entire region and foster the growth of a number of hitherto stagnant communities. Improved technology in extracting a mineral from ore may prolong the life of present reserves or expand mining and refining operations, thus improving the economic outlook in nearby communities whose economy is wholly or partially dependent on these activities. Minerals that are known only to the chemical analyst today may have a major industrial use tomorrow. Energy resources must now include atomic sources, as well as water power, coal, natural gas, and oil. Thus, an area's ultimate development in many cases depends largely upon the economic exploitation of its available natural resources in light of advancing technical methods.

Technological improvements and developments in industry, transportation, and communication, however, have had profound direct and indirect effect on the relative importance of the major categories of resources as factors in urban growth. The dominance of the extractive natural resources as a growth factor has declined; and other resources enumerated above have become increasingly important--in many instances more important than the extractive resources--in the retention and expansion of existing industries and attraction of new industries to particular urban areas. 6/

Individual Industry Growth

Individual industries become established and grow in particular areas in response to a wide variety of forces. A source of raw material, such as wool or cotton, may induce the growth of spinning and weaving establishments. A skilled labor supply is a resource which might foster the growth of an industry (even though the raw material requires importation and the finished product, exportation) by reason of technological efficiency creating a competitive advantage. Industries may be established as satellites of another

industry whose products or by-products they utilize or to supply material for further processing by another industry. Industries grow in response to markets if the market is sufficiently large to make branch plant construction more economical than the cost of transportation and warehousing. An industry may expand in a community in preference to establishing a branch elsewhere because of continuing favorable labor relations or the ability of the community to attract workers of the type required in its operations.

Competitive advantage determines the location of new industry in the sense that more production is attained at a lesser ultimate cost in a particular location after considering costs of raw materials and their transportation, cost and productivity of labor and plant, and costs of distribution. A choice of several locations involving equal competitive advantage may be resolved by personal choice, or by the competitive attractions offered by the individual communities as inducements (e.g., tax concession, subsidized plant facilities, a particularly favorable community policy and attitude toward industry), or by an aggressive and effective local program of promotional activities.

The principle of competitive advantage is applicable primarily to the manufacturing industries and to centralized types of nonmanufacturing industry. In the latter may be included wholesale trade; central offices or repair shops of transportation and communication services; centralized professional, recreational, and financial services, etc. The extractive industries--agriculture, mining, forestry, fishing--are rooted to the natural resource areas. Retail trade, construction, and the service industries are concomitants of the local economic development and its rate of growth. Public administration (governmental activities) may be local, state, regional, or national in character--the locational determinations of the latter three being based on one or more resource considerations except in the case of locations selected by historical happenstance.

Industrial Development Patterns

The relative competitive advantage of the aggregate of resources and economic forces determines the commercial and industrial development of individual areas. With no local advantages with respect to transportation or community facilities or any comparative advantage with respect to the manufacture or marketing of products, communities established as trading centers for the extractive industries--agriculture, mining, fishing, forestry--will remain merely trading centers. Seacoast communities with good harbors and inland communities strategically located at important transportation intersections will develop relative to the comparative advantage of their locations in the perspective of technological progress, labor costs and relations, and the magnitude and qualitative characteristics of the regional market served.

Communities depending on commercial activity derived from the extractive industries have the simplest type of economy. In some cases, more than one extractive industry may comprise the economy. The potential growth or exhaustion of the natural resource exploitation requires evaluation in order to make a judgment of the strength of the economy. The development of new highways, modes of transportation, and shopping habits affects the future of a community; thousands of communities have declined because of new developments favoring other communities.

The incidence and relative importance of two or more converging lines of transportation affect a community's economic future. The more complex the network of transportation and communication facilities available, the greater is the market territory served and the greater the relative competitive advantage.

Heavy industry and industrial concentrations are located in urban areas having the most complex and advantageous network of transportation and communication facilities combined with other resources and, as a rule, high population densities. Costs of raw material transportation, labor, and power, and the distributing costs of the finished product, as well as the potential marketable volume affording maximum productive efficiency, determine the location of heavy industry in such areas.

Diversification and Stability

Economic diversification is a relative concept. It may be considered either in terms of the major industrial segments of the economy (as defined in the Standard Industrial Classification of the Bureau of the Budget), e.g., agriculture, mining, forestry and fisheries, manufacturing, trade, services, and government, or in terms of manufacturing industries only. A relatively high concentration of employment in one major industrial segment or in one manufacturing industry reflects a lack of diversification; a fairly even distribution of employment among major industrial segments or among various manufacturing industries reflects a diversified economy.

Standards of concentration or diversification are not available, however, for general application in classifying a specific urban area as possessing or lacking diversification. While a simple distribution of employment by major segments or by manufacturing industries provides a useful, albeit general, indication of diversification or concentration, it does not provide the answer as to whether an area is or is not diversified. Meaningful results may be obtained by relating the employment distributions in local areas to a selected standard or "norm" represented by a larger geographical entity of sufficient magnitude to assure a high degree of diversity in its economy; from this "norm", deviations in the local distributions can be measured to establish comparable indexes of diversification in the respective local areas relative to a common base. 7/

Greater economic stability generally is associated with diversification. A diversified economy offers a wide variety of employment opportunities. Moreover, the timing of fluctuations in individual industries varies to some extent, and durable goods industries are subject to more violent and more protracted periods of economic distress than consumer goods industries. Hence, the greater the degree of industrial diversification of the economy of an urban area, the greater are its prospects for stability and potential resistance to the effects of general economic recession or depression.

A single-industry economy generally would be the least stable because of its dependence on one industry. A single-industry community arises from special circumstances. It may be the most efficient location for certain fabrication stages of raw materials. It may be because of subsidy of plant construction by a government or quasi-government authority. It may arise from an emergency production need or from personal preference of the principal owner or stockholder. In the case of State or Federal government (considered as an industry), it may arise from sheer historical accident or from some historically sound economic cause. At times, as in the case of Detroit and Pittsburgh, single industry concentrations attract numerous plants in other industries which supply the original industrial concentration or use its product or by-products. These industries, however, being directly related to and dependent upon the original industry, do not contribute significantly to diversification; and their activities usually fluctuate in unison with the prime industry. In general, single-industry areas have greater and more frequent fluctuations in economic activity.

Generalizations, however, cannot be applied freely to individual cases. There is some evidence that local areas with diversified economies are not significantly more stable than non-diversified economies. [8] More specifically, the evidence shows that some areas with relatively low indexes of diversification are more stable than some other areas with relatively high indexes, and vice versa. Corroborating evidence developed in an analysis of manufacturing diversification indexes of State and metropolitan areas for 1947 and 1954 [9] indicates that:

1. The manufacturing economies of most States and Standard Metropolitan Statistical Areas became more diversified between 1947 and 1954.

2. The rate of increase in diversification between 1947 and 1954 was not closely correlated with the rate of growth in manufacturing employment during that period.

3. In the short run, growth and diversification are not closely associated phenomena. However, in the long run they are related.

4. Diversification indexes for SMSA's classified as areas of substantial labor surplus were not significantly lower, on the average, than the indexes for SMSA's that had not been classified as areas of substantial labor surplus.

Local economic stability is not determined by local forces alone. External forces may be of a general national or regional character or they may pertain to a single industry; and they do not affect localities uniformly--due, in part, to the different composition of local economies. A general economic recession or depression would have an adverse impact on all localities, but in varying degree. A severe regional drought of unusual duration would have repercussions of varying degree on all localities in that region. The secular decline in a particular manufacturing industry due to automation or competitive product substitution affects localities in which such industrial facilities are located.

Effect of Federal Laws and Policies. In recent years federal laws and economic policies have contributed greatly to economic stability and the advancement of the population's economic welfare, locally as well as nationally. Briefly, the objectives of these laws and policies are economic growth, high employment, and economic stability. The Employment Act of 1946, for example, declares that it is "the continuing policy and responsibility of the Federal Government. . . to coordinate and utilize all its plans, functions, and resources for the purpose of creating and maintaining . . .conditions under which there will be afforded useful employment opportunities. . .and to promote maximum employment, production and purchasing power." 10/

While important problems remain to be resolved, there is abundant evidence of success achieved in accomplishing the objectives of the Employment Act of 1946 during its first 20 years of operation. The performance of the economy during this period was significantly better than during the preceding 20 years; production has averaged closer to capacity; unemployment has been reduced; fluctuations in price levels have been less extreme; significant progress has been made in moderating the business cycle; the economy has continued to grow in size and efficiency; and the economic welfare of the population has been greatly enhanced. 11/

Industrial and Occupational Patterns of Employment. Unemployment rates and fluctuations vary considerably by different categories within the over-all aggregates, i.e., by geographic area, by occupation, by industry, by age, and by race. In 1965, for example, the following variations are noted in unemployment rates within the over-all average of 4.6% for the United States: 12/

Category	Range in Unemployment Rate
By State	2.0% to 7.9%
By occupation	0.4 to 8.4
By industry	1.9 to 9.0
By age	2.8 to 17.3

The foregoing variation in unemployment rates clearly indicates that an average or over-all rate of unemployment does not tell the whole story, and it suggests that certain categories of employment are characteristically more stable than others. Of particular importance, from the standpoint of analyzing the economy of an area, are the level and fluctuation of unemployment in the industry and occupation categories.

Among major industry groups the 1965 unemployment rates in the United States varied from lowest to highest in the order indicated in the following table, which also shows the low and high rates and the range of fluctuation for each industry category during the period 1948-65:

Unemployment Rates, by Major Industry
United States

Industry	1965	1948 - 1965		
		Low	High	Fluctuation
Public administration	1.9%	1.1%	3.0%	1.9 points
Finance, insurance, real estate	2.3	1.3	3.3	2.0
Transportation and pub. utilities	2.7	1.8	5.6	3.8
Service industries	3.8	3.1	5.1	2.0
Manufacturing	4.0	2.5	9.2	6.7
Durable goods	(3.4)	(2.0)	(10.5)	(8.5)
Nondurable goods	(4.6)	(3.1)	(7.6)	(4.5)
Wholesale and retail trade	5.0	3.0	7.2	4.2
Mining, forestry, fishing	5.5	2.9	12.3	9.4
Agriculture	7.3	3.9	9.9	6.0
Construction	9.0	5.5	13.7	8.2
Total experienced wage and salary workers	4.2	2.7	7.2	4.5
Total, all workers [a]	4.6	2.5	6.8	4.3

[a] Includes self-employed, unpaid family workers, and those with no previous work experience, not shown separately.

Source: Table A-15, Manpower Report of the President, 1966.

From these data it is apparent that greater stability of employment resides in the first four industry categories listed. Thus, areas with higher than average proportions of total employment in these categories would be expected to exhibit greater economic stability, generally, than areas with lower than average proportions.

Similar variations in the level and fluctuation of unemployment occur among the major occupation groups, as shown in the following table:

Unemployment Rates, By Major Occupation
United States

Occupation	1965	1948 - 1965 Low	High	Fluctuation
White-collar	2.3%	NA	NA	NA
Professional, technical, & kindred	1.5%	0.9%	2.0%	1.1 points
Managers, officials,&proprs. (exc. farm)	1.1	0.7	1.8	1.1
Clerical and kindred workers	3.2	1.7	4.6	2.9
Sales workers	3.3	2.1	4.7	2.6
Blue-collar	5.3	NA	NA	NA
Craftsmen, foremen, & kindred	3.6	2.4	6.8	4.4
Operatives and kindred	5.5	3.2	10.9	7.7
Laborers, exc. farm & mine	8.4	5.6	14.9	9.3
Service	5.2	NA	NA	NA
Private household workers	4.2	2.5	5.9	3.4
Service, exc. private household	5.5	3.6	7.4	3.8
Farm	2.6	NA	NA	NA
Farmers & farm managers	0.4	0.2	0.6	0.4
Farm laborers & foremen	4.8	2.1	6.2	4.1
Total, all workers[a/]	4.6	2.5	6.8	4.3

NA=Not available for combined occupational groups except for the period 1957-1965, during which the corresponding rates were as follows:

	Low	High	Fluctuation
White-collar	2.0%	3.3%	1.3 points
Blue-collar	5.3	10.1	4.8
Service	4.7	7.0	2.2
Farm	1.9	3.2	1.3

a/ See footnote a/ in table immediately preceding.

Source: Table A-16, Manpower Report of the President, 1966.

Among the nonfarm groups, which are of direct concern for present purposes, the white-collar group has consistently experienced the lowest unemployment rate and the least fluctuation. This observation applies locally, as well as nationally; but its significance in the local economy varies, depending on the relative proportion of white-collar workers in the employed labor force.

The characteristics and rapid growth of white-collar employment emphasize the economic significance of this segment of the work force. Some of the more important facts concerning this occupational group are highlighted as follows: 13/

1. White-collar workers generally have greater regularity of employment, and are more likely to hold year-round full-time jobs and work longer hours per week than blue-collar or service workers.

2. The unemployment rate among white-collar workers, as suggested above, has evidenced remarkable stability, despite the fluctuations in business activity.

3. White-collar workers generally have a higher level of education and have substantially higher incomes than blue-collar or service workers.

4. White-collar workers have increased persistently and rapidly since 1900, both in numbers and as a proportion of total employment. In 1956, they outnumbered blue-collar workers for the first time (25.6 million vs. 25.2 million). From about 5.0 million in 1900 the number of white-collar workers increased to 28.7 million in 1960; as a proportion of all workers in nonfarm occupations, white-collar workers increased from 28 percent to 46.9 percent during this period.

The trend in white-collar employment has continued since 1960; by 1965 the number reached 32.1 million, or 47.3 percent of all nonfarm workers. Projections of the Bureau of Labor Statistics for 1980, moreover, indicate that white-collar employment will continue to increase faster than total employment in nonfarm occupations.

Goods-producing and Service-producing Industries. 14/ Employment may be considered also from the standpoint of industry groupings identified as goods producers and service producers. The goods-producing industries include manufacturing, contract construction, mining, and agriculture; the service-producing industries include transportation and public utilities, trade, finance, insurance, and real estate, service and miscellaneous, and government.

In 1949, employment in the service-producing industries exceeded that in the goods-producing industries for the first time. Since then the margin of excess has widened with a high degree of consistency, reflecting a marked increase in employment in the service-related group while employment in the goods-related group rose very slightly, to wit:

Civilian Employment (Millions) a/
United States

Year	Total	Goods	Service
1947	52.1	26.7	25.4
1949	51.8	25.6	26.2
1964	62.9	25.8	37.1

a/ Employees on payrolls plus agricultural employment

This shift of emphasis in employment is the result of constantly increasing demands for services on the one hand and technological developments on the other. These trends are expected to continue, according to the U. S. Department of Labor employment projections to 1980, with jobs generally increasing faster in the service-producing industries than in the goods-producing industries.

The over-all level of economic activity affects employment in all industry groups, but much more in some than in others. In general, employment in the goods-producing industries fluctuates most widely with changes in over-all business conditions; in the service-producing industries, general business conditions have much less influence on employment. This variation is clearly evident in the levels and fluctuations of unemployment rates summarized by major industry in a preceding table. It is significant to note, in this comparison, that (1) the industries comprising the service-producing group have the higher proportion of white-collar workers (see table below); and (2), as previously indicated, the white-collar occupations generally are characterized by greater stability of employment.

Proportion of White-collar, Blue-collar, and Service Workers in Major Nonagricultural Industry Groups, 1964
United States

Occupation	White-collar	Blue-collar	Service
All nonagr. industries	47	39	14
Finance, ins., and real estate	90	5	5
Public administration	66	15	19
Wholesale and retail trade	62	24	14
Services	51	14	35
Transp. and pub. utilities	40	57	3
Manufacturing	30	68	2
Forestry, fisheries, and mining	25	73	2
Construction	22	78	*

* Less than one percent.

Basic and Nonbasic Industry Concepts

The distinction between basic and nonbasic industries as defined in the "economic base" theory is fundamentally important. This distinction enables the analyst to focus primary attention on those industries which constitute the cornerstone of the local economy.

The basic-nonbasic industry approach to the analysis of an area's economy entails a determination of the proportion of the employees in each industry classification which appropriately may be allocated to basic (i.e., exportable) production of goods, services, or capital in order to arrive at a ratio of nonbasic to basic employment. This determination necessarily encompasses the nonmanufacturing, as well as the manufacturing, industries. In cultural, financial, educational, government, and other nonmanufacturing industry classifications (including various trade and service industries, especially but not exclusively in resort and tourist centers), the services or capital provided by these industries may, in various degree, benefit people who reside (permanently) outside the subject area; to that extent, employment in these industries is allocable to basic industry. This is particularly true of New York, Chicago, Atlantic City, capital cities, regional trade centers, and other places which have a heterogeneity of industry classifications or larger than average proportions of employment in certain nonmanufacturing industry classes. This is not, however, an attribute of large areas only; in many areas ranging through all size classes the services of some nonmanufacturing industries also are "exported" in various degree.

Two important considerations must be kept in mind in the evaluation of the additive nonbasic employment caused by additional basic employment. First, there is a considerable time lag in the expansion of nonbasic industry employment. A fast and prolonged increase or decline in basic employment does not automatically create an accompanying change of similar proportions in nonbasic employment. Though less dramatic changes in basic employment occur with greater frequency, the lag effect remains in evidence. Second, minor fluctuations in basic employment have no significant effect on nonbasic employment. There is a degree of elasticity in the provision of services with a given level of nonbasic employment.

Thus, in a projection of total employment, cognizance must be taken of the stage of recent changes in basic employment and the relative magnitude of recent and prospective changes. Only in the case of long-range projections (ordinarily not required in housing market analysis) is it necessary to recognize also that long-term changes occur in the relationship (ratio) of nonbasic to basic employment. Such changes are due to new or declining industries, cyclical and secular changes in standards of living and general economic conditions, persistent technological improvements, and other factors.

Labor Force Concepts

Labor Force, Employment, and Unemployment

The Bureau of the Census defines "labor force" as including "all persons classified as employed or unemployed", as described below, "and all members of the Armed Forces" on active duty. The "civilian labor force" includes only the employed and unemployed components of the labor force, i.e., it excludes members of the armed forces. Employed persons "comprise all civilians 14 years old and over who were either (1) at work or (2) were with a job but not at work." Unemployed persons comprise civilians 14 years and over "not at work but looking for work." The Bureau of Labor Statistics of the U. S. Department of Labor generally follows the same concepts. 15/

The Bureau of Employment Security of the Department of Labor uses the term "work force" to designate the combined total of employed and unemployed persons estimated monthly for local labor markets by State employment security offices in cooperation with the Bureau. 16/ This term is essentially synonymous with the concept "civilian labor force." The methodology of developing the data differs, however. The employment estimate under the "work force" concept is based on payroll records and, hence, would include some duplication in the case of persons holding two jobs; whereas under the Census "labor force" concept the data are based on a household survey, which precludes such duplication.

Total unemployment (including agriculture) is related to the total civilian labor force, or work force, (including agriculture) to derive the over-all unemployment rate. This concept is generally used when discussing unemployment in the analysis of the area's economy.

In the detailed analysis of employment, emphasis is placed on "nonagricultural employment", which includes all civilian workers except those employed in agriculture. This emphasis is consistent with the dominance of this segment of employment in urban housing markets.

Within the nonagricultural segment of employment, the analysis is focused particularly on "nonagricultural wage and salary employment by type of industry." Data on this component of employment are compiled by State employment security offices as part of the aforementioned work force estimates. These data exclude proprietors, self-employed persons, unpaid family workers, and domestic workers in private households, as well as workers employed in agriculture. 17/ This series is not comparable to and should not be integrated with the benchmark data of the decennial census. 18/

Labor Force Elasticity

By definition, the civilian labor force constitutes the supply of labor available (employed and unemployed) at a given time. The demand for labor

exerts a positive or negative force on the supply. As full employment develops, additional demand for labor will induce a greater supply from existing reserves, given the proper incentive--pecuniary, patriotic, personal, etc.

The reserves of the labor force are ever present in those units of population not gainfully employed. A housewife, for example, although fully occupied with household duties, may enter gainful employment in an emergency family need, or only when the monetary return is sufficiently attractive, or only if the hours of work are adapted to her requirements. Conversely, the motivation having lessened, she will drop from the labor force and return to housewifely duties. In an economic sense she is a marginal worker. In a national emergency, purely patriotic motives may induce her to seek gainful employment. At other times, the desire for the enjoyment of a secondary income or the possibility of fulfillment of a latent ambition (such as teaching) will motivate her to seek gainful employment. Similar motivations are attributable to retired persons or school-age youths. Thus, it is evident that the labor force is capable of expansion or contraction within the existing population, as distinct from expansion or contraction implemented by migration or commutation. This aspect of the labor force, with due regard for the state of labor demand-supply relationships generally and in the area under study, is germane to the evaluation of the effect of projected employment changes on population and household trends.

Labor Force and Employment Participation Rates

Most families require at least one gainfully employed worker to provide a monetary income; those who enjoy the fruits of past labor and derive incomes from inheritances, annuities, pensions, savings, etc., and the minority supported by the government are exceptions. In general, the productive capacity of the employed workers and the living standards of the population determine the ratio of the gainfully employed to the total population.

The relationship of workers-to-population is a useful tool to assist in deriving or checking population estimates in the process of projecting household demand. This relationship may be expressed as a ratio (i.e., one worker per X population) or as a percentage (i.e., workers = Y percent of population). The latter expression is most commonly used to indicate the extent of the population's participation in productive work activities; and it is referred to briefly as the "participation rate." Either expression can be utilized mathematically to derive an estimate of current or future population or to check such estimates derived by other methods, i.e.:

Where X is the population per worker
and Z is the estimated number of workers.

$$X \times Z = \text{Estimated population}$$
$$\text{and } X = \frac{\text{Estimated population}}{Z}$$

Where Z is the estimated number of workers
and Y is the participation rate.
(If Y is expressed as a decimal instead of
a percentage, the multiplier 100 is omitted.)

$$\frac{Z}{Y} \times 100 = \text{Estimated population}$$
$$\text{and } Y = \frac{Z \times 100}{\text{Estimated population}}$$

Various measures of workers and population may be used to establish the worker-population relationship. The measurement of workers may be based on labor force (work force) or on employed persons, and within each of these categories the measurement may be based on any one of the following concepts (covering all workers or only those 14 years of age and over):

Total, including armed forces in the United States and abroad.

Total, including armed forces in the United States only.

Civilian, including agricultural workers.

Nonagricultural civilian.

Correspondingly, the measurement of population may be based on all persons or only on the noninstitutional population, and within each of these categories the measurement may be based on any one of the concepts noted above (covering all persons or only those 14 years of age and over).

Whichever basis is used to establish the worker-population relationship it is essential, insofar as possible, to maintain comparability in the concepts involved. For example, if nonagricultural civilian employment is used as a measure of workers, the nonfarm civilian population should be used as the measure of population.

A few of the salient facts revealed by tabulations of national data should be noted.

1. Participation rates reached peak level in 1944, during the national emergency of World War II.

2. The peak of participation rates coincided with the lowest level in the civilian unemployment rate, 1.2 percent.

3. Civilian employment participation rates were lowest in 1932-33 when the unemployment rate was highest, 24-25 percent.

4. Except for periods of national emergency and economic depression or periods of sharp change in economic activity in a single locality, participation rates have considerable stability.

5. Ordinarily (in the absence of sharp changes in employment occasioned by the sudden impact of developments having economic implications), year-to-year fluctuations in participation rates are of minor degree.

6. Since 1950 participation rates have had a tendency to decline modestly, probably reflecting (a) increased productivity of workers and their consequent ability to support a larger proportion of the total population, (b) a decline in the participation rate among persons 60 years of age and older due to the accelerated increase of early retirement provisions, (c) a decline in the participation rate among persons 14 to 24 years of age due to the increasing emphasis on educational qualifications for job entry, and (d) a relative increase in the population in age groups below 14. (Locally, a declining or rising trend should be subjected to close scrutiny, in light of economic and demographic trends, with a view to discerning cause and effect relationships of significance in analyzing the economy and population of the locality.)

The participation rate based on labor force and the rate based on employment are both useful in estimating and projecting population. Neither type of participation rate, however, is unqualifiedly satisfactory for this purpose. Both types have shortcomings and entail difficulties in application, particularly on a locality basis. These qualifications stem primarily from the unavailability and limitations of pertinent locality data and from the adjustments that may be required to reflect the level and trend of unemployment.

Ideally, both types of participation rates should be predicated on a population base comprised of persons 14 years of age and over, thus providing a universe basically similar in characteristic to the labor force and employment components drawn from it. This would eliminate the distortion in the participation rate which could result from sharp changes in the trend of the birth rate, thus effecting changes in total population without corresponding changes in employment or the labor force. Within this over-14 segment of the population a further limitation to non-institutional population [19] would enhance the quality of the universe. These refinements, however, entail extensive and skillfully-executed statistical computation in converting and reconverting population estimates, increase the complexity of the analysis, and broaden exposure to the risk of error.

The labor force participation rate is characteristically more stable than the employment participation rate. This greater stability is "built-in" with inclusion of the unemployment component. Consequently, it reflects the fact that all disemployed workers in times of declining business activity do not withdraw from the labor force; and relatively few of such workers leave the area, except in the case of prolonged disemployment of a strictly local impact or the disemployment of workers with specialized skills and no prospect of local re-employment in the foreseeable future. The labor force participation rate not only maintains greater stability but is more dependable in the coordination of key data and estimates in achieving internal consistency.

Inasmuch as employment rather than labor force is of paramount interest and concern in analyzing the economic support of a housing market, primary emphasis in the analytical report is placed on the labor force components separately, i.e., employment and unemployment. Thus, the employment participation rate is more meaningful and, hence, more appropriate for use in the report as an indicator of the extent and trend of the population's actual participation in productive work activities.

Recent research confirms that variations in the labor force occur, even in the short run, with variations in employment. [20] These variations are, of course, revealed in the fluctuations of the labor force participation rate and reflect the elasticity of the labor force. Except in periods of protracted national emergency, however, the effect of these variations on the labor force participation rate is relatively minor. The extent to which workers withdraw from or enter the local labor force in response to changes in the employment situation is not easily determinable, and no guides or criteria are available for general application to measure these movements. Nevertheless, as previously noted, cognizance must be taken of labor force elasticity in the context of the concurrent state of the labor demand-supply relationship (i.e., the stage of the business cycle) to assure appropriate evaluation and application of the labor force participation rate.

Labor force (work force) and employment participation rates vary considerably by age and sex and, to a lesser extent, by race. Similar patterns prevail in the employment participation rates, with some differences accentuated by a greater incidence of unemployment, particularly in the nonwhite component and in the youngest age group.

It should be emphasized that "labor (work) force" and "employment" as used for determining participation rates and for other analytical purposes relate to civilian workers only. Uniformed military personnel who may be stationed in the area under study are not included in these concepts. 21/

Analysis of the Economy

As indicated at the beginning of this chapter, the analysis of the underlying economy is the foundation upon which the analysis of the housing market rests. The importance of this major step is self-evident in the structural nature of housing market analysis discussed previously. The findings and conclusions of this phase of housing market analysis have a direct bearing on the demographic phase of the analysis and, hence, constitute a basic determinant of the ultimate conclusion concerning the prospective demand for housing. In no other phase of the analysis is the need for thorough investigation, penetrating analysis, and well-considered judgment more essential or more sharply focused.

Economic History and Character of the Area

It is useful to both the analyst and the reader to review and describe briefly in the housing market analysis report the community's development: sketching, in broad outline, the origins of the community and its industry, the major steps and dominating influences in succeeding development, and a brief outline pattern of the current status. Appropriate emphasis should be focused on the competitive advantages of the area, both natural and man-made, as significant contributing factors in its historical and prospective development and growth. This historical review affords a kaleidoscopic and dynamic perspective. It can be done only after thoroughly canvassing the available materials and data relative to the area's economic history. 22/

In a comprehensive analysis, the historical sketch will be as complete as possible. In an abbreviated-type analysis, only recent developments need be treated in the text. The perspective of the analyst, however, may be warped if he has not fully investigated the historical development.

Analysis of Employment

The most important step in the analysis of the economy of a community is a detailed examination and analysis of employment. Local references will indicate the origin of individual industries. An examination of census

reports showing the distribution of employment by industry groups for several decades will reveal the development of the local economy. The development of dominant industries must be viewed in the perspective of their regional or national development in order to discover weaknesses and strengths in the local order. The primary purpose in a detailed review of employment is twofold: (1) to ascertain the prospective rate of future economic development, and (2) to determine the future labor requirements.

In the course of the historical investigation, the analyst will have determined the industrial character of the community. Census data provide the means of tracing the long-range trend of employment in the aggregate and by industry classification. Care must be exercised to assure identical area coverage of the data over the period reviewed. Although not comparable, State Employment Security labor market reports provide similar data on an annual basis for recent years and currently on a biweekly basis. 23/

Analytical description of the industrial pattern in terms of gainfully employed persons, to depict the relative importance of the major industry groups quantitatively and from the standpoint of occupational and basic-nonbasic employment implications, will contribute substantively to an understanding of the community. With a judicious interpretation of the impact of local, regional, and national trends, the analyst may venture an opinion with respect to prospective future changes in the industrial pattern. Individual industry studies may be a necessary corollary to the analyst's investigations in order to provide him with an appropriate knowledge of forces effecting changes in employment in certain major industries.

Manufacturing Employment Considerations. In many areas, manufacturing employment is heavily weighted in major categories that may have a relationship to one another. A heavy concentration in employment geared to a single product is concrete evidence of a single-industry economy. Some areas may have several unrelated firms contributing in the aggregate to employment concentrations in electrical machinery, primary metals, furniture, etc. Many areas have concentrations in two or three industries. In general, large areas are more likely to have a wide diversification without any major concentrations than are small areas. The diversification and relative concentration of employment should be assayed with care in order to be in a position to devote further scrutiny to potential weaknesses and strengths in employment.

The distribution of manufacturing employment in durable goods and non-durable goods industries provides a clue to the probable magnitude of cyclical employment changes. The historical pattern is provided in the data series of individual industries. Generally, durable goods industries fluctuate more violently than do non-durable goods industries.

Individual Industry Considerations. Analysis of individual industries ranking prominently in the economic life of the community, whether the area is diversified or of a single-industry nature, may require a firm grasp of nationwide forces affecting the industry. Trends towards decentralization or concentration, shiftings in freight rates, tax rates, or other forms of competitive advantage, technological advances, labor movements and pressures, and other factors may have an effect upon a specific industry in a specific locality.

An analysis of the development of individual industries often is necessary in order that the analyst may properly evaluate the prospective future of a particular plant or group of concerns in an area. Thus an understanding of the economy of Tulsa, Oklahoma is impossible without a study of the oil industry and its development in the United States; similarly, of steel and glass in Pittsburgh, Pennsylvania; automobiles in Detroit, Michigan; entertainment in Hollywood, California, etc. It is even more important in evaluating a major product in a small area, whether it be oil, autos, entertainment, brass, machinery, or any other source of economic support. General research on the subject will give the analyst the requisite knowledge of assets and liabilities affecting future development. With this background, he will be in a position to evaluate comparative production and employment trends in that industry in the subject area and in the nation, region, state, or comparable localities having similar industries. Local attributes favorable or unfavorable to future development in the subject area can be measured against corresponding factors in other areas. Thus, industry analysis provides a firm foundation for factual discussion and is not merely a skeletal statistical presentation.

In agricultural areas, the analyst must be aware of the local effects of agricultural prices, of natural forces such as drought, erosion, etc., and of the competitive markets for agricultural produce. In extractive areas producing coal, gas, oil, iron or copper ore, etc., the analyst must acquaint himself with the economics of such industries and relate them to the locality under study. Similarly, an aerospace production industry, a foundry concentration, a textile grouping, a furniture industry, etc., if a predominant source of local employment, require a basic knowledge of particular industry forces. [24] War and defense production, or other government induced employment, requires a particular study of national policy.

Statistical Measurements. Industry patterns shape employment patterns. Employment patterns determine population growth and decline and the relative economic well-being of a community. The magnitude and character of employment and unemployment, the extent of labor force participation, the current quantitative and qualitative aspects of the labor demand-supply situation, all are factors measurable in statistical terms that are useful in evaluating the employment base. They underlie the analyst's interpretation of the industry pattern with respect to the prospective rate of future economic development and to the determination of future labor requirements.

Employment estimates and their distribution have been provided bimonthly since the early 1940's for most areas by local labor market analysts of State Employment Security Offices. The decennial censuses since 1940 separate the employed and the unemployed; 1930 and previous data include both the employed and unemployed in occupation and industry classifications of the "gainfully employed." Thus, a long-time series of the labor force is possible but employment and unemployment data previous to 1940 are lacking from authoritative sources. The inclusion or exclusion of unemployed persons must be kept in mind in comparing any long-term employment series derived from census data.

Distributions of nonagricultural employment by industry enable an appropriate analysis of the industry pattern. Long-term data are obtainable from census volumes. Short-term data may be available from local labor market reports; in their absence (primarily in small areas), they must be estimated from information obtained from leading employers. Comparable information for several decades and for several recent years, arrayed side by side, will aid in quickly revealing industrial development--its concentration, diversification, the basic or the manufacturing employment relationship, the direction and rate of growth, etc. Valuable insight can be gained by comparison with state, regional, or national data of similar type for any or all of these factors. Only those data and comparisons significant to the current analysis, however, are worthy of discussion or tabular exposition in the housing market analysis report. Although data for several decades may be reviewed by the analyst, its utilization should be tailored to current analytical requirements.

In some instances, agricultural employment constitutes a significant portion of the universe under consideration. Inasmuch as housing market analysis is concerned with the urban population, agricultural employment data should be excluded from consideration when rural-farm population constitutes over five percent of total population of the housing market area as of the last census date. In such instances a corresponding adjustment will be made in the income, demographic, and housing data by eliminating the rural-farm portion in order to represent the nonfarm segment of the area under study. In areas where the five percent criterion is not met, the inclusion of the agricultural component of the labor force as well as the corresponding inclusion of the rural-farm elements of population, households, and dwelling units in other parts of the analysis does not affect the ultimate results of the market analysis significantly.

For analytical purposes (and presentation in the report) two tabular forms for compiling the pertinent data are necessary to maintain the inherent distinctions in the data and their use. These forms are illustrated in the tabulation stubs shown below. The first form relates to the major civilian labor (work) force components; the second relates to nonagricultural employment. In each illustration, parallel stubs are indicated for

census data and State employment office data because of differences in the two data series discussed previously or footnoted thereunder. These differences, of course, render direct comparison of the two series invalid. The census data are useful primarily as bench marks and for historical review predating availability of the State employment office data or, in either case, for more detail if needed for certain nonagricultural industry groups. As many columns for decennial or annual data may be provided as are dictated by the requirements of the individual analysis; the annual data should cover at least the last eight to ten years, if available.

Tabulation Stubs for Labor (Work) Force Components

Census Data	State Employment Data
Civilian labor force [a]	Civilian work force [a]
Unemployed	Unemployed
Percent of labor force	Percent of work force
Employed	Employed
Agricultural [b]	Agricultural [b]
Nonagricultural	Nonagricultural
	Wage and salary
	Other [c]
	Labor-management disputes [d]

a/ Persons in the Armed Forces (uniformed personnel) assigned to active duty at a military installation in or near the market area under study are not to be included as a component of the labor (work) force. See footnote 21 and Chapter VII.

b/ In tabular presentation of labor (work) force data, this component is shown separately when available.

c/ Includes self-employed persons, unpaid family workers, and domestic workers in private households. The census data include these workers in their respective industry groups.

d/ Workers idled by labor-management disputes are shown as a separate component in the State employment office data, whereas the census data include these workers as employed persons.

This form of tabulation gives over-all perspective on the trend and current status of employment and unemployment. It provides the basis for establishing the labor (work) force [22] participation rate for use in the demographic analysis and in coordinating key data for internal consistency between various parts of the analysis.

Tabulation Stubs for Nonagricultural Employment

Census Data	State Employment Data
Nonagricultural employment	Nonagr. wage and salary employment
Manufacturing	Manufacturing
Durable goods	Durable goods
----------	----------
----------	----------
----------	----------
----------	----------
Nondurable goods	Nondurable goods
----------	----------
----------	----------
----------	----------
----------	----------
Nonmanufacturing	Nonmanufacturing
----------	----------
----------	----------
----------	----------
----------	----------
	Workers idled by labor-mgmt. disputes

This form of tabulation facilitates the analysis of trends in the level and distribution of employment by industry and the evaluation of economic diversification; and it is the basis on which the employment participation rate is established as an indicator of the population's actual participation in productive work activities. Percentage distributions of employment, for analytical or descriptive purposes, should be based on nonagricultural employment in all analyses, regardless of the five percent criterion with reference to the inclusion or exclusion of agricultural employment.

Qualitative analysis of employment and unemployment, by sex, for at least the current pattern is useful in most housing market studies. It will enable the analyst to determine the respective extent of labor force and employment participation, the relative impact of unemployment, the qualitative in-migrancy needs, and other factors pertinent to reaching considered judgments regarding prospective employment and population levels during the forecast period. As previously noted, the female population in most areas is the most elastic portion of the labor force; its relative utilization can alter labor participation rates rapidly. The inclusion of unemployed females in large numbers in an over-all figure may distort the picture of an otherwise balanced labor market; their inclusion may also conceal a need for labor recruitment.

In areas in which nonwhites are employed in significant numbers in any industry, the analysis of the nonagricultural labor force components may require classifications by color. Although complete historical data in this regard may be difficult or impossible to obtain, color breakdowns of employment data are available from the 1960 Census of Population, PC(1)-C Series (Tables 77 and 78 for selected SMSA's, urbanized areas, and urban places of 10,000 or more population, and Tables 87 and 88 for selected counties), and from the 1950 Census of Population, P-C Series (Tables 77 and 83 for selected metropolitan areas only). Estimates are necessary in intercensal years. Labor market reports provide color breakdowns only in special reports but nonwhite employment estimates are generally obtainable from "students" of the local labor market. Even crude estimates by informed individuals will be helpful in the absence of other data.

Prospective Labor Demand and Supply

The future quantitative and qualitative demand for labor is derived from the trend analysis, the industry analysis, the race and sex distribution analysis, and the current economic factors influencing an increase or decrease in nonagricultural employment in the area. In complex areas with diversified employment, greater depth in analytical treatment of these economic factors will be required. Further, the exposition will be clarified by providing a textual discussion of past, present, and prospective factors and of employment in each major industry. Having accomplished

this task the analyst is in a position to summarize the demand-supply situation respecting the labor force for the forecast period. A long forecast period of several years is required only rarely and calls for the utilization of maximum judgment and skill.

The usual forecast period of one to three years will have a minimum hazard, however, only if the components of analysis are given careful and judicious treatment. The potential increases or decreases in employment will have been clarified in exposition, and the total future labor requirements are obtained merely by simple addition and subtraction of estimates for individual industries.

The labor requirements must be matched against the potential labor supply to determine adequacy. Local sources of supply include new entrants, increased labor force participation, the handicapped, the aged, etc., offset by deaths, retirements, and other withdrawals. Scrutiny of estimates made by labor market analysts is advisable; generally, however, official estimates from this source are for six months or less and they can be utilized only as a guide. If a specialized labor demand comprising certain skills is not available locally, or if the total demand exceeds total supply after allowing for frictional unemployment, the remainder must be derived from voluntary or recruited in-migration. Again, judgment tempered with a consideration of current economic stresses must be incorporated in these estimates. Necessary migration must be identified if it varies appreciably from continued voluntary migration.

Evaluating Labor Demand. Labor demand by employers in a locality generally can be obtained from the state employment service office for short future periods. Since market analyses are generally made with a view to an evaluation of conditions for a two- to three-year future period, additional data must be acquired. Chambers of Commerce, industry groups, planning associations, local officials and other organizations and individuals may provide a clue to prospective new industries or to proposed industrial expansions. The analyst must evaluate the knowledge thus obtained in connection with other known data. In this respect, the labor market analyst covering the area may be of assistance. At times, the latter's knowledge of local conditions and of individual industries and enterprises will prove invaluable in constructing a reliable schedule of demand for additional (as distinct from replacement) labor. Past labor market reports will shed light on developments which might otherwise be overlooked and which may have a definite bearing upon future demand for additional labor.

The short-term labor demand of one, two, or three years ahead generally will not be difficult to ascertain from sources indicated above. The type of labor in demand, the different skills, its composition by industry and sex are parts of the same objective. In some instances, a particular concern, industry, or government agency will be the major contributor to the labor demand schedule. In such cases, an interview with the local supervising official may be necessary to acquire the detail desired for an appropriate evaluation. In some cases, judgment may be required as to the

relative accuracy or potential fulfillment of the conflicting data acquired. In all cases, the analyst must satisfy himself as to the probability of the expressed demand; in times of labor shortage, employers are prone to enlarge their statements of labor requirements in order to "get their share."

Many times, the analyst obtains a fairly reliable estimate of future labor requirements for manufacturing industries but little reliable information as to nonmanufacturing industries. His own resourcefulness and ingenuity then must be relied upon for future employment forecasts in this sector of the labor market. The application of basic-nonbasic and occupational considerations, his knowledge of the development of the area, the temporary or permanent character of potential employment increases or decreases in basic industries must guide his judgment in evaluating the future trend of total nonagricultural employment.

Labor demand estimates for longer periods than three years are necessary only in unusual circumstances; and projections beyond five years are rarely, if ever, required. Occasionally, an instance will arise of the establishment of an industry which, over a long term, will completely change the character of a community. In rare cases, a known and confirmed volume of basic employment will materialize in a specific time period. Only in these cases is the analyst justified in making an informed prediction of other labor demand developments over the long term. The problem is extremely difficult and can be approached only by an analysis of the potential future employment required in each industrial classification to complement a future population.

Employment participation rates for each industry classification provide a basis of estimate for a spread sheet upon which the long-term forecast of employment may be distributed by industry and sex. The final estimates are the product of observed relationships and internal consistency with other projected factors. The area of error may be unknown but the application of deductive reasoning narrows its limits and provides a defensible forecast. The key estimates are the projected levels of employment in the basic-type industries, which determine potential economic development in the area. With the current industry distribution of employment in one column, these estimates provide the nucleus of an employment distribution X years hence. The analyst must visualize the effects of these industries by analogies with other areas having similar industries. Bearing in mind that no two communities are alike because of geographic, climatic, psychological, political, and other differences, the effects of the key employment projections upon employment in other industry groupings must be evaluated. Some other industries in the area may be oriented closely to the products, by-products, or raw material of the key industries. Moreover, the economic, social, political, and psychological climate for particular industries may be changed for better or worse. For each basic-type industry, the analyst must examine these potentials in relation to the known facts of that particular industry and make a projection of employment X years hence, assuming a continuation of current economic conditions nationally and regionally or defensible variations from current conditions.

Then, guided by relationships reported in decennial census volumes for communities having similar industry employment distributions and volumes, the analyst must project the remaining industry classifications. Each of these activities must be measured relative to the potential population to be served, and selected participation rates must be used to make appropriate employment changes in cultural, educational, government, wholesale, and other activities which may be a complement of size alone.

The initial projections in each industry class should be subjected to a comprehensive and penetrating review to assure internal consistency and realistic reflection of present and projected employment relationships. Correction of any distortions that may be revealed by this review should be made only on the basis of revisions warranted by thorough re-examination of all elements involved in the estimates and projections. Basic-nonbasic employment considerations must be re-evaluated in terms of industries, magnitudes, and lags. The projected employment pattern, guided by patterns in other areas with similar basic industries, must be retraced. The assumption regarding economic conditions regionally and nationally must be reviewed and re-interpreted with respect to the consequent impact on the locality under study. Finally, the population projection itself may need to be reviewed and revised in light of the projected employment volume. The matrix of estimates finally developed will form the foundation of the later conclusions respecting the future housing market.

Evaluating Labor Supply. The labor supply available to meet prospective labor demand generally is of interest to housing market analysts as an indicator of future economic health. The current volume of unemployment, net local additions to the labor force, and net migrations are the factors of labor supply available to meet potential labor demand. It should be noted that formalized training programs may increase local additions to the labor force. A more rapid growth of demand than of visible supply suggests that more intensive recruitment may be in prospect from internal or external sources, or both. The reverse situation portends rising unemployment and the possibility of reduced labor force participation and net out-migration, or a combination of these consequences. Whatever the reasoned forecast may be, it will have a bearing upon the analyst's interpretation of the future economic development of the area and the prospective demand for housing.

Every population constantly experiences new entrants to and retirements from the labor force. The net of the additions and subtractions determines the expansion or contraction of the labor force. It is influenced by the intensity of demand, the relative incentives of money and working conditions, and migration patterns. Wherever demand may be volatile, supply tends to be phlegmatic in response. New entrants are supplied ordinarily by youths completing formal schooling. Recruitment of former labor force participants from the local population such as housewives, retired persons, handicapped, etc., and from excess labor supply in other areas, will swell the number of new entrants, increase the labor force, and increase the labor

force participation ratio. Deferment of voluntary retirement will have similar effect. Death and voluntary retirement, military service, and out-migration are the principal items involved in withdrawals from the local civilian labor force and tend to decrease both the labor force and labor force participation.

The typical analysis, looking forward a maximum of three years, would discuss these labor supply factors and their resultant effect on the labor force only if the volatility of demand would require a greater in-migration than has been in evidence or would imply rising unemployment and possible out-migration. In either instance the probable effect on the labor force and upon the population must be related by a conscious evaluation of the several forces in evidence. Analytical clues can be obtained from labor market reports, from labor force and employment trends, from the forces affecting individual industries, and from an interpretation of current and future local forces in the general economic situation.

The unusual analysis, attempting a crystallization of the long-term future, involves a discussion of the probable development of labor supply with respect to all of the above factors and incorporates demographic considerations as well. Age distributions of present and migrating populations provide clues to new entrants to and retirements from the labor force. Participation rates, migration rates, and vital statistics must be estimated and projected and the individual estimates and projections of population and employment must be integrated. Only in this manner can a defensible matrix of interdependent estimates and projections be built up to provide the pragmatic basis for the housing demand forecast.

Nonagricultural labor force divided by nonfarm population (the labor force participation rate) is a valuable aid in checking any estimate for two years or more beyond the date of the last census. The labor force participation rate may be used to reconcile the current labor force estimate with the demographic estimate. Distorted relationships and, therefore, erroneous or improper estimates may be spotted by this method, as illustrated in the following example:

A. For Past Experience

1950 $\frac{\text{Labor force (census)}}{\text{Population (census)}} = \frac{409{,}000}{1{,}000{,}000}$

$= 40.9$ percent

1960 $\frac{\text{Labor force (census)}}{\text{Population (census)}} = \frac{475{,}000}{1{,}200{,}000}$

$= 39.6$ percent

Decennial increase $\frac{\text{Labor force}}{\text{Population}} = \frac{66{,}000}{200{,}000}$

= 330 workers added per 1,000 population added

B. For Current Estimates (e.g., 1968)

1960 $\frac{\text{Average labor force in 1959*}}{\text{Population (census)}} = \frac{480{,}000}{1{,}200{,}000}$

$= 40.0$ percent

1968 $\frac{\text{Average labor force past 12 months*}}{\text{Population estimate}} = \frac{510{,}000}{1{,}425{,}000}$

$= 35.8$ percent

1960-1968 increase $\frac{\text{Labor force estimate}}{\text{Population estimate}} = \frac{30{,}000}{225{,}000}$

= 133 jobs added per 1,000 population added

* Nonagricultural labor force estimates may be obtained from State Employment Service offices. These reflect persons working in the area while census nonagricultural labor force reflects working persons resident in the area. The unemployment component of labor force reflects workers resident in the area in both series. Population data are nonfarm.

The above example suggests a serious lack of coordination in labor force and population estimates which, in turn, affect household estimates. If labor force had increased in the 1960-68 period at the rate indicated (an average of 3,333 workers per year, comparing with an average of 6,600 workers annually in the 1950-1960 period), the population increase of the previous decade would not have been maintained or increased (but the example indicates a 1960-1968 growth of 25,000 annually, comparing with 20,000 per year in 1950-1960). Further, except for year-to-year fluctuations, labor force or employment participation rates change slowly and the declining trend of the 1950-1960 period would not have been accelerated as indicated in 1960-1968 data without causal evidence in pre-1960 data. The number of workers added per thousand population added may change sharply from one year to another but generally will average out over several years to trend levels. Exceptions are those cases in which there occurs unusual growth or decline in military and in educational, hospital, or other institutional population.

The example shows a gain of 330 workers per 1,000 additional population in the 1950-1960 period and only 133 workers per 1,000 in the 1960-1968 period. A sequence of such relative magnitudes is unrealistic. A more realistic relationship in B (above) would have been a continuing reduction at about the same pace or a maintenance of the 1960 level in the labor force participation ratio. Thus, since the 1950-1960 ratio declined by 1.3 points (from 40.9 percent to 39.6 percent), an estimate nine years later would have reflected a drop of about 9/10 of 1.3 or 1.2, rather than the drop of 4.2 in the example. In effect, the labor force participation ratio in B (above) would be consistent if it were a ratio below 40.0 percent and close to 39.6 percent.

Thus, both population and labor force (including both employment and unemployment estimates) in the example require re-examination and estimates of household size, households, vacancy rates, and new construction volume also may have to be re-examined. (See Exhibit D for a more complete reconciliation approach). The above procedure can be utilized with employment data as well as labor force data. The utilization of employment data, however, would not involve a reconciliation of unemployment estimates. The same technique can be applied to a projection as well as a current estimate.

The fact that labor force and thus the participation rates from 1950 to 1960 and from 1960 to 1968 are based on different methods of data collection is not material. The difference in participation rates for 1960 (the year in common) reflects both the net of employed commuters to or from the housing market area and dual job holding, as well as the different periods used for labor force. Correspondence with resident labor force in the estimate year cannot be obtained inasmuch as the necessary data are not available.

The Prognosis. Future employment and industry patterns are evolved from the present. Having analyzed the historical development, the industry patterns, and the employment trends, distributions, and needs, the analyst can venture a prognosis of the future economic development and employment. This must rest, of course, upon a rationalization of the effect of known possible changes in national economic conditions upon the local economy, an evaluation of expansion or contraction tendencies in individual industries, the maintenance or resumption of reasonable relationships in employment in basic and nonbasic industries, the trend of employment in white-collar and service occupations, the impact of external forces, the psychological and legislative climate for economic expansion or contraction, present or potential local instabilities, etc., etc. Although such predictions can be couched only in general terms, and are validly approached only for relatively short time periods, they are judgments of significance in the market analysis process. Only thus can the estimate of future labor requirements for the area be cast into proper perspective as a major step toward the formulation of ultimate conclusions for guiding the production of new housing.

A prognosis of the future economic development of a locality can be derived only after a thorough evaluation of the components of the local economy. In closing this portion of the analysis, this discussion takes the form of a summary of factors previously considered and possibly, but not necessarily, discussed. It brings into sharp focus those underlying factors of strength and weakness which determine the future course of local industrial, commercial, and cultural development. It evaluates these strengths and weaknesses in the shadow of the impact of regional and national forces. It separates the temporary impacts from those of a permanent nature. Skillfully presented, it provides a kaleidoscopic view of the future pattern of the community's relative economic stability.

Incomes in Housing Market Analysis

Ability and willingness to pay for housing distinguish the effective demand from the sheer need or desire for housing. The measurement of the financial capacity of potential buyers and renters of new dwelling units is, therefore, a critical element in the analysis of local housing markets.

In housing market analysis, the primary concern with respect to income is its distribution among the population. The number and proportion of the population receiving money incomes in specific size classes is much more significant to the analyst than income data in any other form.

The income section of the housing market analysis, therefore, is narrowed to those items which are useful in the qualitative interpretation of future housing demands. Aggregate incomes, per capita income, cost of living

indexes, volume of savings, taxable incomes, and other statistical data of similar nature may be helpful in those instances where information concerning money incomes and their distribution is not available. Their use in market analysis in the continental United States, however, has been limited since 1940 census data became available. Only in an exhaustive report exhibiting accessory information should they occupy the analyst's attention.

Except where they aid in depicting relative improvement or deterioration in comparison with the nation, region, state, or other areas, historical income series are of little interest in housing market analysis. Generally, incomes rise and fall in conformity with broader geographic patterns of economic activity. Thus, the current or near future prospective pattern is of primary significance. If local circumstances have greatly improved or deteriorated relative to other areas, however, the historical development of the present income structure is worthy of analytical treatment.

Income Distributions

Income distributions arrayed by size of money income are most commonly available for individual recipients. While useful, this type of income distribution has considerably less significance in housing market analysis than a family income distribution. Money income of all members of a family is grouped for this type of distribution in the census data. Since families generally pool all or a portion of their individual resources to maintain their living standards, the family income concept has a direct application in considering the capacity of a potential owner or renter of a dwelling unit to support the monthly or annual carrying charges. Thus, family income distributions are the foundation for qualitative demand analysis.

A cross-section of any area includes both owners and renters of homes and apartments. Distributions of the income of owners and tenants, separately, reveal differences that are of varying significance from area to area. Accordingly, a housing market analysis should provide distributions useful in the qualitative interpretation of demand for both sales and rental housing. On the theory that demand for new rental accommodations arises primarily from the renter population, a separate income distribution of the renter families in the community is desired. Purchasers of homes, on the other hand, are drawn more generally from the total population.

Income distributions presented in a market analysis should be designed primarily to suggest the potential market for housing to be produced in the future. The current distribution of incomes for all families is

probably best for indicating the qualitative distribution for new sales housing, while current distribution of tenant household incomes (excluding one-person households) probably best reflects prospective demand for rental units. A correlative presentation of income distribution for a recent past period (census date or date of a previous analysis) will suggest directions of income shifts which may affect qualitative distributions of demand. Naturally, changes in income distributions which reflect alterations of real incomes have greatest significance in projections of qualitative demand. Income shifts ascribable to inflationary forces are typically accompanied by at least corresponding increases in sale prices and rents for new housing accommodations.

With family income distribution data available from the most recent census for the area under consideration, and with income changes since then interpreted from wage and salary income changes, reasonably accurate estimates of current income distributions can be calculated for intercensal years. The technique for making these estimates is discussed subsequently. When feasible, the incomes of rural farm families should be excluded from the family income distributions consistent with the exclusions in data series in other portions of the market analysis.

Wage and Salary Income

Wage and salary income is the most important component of the total income payments in most communities. Data on this component of income, based on payrolls of reporting firms, are available for local areas from three sources.

State Employment Security offices compile monthly payroll data on employment and wages by major industry group reported quarterly by employers covered by State unemployment insurance laws (UI). Most State agencies have these data available on a county basis, although the availability of county data varies from State to State. Some agencies can furnish such data for detailed industries within the major industry groups in the important local labor market areas. Data on average earnings are available in many instances; otherwise, the average can be computed readily from the payroll data. If not available in published form, the data can be obtained by contacting the respective State Employment Security office.

Locality data based on payroll records are also collected and prepared each month by state agencies in cooperation with the Bureau of Labor Statistics. The data for manufacturing industries as a whole are published by BLS in the form of average weekly earnings, average hourly earnings, and average weekly hours for selected SMSA's. Additional industry detail may be obtained from the appropriate State Employment Security office.

The Bureau of the Census, with the assistance of the Social Security Administration, publishes for all counties and SMSA's employment and earnings (wage and salary) data by industry as reported on payrolls taxable under the Federal Insurance Contributions Act. 26/ These data are reported in the form of total employment and total payroll for each industry and all industries combined for the first quarter of each year. From these data the average quarterly earnings per employee can be derived readily by dividing the payroll amount by the number of employees.

The average earnings data from these sources serve a dual purpose; they provide a basis for analyzing the industry pattern of income and for updating and projecting family income distributions.

Change in Industry Pattern of Income. When displayed in tabular form for several recent years, average earnings data by industry provide material for a textual presentation of income changes associated with industry development previously discussed.

Recent changes presented in a statistical exhibit, industry by industry, should be related to some recent bench mark. The most valid comparison would be the last decennial census date. All such exhibits should have relevance to some analytic discussion, however, and not presented as space filler without pertinent comment significant to the analysis. Changes in the industry pattern of employment effecting significant changes in the occupational and wage rate patterns, for example, will be reflected in the trend of average earnings. The analysis should lead to detecting such changes, which affect the economic character of the area.

The availability of average weekly hours in combination with average weekly and hourly earnings also affords a means of judgment concerning the labor market. An increase in the average hours worked will increase pay envelopes but it is also indicative of labor shortages. These factors lead to qualitative interpretations of the number employed and the analyst must give them appropriate consideration.

A presentation of recent changes in earnings or hours by comparison with another similar area or industry, or with a broader geographic area, at times provides a perspective not otherwise obtainable. Not only does the comparison quickly relate the relative wages and hours, but it depicts the relative magnitude of improvement or decline in local incomes. For individual industries, as for communities, it may be of assistance in the interpretation of local economic advantage.

Change in Family Income Distribution. Wage and salary income constituted about 75 percent of total money income reported in the 1960 Census. The current average level of this component of income compared with the average for the last decennial census year, therefore, will provide a reasonably reliable measure of the change in incomes for use in updating the 1959 family income distribution reported in the 1960 census.

The comparative level of average wage and salary income, however, must be used with caution to assure that necessary adjustments are made as may be required by changes in the industry pattern of the economy revealed by the employment analysis. Such developments must be interpreted in light of the trend of employment and of the labor force participation rate in order to evaluate realistically the change in average income. The impact of the addition of a low-wage industry with a relatively large number and proportion of female employees, for example, would tend to lower the average wage per worker. Yet, this development would have just the opposite effect on family incomes if the female workers involved are drawn from the ranks of the unemployed or are new local entrants to the labor force, i.e., non-working wives and daughters in existing families. Neither the pertinent data nor the techniques are available for calculating the necessary family income adjustments due to changes in industry pattern that might be indicated by the employment analysis. The judgment of the analyst, based on such data and information as can be obtained through interviews with informed local sources and particularly with key officials of the industry involved, must be relied upon for appropriate adjustments.

Estimates of Family Income Distributions

Estimates of current family income distributions are required for each housing market analysis. These estimates provide the basis for the qualitative distribution of the housing demand forecast. It is extremely important, therefore, that these estimates be made with extraordinary care, including the exercise of sound and well-supported judgments at those steps in the procedure where the judgment factor is applicable.

Estimating Technique. The procedure, together with instructions for estimating family income distributions which may be developed for use in housing market analysis, is presented in Exhibit C. The statistical sources from which these distributions are derived are the family and household income distributions in the 1960 census.

The main steps in the estimating procedure applicable to all types of distributions are as follows:

1. The identification of and transcription from the 1960 census of the appropriate family income distribution for 1959;

2. The adjustment of this distribution for the general understatement of family income in the census enumeration;

3. The updating of the adjusted 1959 distribution to the current period;

4. In all cases, the adjustment of distributions to exclude the federal income tax.

Except as noted below, census definitions are followed throughout the estimating procedure, the most important of which are for "income" and "family". Detailed definitions of these terms may be found in the section on "Definitions and Explanations" of the 1960 Census PC(1)C report.

The term "income" as used in the census, refers to total money income excluding income in kind and capital gains. For housing market analysis purposes, the census data are to be adjusted for underreporting 27/, and the distributions developed for use in estimating qualitative demand are to be prepared exclusive of federal income tax. Distributions on this basis approximate capacity to pay for housing more accurately than distributions before tax. Distributions incorporated in the housing market analysis therefore, should always be "after tax"; however, "before tax" data may be added if they have any significance in the analysis.

The term "family", as used in the Census, refers to two or more persons related by blood, marriage, or adoption, whereas "household" refers to an individual or group of persons, whether related or not, occupying a housing unit. For the purpose of estimating qualitative demand for sales housing, the "family" income distribution is used. This distribution excludes households comprised of one person and households comprised of two or more unrelated persons. The exclusion of these households is of no significant consequence inasmuch as they represent only a very small percentage of the prospective candidates for such housing. For the purpose of estimating qualitative demand for rental housing, the "household" income distribution is used. This distribution includes households of all sizes and types, regardless of composition. Because of technical problems, however, the one-person households are eliminated from the basic distribution but, since they represent an important segment of the rental housing market, they are reincorporated indirectly in the form of adjustment factors in the applicable technique.

The current estimate shall correspond to the "as of" date of the market analysis, e.g., if the analysis is made as of June 1, 1969, the current income distribution should reflect annual family incomes as of the same date and should be so identified. Thus, an income change factor must be calculated which reflects the change between 1959 incomes (census data adjusted for underreporting) and current incomes. In presenting income distributions and interpreting their significance to future housing market prospects, the analyst should, of course, call attention to any discernible secular trends in income change and to any factors in the current or prospective economic situation which would alter income distributions.

The distributions shall relate only to all families and households, by tenure, in any area in which the nonwhite population is relatively small, say less than ten percent of the total. For areas in which the nonwhite population is relatively large (i.e., at least ten percent of the total, or an appreciable number significant to the analysis), the distributions should relate to all and nonwhite families, separately, by tenure.

Selection of Appropriate Income Distributions. The instructions presented in Exhibit C (p. 249 et sequa), apply, with certain exceptions, to the total population and the nonwhite populations, separately, of all SMSA's, all urbanized areas, all urban places of 2,500 population or more in 1960, and all counties in continental United States. The excepted population group is the nonwhite population of urban places of less than 10,000 population, for which the bench mark data are not available in the 1950 census.

The instructions for family income distribution estimates are in four parts, each of which relates to a distinct population group, differentiated on the basis of color or tenure, each of which has a specific use in estimating qualitative demand. It has proved to be necessary to develop instructions for preparing different types of income distributions because of the variety in housing market problems presented for study and because of a lack of uniformity in the availability of renter family income data in the census with respect to certain areas and income groups. However, most housing market studies deal with a limited number of housing market problems and thus require the preparation of only one or two types of income distributions unless special market problems are involved. The table below is presented as a guide to be followed in determining which types of family income distributions are to be developed for use in particular housing market analyses.

Guide to Selection of Income Distributions

Exhibit C Instruction Reference	Type of Income Distribution	Analytical Use
For Sales Housing:		
Part I	All families	All analyses
Part II	All nonwhite families	*When nonwhite incomes are required
For Rental Housing		
Part III	All renter households of two or more persons	All analyses
A		In areas covered by 1960 HC(2) census reports
B		In areas not covered by 1960 HC(2) census reports
Part IV	Nonwhite renter households of two or more persons	*When nonwhite incomes are required
A		In areas covered by 1960 HC(2) census reports
B		In areas not covered by 1960 (HC(2) census reports

* See Chapter IV re Characteristics of Population for guide to analysis of incomes of nonwhite families.

Note: HC reports are available for SMSA's of 100,000 or more. A complete list of the specific localities included is published in each report.

The Income Analysis

The income section of the market analysis will focus initial attention on the significant aspects of the industry pattern of income and the changes in this pattern, as well as in the level of average income, as reflected in the wage and salary data detailed in appendix tabulations and/or summarized in text tables. Causal factors germane to significant income changes and peculiar to the locality under study should be appropriately integrated into the income analysis, covering past trends, current developments, and probable prospects during the forecast period. Particularly strong and weak factors in the economy from the standpoint of the well-being, as well as growth, of the community should be especially noted and emphasized. The past and projected rates of increase in the level of incomes must be adequately and clearly supported by the data and information presented.

In part, the analysis of income based on wage and salary data provides the link to the estimation of family income distributions. Summary text tables are useful in providing quick perspective in broad terms, especially if several distributions are involved. The salient figures, relationships, and comparisons are highlighted in the text in conjunction with the significant interpretations and implications which are derived from analysis as distinct from mere statistical exposition. The key role of the income distributions in the ultimate analysis of the qualitative demand for housing should be appropriately merged into this portion of the analysis.

CHAPTER IV. DEMOGRAPHIC ANALYSIS

	Page
Population Analysis	58
Purpose and Scope of Analysis	58
Components of Population Change	59
Net Natural Increase	
Migration	
Population Trends	65
Rural Farm Population	
Annexations	
Detachments	
Institutional Population	
Military-connected Population	
College Enrollment	
Characteristics of Population	74
Age Distribution	
Color and Race	
Household Relationship	
Mobility	
Current Population Surveys and Estimates	76
Techniques for Estimating Current Population	77
Extrapolation Method	
Ratio Method	
School Enrollment Method	
Housing Unit Method	
Population Projection	81
National and Local Growth	
Relative Uncertainty of Projection	
Available Population Projections	
Period and Method of Projection	
Analysis of Households	83
Purpose of Analysis	83
Types of Households	84
Trends of Household Growth	86
Household Formation	87
Sources of Household Formation	
Marriage and Divorce	
Doubling and Undoubling	
Current Household Data and Estimates	
Technique for Estimating Household Formation	
Trends of Household Size	94
Estimating Household Size	95
Reconciliation of Estimates	98

CHAPTER IV DEMOGRAPHIC ANALYSIS

This portion of the housing market analysis is concerned with population and households, both of which are major components in the analytical structure. These components are supported by the economy of the area and are the principal support of the quantitative demand for housing. The vital role of these factors, coupled with the necessity of relying completely on estimates for their current as well as prospective measurement, emphasizes the need for extraordinary care and penetrating depth in conducting this phase of the analysis. Intercensal factual data on population and households are generally lacking for localities. This gap must be bridged by the best possible current estimates derived by meticulous application of the available tools, checked against estimates available from other sources, and reconciled with key data and estimates in other phases of the market analysis.

Population Analysis

Purpose and Scope of Analysis

The fundamental purpose of population analysis is to develop one of the principal ingredients with which to project households and thereby to establish the major portion of quantitative housing needs in the locality. Thus, the population section of a housing market analysis provides both a kaleidoscopic view of that area's recent growth and a cross section view of the characteristics of its inhabitants. It affords perspective as to the area's economic development in terms of the dynamics of population movements responding to economic forces. The current population characteristics portrayed, together with their recent changes, provide an insight into the composition currently resulting from previous forces.

In most cases, the analysis of trends and characteristics will be confined to the period since 1960. The sharp economic transition which took place throughout the country following World War II makes analytical treatment of earlier periods of only historical interest because of industrial and transportation developments during and after the war and their effect on our present economic and social organization. However, there may be rare instances in which a comprehensive analysis will embrace a lengthy treatment of the historical trends and details. In every instance, the analyst will be required to use his judgment as to the historical scope warranted. Judgment in this respect must be tempered by the purpose of the analysis, the economic forces revealed by the population data, and the important periods of time in the community's economic history. In instances of atypical rates of recent population growth, it becomes important to examine and evaluate the current economic developments in order to arrive at meaningful population projections.

Components of Population Change

Quantitative population change in an area over a given time period is of internal and external origin. Internally, the change arises from the relationship between births and deaths of persons resident in the area under consideration. Almost invariably this relationship is positive, resulting in an increase of population from this source.

Externally, the change may arise from two sources. As related to a geographical entity with unchanged boundaries during the time period under consideration, the change arises only from the relationship between in-migration and out-migration. This relationship may be either positive or negative, resulting in an increase or decrease in population from this source. Coincident with the population change arising from migration, the population of a political entity may change also as the result of a change in its corporate boundaries, usually through annexation but rarely through detachment. The change resulting from this source necessitates adjustment in population data for analytical purposes.

Net Natural Increase. The inexorable force of population growth is the tendency for births to exceed deaths. The excess of births over deaths is termed net natural increase and is one of the two basic demographic components in the calculation of population growth of any area. The ability to expand economic activity at a rate consistent with population growth arising solely from net natural increase will tend to assure a maintenance of living standards. But a continuing relative lack of economic opportunity increases unemployment, lowers living standards, promotes out-migration; it also may tend to depress birth rates. An increase in opportunities at a rate greater than net additions to the labor force (as an effect of net natural increase) decreases unemployment, raises living standards, and induces in-migration.

The difference between birth and death rates determines the rate of net natural increase. A birth rate of 25 per 1,000 population and a death rate of 15 per 1,000 population produces a net natural increase of 10 persons per year per 1,000 population, or 1.0 percent per annum. Similarly, a birth rate of 35 per 1,000 and a death rate of 25 per 1,000 indicates exactly the same magnitude of net natural increase. Birth and death rates are influenced by a variety of factors. Generally, both rates are high and net natural increase is relatively small in primitive or agrarian societies with poorly developed resources and limited sanitary and medical knowledge. Birth and death rates are lower but net natural increase is generally higher in industrialized nations with advanced levels of education, medicine, and sanitation. In the same society, different economic, religious, and educational strata are likely to exhibit noticeably different birth and death rates.

Trends in the birth rate reflect such factors as diverse levels of economic activity, increasing levels of education, advances in the state of the industrial arts, a growing proportion of urban dwellers, a desire to improve living standards, evolving concepts of an "ideal" family size, and even changing proportions of various religious groups in the country. The recent drop in the United States birth rate has stimulated consideration as to the effect this change will have upon the population structure of the United States, and in turn on the organization of the family, on quantitative and qualitative housing needs, on programs concerned with children, on education, on public health and welfare, and on social and economic life in general.

Trends in births tend to follow trends in marriages, but without precise time-lag year after year. While it is true that births act as a qualitative factor in demand for larger and perhaps better housing, birth statistics gain their greatest relevance to housing market analysis in portending family formation some 18 to 23 years hence. It is in this setting that it is important that the 1951-1960 births aggregated 40.7 million, as compared with 31.4 million for the previous decade. The number of babies added to the population during the 1950's surpassed that of any previous decade in the nation's history and portends a quantitative growth in housing demand in the 1970's.

The recent decline in the annual number of births is partly related to the age and sex structure of the population. In 1960, for example, there were over one million fewer women in the most fertile age group (20-29) than in 1950. Because of this factor, the crude birth rate probably will continue to decline even after the total number of births increases. Inasmuch as this rate is simply the number of births per thousand population, and since the base number will increase as a result of expected population growth, the crude rate would drop even if the recent high level of births is maintained, or even increased at a slower rate than the total population.

Declining mortality rates likewise have accounted for an important part of the population growth during this century. Increased medical knowledge and simultaneous improvements in sanitation produced rapid strides in decreasing the mortality rates, particularly among children, and in lengthening average life expectancy. In 1961, life expectancy at birth in the United States averaged 70.2 years in contrast to 47.5 in 1900 and 40.5 in 1850. Hence, many persons now alive would have died already had death rates continued at their former high levels. The reduction in the death rate has been fairly continuous, from 17.2 per thousand population in 1900 to between 9.6 and 9.3 since the mid-fifties. Comparative birth and death rates for the United States since 1910 are shown in the following table:

Birth and Death Rates in the United States
Selected Years 1910-1965

Years	Crude Birth Rate	Crude Death Rate	Net Natural Increase
1910	--	14.7	--
1915	25.0	13.2	11.8
1920	23.7	13.0	10.7
1925	21.3	11.7	9.6
1930	18.9	11.3	7.6
1935	16.9	10.9	6.0
1940	17.9	10.8	7.1
1945	19.5	10.6	8.9
1950	23.6	9.6	14.0
1955	24.6	9.3	15.3
1960	23.7	9.5	14.2
1965	19.4	9.4	10.0

Sources: 1910-1961, Statistical Abstract of the United States, 1962, Bureau of the Census, Washington, D. C., Table 49; 1962-1965, Monthly Vital Statistics Report, Public Health Service, Washington, D.C., Feb. 28, 1966.

Unless an unforeseen catastrophe produces an unusual rise, mortality probably will not be a leading factor in population change during the next two decades. Although it is the consensus among demographers that little, if any, further improvement in mortality rates may be expected and none should be anticipated within a score of years, miraculous discoveries are always a possibility. Obviously, a cure for cancer or a breakthrough in the treatment of diseases of the cardiovascular-renal system could produce a noticeable further drop in death rates. With these, the only two remaining major killers, deaths typically affect persons who have already lived the major portion of their life span. Even positive cures of these diseases would tend to lengthen life expectancy at the middle or later years of life rather than at the younger ages.

For individual localities, the Division of Vital Statistics of the U. S. Public Health Service, with the cooperation of State health departments, publishes data on births and deaths each year. 1/ These data are invaluable aids in determining the share which net natural increase accounts for in local growth trends. Data by place of residence must be utilized; data by place of occurrence are not to be used for this purpose.

The dynamic factor of the changing birth level dramatically alters the population structure, with far-flung consequences in the economic and housing requirements of the country. The 1960 population pyramid superimposed on that of 1940, for example, reflects significant changes wrought in the age and sex composition of the population during that 20-year interval.

The base of the 1960 pyramid broadens considerably for the three youngest five-year intervals, whereas for 1940 these three intervals actually pinch in, thus indicating increases in fertility over the score of years. That is to say, children under age 15 accounted for 31 percent of the entire population of 1960, compared with 25 percent in 1940. On the other hand, in 1960 over nine percent of the population was age 65 or over, as against seven percent in 1940. Age 20-24 declined not only percentage-wise, but even in absolute numbers from 1940 to 1960, reflecting the low number of births as well as birth rates in the 1935-40 period as compared with those of 1915-20. Inasmuch as relatively high birth levels (although reduced rates) are expected to continue for some years to come, a continuing broad population base for future pyramids is expected . Thus, in 1970, the 1960 broad age-interval band of 10-14 will have become a broad band for age 20-24, etc. This is the age-band, incidentally, which would provide many of the male heads of newly married couples.

The long-standing differential fertility rates as between whites and nonwhites have been particularly apparent since World War II. The nonwhite population increased from 13.5 million in 1940 to 20.5 million in 1960, or 52.3 percent as compared with 34.4 percent for the whites during the same period. This largely resulted from the higher fertility of nonwhite women as well as from an improvement in life expectancy among nonwhites. In contrast to the white crude birth rate which reached a peak in 1947, then declined and leveled off until 1957, the nonwhite rate continued to rise until 1956, when it reached 35.4 per thousand population. In 1961, a record number of 667,000 nonwhite births was recorded at the rate of 31.6 per thousand population. In that year the fertility rate per thousand white women aged 15 to 44 was 112.3 and for nonwhite women was 153.8. This fertility differential will continue during the foreseeable future and will effect an increase in the proportion of nonwhites in the community.

Migration. The principal motivation of population migration is economic opportunity, i.e., the opportunity for employment to achieve economic better ent. Improved methods of transportation have hastened and enlarged migratory movements. Within the United States, westward migration has been a concomitant of population growth. Communities sprang up at strategic points along watercourses, railroads, and intersections of trails. In the mid-twentieth century, the westward trek continues in the search for greater economic opportunity.

Just as economic opportunity favors growth and in-migration, so a lack of economic opportunity may cause stagnation, decline, or even eventual extinction. The complete cycle from beginning to end of existence for a community often has been observed in a short space of time in lumber cutting areas. The far west is dotted with ghost towns of mining origin; their purpose was served when exploitation was completed. Many communities in older sections of the country reached the apex of their growth a half century or more ago. New England has lost industry to newer regions, and many towns appear to be without further economic opportunity. As a result, children reaching working age must look elsewhere for employment. Hundreds of crossroad trading centers in the midwest, without other sustaining sources of livelihood, lost population in the automobile age. People changed buying habits as larger market places became more accessible.

While the economic motive is the dominant force in the aggregate of population movements from one place to another, other motives play roles of varying degrees of importance, individually or in combination with each other or with economic considerations. Climate, health, environment, nearness to relatives or friends, and recreation contribute significantly to total migration. The first two of these inducements, moreover, are singularly important in the growth of certain areas. In effect, migration motivated solely or primarily by noneconomic considerations is itself a growth factor with economic implications from the standpoint of the localities to which migrants so motivated are attracted.

Unless occasioned by a chronic and serious lack of economic opportunity of general scope, or by a sharp loss of jobs not replaced by other jobs reasonably soon, migration out of a housing market area in most instances is siphoned off in relatively small quantities and is offset or overcompensated by in-migration and net natural increase. Exceptions to this are noted, however, in the case of some Standard Metropolitan Statistical Areas where the Central City has actually experienced a decline in population during recent years through migration to the suburban area.

The importance of migration is underscored by the statistic that about 5.8 million persons one year old or over who were living in the United States in March 1961 had made at least one interstate move since March 1960. Although over-all mobility reflects, to some degree, relative interarea differences in business conditions, migration has remained between 2.6 percent and 3.6 percent in the 14 Census Bureau surveys conducted from 1948 through 1961. To the extent that this migration does not reflect counterbalancing movements, it constitutes an independent demand for housing. For example, if a household moves to, say, Cleveland from Baltimore (or from a farm) and is not offset by an out-migrating household, there is a unit of new demand in Cleveland. This migration element of

demand is one of the factors (but only one) which accounts for the fact that from 1950 to 1960 the number of households in the United States increased about 8 million, whereas 15 million new units were built during the same period. The process of migration results in many vacancies, especially in rural farm areas and in communities with declining levels of employment.

The migration of the population on a national and regional scale is reported annually on the basis of census sampling techniques. These data relate to place of residence during the previous year compared with the current year. Although locality data are not provided, the national and regional data have supplied an increasing volume of significant information relative to the character of the migrating population. For example: (1) the composition of the migrating population of school age is closely comparable to that of the population as a whole; (2) the proportion of persons 65 years old or more who move is less than that of the population as a whole; (3) the ratio of married couples in the moving population compares closely to the proportion of couples in the total population.

The 1960 Census provides data for localities on place of residence in 1960 as compared with 1955 (see footnote 9 for Census references). These data show the extent of migration into the area during the five-year period preceding the census, i.e., from other counties in the same state, from other states, and from abroad. While the converse movement out of the localities is not shown, these data do give an important clue to the ability of a locality to attract population from beyond its boundaries. This evidence, together with a measure of net migration provides important background information in conjunction with the analysis of the economy of an area.

NET MIGRATION ESTIMATES. The migration into a community minus the migration out of it is the net migration. It can be determined by subtracting the net natural increase in the area during a given period from the total population increase, actual or estimated. It is a virtual impossibility, however, even to approximate the components of net migration in most cases on the basis of data now available. More definitive surveys of the mobile population would be of considerable assistance to the housing market analyst, such as the following:

1. What states do in-migrants come from?
2. What states do out-migrants go to?
3. What is their age, color, sex, family composition?
4. What is their occupational distribution?
5. What is their income distribution?

DIFFERENTIAL MIGRATION. Estimates of the age and sex distribution of the net migration in or out of a community frequently clarify its potential economic vitality and thus assist in interpreting its economic base. Available data are limited to census years, however, and the procedure has little significance in the second half of the decade. The technique is briefly outlined:

1. Array the population for each sex reported in the last two census years by year of birth in 10 year intervals. Thus, males age 10-19 in 1950 would have been born in the 1931-40 period and would correspond to the males age 20-29 in 1960.

2. Adjust the data in the 1950 column for mortality by applying appropriate survival rates. Data for 1950-59 survival rates are published by the Vital Statistics Division of the U.S. Public Health Service. 2/

3. Adjust the 0-9 age group in the 1960 column for under-reporting as indicated in census publication 1960 Census of Population, U.S. Summary, General Population Characteristics, PC(1) 1B, page XII.

4. The difference between adjusted 1950 data and the 1960 data in each age group will represent a close approximation of the net migration by age and sex in the intercensal period.

Population Trends

The analysis of population trends should cover the period since the last decennial census and, if that occurred within the past four or five years, the preceding census. Greater historical scope may be necessary in some instances, depending on the economic history and development of the area and the purpose of the analysis.

Sometimes, however, a shorter interval analysis may be necessary, e.g., where the level of population is known (or suspected) to have changed significantly due to the impact of a specific economic stimulant or depressant. Such intra-interval analysis is essential, especially in the later years of a decennial period, to determine whether the occurrence of a recent population change signals a change in trend. Population estimates, of course, are necessary for the intercensal years involved and may require special reference if there have been significant variations in rates of population change between census dates or since the last census.

The analysis and discussion of the data must be coordinated with the analysis of the economy of the area, not only to give more meaning to the data but also to avoid a merely perfunctory recitation of statistical data in narrative form. The discussion should be tailored to the significant points and comparisons revealed by the population trends; and it should be explicitly related, with appropriate references, to causal factors indicated in the analysis of the economy.

Most housing market areas analyzed will comprise a county, a township, or some combination of minor civil divisions which contain several incorporated places of varying size and interstitial areas of various population densities. The more complex urban areas comprise several contiguous counties and numerous incorporated places, some of which constitute major submarkets. Within the housing market area, regardless of size, various directions of growth or decline and rates of change in population will be observed.

Usually, in analyzing and discussing population change, the relative magnitude and direction of change in the central city and the suburban area will be a major comparative feature. Annexations to incorporated areas may distort the comparative magnitude and direction of change; however, the analyst should determine the population at the time of the preceding analysis for areas annexed in order to estimate the real change to the current date. Comparisons between principal components of these major divisions, comprising important submarkets, may be desirable or necessary, depending on the size of the housing market area and the purpose of the analysis.

Population change during given periods usually is analyzed in terms of annual average absolutes and percentages. Annual averages, of course, provide the only valid comparison between periods involving a different number of years. The average absolute change is derived simply by dividing the total change by the number of years. (If a fractional year is involved, it should not be dropped or rounded to a whole year. In such cases, the total is divided by the number of months in the period and the result is multiplied by 12.) For general use, the average percentage change is computed by dividing the average absolute change (as determined above) by the total population at the beginning of the period and multiplying by 100, carried to one decimal place. A more refined and accurate, but also more difficult, method of computing the average annual rate of change in population (or households or any cumulative time series) involves the use of a formula similar to the one employed in compounding interest. 3/ This method is not readily applicable unless the analyst has access to a standard table of values for determining the unknown quantity in the formula. If the table is available, this method of computation is preferred for those areas exceeding a crude five percent annual rate of change.

Recognition of the elements of change will be facilitated by obtaining records of resident births and deaths for the intercensal years. The net natural increase factor for the period, subtracted from the actual net increase, will give a very close approximation of net in-migration or out-migration. This type of analysis for the central city or cities and suburban area, and for whites and nonwhites, will enhance the analytical value to a considerable extent. It is important in such discussions to distinguish between migrations occurring in response to economic opportunity, either of recent origin or because of protracted growth, and migrations which are long-term demographic phenomena, such as the general movement of population from east to west.

For all types of minor civil divisions, and for cities, counties, urbanized areas, and SMSA's, decennial census reports contain the data necessary to depict population trends. The 1960 Census of Population, Number of Inhabitants, State Separates, PC(1)A, provides population data on all these areas for 1950 and 1960 and on certain types of areas for 1940 as well, with decennial data on incorporated places of 10,000 population or more back to the earliest census (Tables 5, 6, 7, 8, 10, and 11). Intercensal counts are sometimes made by the Census Bureau at the request and cost of the individual community. Intercensal estimates by private organizations are used infrequently in housing market analysis. When available, their use is inadvisable unless their reliability is thoroughly checked.

In the preparation of population data for analysis, it is usually necessary to construct housing market area totals by assembling appropriate data for the central city and the several adjacent counties or minor civil divisions comprising the market area. Past trends revealed by census data are useful (but not controlling) in estimating changes which have occurred since the most recent bench mark census and should be developed in virtually all instances for the market area, and usually for the central city and the suburbs as well. In this connection, time may be saved in assembling SMSA population trends by transcribing the 1950 and 1960 data from Table 11 of the 1960 PC(1)A census report.

In most instances the tabular presentation of the population data will include, in a single table, the census bench mark data and the estimates of current and prospective population, together with the average annual change for each period and principal component. If extensive historical trend analysis is required, these data may have to be presented in a separate table. In cases where the analysis requires the tabulation of data for numerous geographical components for submarket analysis, a summary table for the over-all market and separate tables for each submarket may be necessary. Each important entity should be included in the tabular presentation. Only in the more complex urban areas will the various geographic entities be so numerous that the analyst must make an appropriate selection based upon importance of change or size, importance to the analysis, or some other pertinent consideration. Detailed population tables are to be included in the statistical appendix.

With respect to birth and death statistics, the net natural increase for each period under consideration is incorporated in the text to indicate the derivation of net migration. The complete vital statistics tabulation generally is not sufficiently germane to warrant inclusion in the analysis.

In the text discussion of population trends, the form best adapted to clarity in exposition consists of separate treatment of past trends, recent developments, and prospective change. While the chronological sequence of subject matter would appear to be the logical order of presentation, this determination is a matter of preference based on experience and analytical considerations. Thus, in FHA market analyses the current population and recent developments are presented first, as a matter of immediate interest, followed by past trends as background and by prospective change as the forecast or outlook.

In the analysis of population trends, improper comparisons should not be made inadvertently. Adjustments to the data occasionally will be necessitated because of annexations, consolidations or divisions of political subdivisions, changes in census definition, or other factors. Various adjustments that may be necessary are discussed in the sections immediately following. In those cases in which adjustment of the data to a uniform base is impossible, recognition of the factor necessitating adjustment should be footnoted. Similarly, adjustments made to published census data should be noted. Where adjustments are impossible, precautions must be taken to avoid improper analytical deductions with reference to the particular geographical component(s) affected. In such cases, the emphasis in analysis would be focused on the whole market rather than its geographical segments, unless the effects of the factor necessitating the adjustment are confined entirely within a single segment or within two or more segments that can be statistically merged without seriously impairing the sub-area analysis.

Rural Farm Population. As noted earlier, when the rural farm population constitutes over five percent of the total population, the rural farm population must be excluded. In such cases, this will necessitate the deduction of the rural farm data from both the population and household series so that the data will represent only nonfarm population and nonfarm households. 4/

Definitional changes in the 1960 Census for "rural farm" tend to inflate the 1960 nonfarm population and household data as compared with Census data for 1950. This irreconcilable factor should be noted in the text by the analyst as a contributing factor to the magnitude of decennial change when rural farm data are excluded.

A parallel adjustment for the exclusion of rural farm population cannot be made in the birth and death statistics. Generally, the inability to make this adjustment would tend to inflate the estimate of net natural increase in nonfarm population and, hence, to deflate the estimate of net migration. This tendency should be noted in the text when rural farm data are excluded.

Annexation. Annexation is the most frequently employed device for bringing under a single local government a larger part of the territory and population within a market. Historically, the territorial growth of many of our larger cities has been achieved in this manner. Yet, the popularity of annexations has fluctuated over the years. Prior to 1900 it was commonplace for cities to extend their boundaries in order to keep pace with expanding metropolitan growth. After the turn of the century, however, annexations declined in number, tapering off sharply during the twenties so that in subsequent years annexations by the core cities have not kept pace with the growth of most of the major metropolitan areas. Again, beginning with the final year of World War II, annexations began to increase in number and have tended to continue this trend. Probably the relative long-term decline in number of annexations at the very time when metropolitanism was increasing dramatically has resulted from (1) the increasing complexity of governmental processes by which annexation could be accomplished, (2) the rigidity of boundaries in some states which forestalls the expansion of established boundaries, and (3) the lack of uniform methods for achieving annexations among the states.

The objectives of annexations by cities usually are: better services to the annexed areas, straightening of artificially irregular boundary lines, geographic integration with due consideration given to topography and drainage, and the formulation of boundaries which recognize physical, demographic, and economic development. Still, there are deterrents to annexation. A cost analysis of annexations in the middle fifties reported by the U.S. Municipal News (April 30, 1957) revealed that the typical annexation included an estimated 8,000 persons per square mile and involved a capital cost in excess of $8,600 an acre, or almost $2,100 a dwelling unit. The added cost was due to the municipal services such as schools, fire and police protection and stations, sewer lines, streets, and other facilities required by the annexed area. At least one city is reported to have imposed an annexation fee of $2,000 an acre to help defray these costs, even though it is recognized that over the long term, annexation generates real estate, personal, and other taxes for the city.

Annexations occur most commonly in rapidly-growing localities. Although annexations virtually always affect only city and minor civil division boundaries, on very rare occasions even county boundaries may change. Where a housing market area follows county lines, annexations produce no

real problem in the development of over-all population trends. Of course, annexations inject a false element of growth in the central core at the expense of the remainder of the county or market area. When a housing market area follows minor civil division lines, annexations to these MCD's may influence significantly the growth trends as between the central city and its suburbs. It is essential, therefore, that appropriate adjustment be made to the data in order to remove the fictitious element of growth attributable to annexation. A corresponding opposite adjustment must be made in the data for the geographical segment from which the annexed area was detached.

In order to permit the analysis of the relative importance of population growth within old boundaries and of population added by annexation, separate counts of the population in areas annexed since 1950 were made for the first time and reported in separate tables in the 1960 Census reports. There were 8.8 million persons in 1960 living in territory annexed between 1950 and 1960 by incorporated places of 2,500 or more in 1950. Sources of annexation data are listed in the footnotes. 5/

Detachments. It is most unusual for a segment of a municipality to be detached and returned to the surrounding county or to an adjacent city. Not only do detachments from municipalities occur far less frequently than annexations, but also, for the most part, they involve much smaller areas, usually with little or no population. But it is most rare that an adjustment need be made to neutralize the effect of a detachment from a municipality. Three cities which are known to have had detachments from 1950 to 1960 are White Bear Lake,Minnesota (880 persons), Brownwood, Texas (976), and Tuskegee, Alabama (5,490). The Tuskegee detachment was later nullified by judicial action.

The only known national source of information regarding specific detachments is 1960 Census of Population, Number of Inhabitants, State Separates, PC(1)A, Table 7 footnotes and Table 9. The population involved in the detachments is not published separately for each detachment as such. With the information available in the two tables cited, the 1960 population involved is ascertained readily for most detachments, i.e., it is the equivalent of the population in those annexations which consist of single detachments and two or more detachments from the same political entity. For the other annexations, consisting of two or more detachments from different political entities, the information in Tables 7 and 9 can be used as a lead to ascertaining from local sources the 1960 population (or estimates) for the detachments from the respective political entities.

Institutional Population. Another adjustment which sometimes is necessary in the analysis of population trends is the subtraction of institutional population from the total population count of an area. The need for this

adjustment arises from the fact that in some housing market areas an artificial element of change is introduced where institutional population has changed sharply. Institutional population, as defined by the Census Bureau, is comprised of the inmates of institutions for whom care or custody is being provided in such places as homes and schools for delinquent or dependent children, mentally defective or physically handicapped; places providing specialized medical care for persons with mental disorders or chronic disease; nursing and domiciliary homes for the aged and dependent; prisons and jails.

By referring to the available data sources 6/, the size of the institutional population in 1950 and 1960 can be determined readily for localities and, if the change has been important, the appropriate adjustment can be made easily in the population data. Consistent with this adjustment, the population data and estimate for the period from 1960 to the current date and the projected estimate for the forecast period must be adjusted similarly. These adjustments require careful estimates of institutional population for the current and projected dates based on data and information obtained from local sources having jurisdiction of the institutions involved.

For the purpose of trend and growth analysis, it is the relative change in institutional population that has significance. Thus, if there is little or no disproportionate change in institutional population (as compared with total population) over the period under study, there is no need to make an adjustment for this factor in the population data. It is to be noted, however, that this element of population per se is significant as a component of nonhousehold population which is eliminated from total population in the analysis and estimation of households.

Military-connected Population. Persons in the armed forces were enumerated by the 1960 and previous censuses as residents of the place in which the installation to which they were assigned was located. Members of their families were enumerated where they actually resided. In the analysis of population trends, therefore, a refinement is needed in the data for some housing market areas to isolate the influence of military-connected population, i.e., members of the armed forces assigned to a local military installation and civilian workers at the installation, together with their dependents living with them in the area under study. Because of the magnitude or relative size of the military-connected population in certain areas, that portion of the population must be extracted in order to gain perspective on the size of the nonmilitary-connected civilian population and its change. This is especially important in areas where (1) the military-connected population constitutes a significant proportion of total population, or (2) where its magnitude has changed, or is expected to change, materially relative to the change in total population. (In some areas the impact of these activities occasions market problems which require special consideration in demand analysis; see Chapter III-footnote 21, and Chapter VII, p. 186 and p. 191.)

It is possible to isolate the armed forces proper from the total population by using data contained in the available census sources.[7/] These data, however, do not reveal the identification of the military installation(s) or the number of dependents living with military personnel; nor do they reveal the number of military-connected civilian workers and dependents. Although this is a serious deficiency, these census data should serve as a very valuable aid in the preliminary determination of whether military-connected population exerts an important influence on the locality. Thus, guidance is provided as to the extent to which further pursuit of the military factor may be necessary, either for appropriate adjustment of population data in the trend analysis or for intensive submarket analysis oriented to demand originating among the military-connected population.

Where census data indicate a relatively important military contingent and a significant change in strength between censuses, further information should be obtained from the Family Housing Officer and, as may be necessary, other officials of the military installation(s) involved. For the purpose of analyzing population trends, data and/or estimates of the total military-connected population for decennial years, the current date, and the projection date are required. If these data or estimates are not available, the analyst must derive estimates from pertinent elements of basic data and information that might be available, i.e., total military personnel, the number unmarried, the number married (with and without dependents present, separately), the average size of military families present, the number of military-connected civilian workers and their dependents residing in the area.

Even though the last census may show a relatively small number of armed forces personnel (or none) in a particular locality, the analyst should be alert to changes that may have occurred since the census date. A sharp increase in the strength of a military installation, the reactivation of a stand-by installation, or the establishment of a new installation could alter significantly the relative importance of military impact revealed by the census data.

As in the case of institutional population, the number of military personnel living in barracks on base is of further significance in the analysis of households. This element of military personnel constitutes a component of nonhousehold population which is eliminated from total population in the derivation of household size and estimates of the number of households.

College Enrollment. Beginning in 1950, decennial censuses have enumerated college students as residents of the places where they live while in college housing market areas where college enrollemnt comprises a significant proportion of the total population it may be necessary to adjust for this factor in order to arrive at a realistic count of population in households and, thus,

of average size of household. If there has been a relatively large increase in college enrollment, unwary analysis may lead to inappropriate inferences about household growth during the period. Hence, as in the case of institutional and military population, significant changes in college enrollment require adjustment of population data for trend and growth analysis.

Many students attend colleges located in the area of their parental home or usual place of residence. Therefore, by no means all of the college enrollment of a locality in 1950 and 1960 can be regarded as in-migrant. According to a special Census Current Population Survey, about one-half of the college students resided at home. Only about 20 percent attended colleges located outside their home states.

For those housing market areas where college enrollment appears likely to affect importantly the population trends over the period, it is necessary to consult the registrar of each college within that market to obtain data on the number of students whose usual home is situated outside the market area. Estimates will be required where colleges do not maintain current or historical statistics in this manner. In some instances, the determination with respect to "outside" students must be refined by distinguishing between those who live in the market area while attending college and those who commute daily from other nearby areas. This is particularly important in the analysis of submarkets of SMSA's where a college located in the central city or in a suburban community draws students who commute from other communities in the SMSA and who, therefore, are not enumerated in the census as part of the population of the college community. Commuting students would not be considered as outside students for the purpose of adjusting population data.

For some universities it may be necessary to adjust the enrollment data for the effects of out-of-city branches. The analyst should ascertain, therefore, whether there are branches and, if so, he must be sure that the enrollment data relate only to the locality under study.

In contrast to the enumeration of college students, children away from their usual home while attending school below the college level count as residents in the enumeration district of their usual home. Thus, no adjustment need be made with respect to these pre-college residents of schools.

If, under unusual circumstances, population trends should be shown for 1940 and earlier, special treatment of the college enrollment factor is required, inasmuch as for that period college students were not enumerated as they were from 1950 on. Prior to 1950, college students were enumerated at their usual (ordinarily parental) home. Consequently, an adjustment would be needed in order to remove the spurious element of growth between 1940 and 1950 which resulted simply from this change in definition of residence for college students.

Although several sources of data on college enrollment are available 8/, it is imperative that the analyst probe into the data from the different sources to assure (1) that they cover only the area under analysis and (2) that they are comparable for all years. Differences in definition and scope of coverage of the different series, and sometimes in the same series between different years, occasion wide differences in the enrollment figures. For best results it is suggested that the data from the published sources be used only as a preliminary guide for consultation with the college registrar's office to achieve the necessary reconciliation for comparability in scope and area coverage. None of the sources listed provides information on the number of in-migrant (outside) students; this information must be obtained from the respective college registrar, or estimated with his advice and assistance.

Characteristics of Population

In considering the qualitative aspects of the population of a housing market, analysts are concerned principally with the characteristics of age, color and race, household relationship, and mobility. Voluminous data are reported for these and other general population characteristics by locality in the decennial U. S. Census. 9/ Annual estimates, based on sample surveys, are available for the nation and for regions and states in Census Bureau releases. As of the most recent date available, population characteristics provide a qualitative interpretation of the area's inhabitants.

Age Distribution. Comparative age distributions provide a clue to the relative age of its population, the vigor of its working population, and the annual expectancy of incremental additions to the labor force and marriages. Changes in age distributions from one census date to another and to the current date are of particular importance when demand for housing among the elderly is the focus of study.

Color and Race. Distributions by color and race provide an important qualitative segmentation of the population for analytical purposes. Distributions by race are not particularly significant except in those locations with large populations of Indians, Japanese, Chinese, and other nonwhite races other than Negro. Classifications by all races and nonwhite generally provide the important qualitative breakdown of primary significance. These data are necessary as a preliminary to segmental group analyses.

In some cases, persons of Spanish surname constitute a significant portion of the population and are reported separately in the census. This group may be considered separately as a minority segment or it may be combined with the nonwhite groups and presented as one entity, e.g., "Minority Population", specifically identified as to total composition in a footnote.

Household Relationship. In the census reports, population is divided into two broad categories according to living arrangements, i.e., in households and in group quarters. This distinction is important and must be maintained in the analysis of household size and trends.

The household, rather than the family, is the unit of housing demand. Households are of various composition of related and unrelated individuals living in a housing unit, being comprised of a primary family or a primary individual with or without a secondary family and with or without related or unrelated individuals.

Persons who are not members of households are regarded as living in group quarters. By census definition, "group quarters are living arrangements for institutional inmates, or for groups containing five or more persons unrelated to the person in charge whose quarters are not divided into housing units. They are found most frequently in institutions, lodging and boarding houses, military and other types of barracks, college dormitories, fraternity and sorority houses, hospitals, homes for nurses, convents, monasteries, residences for clergy, ships, and vessels."

Failure to recognize the distinction between population in households and population in group quarters, although reflected in a seemingly small difference in the average household size, would result in a relatively significant difference in an estimate of the number of households based on average size. Thus, population in group quarters, i.e., the nonhousehold population segment, is a factor of essential information in deriving estimates of the number and average size of households.

Mobility. In addition to migration, the movement of population is continuously in evidence within a housing market area as people move from one housing unit to another, motivated by a variety of considerations, to satisfy their particular needs or desires. This movement is indicative of occupant turnover and, in comparison with other areas, it is a guide to the dynamics and relative degree of fluidity in the market. It is also a factor which, in consideration with residential construction and vacancy, assists in evaluating the effectiveness of the filtering process, i.e., the shifting of units of the housing stock to successively lower gradations of rent or value until they are eliminated from the stock.

Current data on mobility are nonexistent for localities. Although the decennial census data are limited as to time period, they provide valuable background information to assist in formulating a current evaluation of mobility as a pertinent factor in reaching the ultimate judgment regarding demand. These data relate to place of residence in 1955 as compared to place of residence in 1960, particularly that component which occupied a different house in the same county. The census data relating to the year in which the present occupant moved into the unit also are pertinent. The available data indicate, for example, that owners are less mobile than renters and that elderly persons are less mobile than the population as a whole. These characteristics apparently do not change significantly, although they may vary between localities.

Current Population Surveys and Estimates

An estimate of population as of the current date is almost always necessary in the analysis of a housing market. This is because decennial census tabulations are rarely available sufficiently close to the census date to permit the time lag to be disregarded. Moreover, as the period since the last census date increases, current estimates of population become increasingly necessary and increasingly hazardous.

Intercensal population counts are made by the Census Bureau for some localities. 10/ In most instances these enumerations are confined to the political boundaries of the requesting communities and would not cover the entire housing market area. Furthermore, they would not be well-timed for the analyst's needs, except by coincidence. Nevertheless, these special censuses are helpful in deriving current population estimates.

Two states conduct population count surveys. In Kansas an annual enumeration is made by county assessors for the Kansas State Board of Agriculture, and the results are published for counties, cities, and townships. In Massachusetts a State census is taken decennially in years ending in "5" by the office of the Secretary of the Commonwealth, and the results are published for counties, cities, and towns.

The Bureau of the Census prepares and publishes annual estimates of the total resident and civilian resident population, together with the components of change, for the United States, the individual States and Puerto Rico, and the largest SMSA's.11/ These estimates are objective and are believed to be the most reliable estimates available. The State estimates are of use in conjunction with the ratio method of estimating locality population and may also be valuable in appraising the validity of estimates prepared locally or by State agencies.

Occasionally, a planning commission or other local organization prepares reliable annual estimates.12/ Most estimates made by local commercial organizations such as utility companies, newspapers, and others, even though conscientious efforts are made to use good estimation techniques, tend to be biased upward in the interest of margins of safety, local pride, etc. Other estimates by state or national organizations or publications tend to be patterned on formulas without regard to local pecularities or conditions and may be biased either upward or downward. All such estimates have value to the analyst as a check on his own, provided the method of estimation is known and evaluated in the light of the known data.

In the course of his field investigation, the analyst should be alert to availability of local population estimates or special census enumerations; but all estimates should be thoroughly checked for reliability before acceptance. For the most part, the analyst will need to develop an independent estimate predicated on his knowledge and evaluation of developments and trends in the area since the last census and to reconcile the estimate with other pertinent factors to assure internal consistency.

Techniques for Estimating Current Population

Various methods of making current estimates of population for localities are available. Four of the less complicated methods are in general use, namely: the extrapolation, ratio, school enrollment, and housing unit methods. Each of these methods and its merits are discussed below. Other available methods are more involved and more time-consuming; hence they are considered unfeasible for most housing market analyses even though they may yield more accurate results.[13/]

The analyst should be familiar with the four methods discussed below not only so he can utilize these methods but also so he can properly judge estimates obtained from local sources.

Extrapolation Method. The extrapolation of the current population is the projection of past trends. In its simplest form, it is the extension of the trend line from the most recent known point. This method has limited usefulness. It rests upon the implicit assumption that the economic, demographic, and sociological factors in evidence between previous census dates have continued to the present in the same manner and relationship. An alteration in this premise requires an adjustment as to its effect upon the rate of change--a difficult judgment to make with reasonable accuracy.

A variant of the extrapolation method is to determine the absolute or the percentage change in population between the most recent census dates, to reduce this to an annual rate, and to convert the annual rate to the time period elapsed since the last census. The conversion added to the population reported in the last census is the population estimate.

Another variant of the extrapolation method is to determine percentage changes in population for a series of decade intervals from census data, to average them, to reduce the average to an annual rate, and to convert the annual rate to the time elapsed since the last census. The conversion added to the population reported in the last census is the population estimate.

Ratio Method. The ratio method of estimation utilizes the past relationship of the population of the subject area to the population of a larger area, i.e., the economic region, the State, or the Nation, for which a current population estimate is available or more easily obtainable. In its simplest application, the relationship is established on the basis of the population count of the last decennial census. This method tacitly assumes both a good estimate for the larger area and a constant relationship between the populations of the two areas. A change in the relationship during the period under consideration may be such as to cause a considerable error in the estimated population. The usefulness of this method in housing market analysis is limited to the purpose it may serve as a check on other estimates, to those few areas having none of their own indicators of growth, or to making estimates of nonwhite population (in the absence of other growth indicators).

A variant of the ratio method takes account of differing rates of growth of the two areas by determining the ratios for a series of census dates and extrapolating the calculated trend. The ratio determined from the trend would be applied to obtain the current estimate of population for the subject area. A current ratio obtained by the measurement of differences in ratios (expressed as percentages) for a series of census observations, and the extension of the measured differences to the current time period, will give similar weighting to differing growth rates.

The ratio method can be used without reference to a larger area if good labor force estimates for the subject area are available. Since the proportion of the civilian labor force (employed plus self-employed and unemployed) to the total civilian population ordinarily changes very slowly over a period of time, the labor force participation ratio based on data in the last census may be applied to the current labor force estimate with little or no modification to obtain a current population estimate. The only modification warranted would be derived from a judgment as to whether local forces determinant of labor force participation had changed since the last census. Short-term influences are determinable only on the basis of a judgment based on knowledge of developments and trends in the locality since the last bench mark. If a significant change is indicated, a time series of labor force participation ratios for the local area obtained from census data to provide a trend for comparison would be helpful in determining an appropriate modification.

The ratio method is simple in application but, by reference to larger populations, ignores the effect of relative variations in current economic and demographic occurrences between the locality and the larger base populations. In using this method, it should be observed that national population estimates are considerably more reliable as a basis for the ratio method than are most state population estimates. The variant method based on the labor force participation ratio tends to be more reliable. The latter provides a quick useful check on other population estimates and, vice versa, a good population estimate otherwise derived can provide a convenient check of the labor force estimate, i.e., by means of a judgment as to whether the resulting labor force participation ratio is reasonable and realistic.

School Enrollment Method. This method utilizes the ratio of school children to total population as the basis for estimating current population. Technically, the school enrollment technique is a variant of the ratio method. Refinements introduced by virtue of the consideration given to vital statistics data, however, give it ranking as an independent method. The universality of compulsory grade school education throughout the United States and the requirement for annual school censuses in most states make it possible to utilize this technique for most local area estimates. Since many communities are dependent upon the number of school-age children in the community for apportionment of state funds, the basic data tend to be fairly reliable. In some states, nonwhites are separately reported in

the school census. Its principal disadvantages for use in housing market analysis are the necessity for obtaining data not otherwise useful and the statistical detail of the operation in complex market areas.

The required data are available most commonly and most readily on two different bases of school enrollment. "School year enrollment" is the gross cumulative enrollment to the end of the school year. "Fall enrollment" is the enrollment at the beginning of the school year; this figure may be as much as 2-1/2 percent less than "school year enrollment" which includes "transferees in" during the school year but does not eliminate "transferees out" or drop-outs. The numerical difference between these two series is inconsequential for estimating purposes.

The data are available also on other bases, i.e.: "average daily membership", which is the average number of students actually on the rolls of individual schools from day to day during the school year and varies only slightly from the fall enrollment in the aggregate in most areas; "average daily attendance", which is the average actual attendance at school from day to day and constitutes about 90 percent of the school year enrollment; and "school census", which is a house-to-house survey count of children of school age conducted in some states, usually during the summer months.

If available, all school data series are usually obtainable locally at the office of the superintendent of schools. Any of the series mentioned, except average daily attendance, is acceptable for use in estimating population subject to the requirements noted in the following paragraph.

Consistency in the data used in each instance is vital; the same series, the same date, and the same coverage must be utilized on a comparable area for each year involved in applying the technique. Data for grades one through six or one through eight generally are preferable; and both public and private schools should be included.

In its simplest form, the school enrollment technique is merely the application of (1) the ratio of the school population in specific age groups (or school grades) to the total population in the most recent census year to (2) the school population in the same age groups (or school grades) in the current year. This simple ratio application implies a uniformity in birth and death rates rarely experienced and a family composition of migrants corresponding to that of the existing population. Within a couple of years after the census date, however, the population estimate derived may be expected to possess considerable reliability.[14/]

Housing Unit Method. This method involves a current estimate of the number of occupied housing units and the application of an average number of persons per occupied unit; in addition, it involves an estimate of the nonhousehold population to arrive at an estimate of total population. Basically, it assumes that changes in the number of occupied housing units reflect changes in population.

When adequate data are available, this method has considerable reliability and is the method utilized in most FHA market analyses. It depends, in part, upon a reliable estimate of the net number of housing units added to the housing stock between the last census date and the estimate date. This estimate is based most commonly on the number of housing units under construction on the last census date plus those authorized in building permits issued since the census date (less those not completed), adjusted by subtracting the number of units demolished (actual or estimated), and further adjusted by adding or subtracting the net number of units created or eliminated through conversion (conversions-in vs. conversions-out, actual or estimated). In the absence of complete building permit data for the market area or any part thereof, other data might be used to fill the gaps, e.g., water meter or electric meter installations, sewer or cesspool permits, certificates of completion for occupancy, new assessments on the tax roll. Records of all of these items have inadequacies and errors but, if these are known and corrective factors can be applied, the data series can be useful.

The estimate thus derived is added to the housing stock as reported in the last decennial census to obtain the total number of housing units as of the estimate date. Three other factors, however, must be applied to arrive at an estimate of total population, i.e., the vacancy factor, the average size of household, and an estimate of the nonhousehold population. By subtracting current vacancy from the total housing stock, the analyst obtains an estimate of the number of occupied housing units, or households. By multiplying this figure by the average size of household, an estimate of population in households is obtained.

The final step in the housing unit method of estimating current population is to make an estimate of the nonhousehold segment of population to complete the estimate of total population. This final estimate must be based mainly on close observation and judgment not only because of the change in census definition from "dwelling unit" to "housing unit" in 1960, which renders comparison of 1960 and 1950 data invalid, but also because of possible irregular changes in some components of this population segment. Since nonhousehold population in most instances otherwise tends to remain at a fairly constant proportion of total population, it is assumed that a reasonably accurate post-censal estimate can be obtained by using the 1960 proportion of nonhousehold population, with adjustment for any known institutional changes of significance. Where college students and military personnel in group quarters are relatively significant factors, adjustments also must be made for disproportionate changes in their number during the period covered by the estimate.

The reliability of the housing unit method of estimating total population depends upon the availability or derivation of reasonably accurate estimates of net additions to the housing stock and of current vacancy, as well as the judgment of the analyst in estimating average household size. Good judgment is required by the analyst throughout the procedure. Poor judgment is easily detected, however, since economic base factors will not be in harmony with poor estimates, and the estimates themselves will have an unrealistic interdependence.

Population Projection

The projection of population is largely, if not entirely, a matter of judgment. Although numerous aids may be available in making a projection, the selection and use of these aids involves judgment--informed judgment supported by the most thorough analysis of the pertinent factors that the analyst is able to make. The difficulty of the problem varies, of course, in a wide range between localities which have exhibited relative stability in the past rate of population change and those which have experienced sharp and irregular fluctuations. In no case, however, is the problem of projection a simple one; and in no case should a "guesstimate" be substituted for a defensible analytical projection.

National and Local Growth. The growth factor for any period of time is the algebraic sum of net migration and net natural increase. During the first half of the 20th century, the population doubled, growing from 76.2 million in 1900 to 151.3 million in 1950. The largest numerical growth in the history of the nation occurred between 1940 and 1960 when the population increased by 47.2 million persons, a number almost as large as the total population recorded by the Census of 1880. The total population increased by 19.2 million persons in the 1940's and by an unprecedented 28.0 million in the 1950's. Further substantial increases in population are in prospect.

Wide variations have been exhibited in growth rates as between individual communities, as well as between communities and the Nation, due primarily to variations in relative economic opportunity. Such variations, of course, will continue, with some communities growing faster and others slower than the Nation as a whole and not necessarily consistent with past patterns in individual cases.

Nationally, immigration accounted for one-third of total population increase from 1830 to 1930 and exceeded one-half from 1900 to 1910. But as a consequence of the Immigration Act of 1921 this source has aggregated only about five percent of the national growth since 1930; from 1950 to 1960 immigration accounted for about ten percent of total growth. Forces of net natural increase, however, have taken on renewed vigor since World War II, thus compensating for the reduction in immigration. Internally, the population continues to shift at a brisk pace. For several decades, Americans have moved from farm to city and from east to west, with nonwhite population of southern states migrating both north and west. Cross-currents in migration are also much in evidence. Thus, while immigration has declined, migration of the population has continued unabated as a potent element of locality growth to be reckoned with in population projections.

Relative Uncertainty of Projection. Projections, by their very nature, are much more liable to be inaccurate or erroneous than current estimates. The latter are based on existing conditions which are known, observable, and measurable in various degree. Projections, on the other hand, are based entirely on nonexistent conditions which may or may not materialize as prognosticated.

Actual population growth since 1940 and the persistence of high birth rates have refuted firm convictions and opinions previously held. Certainly, long-term population projections no longer seem possible with great confidence; changing social and economic concepts are implicit in modifying the established convictions of demographic scientists. Fortunately, the housing market analyst is seldom called upon to make projections beyond one to three years. Nevertheless, the pitfalls of population projections on a national scale are enormously magnified on a local scale mostly because of complications arising from internal migration.

Available Population Projections. To a greater extent than in the case of current population estimates, the analyst must depend upon his own locality population projections; and he must be more cautious in evaluating and accepting projections from other sources. Projections available from official sources not only are more scarce, but in the great majority of cases they do not take account of economic prospects evaluated on the basis of thorough analysis.

In addition to national projections, the Bureau of the Census also prepares projections of the population of states. These projections would be useful in applying the ratio method of projection (only as a check on locality projections based on other approaches or available from other sources); but the analyst is cautioned not to use these estimates without first satisfying himself, in each instance, that the estimate is consistent with economic trends and prospects in the respective state.

Population projections for all States have been published by other organizations using methods that differ substantially from those used by the Bureau of the Census. Projections for individual states and for localities often are available from various state and local sources.12/ The methods used vary considerably, but it is particularly noteworthy that frequently the methodology attempts to assess the economic potential of particular areas or to reflect specific economic plans. Available locality projections, like current population estimates, are useful to the analyst primarily as a check on his own projection, provided the methodology is known and evaluated in light of his analysis of the economy of the locality.

Period and Method of Projection. In housing market analysis a population projection, or forecast, is made for the forecast period following the "as of" date of the analysis. A projection of two years is desirable in most instances. However, a three-year projection should be used when a large excess vacancy must be utilized to restore market balance, or for other reasons.

A current population estimate is necessary as a starting point for a projection. The estimate of future population increase is made by compounding estimates of net natural increase and of migration. The birth rate can be expected to follow the pattern of relationship to national trends that has been in evidence in the recent past; the death rate can

be extrapolated from local trends alone. The resulting net natural increase is the most stable element of anticipated population growth. The migration expectancy pattern is dependent upon the findings of the economic analysis and a judgment of its influence upon anticipated net migration. It should not be forgotten that the tides of in- or out-migration, although activated or catalyzed by relative economic opportunity, tend to maintain direction; current events may alter the magnitude of flow but may not change the direction. Thus, net natural increase plus or minus migration yields the anticipated population increase which, added to the current population estimate, yields the desired population projection. In some instances, when the economic analysis is not sufficiently definitive (as in the case of areas dependent primarily on the in-migration of retirees), a resort to the cruder extrapolation and ratio methods may be necessary. In any case, the forecast should be consistent with other data and estimates.

The economic analysis must be used as a foundation for a prospective employment distribution "X" years hence, and potential labor force participation must be rationalized as suggested in Chapter III. The ratio of labor force to population is utilized as the tentative basis for the population estimate. If it appears reasonable in light of past and prospective economic trends and developments and by comparison with other comparably dynamic communities with a similar number and distribution of employed persons, it can be accepted as a working hypothesis.

If the natural growth of the labor force will be adequate for future labor requirements, in-migration will be unnecessary. In this connection, however, it must be kept in mind that migration trends, once established over several years or decades, are difficult to reverse. Large added labor force requirements from in-migrant workers may be difficult of attainment; once recruitment has been successful, however, the flow of migration may continue for some time before subsiding. Conversely, in an area having a long-term experience of out-migration, this tendency is not easily susceptible of quick acceleration or retardation. As a rule of thumb for estimating purposes, workers constitute about forty percent of the migrating population. Only good judgment and experience will enable the analyst to make the necessary adjustments to a population projection.

Analysis of Households

Households are variously constituted. Some are identical with families, as defined below; others are composed of a single individual or a group of unrelated individuals; and still others are a combination of families or of a family and individuals. Regardless of its composition, the household--rather than the family--is the unit of demand for housing. Thus, the analysis of households is the crux of the demographic analysis.

Purpose of Analysis

The analysis of households pinpoints the demographic factors previously discussed in terms that will be useful in delineating housing demand. Just as the detail of population analysis reflects the economic forces in the

community, the detail of household analysis mirrors the complex forces of the real estate market with which the analysis is concerned directly. Consequently, the analysis of the interdependent population and household phenomena forms a vital link between the economy and the real estate market in the housing market analysis exposition.

Data concerning the number of households (referred to as families in earlier censuses) are available for each decade since 1850 from census volumes. The parallelism between these data and the population data obviates the necessity for an extended historical analysis of household formation and its connection with concurrent economic developments. It will usually suffice to confine this analysis to the last decennial census unless it is of recent origin. Only in detailed discussion of the development of declining household size would it appear necessary or appropriate to discuss households in historical perspective.

Source references in the 1950 and 1960 censuses are identified in Exhibit D (Instructions) for most of the data on households required in this portion of the demographic analysis. If longer-term data are needed, the source references in earlier censuses can be found quite readily.

Types of Households

The 1960 Census of Housing defines a household as consisting of all the persons occupying a housing unit. A house, an apartment or other group of rooms, or a single room, is regarded as a housing unit when it is occupied or intended for occupancy as separate living quarters. Separate living quarter are those in which the occupants do not live and eat with any other persons in the structure and in which there is either (1) direct access from the outside or through a common hall or (2) a kitchen or cooking equipment for the exclusive use of the occupants. The number of households is equal to the number of household heads.

In the 1950 Census of Housing a household was defined as it was in 1960 except that the term "dwelling unit" was used instead of "housing unit". There are certain nice conceptual distinctions between the two which tend to inflate the count in 1960 very slightly as compared with 1950. However, incomplete quality checks made by the Bureau of the Census do not seem to support the conceptual increase except in one- and two-room apartments. Quarters in rooming houses with individual cooking facilities and/or separate entrances which were classified as housing units in 1960 would not have been classified as dwelling units in 1950. This definitional change tended to increase the housing unit count, particularly in large cities.

Although slight definitional differences render no two censuses exactly comparable, the conceptional changes are considered so slight as not to affect most growth trends as revealed in the census household counts from 1910 to date. While trend data predating 1950 ordinarily are not prepared for FHA market analysis purposes, substantially comparable data are not available for earlier censuses should a long-term series be needed. In 1940, 1930, 1920, and 1910 in the Census of Population, the count of families should be used in arriving at an approximation of household

heads. In Population, Volume IV of 1940, a head of a private household equals a family. As to 1920 and 1910, "number of dwellings" really means number of structures and not dwelling units, as the latter term is used in later censuses. Therefore, in 1920 and 1910, institutions or group quarters as well as houses and apartments were counted as dwellings.

Generally, households, as used in the 1960 Census, may be classified in three distinct groups:

1. The husband-wife household. All married couples living together, with or without children, in their own housing accommodations constitute the husband-wife households. This class accounted for almost three-fourths of all households in 1960. Such households may include subfamilies and unrelated (secondary) families and individuals.

2. Other households with male head. Men living alone in housing units or with relatives or persons other than a wife and classified as household heads, constitute this classification and accounted for about 8 percent of all households in 1960. In this category, male heads with relatives accounted for some 30 percent of the relatively small number of these households; the others were largely men living alone.

3. Other households with female head. Parallel in classification to other households with male head, other households with female head constituted about 18 percent of all households in 1960. In this category, female heads with relatives accounted for about 45 percent of these households; the others were largely women living alone.

All households contain either "primary families" or "primary individuals". According to current U.S. Census terminology:

1. A primary family is a group of two or more related individuals that includes, among its members, the head of a household, i.e., all husband-wife households and all other households which include relatives of the male or female head. Households with primary families also may contain subfamilies (a related family group), secondary families (not related), or secondary individuals (not related).

2. A primary individual is a household head living alone or with non-relatives only. The latter may be secondary individuals or a secondary family. Primary individuals constituted about 15 percent of all heads of households in 1960.

A family, in census terminology, is a group of two- or more- persons residing together and related by blood, marriage, or adoption. A subfamily is a married couple with or without children, or one parent with one or more own single children under age 18 living in a household and related to, but not including, the head of the household or his wife. Subfamilies are not counted separately in the total number of primary families in current reporting. A secondary family is a family group not related to the head of the household. They include such families as guests, lodgers, or resident employees. Since all primary families are equivalent to households having heads with relatives (primary households), the statistical classifications of subfamily and secondary family serve to refine quantitative relationships in family formations. In housing market analysis, the concepts and terms must be used carefully, with due regard for changes in definition in each decennial census.

Married couple is another expression employed statistically in recent years by the U.S. Census Bureau as a type of family unit. A married couple, with or without children, consists of a husband and wife living together in the same household. Numerically, married couples with own households are equivalent to either all husband-wife households or all primary husband-wife families. Married couples without their own households constitute the majority of subfamilies; these are often cited as an evidence of housing demand arising from "doubled-up" families. However, under conditions other than a housing shortage, most of these doubled-up couples usually do so from choice or personal or economic necessity and so clearly do not constitute effective demand for separate housing.

Trends of Household Growth

Primary emphasis in the analysis of households is placed on the trends of growth. Essentially, the analysis is concerned with household formation, i.e., the rate of household growth during specific periods in the past and the expected rate of growth during the forecast period covered by the market study. Household size plays a vital role in this analysis as a determinant of the estimated current and projected number of households.

The decennial record of household formation is taken directly from census volumes reporting the number of households. This can be brought to a current date by estimating the current housing stock and deducting estimated vacancy (and can be checked by a separate household estimate derived by dividing the current estimate of population in households by the estimated household size). The detail of the tabular presentation should be in the same form as the population trend table.

Adjustments in the data and estimates of the number of households should be made, of course, consistent with the adjustments (if any) that may have been made in the population data and estimates, with respect to the rural farm element, annexation, etc. In this connection, the effect of definitional changes between the 1950 and 1960 censuses with respect

to rural farm households (as well as population) and the unit of household measurement should be given explicit recognition in the discussion even though the resulting numerical differences cannot be reconciled. Specifically, (1) the change in census definition of "farm" tended to inflate the 1960 nonfarm household figure because some households living in rural areas who were classified as living on farms in 1950 were considered to be rural nonfarm households in 1960, and (2) the change in census concept and definition from "dwelling unit" in 1950 to "housing unit" in 1960 tended to inflate the number of households in 1960 because certain living accommodations which were not classified as dwelling units in 1950 were classified as housing units in 1960.

To avoid repetition, the discussion should stress significant interpretations and implications of the trend of household formation keyed to salient figures in the tabular exposition and with brief reference to concurrent economic and real estate developments. The relative magnitudes and rates of growth of household formation and population of central and suburban areas will tend to be the focus of most texts.

A household formation projection for the forecast period should conclude the discussion of trends of growth. The analyst, having given consideration to household size trends (discussed below), derives his forecast of household formation by calculating it directly from the projection of population in households for the forecast period.

Household Formation

Familiarity with the sources of household formation should be helpful to the analyst in understanding the household concept and should assist him in maintaining the distinction between families and households. As previously noted, households are of various composition. Basically, the components are (1) families of different types and (2) individuals. It is the manner in which they live (alone or in some combination) that determines their household status. Thus, families and individuals in various possible combinations are the immediate sources of household formation.

Sources of Household Formation. A valuable clue to the relative importance of the sources of household formation in the United States between 1940 and 1960 may be gleaned from a comparison of family units by type in the following table:

Family Units by Type in the United States
1940, 1950, and 1960
(in thousands)

Type of Family Unit	Number			Decennial Change	
	March 1960[a/]	March 1950	April 1940	1950 to 1960	1940 to 1950
All households	52,610	43,554	34,949	9,056	8,605
Husband-wife households	39,260	34,075	26,571	5,185	7,504
Other, with male head	3,811	2,837	3,109	974	-272
Other, with female head	9,539	6,642	5,269	2,897	1,373
Primary families	44,856	38,838	31,491	6,018	7,347
Primary individuals	7,754	4,716	3,458	3,038	1,258
Male	2,624	1,668	1,599	956	69
Female	5,130	3,048	1,859	2,082	1,189
All married couples	40,205	36,091	28,517	4,114	7,574
With own household	39,260	34,075	26,571	5,185	7,504
Without own household	945	2,016	1,946	-1,071	70
All families	45,062	39,303	32,166	5,759	7,137
Husband-wife families	39,335	34,440	26,971	4,895	7,469
Other, with male head	1,233	1,184	1,579	49	-395
Other, with female head	4,494	3,679	3,616	815	63
Primary families	44,856	38,838	31,491	6,018	7,347
Secondary families	206	465	675	-259	-210
All subfamilies	1,511	2,402	2,062	-891	340
Husband-wife subfamilies	870	1,651	1,546	-781	105
Other, male head	113	113	52	0	61
Other, female head	528	638	464	-110	174

a/ Includes Alaska and Hawaii.

Source: Current Population Reports, Series P-20, No. 119, p. 4. Bureau of the Census.

Subject to the effects of definitional changes in the word "household" the foregoing data underscore the changing trends in doubled-up couples, as well as in other family types, during the period and help to clarify the net changes occurring in household formation. Thus, the 2,897,000 increase in other households with female heads accounted for 32 percent of the net increase of 9,056,000 in all households from 1950 to 1960, whereas this category comprised only 1,373,000, or 16 percent, of the household increment from 1940 to 1950. More favorable survival rates among women, the increased independence and participation of women in the labor force, and improvements in the financial security of older women

are factors contributing to the long-term increase in households with female heads. This also is reflected in the 2,082,000 increase (about 25 percent of all-household increase from 1950 to 1960) in primary female individuals, almost double the 1,189,000 increase from 1940 to 1950. The more moderate increase in other families with female heads (815,000) corroborates the deduction that the increase in other households with female heads is due far more to an increase of primary female individuals than to undoubling of subfamilies or secondary families with female heads. In part, the 1950-1960 changes reflect the influence of the "housing unit" concept employed for the first time by the 1960 Census.

Subfamilies decreased by 891,000, while secondary families decreased by 259,000, aggregating a decline of well over a million. Husband-wife subfamilies, numbering only 870,000 in 1960, constituted over nine-tenths of the 945,000 married couples without their own households; the remaining 75,000 married couples without own household constituted secondary families. By inference, secondary families with male or female heads only (i.e., spouse not present) numbered only 131,000 (206,000 secondary families minus 75,000 married couples without own households), a relatively small source of prospective household formation compared with the 641,000 subfamilies other than husband-wife subfamilies. The small number of secondary families with male or female heads (131,000) also is indicative of the very small proportion of secondary families included in the all-families classifications for male and female heads only.

The increase in the classification of other households with male heads by 974,000 approximates the increase in male primary individuals (956,000) and offsets manyfold the 49,000 increase in family groups with male heads only.

In sum, the primary household increase over the long term arises from increases in the number of married couples. Doubling and undoubling of married couples, comprising subfamilies and secondary families, in large measure, are short-term phenomena associated with employment, income, and adequacy of housing supply. Other households, with male and female heads, to a lesser degree but in important numbers since 1940, also contribute to added household formation from existing or potential family groups. Socio-economic changes in our society may continue to cause a substantial number of added households in future years with male or female heads, particularly the latter.

Marriage and Divorce. The overwhelmingly predominant form of household formation begins with the married couple. To start the family cycle, separate living quarters are desired. Hence, many economists and researchers in the field of housing have attempted to link the marriage rate to the building rate in direct quantitative terms. This is hardly possible with any reasonable degree of accuracy, even on a national scale, because of such vicissitudes as changes in economic conditions, employment opportunities, availability of housing, and financing terms and because of the concurrent variations in rates of family dissolutions simultaneously occurring because of death, divorce, or voluntary separation.

Doubling and Undoubling. As indicated above, married couples without their own households constitute a measure of the number of doubled-up families. Estimates for the nation have been made annually since World War II by the Census Bureau.15/ For the individual communities, except for occasional sample surveys, data are available only from the decennial censuses.16/

Compared with 1,946,000 married couples without their own households, as recorded in the 1940 U. S. Census, 6.8 percent of all married couples, this category increased to about 2,931,000, or 8.7 percent in April 1947. Thereafter, a virtually uninterrupted decline occurred: in 1966, 765,000, or 1.8 percent, of the total were living doubled-up. Possibly, under current economic conditions, this constitutes or closely approaches an irreducible minimum.

Census Bureau estimates indicate that about 4,150,000 households were added from April 1940 to April 1947. During the same period, the number of married couples with their own households increased by about 4,000,000, while married couples without their own households (i.e., doubled-up couples) increased about 900,000. The disparity of 150,000 between households added and married couples with own households is attributable to the economic and social changes taking place in individual relationships. This has resulted from an increased independence of the single, widowed, or divorced individuals, who establish separate households. In a sense, this phenomenon is of the nature of undoubling, as related to individuals rather than couples; and it has become increasingly important as a source of household formation in recent years. In the year preceding March 1962, for example, despite only 730,000 added married couples and a decline of 80,000 in those without households, some 1,190,000 households were formed. In the four-year period from March 1962 to March 1966 there were some 1,600,000 added married couples and a decline of only about 115,000 in couples without own households, whereas approximately 3,440,000 households were added.

Current Household Data and Estimates. Current household data and estimates on a locality basis are practically nonexistent. There are no known general sources from which such data and estimates can be obtained. An occasional local source may be found by the analyst, however, in his quest for information. In such instances, previously noted precautions regarding the use of population estimates by local sources are equally pertinent.

In the absence of intercensal locality data on households, the annual household estimates for the nation published by the Bureau of the Census in its Current Population Reports provide useful guides to trends in the rate of household formation and the average household size to assist the analyst in making his locality estimates of these factors.

Technique for Estimating Household Formation. The process of making satisfactory estimates of household formation for local communities since the last available census date is one of the most difficult tasks confronting the housing market analyst. It is difficult because complete series of the data required are rarely available. Other than by direct count through enumeration, no direct measurement of the number of households is feasible because of the range of error in estimating households formed or dissolved as a result of marriage, divorce, death, and voluntary separation, doubling-up or undoubling of family groups, or a combination of married couples and other family groups plus or minus housing units occupied or vacated by primary individuals. Indirectly, since net household formation (the desired end-product) is equal to the difference in the occupied housing unit stock between two dates, the net additions to housing unit supply during that period and the net changes in number of units vacant at the beginning and end of the period will provide the answer. Even these factors, however, often are elusive and require the utmost care in the estimating process.

Net additions to the housing unit supply may be derived by adding the number of units created through new construction, conversion-in, and other sources and subtracting those removed from the inventory by demolition (including casualty losses), conversion-out, and other means. Perhaps no central cities have complete data concerning these elementary dynamics, however, and in many suburban areas there is a complete absence of such records. Any existing series must be examined for its limitations and evaluated by the analyst in order to permit an appropriate estimate of the total for each component. Techniques for making estimates to fill in the gaps have been devised, although they must be used with considerable care and judgment. These techniques are discussed in Chapter V of this volume.

In practice, additions to the housing stock through conversion traditionally have been assumed to offset demolitions (implicitly encompassing all deductions), so that the record of new building activity was assumed to approximate closely the number of dwelling units added. Recent data, however, indicate that this in not a valid procedure. During and following World War II, for example, a critical shortage of housing brought about a far greater level of conversions than of demolitions per se. Later, during the 1950's, conversions did not even reach half the number of demolitions in the nation. This relationship varied sharply among the regions, with demolitions running 4 times as great as conversions in the South, 3½ times in the West, 1.8 in the North Central, only 1.2 in the Northeast, as against 2.4 for the U.S. total (1960 Census of Housing, Components of Inventory Change 1950-1959, HC(4) Part 1A-1, Table C).

It is obvious, therefore, that the ratio of conversions to demolitions varies dramatically from area to area and from time to time, depending upon such local factors as the relative shortage or surplus of housing inventory, household formation, demand for housing, the level of home building activity, income and employment levels, the extent of urban renewal and public road programs, the remaining declining stock of large old houses of suitable quality for conversion. Hence, the analyst must not assume any fixed relationship between dwelling units gained through conversions or lost through demolitions, without satisfying himself that it does in fact appear to be realistic.

Other important elements of housing inventory change also are quantified in the 1960 Census, Components of Inventory Change. This report indicates that conversions and demolitions are by no means the only important elements of change. "Additions through other sources" must be added; these include units created from a store, barn, garage, or previous nondwelling-unit quarters such as a sleeping room, or a mobile trailer. "Units lost by merger" must be deducted; these cover the combining of two or more units into fewer units through structural alteration or change in use or by rearrangement of use of space. "Units lost through other means" such as loss by change in use of a one-room dwelling unit to a sleeping room, by the presence of five lodgers, by vacant units being condemned or becoming unfit for human habitation, by change to nonresidential use, destroyed by fire, flood, or other cause, also must be deducted.

New construction indicated by building permits must be accorded a sufficient time lag to assure completion and availability for occupancy. In most instances, where single-family construction predominates, a three-month lag will be representative for single-family structures and six to eighteen months for multifamily type structures. Thus, if 3½ years have elapsed between the census date and the date of the estimate, and an average three-month lag were assumed, the single-family building permit authorizations for a 3½ year period, beginning January 1 of the last census year, would approximate the number of single-family structures completed since the census date. Multiple-unit construction in any volume, or in occasional volume, and recorded in authorized building permits must be treated separately. Units in such construction which have been authorized but are not yet ready for occupancy on the estimate date must be deducted from the data while units under construction at the time of the preceding census must be added, i.e., in the example above, units authorized in permits from a selected date prior to the date of the last census to the estimate date, should be increased to the extent of any additional major projects under construction at the census date, so that the estimate will include a reasonable allowance for the volume of units in multifamily structures authorized in permits issued prior to the last census and not completed on the census date, and reduced by any number necessary to reflect authorized units not yet completed at the effective date of the estimate. The assigned time lag may vary

for individual multiple projects in a given community. Therefore, the analyst's judgment as to the appropriate lag will be required in each case. In large areas an average time lag must be estimated.

The number of vacant units at the beginning of the period is reported in the census. The number at the time of investigation must be obtained by survey or estimation; appropriate techniques are discussed in Chapter V of this volume. All estimates are subject to the test of reasonableness accorded all estimates in the analysis by their relationship to one another.

Gross vacancies should be used in this connection, rather than net available vacancies. Gross vacancies include all vacant units, i.e., both seasonal and year-round units, the latter of which are comprised of dilapidated as well as sound or deteriorating, which in turn embrace those available for sale or for rent, those rented or sold but awaiting occupancy, those held for occasional use, and those held for other reasons. (Net available vacancies are restricted to only those vacant units which are available for sale or rent.) At the time of the 1960 Census of Housing, the respective magnitudes were 5,300,000 gross as against 2,000,000 net available vacant units. /HC(1) No. 1 U.S. Summary, Table 3/. The relative sizes of these two categories vary considerably among the several States.

Having obtained an estimate of the total net additions to the housing supply and an estimate of current vacancy, the analyst is in a position to estimate household formation since the last census date. In broad outline, the procedure is summarized in the following example: The total housing stock in a community on the census date was 10,500 units; 10,145 units were occupied and gross vacancies totalled 355 units (available, seasonal, dilapidated, etc.) Net additions to the housing stock since the census date are estimated to have totalled 600 units, and current gross vacancy (available, seasonal, dilapidated, etc.) is estimated at 400 units. Then, the estimate of total housing stock for the current date is 11,100 units, with 10,700 occupied units. The difference between 10,700 occupied units on the current date and 10,145 occupied units on the census date, is 555 units, which represents the estimated net household formation for the period. The estimates thus derived should be checked by a separate estimate calculated by dividing the estimated household population by the estimated household size. Although estimates are obtained as exactly as possible, it is good practice to use round numbers--to the nearest 10, 25, or 50, depending upon the magnitude of the numbers involved and the accuracy of the estimates. The reasonableness of this estimate must be checked against other factors on the reconciliation work sheet (Exhibit D, p. 264).

Household formation estimates are much more difficult for minority population segments inasmuch as (1) net additions to the housing supply among various population segments are derived through the filtration process and new construction in various proportions, for which there is no basis for reasonably accurate determination short of actual enumeration, (2) vacancy can rarely be compartmentalized for this purpose, and (3) the forces set in motion by discriminatory practices are not measurable but wield a heavy influence. The census reports provide the only available, albeit quite limited, data which can be relied upon. These data are useful only as bench marks, however, and changing social patterns cause changes in the data relationships which are very confusing. The pressures obtaining locally must be determined, of course, in order to ascertain their probable effect upon the availability of housing to meet the needs of minority groups.

Guesstimates, rather than estimates, of household formation by population segments are possible with the data and techniques thus far available. With the utilization of trends in average size of households from census data[17/] and, where pertinent, a judgment of the effects of discriminatory pressures since the last census date, the population estimate may be divided by an estimate of the current average household size to obtain an estimate of the total number of households. The difference between this figure and the number reported in the last census may be used to represent net household formation for the period. It can be tested for reasonableness only by inference from a judgment of piecemeal and unrelated information obtained from informed individuals during the field investigation.

Trends of Household Size

The trend toward smaller households dates back more than a century, according to U.S. Census data. During much of this period, declining household size can be attributed to decreasing birth rates, aging of the population, and decreased doubling-up promoted by improving incomes and living standards. In more recent decades the increasing economic independence of the elderly, the retired, and the adult unmarried population, as well as generally fewer children per married couple, has been effective in steadily reducing household size. The trend has been general throughout the country and is reflected in virtually all communities, urban or rural, and among both white and nonwhite population.

Despite much overcrowding born of severe housing shortages, household size continued to fall during the war years following 1940. Sample surveys indicate that this phenomenon persisted even in the most congested communities. Rent control, high marriage rates, and low birth rates served as causal factors. In the postwar years, marriages jumped to new high levels and the average size of households continued to decline despite record levels of births and a declining death rate.

As implied previously, the downward trend in average household size was due more to socio-economic influences causing household formation by primary individuals than to marriages and to undoubling. Continued additions to household formation can be expected from these sources depending, of course, upon economic conditions and other factors.

What is the minimum average household size? The answer to this question lies in the realm of conjecture and there is not always current agreement among demographers. The 1962 U.S. average of 3.31 would have been ridiculed as a forecast by experts in the field only a short span of years prior to its becoming a fact. If unrelated persons are excluded, the 1962 average size of 3.31 is reduced to 3.26; in the latter "mix", husband-wife households averaged 3.75 persons and other households only 1.54 persons for male heads and 2.01 for female heads. An increase in "other households", or high marriage rates, or both, would tend to reduce average size; a continued high birth rate, low marriage rates, or both, would tend to increase average size. Complex social and economic forces will determine future average household size.

The trend in size of household is affected by peaks and valleys in the number of marriages, which, in turn, reflect current changes in economic conditions as well as significant changes in the numbers of births two decades earlier. As the large contingent of babies born in 1947 passed their 18th year in 1965, there was a rise in the level of marriages. Such an increase tends to reduce average household size in the first instance both because the newly formed household is a two-person household and because of the withdrawal of the newlyweds from their respective parental households. Of course, to the extent that one-person households are eliminated by virtue of marriages, an opposite tendency occurs. Recession conditions tend to restrain marriages, while prosperous economic conditions encourage rising marriage rates. Secular trends toward more education tend to defer the time of marriage for individual couples, but changing social habits modify this tendency. Because of the numerous determinants of trends in marriages, none of which can be forecast with certainty, the amplitude and timing of changes in numbers of households cannot be predicted with confidence, nor can the average size.

Estimating Household Size

The series of data representing the changing average size of household in a community over a period of years is one of the analyst's most useful aids. Household size alone consolidates the effect of marriage and divorce, births and deaths, doubling and undoubling of both subfamilies and secondary families, economic impacts causing household formation by primary individuals, and other factors. Good judgment based upon experience with these data can effect a translation of national trends into well founded locality assumptions after due consideration of the local social and economic forces.

Technically, average household size is the population in households divided by the number of occupied housing units. Population in households is readily available in the U.S. Census since 1950. Previously, the nonhousehold population was not available and total population was accepted as a substitute; census population data prior to 1950 is divided by number of families for 1920 and prior censuses, by number of private families for the 1930 census, and by number of occupied dwelling units for 1940, in order to obtain an approximation of the average household size figure. The analyst should recognize, of course, that the averages a ailable or derived for years prior to 1950 are higher as compared with the averages obtained from population in households divided by occupied housing units.

Trends in average household size nationally are available annually for intercensal periods since 1947. A comparison of decennial trends in the local area with national trends will offer a clue to the pattern of local intercensal changes. The compared data must be judged, of course, with due regard for possible differences in the local rate of household formation occasioned by local causes only. The analyst must keep in mind that the average size of household has persisted in declining despite extraordinary causes of increase such as severe economic hardship and extremely tight housing conditions. Only the pressures of ethnic group discrimination have increased the average size of household in recent years within such groups and in certain areas.

The estimate of average household size obtained by an extrapolation of past trends can be checked by the average size obtained by dividing the population in households for 1950 and later years by the estimate of the number of occupied dwelling units. This interdependency of estimates is of importance, if the analysis is to be consistent. If there is any difference, all of the data utilized must be re-examined and reconciled. A slight difference in average household size can cause a material difference in estimated construction, vacancy, household formation, or population increase.

Sample surveys of the U.S. Census Bureau may have been made which provided estimates of average household size for a local area. These, as well at the national estimates made annually, however, are subject to sampling error. Consequently, differences within the standard error between census estimates and those independently derived may be ignored. The degree of sampling error for a small area, however, will be larger than for the nation.

A projection of average household size will be necessary to determine the prospective household formation, which is derived as follows: divide the projected total population in households by the projected average household size to obtain projected total households, and relate this result to the estimate of current households to obtain the estimated change in the number of households for the forecast period. (Only if the projected average household size is exactly the same as the

estimated current average size can the change in the number of households be derived directly by dividing the projected household size into the projected change in household population.)

A projected decline in household size will tend to increase the number of households. Conversely, a projected increase in average household size will tend to decrease the number of households. Thus, depending on the direction of change in average household size, it is possible to have a decrease, or an increase, in the number of households in conjunction with a stationary population; it is possible, also, to have a decrease in households in conjunction with a growth in population, or an increase in households in conjunction with a decline in population, depending on the magnitude and direction of change in average household size and the magnitude of the population change.

The greater the change in household size projected, the greater will be the effect on the estimated prospective household formation. Projections of average household size, therefore, must be determined with extraordinary care and must be based upon a consideration of economic conditions in the forecast period, birth, death, and marriage rates, prospective doubling or undoubling, levels of prices and rents anticipated for new and existing housing, and psychological impacts of changing economic conditions, as well as long-term sociological forces tending to alter the average size of households. In the absence of any strong evidence to the contrary, the analyst is safest in comparing past trends in average size of household for the local housing market area with those for the U.S. total. If there is fairly close agreement, he should ascribe the U.S. rate of projected change in average size to the locality with an upward or downward adjustment to reflect past and anticipated local factors which would tend to accelerate or retard the local rate as compared with that for the U.S.

It should be cautioned that intercensal estimates of the number of doubled-up families in local areas are sheer guesses. Without any measure of reliability, a parallel trend with national estimates may be hazarded. A priori reasoning on the basis of locally observed factors generally is unreliable unless premised upon a soundly conceived sample survey.

With respect to migration, there is scattered evidence to indicate that households in the migrating population conform to the general population, except for a smaller proportion of older couples. Surveys during World War II did not substantiate an overwhelming proportion of single individuals. In the absence of reliable evidence to the contrary, the analyst should assume a local pattern not materially different from the national.

Reconciliation of Estimates

In order to assure consistency in various sections of the housing market study, to achieve a reliable interdependency of estimates, to minimize the possibility of using two or more different figures for the same item, and to ease the task of adjusting the several estimates in testing their reasonableness, the analyst should reconcile all of the significant data and estimates. A special work sheet has been designed to facilitate the coordination and reconciliation of the key data series and estimates constituting the basic structure of the housing market analysis. This work sheet, together with instructions for its implementation, is presented in Exhibit D, p. 264.

This work sheet should be one of the analyst's first approaches to a market study. He should complete this work sheet as soon as the pertinent data and estimates have been compiled and processed and before he initiates writing any portion of the analytical report. Unless this priority is followed, the analyst may have to re-do much work because of belated discovery of an error or discrepancy which significantly affects the results of the analysis. All estimates and their variations can be worked directly on the spread sheet for convenience and ready reference.

Utilization of the six tables comprising the work sheet, i.e., (A) Labor Force and Nonagricultural Employment, (B) Population, (C) Households (Occupied Housing Units), (D) Housing Inventory, (E) Components of Inventory Change Since Last Census, and (F) Trend Comparisons, will enable a complete reconciliation of all the basic estimates as of the date of the report as well as the projections for the forecast period. The methodologies for making various estimates are discussed in the respective sections of this volume and are not repeated in the work sheet instructions.

CHAPTER V. HOUSING STOCK AND MARKET CONDITIONS

Page

Patterns of Urban Growth 101

The Form of Growth
The Form of Urban Decay
The Filtering Concept
Causes of Filtering
Filtering as a Function of Supply
Spatial Relationships
Conservation and Redevelopment

Housing Submarkets 106

Market Segmentation
Submarket Types
Significance of Submarket Analysis

Trends and Characteristics of Housing Stock 108

Housing Stock Trends
Current Characteristics of Housing Stock
Tenure
Type of Structure
Rent and Value
Condition
Age
Other Characteristics

Housing Stock Estimates 111

Changes in Housing Stock--Additions and Deductions
New Construction
Conversions, Demolitions, and Other Changes
Types of Estimates; Procedures
Total Housing Stock
Geographical Components
Tenure
Structural Type
Rent and Value
Condition
Age

	Page
Current Market Conditions	123
Financing	
Interest Rates	
Construction Costs	
Land Availability and Subdivision Activity	
Deed and Mortgage Recordings	
Foreclosures	
Vacancy	130
Intensity of Housing Stock Utilization	
Variations in Vacancy Concepts	
Vacancy Concepts Used in Market Analysis	
Differential Vacancy	
Nature and Causes of Vacancy	
Frictional Vacancy	
Current Vacancy Estimates	
Prices and Rents	139
Price and Rent Submarkets	
" " " Differentials	
" " " Variations	
Sales Market	142
Price Determinants	
Scope of the Sales Market	
Quality and Marketability of New Houses	
FHA Annual Survey of Unsold Inventory	
Competitive Position of Existing Houses	
Synthesis of Pertinent Facts and Findings	
Rental Market	146
Rent Determinants	
Scope of the Rental Market	
Quality and Absorption of New Rental Units	
Competitive Position of Existing Rental Housing	
Synthesis of Pertinent Facts and Findings	
Special Housing Programs	150
Urban Renewal	
Military Housing	
Public Housing	
Legislation	

CHAPTER V HOUSING STOCK AND MARKET CONDITIONS

In this portion of the market analysis the analyst is concerned with the residential real-estate aspects of the housing market. In the aggregate residential property is referred to as the housing stock or inventory, these terms being synonymous and used interchangeably. The analytical treatment focuses attention on the magnitude, changes, characteristics, and utilization of the housing stock and constitutes the semi-final step leading to the projection of demand.

Patterns of Urban Growth

The Form of Growth

The form taken by new increments to the housing stock is governed by the relative magnitude of the urban area and the geographic distribution of major sources of employment. The greater the geographic concentration of employment, the greater the tendency for new additions to the housing stock to be in multifamily structures. This may occur, in a large metropolitan area, in relation to two or more nuclei of employment. Conversions, or redevelopment to a greater intensity of residential use, will tend to take place in the older segments of the housing stock. The proportion of new single-family construction will be related to the area available by acceptable travel-time measurements from major employment concentrations and the ease of accessibility to central community and urban facilities, as well as relative costs, homestead exemptions, financing terms, and availability of mortgage funds.

The Form of Urban Decay

As urban areas grow older, obsolescence and age take their toll on the housing stock in varying degree. The state of repair, the quality of maintenance, and the degree of obsolescence of any unit of the housing stock directly affect its capacity to produce an income stream adequate to pay taxes, costs of operation and maintenance, and interest and amortization on financing, to accumulate reserves for major replacements and to provide the owner a return of his equity and interest on his investment. New structures, designed for either owner-occupancy or for the rental market, invariably have this income producing attribute. As structures grow older, their ownership changes; income-investment relationships shift; neighborhoods are affected by transition; concomitant economic conditions vary and are reflected in the capacity to produce income; and the competitive quality of the structures is reduced and reflected in the hierarchy of real estate values. As the income produced declines (relative to the cost of the property to the owner) and the owner's return is reduced after the payment of fixed charges, the market value tends to decrease. Under such circumstances, maintenance is postponed, obsolescence and depreciation reserves diminish and vanish,

and the income produced tends to decline further. An isolated instance of neglect in a neighborhood may either induce a change to stronger ownership or be the catalytic agent signalling the decline of the entire area. In the latter case, general blight gradually ensues.

Single-family dwellings designed for owner-occupancy are subject to taxes, financing costs, and maintenance similar to other realty improvements. However, the monetary outlay by the home owner generally is lower than rents demanded for similar properties. The difference has been termed the "amenity income" of the property.

Multifamily housing is typically designed for the rental market and true competitive rental values are more quickly apparent than in a single-family neighborhood composed entirely of owner occupants. Since rental structures are acquired as income-producing assets and are generally owned and managed by investors dependent on such income, a monetary return is sought consistent with the risk of investment. Although experience real-estate management agents are becoming increasingly aware of the necessity for continued high levels of maintenance and for modernization of obsolescent features from accumulated reserve funds in order to maintain rents and values and a strong competitive position, a large proportion of residential rental property is "milked" for a current return, either intentionally or through mismanagement, by speculators or inexperienced managers. As a consequence, rental properties and neighborhoods are subject to more rapid deterioration than the single-family property and neighborhood where pride and self-interest exert strong influences toward good maintenance.

The Filtering Concept

The passing of units of the residential housing stock into gradations of use differing from the original gradation of use through the operation of physical, economic, and social forces is termed the filtering process. Gradations of use have been defined in terms of the occupants, by occupation, ethnic group, or social status classifications; in terms of incomes; in terms of rents and values; and in terms of structural quality. The filtering concept is generally confined to a rationalization of lower gradation of use over time, although some economists admit the possibility of the evolution of higher use gradations. The former has been termed "filtering down"; the latter, "filtering up". The concept is burdened with broad assumptions of the incidence of the impact of demand and supply functions upon individual and aggregate units of the housing stock and is confused by explanations of market behavior in terms of people rather than dwelling units. Two major views of the filtering concept have emerged in recent years and are discussed below.

1. In terms of price decline. Filtering has been defined as "the changing of occupancy as the housing that is occupied by one income group becomes available to the next lower income group as a result of a decline in market price, i.e., in sales price or rent value." Thus, as new dwelling units are introduced, used units are "released to be passed down to successively lower levels until the effect has reached the bottom of the market."[1] This definition virtually precludes an upward movement in the value scale although it is admitted that filtering up may occur as a temporary phenomenon. Declines in market price are directly associated with declines in incomes.

2. In terms of relative housing quality. More recently, filtering has been defined as "a change over time in the position of a given dwelling unit or group of dwelling units within the distribution of housing rents and prices in the community as a whole."[2] This definition avoids confusion between the process of filtering (changes in price) and its effects (changes in occupancy) and provides a guide to measurement. Without recourse to corrections for general price and rent fluctuations, the relative position of dwelling units to means or medians of frequency distributions of rent or value can be compared for successive time periods. This means of measurement may be found useful in empirical research but may require modification under certain conditions, i.e., where rent-controlled units obscure displacements from the mean, or in cases of extreme doubling accompanied by gross rent increases, where subjective judgment may contradict the objective test.

Causes of filtering. Shifts in the relative position in the scale of rents and values occur because of relative rates of physical deterioration, because of the intrusion of new land uses, because of changes in or additions to routes of transportation, because of fashions in design or architecture, because of economic or social forces, etc.

PHYSICAL DETERIORATION. Because of the possibilities of structural maintenance and restoration, physical deterioration is not inevitable. However, when it occurs, it contributes directly to changes in the relative status of the numerous units of the housing stock. Degrees of maintenance, through repair and modernization, as well as varying qualities of durability in the integral components of structures, contribute to widely differing rates of physical deterioration. The introduction of new construction in the community creates a greater gradation in the existing stock and accelerates filtering by the availability of relatively more desirable alternatives.

INTRUSION OF NEW LAND USES. The building of a factory producing unusual noise or odors creates an adverse influence on the value of the adjacent and nearby residences. The creation or spread of a shopping center in a community will often increase values of residences in the area.

A physical improvement such as a park, a church, or a school may have an adverse influence on adjacent residential properties but may also enhance value and cause nearby homes to filter up in the scale of values. Modification of a zoning ordinance may accelerate filtering down by promoting the rate of change in the gradations of use. Conversely, planned redevelopment promotes new land uses and generally causes a filtering up in the scale of values.

TRANSPORTATION. The extension of bus lines, arterial highways, or other forms of mass transit may accelerate both filtering down and filtering up. The central area becomes less attractive, as do those dwellings immediately adjacent to the new mass transit facilities; and improvements tend to move down in the scale of values. The new areas served, however, excepting those units suffering from exposure to congestion through their immediate proximity to the new facilities, derive added desirability.

FASHION. Changes or improvements in design or architecture meeting with public acceptance may make former designs and architectural styles passé and thus assist in accelerating filtering. The "gingerbread" embroidering the interior of residences in the Victorian Era was heavily discounted in values decades ago. Old style tenements, even if designed with modern standards of light and ventilation, are generally unacceptable today. In many areas, the ranch house style has succeeded the colonial in favor.

ECONOMIC AND SOCIAL FORCES. The current tax structure and servant problem have converted the mansion to apartment, school, or boarding house use. Whole neighborhoods of fine old homes have been subjected to the filtering down process by change in gradation of use through economic circumstance. Sutton Place in New York and Georgetown in Washington, D. C., however, have filtered up through redevelopment and rehabilitation as a result of combined fashion change and economic forces. Social forces have promoted filtering down in Harlem in New York and in the near south side in Chicago, albeit visible physical deterioration did not appear until the effect of poor maintenance took its toll.

Filtering as a function of supply. It is often argued that the filtering process is the time-honored method by means of which the lowest income groups are provided with housing. As a corollary, a conscious acceleration of the filtering process is proposed, at times, as a panacea for the housing problem. Briefly, it is argued that flooding the market at the top of the value scale will release used dwellings in sufficient volume to successively lower income groups in a chain reaction so that a comparable volume of substandard housing may be retired; and that the greater the surplus production, the more rapid the filtering process. Such an argument is appealing but ignores fundamental housing economics and some elementary facts.

Historically, the construction industry generally has provided housing no more than adequate for growth and for the replacement of those dwellings lost by fire, demolition, or disaster. Once built, residential structures are enduring. Until recently demolitions have been largely for public or private improvements and much less commonly for the sole reason that the units were substandard and unfit for habitation.

The filtering process did operate in periods and in locations in which supply consistently outpaced demand for an extended time. But few periods have seen production sufficient to outrun demand to such an extent that rapid filtration occurred. The downward adjustment in price accompanying surplus production inhibits further new construction, thus defeating the acceleration of filtering, particularly if production is concentrated in the upper quality brackets. The number of units which can be released for filtering at any given quality level is limited by the effect the filterable surplus will have on building activity, by the willingness of occupants of higher quality units to acquire new units, and by the willingness of owners of the released higher quality units to reduce price or rent on the vacant units. The farther down and the greater the spread in the quality scale over which new housing production is distributed, however, the more effective it will be in promoting filtering. Thus, reduction in housing costs and infusion of new construction into progressively lower value and rent segments of the housing stock, together with orderly and aggressive marketing, tend to induce a more even and accelerated functioning of the filtering process without the accumulation of a self-defeating surplus, provided production maintains a reasonable relationship to the qualitative distribution of demand.

Spatial Relationships

The effects of decay--through age, obsolescence, and deterioration--are apparent in all urban areas to greater or lesser degree. Each real estate and building boom is characterized by some prevailing architectural styles. Thus, a careful physical examination of the inventory of any city quickly reveals the areas of development in different time periods. In the older cities of the eastern seaboard, despite demolition of many of the oldest habitations for a vertical redevelopment, structures 150 to 200 years of age can be identified.

An era of relatively rapid development has been experienced by every city, although growth is never uniform. In this rapid growth period, redevelopment of the then older areas paralleled new construction on vacant land. Consequently, the period of most rapid development during the past century characterizes the appearance of our central cities. Suburbia, with its vast stretches of single-family detached development, is a phenomenon of the automobile age. Commonly, in central cities and in small towns, the effects of decay are most evident in those areas developed about the turn of the century or earlier; few neighborhoods developed 50 years ago or more have retained even a semblance of their original character.

Conservation and Redevelopment

An increasing consciousness of the need to conserve our residential housing stock is becoming evident. Despite the possibilities of financial gain to speculative holders with thin equities, the "milking" of realty investments is economically wasteful and is not in the public interest. Neglect of proper maintenance and improvements initiates progressive decay which is likely to continue indefinitely for individual properties and to induce general neighborhood neglect and deterioration. This cumulative decline may often be arrested by prohibitive legal restrictions, local ordinances, and official regulations which, however, require modification from time to time, effective implementation, and constant enforcement in the public interest.

Until the passage of the Housing Act of 1949, the redevelopment in our cities was primarily a by-product of growth factors. These factors progressively or selectively increased the value of centrally located real estate to the point where it became economic to demolish outmoded structures and construct improvements in keeping with "highest and best use" concepts of appraisal terminology. Thus, some parcels in New York City have been redeveloped several times over in the successive booms of the past 300 years. In Chicago, parcels in the Loop have experienced similar transformations. In Washington, D. C., government demand for space has induced private and public redevelopment. In all cities, however, the forces resulting in vertical growth, and consequent redevelopment, have been far less effective than the forces of horizontal growth. With both forms of growth evolving, large areas were passed by which contained a dominant number of structures long past useful economic life. In consequence, deterioration progressed to slum conditions.

Redevelopment as an implement of national policy is directed towards eliminating or improving the nation's slum areas. Rehabilitation of structurally sound dwellings, interspersed with spot redevelopment, is economical and presents advantages in improving many neighborhoods. Finally, conservation of the existing housing stock inhibits the accumulation of deterioration and maintains sound and livable neighborhoods. This three-pronged, nationwide attack on urban slums and blight is led by the Renewal Assistance Administration of the Department of Housing and Urban Development.

Housing Submarkets

Market Segmentation

The urban area, large or small, generally is considered a single market in which dwellings are sold or rented to prospective owners or tenants. With perfect homogeneity, every dwelling unit should be an acceptable substitute for any other dwelling unit in the market area.

A closer examination of any housing market, however, discloses a potential of numerous submarkets based on various location, physical, and qualitative classifications. It has been suggested that there is a whole congeries of submarkets, with each property constituting a market in itself because of its unique character. Thus, each dwelling unit is built on a parcel of land, different in some respect from adjacent parcels and all other units of land; each dwelling unit possesses individual characteristics, though the differences may be minute in a mass-produced development. These are concepts useful to the appraiser, who is concerned with the detailed characteristics of the property being appraised. Because of the practical necessity for simplification to achieve meaningfulness, however, broader classifications must be used for the analysis of housing markets, as such. Actually, the segmentation of housing markets is relatively limited in analytical practice as compared with the conceptual possibilities, and it is usually determined by the purpose(s) to be served by the analysis in each instance.

Submarket Types

Geographical submarkets comprise neighborhoods or other subdivisions of an urban area which constitute a locally recognized distinctive subarea for property marketing. These geographical subdivisions may be composed of census tracts or other subarea delineations containing housing of a homogeneous character, sections of the area with independent employment opportunities or appeal characteristics, municipal or other civil divisions of the urban area, or merely radial sectors or quadrants exhibiting distinct market characteristics because of the wide lateral sprawl of the area. Within geographical submarkets may be found either or both of the two major qualitative submarkets, the sales market and the rental market. Each of these may be further divided in quality on the basis of price or rent, by number of rooms, by age, by type of structure, etc. The diversity of classification, however, is potential rather than realistic since data other than geographic and qualitative characteristics from recent censuses are sparse.

Geographical submarkets often have important differentiating characteristics. Being within a single market area, denoting housing in direct competition for the same occupants, there is a freedom of movement between two or more submarkets. Nevertheless, the qualities that endow submarket characteristics render competition within each submarket more important than between submarkets. For example, in submarkets determined by focal points of employment, a considerable increase or decrease in employment at one focal point will affect the submarket with which it is associated to a greater degree than others. By the same token submarket analysis must give due consideration to the events in each which affect them all. In submarkets oriented in terms of quadrants alone, or sections or neighborhoods of a city, long-time consumer preference and living habits are the primary determinants of the respective prospective demand. Similarly with individual neighborhoods which have become endowed with an individual character over time.

Qualitative submarkets will differ in their action within and between geographical submarkets. The sales market for owner-occupied dwelling units is concentrated largely in single-family structures with small proportions in two- to four-family structures and in cooperative and condominium properties. The rental market includes all types of structures, with tenant occupancy of single-family dwellings tending to increase during economic recessions and tending to decrease during periods of economic improvement. Both the sales and rental submarkets (a classification by tenure) are characterized by current consumer preference in terms of price, size of unit, architectural style, location, immediate neighborhood, and other types of submarket classifications. From an analytical viewpoint, preferences based on price and rent considerations are more important than any other and thus constitute the most significant submarket classifications. Price and rent exert influence in other qualitative submarkets, such as location, style, size, etc., even influencing competition among geographical submarkets, as does time-distance accessibility.

Other types of market segmentation or submarket classification of privately-financed housing, for which demand projections are increasingly required, are special purpose housing (e.g., housing for the elderly, housing for military-connected families, nursing homes). These submarkets entail problems of a special nature, and their analysis requires modification of the standard market analysis procedure.

Significance of Submarket Analysis

Both geographical and qualitative submarket analysis is important in the analysis of any urban housing market. Only in this manner can the complex and heterogeneous mass of dwelling units comprising the market be intelligently dissected; and only in this manner can the demand for housing be interpreted meaningfully for guidance in the provision of additional housing to meet the demand effectively as to location, tenure, and quality. Without segmentation the analysis is of limited value and use, even in relatively small housing markets; and the larger the housing market, the greater is the need for submarket segmentation and analysis.

Trends and Characteristics of Housing Stock

The purpose of this portion of the housing market report is to provide a perspective of the character and development of the subject area's housing stock. The text and tables are largely descriptive of the inventory and the various trends of its physical development. The interpretative substance of the textual discussion is concerned primarily with the data relationships. Isolation of the housing data reveals important reference points in stark clarity, facilitating an easy comprehension of the relationships among the economic and demographic phenomena.

Housing Stock Trends

The magnitude of the total housing stock in terms of dwelling units, reflecting changes over time, is one of the most significant items of reported data. The trend period to be utilized should be consistent with the period for which population data are presented. The geographic subdivisions for which data are tabulated should be consistent with the demographic discussion. The discussion should avoid repetition of tabulated material and should be devoted to implied relationships, relative growths, and possibly fragmentary and related but untabulated data. The decennial census reports are the basic sources of data.[3/] The latest estimate of the inventory, derived by appropriate method, should be included in all instances.

In most analyses, the discussion of inventory trend is devoted primarily to trends in the aggregate inventory and is segregated only by the appropriate geographical components, if any. Comparison of more than the last census report and the current estimate is generally unnecessary. Historical trends of tenure and type of structure may be revealing as to the unfolding pattern but trends in rent and value, condition, and age have little significance beyond the short-term past.

Current Characteristics of Housing Stock

In the comprehensive analysis, every effort should be made to provide an adequate discussion of the characteristics of the current stock for the subject market area and possibly for each geographical component, depending upon the intensiveness of the analysis itself. Since the only valid data available will be the material reported in the latest decennial census, observations as to current characteristics must be based upon informed observation. For the first two years of the decennial period following the last census, the data reported in the census may be sufficiently current for most discussions, particularly if compared with the previous census report. The characteristics significant to an understanding of the market under study are discussed individually below.

Tenure. Tenure is an occupancy characteristic of housing units and is probably the most important individual housing characteristic. The occupancy status of the housing inventory is classified in three broad categories: owner-occupied, renter-occupied, and vacant units. Vacant units are subdivided as available for occupancy and other (not available). Available vacant units are classified as being either for sale only or for rent; the former are allied with the owner-occupied segment of the inventory and the latter with the renter-occupied segment.

The number and proportion of units owner-occupied, tenant-occupied, and vacant have both historical and current significance. Tenure patterns of current new construction may be markedly dissimilar, however, since the pattern of tenure in the existing stock reflects the cumulative effects of past trends rather than the tenure pattern of the occupants of current construction.

Type of structure. Almost equally as significant as tenure is the change in distribution of the inventory by structural type. A high degree of correlation should be found between the owner-occupancy (tenure) trend and the corresponding trend for the proportion of single-family dwelling units. This distribution may be detailed as to structural types other than single-family structures, depending on the situation in each instance and, of course, the limitations of available data for making current estimates. Every effort should be made to detect and report significant changes or transition in local housing customs or preferences during the recent past and the causal factors or developments.

(Technical note: In some cases the 1960 Census table showing the distribution of housing units by type of structure shows a total slightly different from the total count of units in other tables, due to the enumeration of structure type on a sample basis.)

Rent and Value. Distributions of the housing inventory by rent and value are useful primarily in providing an understanding of its qualitative composition and character. Such distributions for other than census dates can be obtained only by special and reliable survey, the cost of which ordinarily is prohibitive for market analysis purposes. Data in the last census report should be effectively highlighted to provide perspective on the quality of the housing stock as informative background, subject to the recognition that changes have occurred since then in the level and pattern of rents and values.

Of greater importance and significance is the information compiled on the pattern of rents and prices of new units provided currently and during the recent past, the absorption of these units, and the relative strength or weakness of the market in various quality segments. These considerations are treated in that portion of the analysis concerned with current market conditions.

Condition. The data on condition from the last census are of most importance to give perspective as to current quality of housing. However, definitions changed between 1940, 1950, and 1960 Censuses, and the data are not comparable. By carefully examining definitions, rough comparisons may be drawn should the analysis require an indication of the historical improvement or deterioration of the housing stock.

The chief usefulness of the distribution of the housing stock by condition is to reveal in the analysis a guide to the number of units in need of replacement. As an arbitrary measure, all dilapidated dwelling units plus all those non-dilapidated units without private bath and running water may be taken as a guide. However, any number of dilapidated or non-dilapidated units with or without various facilities may be made decent and acceptable accommodations at much less cost than the provision of new units. Others, including some classified in good condition with or without standard facilities, may be borderline cases and may be ripe candidates for demolition.

Age. The distributions of inventory classified by year built included in census reports since 1940 can easily be brought to date with adequate building permit records. They are useful primarily in typifying the existing construction of an area with respect to the relative youthfulness or age of its housing. Since considerable obsolescence and deterioration have been an almost inevitable accompaniment of age, dwelling units constructed prior to some arbitrary date, such as 1900 or 1880, or of some selected age, such as 50 or 75 years, have been used as indicators of the magnitude of replacement needs. These, like the indicators of housing condition, are arbitrary guides and must be so regarded.

> (Technical note: Census data on age of structure, i.e., "year built", and current estimates based thereon should be appropriately footnoted in market analysis to indicate that these data reflect an unknown degree of error occasioned by the inaccuracy of response to enumerators' questions, as well as errors due to sampling.)

Other characteristics. Distributions of housing units by number of rooms, by number of persons per room, by equipment or fuel, with television or radio set, with mortgage, etc. have usefulness for particular analytical objectives. A comprehensive report may exclude all or most of them on the premise that they provide no particularly relevant information respecting the intended scope of housing market analysis.

Housing Stock Estimates

With very rare exceptions, the decennial census is the only source of data on the magnitude and characteristics of the housing stock. Because these data become out-of-date even before they are published, they have limited use as a measure of the current housing stock. They do provide essential bench marks, however, to facilitate development of the current estimates required in this portion of the analysis. The current housing stock, of course, reflects the composite of changes which have occurred by way of additions to and deductions from the stock during the period which has elapsed since the last decennial census.

Inasmuch as complete data on the components of change are not available, the current housing stock estimates necessarily are based on a series of estimates of the components involved. In these estimates, heavy reliance must be placed on the judgment factor because of either the complete lack of basic data or the limited coverage of data which are available.

Changes in Housing Stock--Additions and Deductions

Because of its long physical and economic life, the housing inventory of any area has a high degree of durability. The natural forces of deterioration require decades or centuries to take their toll; obsolescence may be checked by improvements in style or facilities and complete obsolescense may

take equally long. Deterioration and obsolescence alone, however, do not remove dwellings from the housing stock; it has been estimated that, in the absence of planned redevelopment, changes in land use, or demolition for public works, these factors have a negligible effect upon the housing inventory. Disaster losses eliminate but a small fraction of the stock in the average year. Thus, the total annual replacement occurring through both the necessity for replacing units lost by catastrophe and the desire to remove useless structures constitutes but a small proportion of the stock of housing. In virtually all urban areas, a major portion of the housing stock added annually occurs in response to demographic forces--the net increase in population and household formation--supplemented by production to replace units lost through demolitions for higher economic uses, removal for public purposes, and conversions to nonresidential uses.

New Construction. In most instances, the housing inventory of an area evidences its greatest change by additions made through new residential construction activity. For purposes of analysis, the trend of activity and current preparations for further activity through subdivision of vacant land are of principal significance. Nonresidential construction may be discussed as a corollary phenomenon only in a lengthy and detailed report.

Quantitatively, the number of dwelling units authorized annually for a period of years and monthly for the current and the immediately preceding year, depending on the scope of the report, supplies the information desired. The value of permitted construction has little significance in quantitative terms since a number of influences make them noncomparable from year to year and with other areas. A comprehensive report may include the entire historical series as a matter of record. In most instances, however, data for the period of the last eight to ten years are adequate to convey the necessary information as to the magnitude and direction of new residential construction activity. If the census data are comparatively recent, observations as to magnitude and trend may be made for the period since the census date and for the previous decennial period. Averages for long periods are misleading since the individual years are rarely comparable with one another. In those areas in which building permits are not issued, or in which such records are incomplete or unreliable, the analyst must resort to estimating techniques.

The number of dwelling units added through new construction in any period of time can be revealed only by adequate data from building permits. An estimated eighty percent of the population resides in the approximately 13,000 areas in which building permits are required. These areas accounted for about 85 percent of all private housing construction in the United States in 1964. About 4,000 permit authorities report monthly and an additional 9,000 report annually to the Department of Commerce, which publishes

monthly reports and annual summaries.[4/] Where building permit authorization is not required for new construction, reliable data may be impossible to obtain. Residential utility connections (sewer, water, and electricity) may offer a clue but such series reflect accounting inconsistencies lack of full or comparable coverage, existing inventory changes, seasonal influences, and single connections for multiple-unit structures. Tax assessment rolls are similarly inadequate.

In those places in which building permits are required, their reliability must be examined. If the fee is nominal, compliance may be partial. The diligence of supervision respecting compliance must be ascertained if a corrective factor is to be applied to the series; corrective factors in themselves are questionable, however, since past experience in compliance may vary markedly from recent or current experience. Geographic coverage must be determined in order to recognize the limits of the series and to determine the geographic gaps which may exist in the data for the market area. An incomplete series of building permit data, however, is an indicator of the volume and trend of building activity if some measure of its consistent inadequacy can be determined.

Geographic gaps, in which building permits are not issued or for which data are unreliable, cannot be filled easily without periodic field surveys. These cannot be done on a sampling basis in a local area because major concentrations may be omitted entirely. For similar reasons, proportionate adjustments based upon geographic, growth rate, population distribution, and other area-wide relationships are unreliable and generally unacceptable. An acceptable field survey technique would cover the entire subject area in systematic fashion and would involve counting all new construction during a specific time period. Obviously, the cost of such a survey would be prohibitive in most instances. The only alternative for the analyst is to explore diligently other possible local sources for the desired information (data or estimates) and, as a last resort, to use utility connections or other data series indicative of new residential construction as a basis for developing the best possible estimates. Appropriate caution must be exercised to assure reasonable accuracy of the estimates ultimately utilized to fill the gaps in the building permit data for the market area.

In the use of building permit data and/or estimates reflecting new construction as a component of change in the housing stock, it is essential that this component represent units actually completed during the period under consideration. Thus, new construction indicated by building permits must be accorded a sufficient time lag to assure completion and availability for occupancy. In most instances, where single-family construction predominates, a three-month lag will be representative for single-family structures and six to eighteen months for multifamily type structures. Thus, if 3½ years have elapsed between the census date and the date of the estimate, and an average three-month lag were assumed, the single-family building permit authorizations for a 3½ year period, beginning January 1 of the last census year and ending three months prior to the

current estimate, would approximate the number of single-family structures completed since the census date. Multiple-unit construction in any volume, or in occasional volume, and recorded in building permits must be treated seperately. Net multiple-units issued from some date prior to the last census or estimating date (to account for units under construction at that date) must be reduced by a number which adequately reflects units approved but not yet ready for occupancy at the date of the current estimate. The assigned time lag may vary for individual multiple projects in a given community. Therefore, the analyst's judgment as to the appropriate lag will be required in each case. In large areas an average time lag must be estimated.

Qualitatively, the discussion of the trend of new construction activity should convey information as to geographic dispersion and structural type. Wherever possible, the quantitative and qualitative aspects should be presented in a single tabular presentation or in successive annual cross sections. The distribution by geographic segments of the area should conform with the subarea presentations adopted for other portions of the analysis. Information by structural type should be similarly presented and discussed. Differentiation into more than single and multi-family structures, or single-family, two- to four-family, and "other" residential structures, will be impractical except in large markets where rental housing is constructed in substantial volume. It usually will be impossible unless accurate monthly data are obtained locally from the several permit issuing authorities. In those instances in which multifamily structure authorizations include an unusually large number of units in a single month or series of months, the cause should be determined locally and discussed in the analysis. Individual projects, public or private, may merit consideration. Care should be exercised to determine the inclusion or exclusion of public housing authorizations in every case, and tabulations in the analysis should be footnoted accordingly.

A qualitative characteristic of new residential construction which may be discussed in more general terms is the cost or price distribution of single-family structures. Because of inadequacies and differences in permit recordations, cost distributions will rarely be worth the effort of the necessary original research. For the same reason, average costs are useless and misleading. If a uniform standard of cost practice has been adopted and enforced for recordation purposes, generally found only in a few areas in which the fee is determined by recorded costs, a distribution by cost can be translated into sale price equivalents and used for a judgment of demand-supply relationships. More often, however, field surveys of active subdivisions will be required to obtain this information. At times, such surveys can be combined simultaneously with other surveys to yield a composite of data relative to unsold inventory, future intentions and past experience of builders, etc.

Conversions, Demolitions, and Other Changes. Gains and losses in the housing stock occur through various sources and means other than new construction. It has been a generally accepted rule of thumb that such gains and losses compensate one another, so that the record of new building activity was assumed to approximate the number of dwelling units added. This assumption appears to have little support in the differences revealed by decennial census data on total housing stock as compared with residential building activity recorded during intercensal periods. Recent data definitely confirm that the compensatory assumption is not a valid procedure for general application.

The ratio of deductions to additions varies dramatically from area to area and from time to time, depending upon such local factors as the relative shortage or surplus of housing inventory, household formation, demand for housing, the level of home building activity, income and employment levels, the extent of urban renewal and public road programs, and the remaining declining stock of large old houses of suitable quality for conversion. Hence, the analyst must not assume any fixed relationship between dwelling units gained through various sources other than new construction or lost through various means, without satisfying himself that it does in fact appear to be realistic.

The components of housing inventory change are classified and quantified in the 1960 Census, Components of Inventory Change, as shown in the following summary:

All dwelling units		
December 1959	58,468,000	
April 1950	46,137,000	
Net change		+12,331,000
Units added through--		
New construction	15,003,000	
Conversions	807,000	
Other sources	1,050,000	
Total units added		+16,861,000
Units lost through--		
Demolition	1,933,000	
Merger	815,000	
Other means	1,783,000	
Total units lost		- 4,530,000

Note: Totals do not add because of rounding.

As defined by the Bureau of the Census, the components of change other than new construction consist of the following elements in terms of the 1959 and 1950 housing inventories:

Additions to the inventory:

1. Conversion: creation of two or more units from fewer units through structural alteration or change in use.
2. Units added through other sources: units which are not covered by new construction or conversion, e.g., (a) units created from living quarters classified as nondwelling-unit quarters, or quasi-units, in 1950; (b) units created from nonresidential space; (c) units moved in from outside the area; (d) mobile trailers which were occupied in 1959 but not in 1950.

Deductions from the inventory:

3. Merger: units lost by combining two or more units into fewer units through structural alterations or change in use.
4. Demolition: units lost by demolition on the initiative of a public agency or by action of the owner.
5. Units lost through other means, e.g.: (a) units changed to quasi-units; (b) vacant units unfit for habitation; (c) vacant units scheduled for demolition or condemned for reasons of health or safety; (d) units changed to nonresidential use; (e) units moved out of the area; (f) mobile trailers occupied in 1950 but not in 1959; (g) units destroyed by fire, flood, or other cause.

Although current data are not available and it is not feasible to make estimates for all the individual elements identified above, the analyst should be aware of these sources of change in estimating and interpreting housing inventory changes to arrive at an estimate of the current housing stock. Basically, for market analysis purposes, the various elements of change other than new construction may be grouped into three components in the interest of simplifying the approach to estimating the current housing stock, namely: conversions, demolitions, and other.

CONVERSIONS. Both additions to and subtractions from the housing stock are occasioned by conversion, defined in a broader sense than the Census definition and characterized briefly as "conversion-in" and "conversion-out." Thus, in this broader meaning for market analysis purposes, conversions include Census elements of change 1 and 2b as conversions-in and elements 3 and 5d as conversions-out. The combination of these elements represents net conversions, which may be either an addition to or a subtraction from the housing stock.

Few areas are able to maintain complete conversion records, even with an adequate permit system and vigorous compliance enforcement, because of the relative ease of evading disclosure of non-permitted conversion activity. Conversions requiring only simple carpentry can enter and depart from the stock of available dwelling units with no official cognizance whatever. Conversions-out are infrequently recorded as such and, therefore, are not traceable in official records.

DEMOLITIONS. Losses of dwelling units occasioned by fire, flood, or other casualty are in the nature of demolitions. For market analysis purposes, therefore, demolitions as a component of change include Census elements 4 and 5g in the definitional summary presented above.

Demolitions and casualty losses are more susceptible to accurate reporting, but records often are equally as inadequate as those for conversions. Demolitions have become increasingly important because of the growing volume of official slum clearance efforts, the acceleration of economic obsolescence due to increasing intensity of urbanization, and the expanding magnitude and nature of public improvements such as schools, bridges, new traffic arteries, etc. Fire and casualty losses usually will be quite small unless disaster strikes an area, since improved construction materials have made our housing stock more resistant to calamities of nature.

OTHER CHANGES. Gains and losses in the housing inventory arising from sources and means classified as "other" are the most difficult to isolate and measure. For market analysis purposes, this component includes both the units added and deducted from all sources and means not already accounted for in the definitional summary above, namely: elements 2a, c, and d and 5a, b, c,e, and f. No data are available for these elements individually; and, with few exceptions, it is doubtful that records of any kind are maintained on these inventory changes.

The two principal exceptions, and the only ones that may be of significance in a few areas, are demountable housing units which may be removed from an area and mobile trailers which may be moved in or out of an area. These exceptions usually will be associated with military activities and with huge construction jobs in the vicinity of relatively small urban areas. The remaining elements generally will be insignificant in magnitude and need not be estimated unless the analyst finds exceptions which warrant estimation; in such cases, information probably will be available locally to enable him to make a fairly reliable estimate.

In the absence of reliable records, the various types of losses to inventory are virtually impossible of accurate independent estimation. With reliable records of additions through new construction and of estimates of total inventory at appropriate dates, an estimate of the total volume of losses to inventory may be obtained as a remainder. If, however, inventory loss estimates are necessary to build up the gain and loss balance in the development of a housing stock estimate, the analyst's only resource is the fragmentary data and informed judgment locally available. Benchmark data on components of change, individually or collectively, for other localities do not provide valid comparison; nor is national or regional experience useful in the guidance of judgment for an estimate of inventory change in a given locality. The necessary adjustments for a local major disaster, or for demolition occasioned by major local public works or redevelopment, or for other possible variants are not measurable with any degree of accuracy inasmuch as there are no norms (for the various components) from which the variation must be measured.

Types of Estimates; Procedures

For all housing market analyses, current estimates are required for the total housing stock; the distribution of the stock by tenure, type of structure, and age; the number of units in dilapidated condition; and the number lacking one or more plumbing facilities. In cases where the size of the area dictates the need or desirability of submarket consideration, or where the purpose of the market analysis requires such consideration, a distribution of the housing stock by geographical components should be developed.

Total Housing Stock. An accurate current figure representing the total housing stock (or nonfarm housing stock, where rural farm is eliminated) as of a given date would simplify the analytical process considerably. It is extremely doubtful whether precise data ever will be obtainable. Even census data admit of a margin of error attributable to both underreporting and double counting, with wide geographic variations. Sample intercensal data are subject to considerably greater probable error. With imperfections in the bench marks themselves, and only crude estimating techniques in the absence of expensive sample surveys, an independently derived current housing inventory estimate may have serious defects. Even with local financing of a perpetual housing inventory, usefulness is limited and difficult because of incomplete coverage, imperfect relationships to bench-mark and inventory-change data, and noncomparability in definitions of terms used by the locality and Census Bureau.

The use of the Market Analysis Work Sheet brings together all significant data that must be estimated (or projected) in the analytical process and tested for reasonableness and internal consistency. Estimating procedures for the current and prospective labor force, population, households, and net inventory changes have a significance equal to the inventory itself. The resolution of the interrelationships in these various factors produces an inventory estimate as a by-product. The accuracy of an inventory estimate or projection thus produced depends upon the reasonableness of the magnitudes, relationships, and trends of the dynamic forces from which it is compounded.

Reference to the work sheet will reveal that the derivation of the inventory estimate rests on valid estimates of vacancy and net additions to inventory. Of these two estimates, the vacancy estimate generally has the least supporting or reliable data. In the absence of supporting data for either vacancy or net additions to inventory, other than informed judgments, these estimates as well as the inventory estimate rest upon labor force and population estimates and relationships and the average household size estimate. Thus, a tenuous pattern of interrelated estimates must be built up and tested almost exclusively by the analyst's judgment of reasonableness in the light of known local facts and conditions.

Not infrequently, because of the unavailability of data on most components of inventory change, it may be necessary for the analyst to use the time-honored assumption that gains and losses in the existing inventory offset one another, and that net inventory gains are adequately represented by new construction volume. (This approach may be used also as a check on the estimated inventory derived independently on the work sheet.) Two simple tests of the validity of such an estimate are required, however, to determine the reliability of the estimate.

> First, the analyst must ascertain that new construction volume has comparable geographic coverage and that the record of building permit authorizations is complete. Noncomparability may be impossible to adjust without estimates of building activity to reconcile the gaps and overlaps.
>
> Second, the assumption of compensatory gains and losses in the existing inventory should be checked by comparison with experience during the last decennial period and by rationalization of known market conditions and trends. If the compensatory assumption proves improper, appropriate adjustment should be made as outlined in the next paragraph; this method, however, is applicable only in building permit-issuing areas. It will produce an inventory estimate with a relatively small, but unknown, margin of error provided the supporting data are critically examined for reasonableness.

The procedure for making the adjustment referred to in the preceding paragraph is as follows: First, the analyst should systematically add up the gains through new construction for the last intercensal period; gaps and weaknesses in these underlying data must be corrected, by estimate if necessary. Second, the gains thus obtained should be divided by the inventory difference indicated by the two previous censuses. Third, the resulting proportionate corrective factor should be applied to the sum of inventory gains through new construction during the period succeeding the last census; this will yield an estimate of total net change in inventory since the last census. Fourth, the test of reasonableness must be applied by examining the interrelationships of the inventory estimate with other dynamic factors such as labor force estimates and relationships, population, household, and household size estimates, and the vacancy estimate. All of these estimates are subject to error in varying degree and their weaknesses can best be discerned by examination in conjunction with one another.

Geographical Components. Civil division entities, individually or in combination, for which the census and other sources of basic data are available, may govern the actual delineation of most submarket areas. The current housing stock of the submarket components of an urban area can be derived in a fashion similar to that suggested above for the total housing stock. It will be necessary, of course, to make inter-component adjustments and reconciliations within the market area totals for all factors recorded on the reconciliation work sheet. Obviously, the introduction of submarket considerations adds to the complications and difficulties of the analysis and necessitates greater dependence on the judgment factor and the test of reasonableness.

Tenure. The tenure classification of the occupied inventory as of a given date subsequent to a census count can be estimated with a reasonable degree of accuracy when due allowance is made for the following factors:

1. Vacancies
2. Units authorized
3. Units under construction
4. Demolitions, conversions, and other changes

The estimated current tenure of the occupied housing stock is derived as follows: (1) the number of vacant units for sale and for rent in 1960 are added to the number of owner- and renter-occupied units, respectively, in 1960; (2) units authorized for permanent occupancy (minus those under construction) are added to the totals obtained in the preceding step, with one-unit structures in the owner category and two- or more-unit structures in the rental group; (3) due allowance is then made for demolitions, conversions, and other changes, by tenure; and (4) the current vacancies, by tenure, are subtracted from the results obtained in step (3).

Structural Type. Current estimates of inventory distribution by type of structure can be made on a limited basis. Available data for inventory changes are limited in scope, generally, to two or three types of structures only, i.e., single-family and other, with possible further breakdown of other types among two- or more-family structures. In some instances a separate estimate for trailers may be important and possible. First, a total inventory estimate must be made as outlined above. Having the total inventory for the current date and the latest census date, the difference requires distribution as to type of structure so that it may be added to the latest census data to derive a current distribution. Apportionment among the several structural types is made with the aid of data on building permits and fragmentary data and information on conversions, demolitions, and other inventory changes. The resulting distribution is less reliable in any one of its components than the total inventory. Reasonable approximations are adequate, however, for the purpose to be served.

Rent and Value. Reasonably reliable estimates of current distributions of the housing stock by rent and value are virtually impossible. Actually, such estimates are not essential and they need not be attempted for the limited purpose they would serve in the usual market analysis.

Condition. Dilapidation and the lack of one or more plumbing facilities are generally regarded as the earmarks of substandard housing. Units in these categories are not competitive with sound or deteriorating housing and are potential candidates for demolition. The numbers of such units are significant in the qualitative evaluation of the housing stock and particularly in the evaluation and interpretation of the vacancy situation. Current estimates, therefore, are required although the available procedure is admittedly crude and produces only rough estimates based largely on judgments of the elements involved. A suggested approach for estimating the current number of dilapidated units and the number of units lacking one or more plumbing facilities is outlined below.

1. Derive from data in the last two censuses the differences in the number of dilapidated units and the number of units lacking one or more plumbing facilities, as separate categories; convert these decennial differences to annual averages. These differences represent net changes and reflect demolitions, physical improvement, deterioration, and other changes affecting the number of units in each of the two categories of substandard housing, taking into account the differences in definitions and classifications used in the two censuses.

2. Adjust the 1950-1960 average annual changes to reflect variation in the constituent elements of change during the post-censal period. Judgments, based on fragmentary data interpreted in light of information and opinion supplied by knowledgeable local persons, must be translated into comparable average changes in each of the substandard categories. These judgments will be expressed as estimated differences in the rate of change for each category; and they will reflect comparative consideration of the following elements in both periods, giving due consideration to relative economic conditions, vacancy levels, construction activity, community improvement programs, and social attitudes, all of which bear on the rate of change in the substandard segment of the housing stock:

   (a) Demolition of substandard units through all means, with particular attention to those which may have changed significantly, e.g., renewal, highway, and public improvement activities.

   (b) Elimination of substandard condition through property improvement as a consequence of code enforcement or voluntary action.

   (c) Conversion of substandard units to nonresidential use.

   (d) Progressive deterioration of the existing stock, resulting in the filtering of units into the dilapidated category.

3. Convert the adjusted annual rates of change (expressed in terms of units for each substandard category separately) into aggregates for the number of years since the last census date; and add (algebraically) these aggregates to the respective housing stock in each substandard category as reported in the last census. The results represent the estimated current number of dilapidated units and the number of units lacking one or more plumbing facilities.

4. Apportion the estimated number of units in each substandard category between occupancy and vacancy status. The corresponding relationship, as revealed by the most recent census data, provides only preliminary guidance and is subject to adjustment consistent with the relative status of demand-supply relationships. Generally, it may be assumed that with

progressively higher over-all vacancy levels a larger proportion of substandard units will be vacant, and vice versa. The determination of the current apportionment, as well as the estimation of current aggregates, necessarily must rest on judgment based on observation and tempered by the test of reasonableness.

Age. Accepting the validity of the latest aggregate census distribution by age of structure, the total volume of new construction in terms of dwelling units since that date represents the youngest age group added to the array of census data with an appropriate "year constructed" stub. After having adjusted for demolitions and conversions since the census date, the array is converted to percentages carried to one-tenth of one percent. By applying these percentages to the current estimate of total inventory, and translating "year constructed" to "age groupings," a distribution of number of units by age may be obtained. The data should be rounded to three significant figures to conform with the percentage distribution; this will avoid false impressions of finite accuracy. Reliability of the distributions decreases with the increase in time since the census date.

Current Market Conditions

Current market conditions are manifested in various indicators in addition to residential construction activity discussed above. These indicators reflect both static and dynamic conditions. As static indicators, they reflect conditions existing at a particular point in time; as dynamic indicators, they reflect conditions in the process of change over time.5/

The housing market is continuously in a state of flux. The changes in process may not be discernible immediately, nor are they compiled in statistical form for analytical purposes. Over relatively short periods, however, the changes become evident in observation as well as in statistical documentation for selected phenomena. Thus, short-term trends and the status quo revealed by various market indicators are considered and related to the previously examined economic, demographic, and real-estate factors in the analysis and evaluation of current market conditions. The analysis and discussion of these indicators complete the preparation for the prognosis of prospective housing demand in the concluding portion of the housing market report.

Financing

The availability and terms of financing are important factors in the housing market. Both housing demand and supply are restricted if financing is in short supply and its terms onerous; conversely, both are encouraged if funds are ample and the terms liberal. Although the terms of financing generally are determined by demand-supply relationships in the mortgage market,

restrictive terms may be effected despite an ample supply of funds; for example as a means of curtailing construction in situations of over-building. Alternatively, it might be determined that a highly selective lending policy would be more acceptable in such situations. More likely, however, competition in the investment of surplus funds may exert sufficient pressure to disregard both alternatives, with more serious repercussions on the housing and mortgage markets.

The analyst can best determine mortgage market conditions in consideration of the sources of mortgage money available, its relative adequacy for current and potential production, and the suitability of down payment requirements, interest, and amortization terms to prospective borrowers. The information desired can be obtained from local mortgagees, mortgagee representatives, brokers, and builders. Since each will be most familiar with the market he serves, the analyst will be required to piece together a miscellany of information. Conventional financing generally is of more significance than FHA or VA financing, and terms in the existing or refinancing market as well as for new construction require investigation to obtain a complete perspective.

Interest Rates. The price or rent for the use of money, the interest rate, varies directly with demand in a free money market. Loanable money supply is determined by the volume of savings and monetary controls; the supply for investment and reinvestment is rationed by the interest rate. If demand and supply rise and fall in unison, the interest rate tends to remain unchanged. When money demand exceeds supply, the interest rate rises; as demand decreases, the interest rate tends to fall. Long-term and short-term fluctuations of interest rate bear a marked resemblance to demand patterns evidenced by construction volume, house prices, inventory accumulation, etc. Various interest rates in the market represent the composite of the participants' judgments respecting the degree of risk, cost, and liquidity involved in the several investment channels, as well as regulatory determinations and the competitive demands for funds. Thus, easy money (low rates) may prevail for long-term government bonds while relatively tight money (high rates) may be the companion tendency for short-term bills and notes. Traditionally, rising interest rates are a deterrent to demand in any sector of the money market and falling rates are an encouragement.

With respect to mortgage financing, these elementary principles may operate imperfectly because of legislative and regulatory rigidities, but effective market rates are obtained by mortgagees through premiums or discounts. Although the general acceptability and marketability of FHA-insured loans has influenced a more uniform interest rate pattern throughout the country, regional and local variations in the supply of money continue to be evidenced, with corresponding variations in interest rates.

It would appear that interest rate changes in mortgage financing are necessary chiefly to attract funds into the mortgage market and to maintain a balance with other market rates of interest which reflect a broader universe of money markets.

Construction Costs

Material prices and wages of construction labor vary widely from region to region and between localities. Even neighboring towns or sections of a large metropolitan area may exhibit some cost differences for similar type housing. Because housing is so diverse in character, composite indexes of construction costs are difficult to construct. Published series are merely averages of material and wage costs entering into residential construction, generally unweighted.

The rigidities incorporated in prices and wages affecting residential construction give the industry poor adaptability to changes in the demand for its product. As demand decreases, prices and wages entering into construction costs tend to be maintained by the inflexibility of existing contracts and other considerations. On the upswing of the cycle, the same rigidities encourage an increasing volume of construction for relatively long periods before internal adjustments in wage and price levels become effective in increasing the price of the product. Once a long cycle is well under way, the impact of demand, created by economic and demographic as well as psychological factors, appears to brook no interruption by a construction cost level rising in rough synchronization with generally advancing cost levels. It is only when demand and supply factors are in approximately equal bargaining positions, when some freedom of movement exists with an adequate and well-distributed vacancy factor, and when the general price level has stabilized or started to decline in some elements of its composition, that resistance appears to price rises occasioned by rises in material costs and construction wages.

Analysis of the cost of individual labor and material components usually is too extensive a task for the individual analyst. As in the E. H. Boeckh and American Appraisal Company indexes,6/ such an analysis of labor wage rates and building material prices cannot incorporate a weighting for labor efficiency or for changes in construction techniques, which are important elements in total construction costs. The Boeckh and American Appraisal Company construction cost indexes are the major construction cost series available, and both are available for a period of several decades. Neither index is indicative of more than trend, however, since both are limited to the measurement of changes in their components only. Thus, the indexes of Boeckh and American Appraisal have specific weightings with respect to labor and materials which may not be represented in any single house.

Construction cost trends, per se, are not directly applicable in the estimation of housing demand. This information is pertinent, however, in a discussion of housing market conditions. In relation to the change in median family income, the change in construction cost (for the same period) is indicative of possible changes in the general vitality of the market, assuming no significant change in demand-supply relationships. A relatively greater increase in incomes, for example, would suggest a strengthening in the demand structure. Conversely, a relatively greater increase in construction cost would suggest a weakening in the vitality of demand.

Of direct application in the estimation of housing demand are the lowest price and rent levels at which minimum acceptable standard housing can be produced and marketed currently in the locality without benefit of subsidy. These minimum price and rent levels are, of course, a function of construction cost, including a reasonable profit to the builder. For many areas, the FHA district or State insuring offices may be able to supply statistical data, in addition to pertinent information and well-informed opinion.

Separate discussion of this subject in a comprehensive report is warranted even though severely circumscribed by the paucity of available data and information. In any event, the discussion may be limited to the salient findings and judgments of substantive importance to the analysis.

Land Availability and Subdivision Activity

Every building boom in the United States has been accompanied by increasing land prices. The demand for additional land upon which to create improvements puts a premium price upon the progressively limited existing volume of available vacant land and thus increases prices to the point at which agricultural or forest land is bought as acreage and subdivided.

Generally, experience suggests, that (1) the high land prices caused by speculation and excessive land improvements tend to price land "out of the market" for immediate improvements, (2) a general prevalence of overpriced land inflates sale prices and rents, thus tending to reduce demand, (3) an oversupply of subdivided land ultimately depresses prices and causes financial difficulties for developers, (4) the depressed lot prices succeeding subdivision excesses contribute to an eventual resumption of an upward trend in building activity, and (5) lot prices are more representative of free market action and more sensitive to demand fluctuations than are other housing production costs.

Land booms create two periods of distortion in the magnitude and direction of building activity. At the height of a boom, the inflated land prices discourage building activity except in the less desirable and more inaccessible locations. Scarcity develops in reasonably-priced, well-located land suitable for residential construction. Generally, a rash of spotty,

ill-conceived new construction makes its appearance on the landscape. The disorderly spatial arrangements cause tax and other municipal difficulties; the construction itself is likely to be either an overdevelopment for the location or an underdevelopment accompanied by a high land improvement cost ratio. In either case, high rates of distress sales accompany the inevitable deflation. Scarcity and generally high land prices may persist for long periods, however, because of features of terrain limiting the geographic spread of the area, limited water supply, closely held land ownership, and greater long-term returns from agricultural, mining, or other uses. After the collapse of a land boom, a scarcity of suitable land assembled in volume necessary for mass production may accompany a glut of subdivided land with large accumulated tax arrears; sites often cannot be assembled because of divided ownership and numerous absentee owners. The price structure for suitable sites is disorganized, and spotty new construction, albeit conceived under a more favorable land-improvement cost ratio, continues to develop.

The trend and prevailing level of prices of raw acreage suitable for residential development, of available lots in partially developed subdivisions, and of vacant lots in the more settled areas are determinants of sale prices and rents in new residential construction. The cost of developing raw land into building sites must be taken into account; this cost element may be a decisive factor in the feasibility of producing housing at prices and rents consonant with effective demand. The aggregate amount of potentially residential land and the number of available lots in existing subdivisions should be determined in order to ascertain the possible imminence of price changes by reason of a shortage or surplus.

Available acreages, available lots, and subdivision recordings comprise information difficult to procure both precisely and in current form. Planning commissions, real estate boards, builder organizations, recorder of deeds offices, and tax authorities will provide the most fruitful sources of information; or, as a last resort, estimates may be required on the basis of the informed judgment of local builders, planners, appraisers, and government officials. Price trends and prevailing levels are rarely in series form and such information generally can be obtained only from interviews with financing agents, builders, appraisers, and others intimately acquainted with local land and lot prices. In investigating availability and costs, differentiation should be made with respect to low-, medium-, and high-priced improvement potentials.

Deed and Mortgage Recordings

Deed recordings obviously reflect activity in the sales market; and mortgage recordations mirror financing activity. The trends of deed and mortgage recordings usually bear a close relationship to trends of business activity and construction volume. High and low levels of activity with respect to new construction, however, are generally accompanied by corresponding levels of activity in the sale and financing of existing houses; and since deed and mortgage recordings generally are not separable for new and existing construction, the data have limited usefulness. They do not precede new conditions of demand and supply relationships but are incidental to completed transactions. Hence, they are of significance in the study and interpretation of historical trends and events but cannot be used to forecast coming events. In refined form, they are useful measures of relative market activity. Sheriff's deeds, deeds in lieu of foreclosure, and tax deeds, as well as other non-market transfers, should be eliminated from the raw data on deed recordings if a series more accurately reflective of market activity is desired. Further refinement would be achieved by eliminating the growth factor and by eliminating nonresidential transactions. The difficulty involved in obtaining a pure series, however, is insurmountable to the individual analyst. Even in their unrefined state, however, data on deed and mortgage recordings are indicative of the vigor of the market, in comparing present levels of activity with those of the recent past.

These data may be obtained from county records, although it is impractical for an analyst to compile the data from these records except, possibly, for a short time series for the smaller areas. In some areas the recorder's office may maintain an up-to-date time series; in other areas compilations of these data may be available at local title companies, chambers of commerce, real estate boards, or newspaper publishers.

Foreclosures

Trends in the number of mortgage foreclosures reflect degrees of weakness in the market. Some volume of foreclosures is a constant in the real estate market and is merely incidental to the level of death, divorce, and desertion rates, as well as other factors reflective of broken homes. A rising trend of foreclosures above this constant reflects an emerging unsound situation in the mortgage market, which may be due to either (1) a declining level of economic activity with a consequent increase in unemployment and a reduction in family incomes, or (2) increasingly liberalized standards and terms in the sale and financing of real estate as a consequence of increasing competition in the disposition of properties and the lending of mortgage funds, which may occur in overbuilt markets without accompanying adverse economic trends, or (3) a change in demand preferences (styles, price, size, number of bedrooms, etc.), resulting in a surplus of housing in certain market segments. A period of recovery will be accompanied or preceded by a decline in foreclosure volume.

Any data series on foreclosures obtained from county records must be interpreted in connection with prevailing state laws respecting mortgage moratoriums and deficiency judgments, as well as the transfer of properties in default by deeds in lieu of foreclosure, which often are used by mutual agreement of the borrower and lender to avoid the onus of foreclosure.

Much more sensitive indicators of emerging deterioration or improvement in mortgage market conditions are the trends of mortgage delinquencies, which have a considerable time lead on foreclosures. While these evidences of mortgage market conditions do not provide an advance measurement of the volume of foreclosures (inasmuch as some delinquencies and defaults are cured, others are solved by property sale by the owner, and others may result in the issuance of deeds in lieu of foreclosure, or they may reflect a very temporary phenomenon in the mortgage market, or foreclosure may be estopped by moratorium), they do indicate current mortgage market conditions and trends and foreshadow the possible trend of foreclosures. The trend of delinquencies, like the trend in foreclosures, must be examined in depth for appropriate interpretation in light of pertinent considerations.

Foreclosure data may be obtained from the county sheriff's office, in addition to the other possible sources indicated above for deed and mortgage recordings. Data are available also from FHA pertaining to foreclosures of insured home mortgages. Data on deeds in lieu of foreclosures are less likely to be available for most localities unless compiled by one of these sources as a matter of special interest; in the absence of statistical data, information and opinions obtained from the leading mortgagees would be helpful as a general indication of the trend and magnitude of the volume of such deeds in relation to foreclosures. Significant changes in this relationship would be especially germane in the interpretation of the foreclosure trend.

Data on delinquencies are rarely compiled at a central source locally. Fragmentary samples might be available, however, from several local sources, e.g., title companies, leading mortgagees, mortgagee associations, and from FHA. Any one or the combination of these samples, of course, necessarily would not be representative of conditions in the mortgage market. The analyst, therefore, must exercise extraordinary caution in the use and interpretation of these data.

Foreclosure and related data on FHA-insured home mortgages in specific counties are compiled by FHA as "default terminations" and include (1) properties acquired and retained by mortgagees and properties purchased by a third party through foreclosure sale, (2) properties acquired by FHA via transfer of title from mortgagees, (3) delinquent mortgages assigned to FHA by mortgagees in their discretion in exchange for debentures, and (4) properties acquired by FHA via foreclosure of assigned mortgages. The sum of (1), (2), and (4) represents total foreclosures of FHA-insured home mortgages. (No data on current delinquencies of FHA-insured home mortgages are available on a county basis.)

Vacancy

Rates of vacancy or measures of use, and their trends, particularly with respect to their differential aspects, are probably the most useful series of market data available to the analyst. Too often they are nonexistent and must be estimated on the basis of fragmentary information as to developments in the market since the last census. Rising or falling rates in any submarket should be carefully investigated to ascertain the cause. High or low vacancy, per se, does not constitute a correction factor in the demand for new construction evidenced by the rate of household formation. The qualitative character of the vacancy in its differential aspects must be interpreted within the framework of the qualitative character of demand to evaluate properly the significance of the vacancy situation.

Intensity of Housing Stock Utilization. The intensity of use of the housing stock may be measured by the number of square feet per person or family, the number of persons per room, the number of persons per occupied dwelling unit, and the vacancy rate. All of these except the vacancy rate are measurements of the intensity of use of the occupied portion of the inventory. The vacancy (or occupancy) rate is a measure of the intensity of use of the aggregate inventory.

The measures of use intensity of the occupied portion of the housing stock reflect social customs and trends, as well as economic trends and developments. The number of square feet per person or family is rarely used except in legislation concerning the regulation of dwelling unit minimums. The number of persons per room has been reported in decennial censuses and is used as a measure of overcrowding. The number of persons per occupied dwelling unit (i.e., the number of persons per household) exercises an appreciable direct influence on the rate of growth in the number of households, a major function of demand. Thus, the number of persons per occupied dwelling unit, together with other demand functions, exercises a direct influence upon demand and hence upon prices and rents.

Variations in Vacancy Concepts. The general view of vacancy is that it involves the sum total of the unoccupied housing stock, i.e., the vacancy ratio is simply the total number of vacant dwelling units divided by the total housing inventory. Dwelling units for seasonal occupancy, newly constructed units not yet occupied, apartments or homes owned by persons temporarily or permanently residing elsewhere, comdemned and boarded up residential structures, and sometimes apartment-type transient accommodations in hotels, tourist homes, and motels may be included in the vacancy factor. Trailers, boats, tents, and railroad cars are considered by the Census Bureau as part of the housing stock when occupied as living quarters but are not enumerated when vacant. Further, vacancy and dwelling unit concepts differ over time. A local series may change conceptually, usually by changing interpretations of the personnel involved. Concepts used by the Census Bureau have changed with each decennial count and sometimes for intercensal counts.

U. S. Census dwelling unit counts since 1940 have also changed in general concept, the change in dwelling unit definitions striving towards increased objectivity. Accordingly, census vacancy counts are not entirely comparable from one census to another. The 1960 census introduced the concept of the "homeowner" vacancy rate, i.e., units for sale only as a percent of the owner occupied plus vacant for sale only, and the comparably calculated "rental" vacancy rate. The 1960 census also excluded any "dilapidated" units from the "homeowner" or "rental" vacancy, and confined the latter to "sound" or "deteriorating", both new concepts of the condition of the housing stock. In addition, the 1960 vacancy tabulations identify separately "those vacant units with all plumbing facilities" and those "lacking some or all facilities."

Vacancy Concepts Used in Market Analysis. For definitive market analysis considerations, the "homeowner" and "rental" vacancy rates are valuable analytical tools. Further differential concept is afforded on the basis of those units vacant "with all plumbing facilities" and "lacking some or all facilities." The differential classification of available vacant units is not available for censuses prior to 1960, but "homeowner" and "rental" vacancy rates may be calculated from the 1950 data. The differential rate obtained by using only those units "with all plumbing facilities," for both the "homeowner" and "rental" classifications, provides a more precise vacancy factor reflective of those units competitive with new units in the sales or rental markets.

Dilapidated vacant units, so long as they are standing and offered in the market, constitute a portion of the year-round supply. The 1960 census reported that 17.3 percent of all dilapidated units were vacant; they constituted 14.1 percent of all vacant units, excluding seasonal. Their degree of livability may be physically and socially undesirable and lack any appeal whatever, but they require analytical consideration. Unless effective means are taken to remove such undesirable structures from the market, they constitute a portion of the gross vacancy factor.

Other vacancies reported as not available (those rented or sold and awaiting occupancy, those held for occasional use, and those held off the market for other reasons not specified), as well as seasonal units, cannot be considered as constituting a year-round supply. Under differing economic or emergency conditions, these units (except those rented or sold and awaiting occupancy) may be offered in the market and become a portion of the effective supply. However, the emergency conditions of World War II disclosed few instances in which supply was enlarged to any considerable degree by this class of vacancy.

The vacancy factor, then, in housing market analysis constitutes those units "available" to prospective owner- and renter-occupant groups. It does not include consideration of dilapidated units or those withheld from the year-round market for one reason or another. Strictly interpreted, this would exclude those nearly completed units classified by the census with available vacant units but which cannot be identified in census data. This concept of vacancy yields the most useable measures-- identified in the analysis as the "homeowner" rate and the "rental" rate. A comment as to the number of units included which "lack some or all facilities" may be necessary, but, in order to avoid confusion, these should not be expressed as a rate.

Differential Vacancy. Differentials in vacancy have been noted by housing economists in recent decades when the housing stock is segregated into submarkets. One of the most important is in markets classified by tenure, discussed above. When classed by size of city, areas or neighborhoods of a city, type or size of unit, class of structure, by rent or value, or other types of submarkets, the differential aspects of vacancy may be observed. A study of the vacancy in 140 Metropolitan Districts reported in the 1940 Census of Housing revealed that, as a rule:

(1) Large localities tended to have higher over-all vacancy rates than small localities.

(2) Fast-growing localities tended to have higher vacancy rates than slow-growing localities.

(3) Localities with a high proportion of renter-occupied units tended to have higher vacancy rates than localities with high owner-occupancy.

(4) Localities with a large proportion of multifamily structures had higher vacancy rates than localities with predominantly single-family structures.

(5) Vacancy rates tended to be greater in the lowest and in the highest price or rent classes.

(6) The smaller the number of rooms per unit, the higher the vacancy.

Little modification of these observations is needed to characterize the vacancy reported by later censuses.

Few localities have any available intercensal time series on differential vacancy. Obviously, the knowledge thus far gained barely scratches the surface. A considerably greater volume of primary data will need to be made available before relationships can be ascertained. Investigation may disclose unknown relationships between differential classes of vacancy and the demand and supply functions.

Nature and Causes of Vacancy. Vacancy constitutes the most significant indicator of market condition in housing. The greater the accuracy of vacancy information and the greater the refinement of vacancy knowledge, the greater is the capability of market analysis. Interpretation of vacancy information, however, is not self-evident but must be dependent upon understanding of housing as a commodity and upon knowledge of market operations and trends.

In housing market operations, vacancies as well as prices (including rents) fluctuate in response to changes in the balance between demand and supply forces. Numerous aspects of the housing market tend toward price rigidity--the impact of lease contracts, long-term price payments through installment mortgage debt, durability of the commodity, custom production, product size and complexity, cost-price relationships, complex heirarchies of value based on size, qualitative, and locational differentials, imperfect communication of market knowledge, amateur-professional participation in activity, etc. As a consequence, changes in market conditions tend to be reflected first in vacancy changes rather than in price changes.

Vacancy constitutes the dwelling unit offerings not currently absorbed by the market. There are, however, many different reasons for non-absorption with respect to individual units. A major task of the market analyst is to understand the relations between vacancies and the market reasons for the vacancies and to make proper judgments about market conditions in the light of that understanding.

With respect to new units, vacancies may reflect excessive production--by size, by tenure, by price, by location, by style. Vacancies may also be normal inventory of new stock for sale. Vacancies may only be production in anticipation of expanding demand. And vacancies may also be temporary excess stock reflective of the size of "batches" necessary for efficient or economic production or the sizes of undertakings necessary for initial efforts in untried markets (e.g., urban renewal areas).

In the existing inventory, vacancies may reflect imbalance in the total market (new and existing) -- a possibility which should invariably challenge the analyst to most critical appraisal of imformation. Vacancies may also, however, reflect essential stock to permit market selection and necessary intervals between occupancies for refurbishing or rehabilitation. Some vacancies reflect the processes of neighborhood change and the shifting of land use for individual parcels or areas. Other vacancies constitute a stage in a property's life cycle, in the process of filtering up or down--and ultimately out--as a portion of the total inventory. Still other vacancies are not a part of the current market--held for absentees, withheld from market, or permanently abandoned.

With due concern for varying market practices, differential vacancy information for property types, property characteristics, price ranges, property age, and neighborhood can provide critical understanding to the analyst. Proper analysis must take into account not only vacancy information, however, but also vacancy trends, production trends, cost and price trends, growth trends in both volume and direction, and general economic conditions and trends.

In a period of rapidly diminishing employment and incomes with an accompanying adverse psychological impact, the rate of household formation may fall lower than the rate of population growth for a time. Under these conditions, if population growth is at low levels, the rate of household formation may become negative. Since the data for the past century reveal a consistently greater rate of household formation than of population growth, the converse may evidence underconsumption. In terms of average size of household, if households temporarily tend to grow larger, underconsumption (in re social need) may exist so long as the long-term social and demographic forces inducing ever smaller households continue to be effective. Should social and demographic trends be altered or reversed, the only measure of underconsumption would be in the increase in doubling up. The doubling up experienced in depression periods induces a high vacancy rate; the existing stock may be ample to accommodate the net household formation.

Frictional Vacancy. The statement is frequently made that a "desirable" minimum vacancy rate is 3 percent, 5 percent, 7 percent, or some other arbitrary percentage. In a dynamic economy, vacancy in nonseasonal, nondilapidated units is required for growth and mobility. The magnitude of the vacancy required in any locality can be determined only from an examination of these elements of the "need" for vacancy, assuming a free play of demand and supply functions in an imperfect but sensitive market. The sum total of these minimum requirements may be termed "frictional vacancy," a useful concept but difficult to determine with accuracy.

The lapse of a reasonable period of time between the completion and absorption of newly erected structures is required in order to effect an orderly marketing procedure. During orderly marketing periods houses are commonly sold within 30 to 60 days after completion (with longer periods typical for highest price properties), apartments attain a satisfactory occupancy within 3 to 6 months after completion. Expressed in terms of the annual volume of household growth, theoretical frictional vacancy required for growth would be a function of the distribution of additional occupancy on an annual basis, i.e., a maximum of one-sixth of the added owner-occupancy and one-half of the added renter-occupancy estimated currently per annum. The absolute figures thus derived for the owner and renter components, and the total for both, are to be converted to percentages by dividing them by the respective total number of occupants in each category. The resulting percentages represent the frictional vacancy equivalents for growth.

Mobility of itself does not indicate a need for a significant vacancy so long as the qualitative character of the supply conforms to the qualitative character of demand with respect to the size of unit, its conveniences, its price or rent, and its location. However, redecoration, renovation, modernization, and repair may be desired or required between occupancy by successive households. If a month's lapse may be considered the maximum average time required, the number of households changing residence in one month may be considered the maximum vacancy required to sustain mobility. On the basis of sample surveys in recent years, the U. S. Census Bureau reports that about 20 percent of the population, and 19 percent of the households, move to a different address in the same or a different county during a calendar year.7/ These data include individuals and households displaced as a result of demolitions and other inventory losses, as well as those moving voluntarily. They suggest that on average, a vacancy factor equivalent to a maximum of about 1.6 percent of the currently occupied housing stock is necessary to accommodate mobility (i.e., one-twelfth of 19 percent).

The frictional vacancy rate estimates for sales housing, rental housing, and the over-all total (obtained by adding the respective frictional vacancy equivalents for the growth and mobility factors) represent the minimum tolerable levels of vacancy. They reflect a tight balance in demand-supply relationships. When vacancy approaches the frictional level, the range of choice in dwelling units is very limited and mobility is restrained. When it falls below this level, mobility is obstructed; the market lacks the minimum flexibility required for smooth functioning.

Frictional levels of vacancy are not conducive to healthy competition in the market. There are situations, however, where frictional vacancy may be warranted as an objective, e.g., the foreseeable development of a housing surplus would justify actions directed toward an interim objective of frictional vacancy to cushion the prospective adverse impact.

Current Vacancy Estimates. Completely reliable current surveys of residential vacancy are rarely available for localities. Nevertheless, reasonably reliable knowledge and information concerning the level of vacancy, in terms of the over-all market and particularly the owner and rental segments, are indispensable to the housing market analyst.

Some current or relatively recent data on vacancies usually are available locally from various sources. Often these data are compiled periodically. While they may be fragmentary at best, these data will be helpful even though only as indicators of trend or general level of vacancies. In some cases, a fairly representative sampling of vacancies in a particular segment of the market may be available. The analyst, therefore, should aggressively seek such data, the more significant of which should be summarized and discussed in his report. The most likely sources include: local associations of apartment managers, builders, real estate brokers, and mortgagees; individuals recognized as the leaders in these groups; real estate editors of local newspapers; chambers of commerce; university departments of business administration and research; cooperative, non-profit real estate research committees, if existent. For some areas, data are available from FHA's annual (March) occupancy-vacancy survey of its insured rental housing projects. The linage of classified "for rent" advertisements in the leading local newspaper(s) during a specified period of days in the same month each year will provide a clue to the trend (and level, if geared to reliable bench mark data) of vacancies. Similar clues may be provided by a series on active and idle utility meters (preferably electric). The classified advertisement and utility meter series, however, entail complications not easily resolved and require extreme caution in their use.

In the absence of census-type data based on complete coverage or representative sample, the analyst must resort to making the best possible estimates of current vacancy for the "homeowner", "rental", and "over-all" categories, utilizing all pertinent information and fragmentary data available as a guide to judgment. In this connection, FHA market analysts invariably have the benefit of current postal vacancy surveys as an aid in making the required estimates. These surveys cover residential properties only. They are conducted for FHA by local mail carriers under the general supervision of the postmasters, as needed for administrative use, pursuant to a reimbursable agreement between FHA and the Post Office Department. Postmasters are not authorized to make such surveys except at the request of FHA market analysts. The results of the surveys are published in the form of a news release and an accompanying summary tabulation; hence, they are available and useful to other analysts either as pertinent background information or, in many cases, as timely data in connection with current market studies which they may undertake in any of the areas covered by these surveys.

As defined by the Post Office Department, a "residence" represents one possible stop with one possible delivery (i.e., one mailbox) on a carrier's route; this category consists principally of single-family detached houses, but it also includes row houses and side-by-side duplexes with separate walks for each unit, single units over commercial, and some converted single-family structures with more than one unit but with only one mailbox. An "apartment" is a unit in a structure containing separate living quarters for more than one family. This classification includes duplex or triplex units and converted units with a common walk (one stop) but with separate mailboxes or places for mail delivery. Thus, units in structures involving only one stop and more than one delivery are classified as apartments. In both classifications, no distinction is possible between owner and renter tenure.

The results of postal vacancy surveys are not entirely comparable to the vacancy data published by the Bureau of the Census because of differences in definitions, area delineations, and methods of enumeration. Nor do they reflect as high a degree of accuracy as the census data because of underreporting of units and vacancies in converted structures and in subdivisions under development not yet served by mail carriers; conversely, vacant units withheld from the market for various reasons are not excluded. Moreover, the postal surveys report units and vacancies by type of structure, whereas the census reports them by tenure. Nevertheless, the surveys serve a valuable function when used in conjunction with other locality data and information in making an estimate of current vacancy and reaching a better informed judgment regarding local market conditions.

Postal vacancy survey results, per se, are presented in the report as one evidence of vacancy. These data are subject to qualification because of differences in comparison with census data, noted above. Adjustments of the postal survey results must be made for these differences to arrive at an estimate of current vacancy; these adjustments rest largely on judgment based on available information, scattered data from other sources, and observation.

One of the most important adjustments is the conversion of postal survey data from a structure basis to a tenure basis, i.e., homeowner and rental vacancy. This adjustment involves the transfer of renter-occupied and vacant-for-rent single-family structures from the "residence" to the "apartment" category of the postal vacancy survey. A procedure for making this adjustment is incorporated in the instructions for completing the Work Sheet for Estimating Net Quantitative Demand. It is essential to note that, for the purpose of estimating quantitative demand for new housing, vacant units lacking some or all plumbing facilities are excluded from the estimates of vacancies currently available and vacancies required for reasonable balance in the housing market. Whereas such vacancies are not competitive with new units to satisfy projected demand and, hence, are excluded from such consideration, they are part of the existing stock and require analytical consideration in the evaluation of current market conditions.

In the absence of comparative guides in the form of recurrent samples or postal surveys, informed judgment, based on observation, fragmentary data and opinion, must be relied upon in making current vacancy estimates. Conversations with realtors, builders, financial representatives, chambers of commerce, planning bodies, and other informed sources will yield a variety of diverse opinions. These generally will be in the form of "high", "low", "moderate", "increasing", "decreasing", "none to speak of", etc. Properly phrased questions will elicit opinions as to vacancy comparable with some past date for which census or other bench mark data are available. The analyst must reduce these diverse opinions to a common denominator by discounting bias accruing from self-interest, lack of knowledge, narrow market acquaintance, exaggeration of the significance of past events, etc. Although the consensus will be only a rough approximation and may have a considerable margin of error, it offers a working hypothesis for a comparison with bench mark data, either for total or differential vacancy. If it is supported by observation and available data, and if it can be confirmed through the test of reasonableness within the analytical interdependent complex of population and household estimates, labor force estimates, new construction and inventory estimates, and by the analyst's observation of the market, the vacancy estimate thus derived may be accepted. Inconsistencies revealed by the test of reasonableness indicate the necessity for a review of the individual estimates and their basic premises so that appropriate reconciliation may be made.

Prices and Rents

If all dwelling units in a housing market were equally desirable, if the number of households and the housing inventory fluctuated in perfect synchronization, if incomes were equally distributed, and if all other economic and human factors remained in a state of equilibrium, there would be no price or rent differentiations or movements. Any deviation in demand or supply functions, however slight, would jar this static state of affairs and be reflected in price and rent changes. Actually, inequalities exist in all demand-supply relationships. The infinite number of daily adjustments in active housing markets compensate one another to a large degree, but the imbalances of demand and supply relationships created by economic and demographic impacts are reflected in constantly shifting prices and rents. The interrelationships creating differentiation and shifting prices and rents are complex and obscure; they defy pragmatic analysis even if reliable quantitative and qualitative data were to be available. Since prices and rents do reflect these varied forces in a pecuniary economy, therefore, market mainfestations deserve primary attention.

Price and Rent Submarkets. Prices and rents set patterns of submarkets, composed of dwelling units for sale or tenancy, within the market area. They reflect qualitative differences in the physical entities such as structural type, design, number of rooms, age, condition, and equipment, as well as such factors as location, convenience, accessibility, and the personal preferences, desires, needs, and incomes of the individuals in the market at any moment of time. These qualitative differences, constituting measurable submarket classifications, if cross-classified with prices and rents would give greater detail to the respective patterns. The lack of data on a continuing basis renders this ideal impossible; the complexity of tabulation and presentation would render it impractical for market analysis purposes in most instances.

Prices and rents themselves represent a partial cross classification of submarket structural types. Price distributions generally are confined wholly to owner-occupied and vacant-for-sale dwelling units; these may be single-family structures (attached or detached) and condominium or cooperative units in multifamily structures. These units represent the sales submarket. The rental submarket includes units in all multifamily structures (except those owned cooperatively or in condominium); it also includes a substantial portion of single-family dwellings. A significant proportion of tenant-occupied or vacant single-family dwellings, or units designed for cooperative or condominium ownership, may be in the rental market and sales market simultaneously. Units in multifamily structures actually owned cooperatively or in condominium, and vacant units in such structures held for sale only, technically constitute a minor submarket.

The price of multifamily structures is a function of the capital market. As such, bids and offers for multifamily structures reflect the earning power of residentially improved real estate in competition with other avenues of investment. Within this capital market, submarkets also exist; two-family structures are not in competition with twenty-family structures, tenements do not compete with luxury apartments, and buildings with dense land coverage are not competitive with apartment developments in a garden setting. Two-, three-, and four-family structures are multifamily types that form both a portion of the capital market and the market for owner-occupancy. That is, although these types have a varying degree of amenity value to owner-occupants, market value and price are heavily determined by earning power (since buyers seek an investment return) and thus function in the capital market. Single-family houses are rarely sold in the capital market on an investment basis since the risk of loss through vacancy is high in single-unit ownership. Capitalization considerations do not enter appreciably into single-family dwelling value and price, although several million such units are tenant-occupied. Such properties are considered to comprise a separate and distinct market whose chief characteristic is the amenity feature of home ownership--the sales market with which students of the housing market are concerned.

A rent multiplier is a factor which, when applied to gross income, gives an indication of value. Alternatively, the price-rent relationship for single-family houses yields the rent multiplier. Thus, a dwelling unit with a rental value of $100 per month and a market value of $12,000 has a rent multiplier of 120, i.e., value divided by rent equals multiplier. If the market value were $10,000, the same rent would indicate a rent multiplier of 100.

A capitalization rate is a percentage applied to net income. In computing the capitalization rate, a net return (after taxes, insurance, and depreciation) of $600 per annum would yield 5 percent with a $12,000 investment and 6 percent with a $10,000 investment. With a fixed income-expense relationship the yield varies inversely and the rent multiplier varies directly with value. In a single urban area, rent multipliers may range from 60 or less for poorly located, old, run-down properties which are approaching the end of useful economic life to 180 or more for new, expensive residences in remote locations.8/

Price and Rent Differentials. Differentiations in price and rent are determined by qualitative and locational differences, factors of demand being equal. Similar units will have varying prices and rents if their locations are differentiated as to competitive advantage. For example, centrally located units will have a competitive advantage over units several miles distant. In suburban or peripheral areas in the same general area, the relative distance from commuting trains, subways, and buses comprises competitive advantage. When units similar in size and quality are compared, significant price and rent differentials may be apparent. In the same neighborhood, qualitative differences will be reflected in price and rent. New structures generally have higher money tags than old structures in the same range of quality, properties in good repair are marketed more easily and at better prices than those in poor condition, and so on, in both the sales market and the rental market.

Among new properties, the sale price or rent has a direct relationship to current costs of land and construction and the current profit levels being taken by builders. Qualitative differentials and locational differentials originate with the builder's conception of development and continue throughout the life of the improvement, modified only by quality of ownership or management. Sites offering competitive advantage cost more than less desirable parcels of land; well-thought-out design adapted to the site costs more than a copied architectural plan; good quality materials and workmanship result in higher costs than does inferior construction; extras and gadgets increase costs, etc. Thus, new construction comes on the market oriented to different prices and rents, presumably in response to a demand.

Price and Rent Variations. Price and rent variations over time respond to demand factors occasioned by economic and monetary movements. With employment and incomes rising, vacancy is absorbed, new construction is stimulated, and prices and rents tend to rise. Should employment and incomes decline, vacancy increases, new construction is discouraged, and prices and rents tend to fall. A plateau of employment and incomes, on either a high or low level, will cause a continuation of the trend most recently encountered in vacancy, new construction, and prices and rents. The general theory accords with the common precepts of cyclical theory. Closer examination discloses aberrations peculiar to the real estate market occasioned by the durability of the commodity involved and the relatively small increments of supply created in any one calendar year.

Both prices and rents are "sticky"--they tend to remain at low levels for existing units for some time after effective demand has improved vacancy levels for existing units and new construction volume has increased. Conversely, prices and rents may remain at high levels for extended periods after vacancy has increased and new construction volume decreased. Construction volume itself tends to lag in response to either increasing or decreasing vacancy.

Sales Market

Price Determinants. The level of prices in the sales market for single-family structures is dominated by current land and construction costs and the prevailing level of builders' profits. All newly-constructed dwellings marketed will sell at the resulting price matrix at any given time with qualitative and locational distinctions and submarket demand-supply imbalances duly reflected. All existing properties will have effective market prices, assuming informed buyers and sellers, graded from this price matrix by qualitative distinctions. Qualitative differences, however, will tend to be unduly discounted in prolonged periods of excess supply and to be unduly obscured in long periods of excess demand.

If unemployment is high and jobs are scarce, vacancies are at peak and there are few purchases; new houses appear high priced relative to existing dwellings which are sold at discounts to effect a sale; construction volume is low since prospective purchasers prefer the "bargains" in existing houses only recently built. As employment improves, the market "overhang" gradually disappears, vacancy declines, more purchasers come into the market for new houses, construction volume lags as the prices of existing houses improve. When the "overhang" disappears, effective demand for new houses exceeds production and prices rise, generally followed by increasing costs of materials and wages and increasing profit margins. Qualitative differentials in existing houses may be obscured by the bidding up of prices of existing houses occasioned by the intensity of demand. After construction volume overtakes demand, prices for new houses tend to be maintained by builders while qualitative differences gradually become established in the price matrix of existing houses. The rigidity of material prices and construction wages maintains prices of new houses at high levels as profit margins are cut and gadget inducements are added during a period of declining demand in order to maintain construction volume. Finally, long after effective demand has begun to decline, after unemployment has reappeared in volume, after vacancy has begun to appear and even new houses are rented, and perhaps after distress sales have begun to appear, construction volume declines at a rapid rate. Objective and foresighted analysis, however, may effectively facilitate adjustment of production and marketing to changing conditions without the accumulation of supply excesses and resulting drastic adjustments.

Scope of the Sales Market. An investigation of the current market for both new and existing houses is essential to all analytical reports leading to conclusions respecting the demand for sales type housing. The analyst must obtain most of his information in the field from builders, brokers, mortgage lenders, and other informed sources. Both FHA and conventionally-financed construction should be covered in order to blanket the market. Although single-family structures generally constitute the predominant (if not the sole) type of construction offered in the sales market, the market for two-, three-, or four-family structural types should be investigated concurrently if they comprise significant market segments.

Quality and Marketability of New Houses. The volume and trend of new construction is revealed by data obtained by the analyst from sources previously cited. The qualitative character of new construction with respect to sale prices, location, number of rooms, structural characteristics, conveniences, and appeal must be determined by a spot check of construction under way and recently completed. Whether the area under consideration is geographically small or large, a representative sample of new houses in the market should be canvassed. Subdivisions of all types as well as individually built houses should be included in the sample investigated.

Builders or their representatives should be interrogated with respect to public response to their offerings and for their comment on the current marketability of their own and competitive structures. In the course of this phase of the field investigation the analyst also should direct his inquiries and observations toward reaching an informed judgment on the proportion of new houses being built on a "speculative" basis, i.e., construction started without prior sale--also referred to as "houses built for the market"--as distinct from those built on a contract basis for predetermined purchasers.

The trend of speculative construction should be duly noted by comparing the current proportion with that of the previous year and with builders' plans for the ensuing year. In this connection it is important to ascertain some measure of the inventory of the completed and unsold, speculatively-built houses currently on hand; and, if possible, at least general qualitative information should be obtained, particularly as to price class (low, medium, high) and length of time the houses have remained unsold. In a sample spot check of the nature comtemplated here, the actual number of unsold houses is significant primarily in relation to (1) the number of houses completed (by each builder) during the last twelve-month period, and (2) the number of unsold, completed houses on hand one year ago. The latter information will be available most readily, in relative terms, i.e., "larger", "smaller", or "about the same"; insofar as possible, the variations should be qualified as to degree, i.e., "much", "moderately", or "slightly" larger or smaller. In sum, the unsold inventory information thus obtained should provide the analyst with a reasonably good over-all perspective on the unsold inventory situation in the absence of a comprehensive survey, which would not be feasible single-handedly except in relatively small housing market areas.

The total number of houses under construction and the number unsold are related elements of importance in evaluating the unsold inventory and in estimating the quantitative demand for sales housing.

FHA Annual Survey of Unsold Inventory. Pertinent data on unsold new houses in many areas are available from the unsold inventory survey conducted annually by FHA as of January 1. These surveys have been made by the insuring office staff each year since January 1963 in all Standard Metropolitan Statistical Areas and selected additional areas. All subdivisions, regardless of financing (FHA, VA, and other), with five or more completions in the preceding 12 months are included for each area covered. They provide data on the price distribution of all houses completed during this period, the number sold prior to start of construction, and the number of speculative houses unsold; also the distribution of unsold houses by months unsold since completion, rented unsold houses, type of available financing, and the number under construction. Most of these data are published in summary form for each area as current news releases by the respective insuring offices; back issues of the releases are available for reference in these offices. Because of the confidential nature of the information, the characteristics and market experience of the offerings are not detailed with respect to individual subdivisions, projects, or builders. This information is consolidated and summarized to avoid disclosure of individual operations.

An important by-product of a field investigation, or an unsold inventory survey, would be information as to the relative volume and character of the unsold inventory, as noted above. The acceptance in the market of new construction may be highly differential because of price, style, location, or other reasons. Or, the unsold inventory may be generally high--an indication of excessive speculative construction or a contraction of demand. Most FHA field offices have reported that, typically, sales of speculatively-built houses in the low and medium price ranges take place within 30 to 60 days. Thus, situations involving unsold inventories of speculatively-built houses in excess of 25 percent of the annual volume of speculative completions (i.e., more than a 90-day supply) should be examined with special care.

Competitive Position of Existing Houses. A portion of the existing inventory always will be offered for sale or for rent. In regard to the sales market, the analyst is concerned with the competitive position of existing housing as compared with new construction. Existing construction offered in large numbers will restrict the marketability of new construction of competitive quality and depress price levels. A shortage of offerings relative to demand will increase price and stimulate new construction activity. In an orderly market, neither distress nor opportunistic selling will be common in the market for existing homes, and construction volume will be responsive to demand variations.

In his interviews with realtors and brokers, the analyst should determine the character of activity in the existing house market. Have prices risen or softened appreciably? Is the number of listings falling off or increasing, and for what reason? Are there differences in demand in terms of price, location, number of rooms, type of architecture, conveniences, etc.? Is the competitive status of existing houses strong or weak? Statistical series as to listing volume from multiple listing services or as to number of advertised houses are rare but are valuable if available.

Institutional or government agency holdings of residential real estate acquired through foreclosure may restrain expansion of market operation. The volume, location, price, and other qualitative aspects of such holdings as well as the volume of delinquent mortgages should be determined so far as possible. They will have a direct bearing on any conclusions made respecting the marketability of new construction. FHA or VA holdings may be obtained from the FHA insuring office or the VA regional office with jurisdiction. Institutional holdings must be ascertained from individual mortgagees if not available from their respective local associations. Data on delinquencies are rarely available from any source; the significance of this information as an indicator of market conditions, however, requires that diligent effort be made to obtain at least a good over-all gauge of the trend and relative level of mortgage delinquency.

Synthesis of Pertinent Facts and Findings. The discussion of the sales market in the analyst's report is directed at providing a clear focus of the current condition of this segment of the market. This discussion will include brief integrated references to salient developments and trends leading to the condition as described and a broad look at prospective conditions within the forecast period. Thus, the pertinent findings revealed in the examination and analysis of market factors of over-all market significance, together with the factors primarily of sales market significance, constitute the substance of the sales market discussion.

This section of the report should provide a closely-knit discussion of the factors and forces particularly germane to an understanding of the strong and weak points of the sales market, as reflected in the trend and level of homeowner vacancy, sales prices, unsold inventory of new houses, and marketability of existing houses. These findings, moreover, assist the analyst by providing guidance as to the possible need for making adjustments in the qualitative distribution of estimated demand for sales housing.

Rental Market

Rent Determinants. The level of rents in the rental market is dominated by maximized profit considerations. At any given time, differentiations in rent represent variations in quality, location, and management. The shifting of rent levels upward or downward occurs in response to demand pressures governed by income levels and household formation rates. At low levels of demand with high vacancy rates, high unemployment and low incomes, and a minimum volume of new construction, rents will be low. Management agents will seek to maximize rental income by offering their dwelling units at those competitive rents which will establish the most remunerative occupancy-rental rate relationship. For example, assuming 80 units occupied and 20 vacant at $100 monthly the gross rental income is $8,000 per month; a reduction of the monthly rent to $95 would yield a rental income of $8,550 if occupancy was thereby raised to 90 units. Management must make a judgment of the possibility of improved occupancy in terms of the prevailing rental market measured by rent and vacancy levels in competitive units. If units are overpriced, and at lower occupancy rates than in competitive units, management is justified in reducing rents to attain an improved level of occupancy. If occupancy is better than in competitive units, the gross rental income is unlikely to increase through rent reduction.

An improvement in employment and incomes will have a beneficial effect upon household formation rates and hence upon occupancy. In this case, however, landlords will be reluctant to increase rental rates (provided they cover fixed and operating expenses) until general vacancy rates are quite low, The critical point at which rents increase is likely to vary from city to city and to depend upon the impact of both local and national economic conditions. A reluctance to increase rents also is generated by fear of losing existing tenants to competitors since landlords rarely act in unison.

Where leases are common, existing terms also exert a lag influence in both rent increases and decreases. Occupancy may attain relatively high levels for sustained periods before rent increases become general. Contrary to the sales market, however, new rental accommodations will not increase in volume, except through conversions, until obtainable rents are sufficient to offer a considerable "risk" profit above fixed and operating charges. The magnitude of the capital investment discourages new construction until realizable profits are certain and have an enduring potential. With a maintenance of high employment and income levels, household formation rates are likely to exceed new increments of production for a protracted period and rents will continue to rise. As production catches up and exceeds household formation rates, rents level off in existing structures and qualitative differentials gradually become more pronounced. The "sticky" character of the rent structure again becomes apparent by lags engendered by lease commitments and by a reluctance of landlords to reduce

quoted rents as a sign of weakness. With vacancies beginning to occur, "concessions" are granted rather than rent reductions. New construction continues at high levels based upon contractual arrangements made under better conditions. The market becomes oversupplied relative to household formation rates. If employment and income levels decline simultaneously, vacancy becomes critical, new construction declines at an accelerated rate, and a downward spiral of rent reductions ensues as landlords compete for maximized returns.

Scope of the Rental Market. All types of market reports require some discussion of the rental market in a locality. In many cases, it will be of major interest. Investigation of the rental market should cover both new and existing rental housing to ascertain (by means of observation, interview, and available statistical data) the type, quality, and absorption of new units and the competitive position of existing units. Information may be obtained from real estate boards, major builders, contractor organizations, mortgagees and mortgagee correspondents, management agents, FHA insuring offices (on insured projects), local housing authorities, etc.

In some areas much of the new rental housing has been built with FHA-insured financing; competitive construction, conventionally financed, should be investigated and reported, as well as government-aided projects (Federal, State, and local) which may be competitive respecting the income groups served. Where pertinent to the objectives of the market analysis, special purpose rental housing will be subjected to particular investigation, e.g., housing for the elderly, subsidized housing, nursing homes, college housing.

Quality and Absorption of New Rental Units. The qualitative character of new rental housing and the absorption of new units, in addition to the volume and trend of new rental housing construction, are essential considerations in evaluating this segment of the rental market. As in the case of sales housing, the qualitative character and absorption of new rental units is ascertained primarily by a spot check of a representative sample of projects recently completed and under way. Sources cited above may provide supplementary information.

The marketing experience of new rental projects is of prime importance, particularly if related to qualitative characteristics. If available, specifics on individual projects, which can be combined to avoid disclosure of confidential information, are preferable to generalities. The rate of absorption of new units, time required for initial rent-up, and the current level of vacancy in new projects are important indicators of the current market for new rental housing. Information on the source of tenants, e.g., existing rental units (apartments or houses), shift from owner to renter, newly-formed households (married couples or unrelated individuals), new residents, may be supplied by resident managers; such information is of further help in approaching the current market for new rental housing.

Competitive Position of Existing Rental Housing. The major portion of the occupants of new rental housing are drawn from existing structures. The units thus vacated, together with those released by occupants for various reasons, are available to other occupants, most of whom also are drawn from various segments of the existing housing stock. As noted earlier in this chapter, this movement of occupant groups is inherently associated with the filtering process; and it reflects the competitive forces constantly at work in the market. As the counterpart of sales housing, a surplus or shortage of available rental units exerts a similar influence on new construction, although with greater lag in the case of rental housing.

The competitive status of existing housing reflects a composite of numerous elements, e.g., rent, location, condition (physical and economic maintenance), design, unit size, functional arrangement, environment, management, etc. In his observations and interviews the analyst should determine the competitive status of available rental units, both new and existing, as an essential consideration in his quantitative and qualitative estimates of demand for rental housing.

In many areas, single-family structures constitute a significant and growing segment of the existing stock of rental housing. Conversely, this segment may be decreasing in some areas. The trend must be ascertained and a determination made of the direction and magnitude of the current year-to-year net change in the tenure of this type of structure as a basis for possible adjustment of the estimated quantitative demand for rental (and sales) housing. This shift in structure tenure should not be confused with the shift in occupant tenure; both shifts operate simultaneously and may either offset each other or compound the net effect on demand-supply relationships in the sales or rental segments, depending on the "mix" in the aggregate of both shifts.

Synthesis of Pertinent Facts and Findings. Discussion of the rental market in the analyst's report will parallel the discussion of the sales market, as to scope and objective. Subject matter, of course, is confined to rental market factors and considerations, with the possible exception of pertinent reference to the competitive status of sales housing in relation to rental housing where a significant change in this relationship is in evidence. For example, a more liberal or a more conservative trend in the terms of sale or financing of houses or an abundance or shortage of available mortgage funds may alter significantly the current or ensuing competitive relationship between sales housing and rental housing. The impact of such developments must be evaluated in terms of duration, as well as magnitude, of the effects on the demand for sales and rental housing.

The differential weaknesses and strengths in various segments of the rental market are best discerned by differential vacancy series. Since these are not generally available, the current tendencies in the market must be pieced together from observation and conversation with informed individuals. The annual and interim occupancy surveys of FHA-insured properties provide some information in this regard, but these properties are not usually representative of the entire rental market. Occasionally, managers of conventionally-financed projects may be persuaded to provide similar information. Although a postal vacancy survey may be available, it does not provide qualitative information.

Changes in the levels of rents in local housing markets should be observed by the analyst since they require specific comment in any text discussion of the rental situation. A softening in the market may not be characterized by contractual rent decreases but by concessions of rent for one month or more, payment of utility charges, or other financial and nonfinancial inducements. Elimination of such practices and the introduction of finder's fees charged to the prospective renter, bonuses paid by the renter, lack of redecoration etc., may be in lieu of rent increases when the market firms up. These increases or decreases in the effective rent indicate weakness or strength in the demand for rental accommodations. Differential aspects in the market may be significant. Long-term rent indexes may be useful in a comprehensive analysis,9/ but their interpretation is restricted by the qualitative characteristics of the components of the rent index series and by concessions or premiums not reflected in the monthly rent payment.

Special Housing Programs

A comprehensive market analysis should include appropriate reference to housing programs designed to meet special needs or objectives. Usually, a discussion of urban renewal, military housing, housing for the elderly, and nursing homes, if applicable, will be included, even though the analysis is not concerned with an immediate problem involving these programs. Other types of special housing programs, such as cooperative and condominium housing, are discussed only when the analysis is concerned with a specific immediate or prospective problem in these categories. Unless a specific market problem is involved, the discussion of these special programs is limited in scope and is essentially informational in nature.

Urban Renewal

As used here, the term "urban renewal" is intended to encompass all public and private activities in the redevelopment, rehabilitation, and conservation of urban real estate. It includes the activities carried out pursuant to (1) the Federal redevelopment and renewal programs under various legislative enactments previously noted; (2) State and municipal programs and actions, including roads, highways, expressways, and public buildings and facilities; and (3) private initiative.

These activities may involve the demolition of existing improvements, a change in the type or intensity of land use and, depending on the type of re-use, the construction of new improvements; or they may involve a major repair and modernization program to restore or rehabilitate existing structures, or only a concerted maintenance program to conserve the existing structures in good condition. The analyst's primary interest, of course, is the housing aspect of these activities, i.e., the impact on demand-supply relationships in the market.

The statistical factors of urban renewal, either officially actuated or as an ordinary accompaniment of spatial forms of growth, are included in the inventory changes identified under new construction activity and the additions and losses to the existing stock. Formal redevelopment efforts, subsidized or unsubsidized, through public or private financing, of a residential, commercial, industrial, public use, or vacant land nature, should be identified and described by the analyst in order to call attention to their significance in their relationship to the development of the area as a whole and to add substance to his analysis of inventory changes.

The statistical data and other information may be obtained easily from the local public agency constituted for the purpose of implementing the Federal urban renewal program. This responsibility, however, may be one of the diverse functions of a planning commission or local housing authority, if a separate agency has not been constituted. Alternate sources of information, if necessary to achieve complete coverage of all renewal activities, should be sought with the aid of the Mayor's office. Data obtained should include the general renewal plan, maps, location and description of the renewal areas, description of the surrounding area, the characteristics of the occupants of existing structures, the type of re-use and the improvements planned, the number of dwelling units to be constituted on the site when redeveloped and the probable dwelling units to be demolished or rehabilitated, the relocation plans, the present status and the timing of the renewal effort, the marketing experience and occupancy status of housing projects if partially or wholly completed, etc.

Renewal activities consisting of isolated individual parcels or sites and not included in an organized or official urban renewal plan cannot be summarized easily in statistical or descriptive form. If they are of significant aggregate, in the absence of cumulative data and information compiled by a local source, the analyst should obtain as much information as possible to enable him to provide at least a general indication of the nature, extent, and relative importance of these activities.

Military Housing

Consistent with the identification and discussion of military activity as a factor in the economy of an area where a military installation is located, appropriate reference should be made to the inventory of military housing as a part of the total housing stock in the market area.

For market analysis purposes, military housing is defined as housing which is under the control of the military departments for families of eligible military personnel (primarily) and families of "key" civilian workers at military installations. This housing is comprised principally of (1) housing provided with appropriated government funds, (2) Capehart housing (designated Armed Services Housing) provided with the aid of mortgage insurance under Section 803 of the National Housing Act, as amended, and (3) Wherry housing (designated Military Housing), also provided with the aid of mortgage insurance under Section 803. Also included are relatively small numbers of other military housing units, i.e., military leased housing, Lanham Act and other military rental housing (for which military occupants pay a fixed rent rather than forfeit their full quarters allowance), conversion units, and trailers. Units in the latter three categories generally are classified by the military as inadequate.

Not to be confused with military housing, as defined above, is the housing which is provided under several special FHA mortgage insurance programs for the particular benefit of military families and military-connected civilian families, i.e.: (1) sales housing under Section 222 for servicemen, (2) sales housing under Section 809 for civilian employees at designated research and development installations, and (3) rental housing under Section 810 for military personnel and civilian employees. Since this housing is not controlled by the military authorities, it is not included in the types of military housing enumerated above (even though its special purpose nature and use would seemingly place it in that category). Such housing, however, should be included in the discussion of military housing.

Where the impact of a military installation is relatively insignificant, the discussion of military housing need not consist of more than a factual resume for informational purposes. It would include the number of units by type (i.e., appropriated fund, Capehart, etc.), by construction status (existing, under construction, and approved), and by location (on and off base); the physical adequacy of the units; and the occupancy status of completed units, i.e., the over-all occupancy (or vacancy) rate and the number of military and civilian family occupants. Ordinarily, this information is available at the local installation. Data on the number of units in specific military and military-related housing programs under FHA insurance may be obtained for individual areas upon specific request to the FHA Economic and Market Analysis Division.

Public Housing

Low-rent public housing, subsidized and designed to provide decent housing for low-income families, is a development of relatively recent origin.10/ It is not competitive with desirable types of privately-owned housing financed at market interest rates and, therefore, is not considered as a determining factor in an analysis of the demand for new nonsubsidized privately-financed housing.

Where public housing has been provided, however, it constitutes a part of the housing stock, albeit a small proportion in most instances. Ordinarily, only a resume of the magnitude of the programs completed, under construction, and proposed will suffice, with information on the number of units, rental rates, income limits, and vacancy. On rare occasions, detail information on individual projects or proposals may be desired. Data may be obtained from local housing authorities.

Legislation

Aside from responding to the free play of numerous market forces, the volume of residential construction responds to legislative and regulatory encouragements and discouragements. Thus, a prospective tightening of a building code, known in advance, may generate accelerated application for construction permits prior to the effective date of the code amendment, particularly for the types of structures affected. This response could cause either a minor and temporary dislocation of demand-supply relationships or a serious and prolonged imbalance in the market as a whole or in a particular segment of the market, depending on the circumstances. Amendment of a code to permit the use of new materials developed through technological research and contributing to a significant cost reduction would tend to increase production. Similarly, a general change in zoning as distinct from a spot change, extending the high-density zone or initially establishing such a zone, may stimulate an increased volume of construction as well as a change in the pattern of construction. Failure to amend a zoning ordinance, in the interest of restraining further construction of certain types as a matter of over-all planning policy, would reduce the volume and change the pattern of construction (more likely to occur in submarkets than in the market as a whole).

A significant liberalization of financing terms pursuant to legislation directly affecting only a segment of the mortgage market (e.g., the National Housing Act), but with widespread influence on the over-all mortgage market, stimulates a larger volume of construction than would otherwise occur. In times of national emergency, rent control and material allocation legislation would be reflected immediately in the volume and pattern of construction.

Numerous Federal, State, and local legislative enactments have had an impact on housing. The role of government has been oriented more toward the marketing than the production of housing, although the former has had an indirect influence on production in many instances. The growing complexity of our urban areas, as well as our society in general, and the increasing need for coordination of governmental activities and regulation in the housing field foreshadow an extension of the role of government at all levels in this field. Any housing legislation, current or imminent and Federal, State, or local, must be carefully assayed by the analyst in the context of current economic and demographic forces to determine its probable impact upon the demand for new housing in terms of volume, type and quality.

CHAPTER VI. DEMAND FOR HOUSING

Page

Conceptual Considerations 155

- The Nature of Housing
- Real Estate Markets
- Housing Demand
  - Demand-Price Relationship
  - Demand Determinants
  - Marginal Demand
  - Demand for New Housing
- Housing Supply
  - Supply-Price Relationships
  - Supply Determinants

Quantitative Demand for Housing 163

- Basic Quantitative Demand Considerations
- Quantitative Demand Concept and Scope
- Derivation of Quantitative Demand
  - Technique
  - Forecast Period
  - Subarea Fragmentation of Demand
  - Temporary Demand
  - Long-term Absorptive Capacity of the Market
  - Short-term vs. Long-term Demand
- Judgments and Reconciliations in Deriving Demand Estimates
  - Realistic Considerations
  - Common Sources of Erroneous Demand Estimates
- Tenure and Type of Structure
  - Change in Tenure Status of Existing Houses
  - Owner-occupant Demand for Duplex, Row Housing, or Planned Unit Developments
  - Demand for Condominium and Cooperative Housing

Qualitative Demand for Housing 173

- Concept and Objective
- Price and Rent Submarkets
- Other Qualitative Submarkets
- Derivation of Qualitative Demand for New Sales Housing
  - Technique
  - Comparative Price Distribution
- Derivation of Estimated Qualitative Demand for New Multifamily Housing
- Modifications of Qualitative Demand Estimates
  - Rehabilitation as a Source of Housing Supply
  - Deviations from Estimated Qualitative Demand
- Subsidized Housing Demand
  - Section 221(d)(3) BMIR
  - Rent Supplement
  - Section 235 Sales Housing
  - Section 236

CHAPTER VI DEMAND FOR HOUSING

As the final step in the analysis of a local housing market the analyst synthesizes the salient findings and estimates from other sections of the analysis in the formulation of conclusions regarding the demand for additional new housing. In all cases these conclusions will include separate estimates of over-all demand for market rate sales and rental housing and occupancy potentials for subsidized FHA insured housing. In some cases, separate estimates will be prepared for geographic submarkets; in still other cases, estimates will be prepared for other submarket segmentations, e.g., housing for the elderly, nursing homes, and military housing (see chapter VII, p. 183 et sequa).

Conceptual Considerations

The principles of demand and supply in conventional economics are applicable to any commodity produced for consumption and exchanged in a free and competitive pecuniary economy. The problems encountered in daily life are tremendously simplified, of course, by the construct in which the hypotheses are framed. Within the framework of economic theory, based upon marginal utility analysis on the demand side and scarcity on the supply side, the concepts of demand-supply relationships in housing economics may be postulated. The task is made difficult since price and value movements are confused and obscured by manifold conflicting forces, man-made obstacles to free, competitive exchange, and the diverse character of the commodity itself.

The Nature of Housing

Dwelling units are land improvements, generally immobile, relatively long-lived, and characterized by a vast diversity of exterior and interior design and quality. As with all land and land improvements, sale or rental involves legal rights to possession and use.

Since every parcel of land is separate and distinct from all other land, each parcel of land is unique as to location. Thus, no land parcel is exactly similar to any other, regardless of the exactness of duplication of the improvements. The immobility of land itself is obvious; the immobility of the improvements is created by their sheer size, bulk, and fragility in movement.

The genus housing relates to permanent type land improvements designed for or adapted to dwelling accommodations. Even when specially constructed to provide mobility, the movement of realty improvements is costly in relation to value. Trailers, boats, and other readily mobile accommodations, sometimes used as homes for indefinite periods, are of a temporary nature and are not regarded as realty improvements. Permanent type housing, although a consumer good, is relatively long-lived in that with appropriate maintenance it may be made to last indefinitely. In durability and

resistance to wear, it approaches the limit for articles of daily consumption. The immense diversity in design and quality both interior and exterior, creates a heterogeneity of supply uncommon to all other consumer goods. The gradations are infinite.

Finally, in addition to legal rights, immobility, long life, and diversity, land improvements used as residential accommodations are characterized by the limited utility of more than one unit per household.

Real Estate Markets

In contrast to markets for some types of goods, the market for real estate lacks organization and uniformity. There is no central market place in which deeds or leaseholds are graded, sorted, and put up for auction to the highest bidder or for sale at a specific price, as in the commodities and securities exchanges (meeting places for brokers), or in department stores and other local retail establishments. Manufacturers' pricing policies, distributive channels, and competitive factors create close price uniformity. Every real estate transaction, on the other hand, is a pitting of bargaining power between the individual contracting parties, whether for deed or leasehold, based upon their relative knowledge of comparative values and the degree of need of both buyer and seller.

The lack of uniformity of real estate tends to create a dispersion of price. Its fixed character and its narrow geographic competitive limits inhibit an organized market and tend to broaden price dispersion. Nevertheless, the very volume of individually bargained transactions creates an informal market, albeit of diverse character, in which prices influence one another. The more fully informed gain advantage over the less informed buyers and sellers, both acting under diverse degrees of compulsion and creating a common meeting ground of price about which prices of comparable units tend to be arrayed. Thus, typical prices are derived and their movements are in general conformity to basic demand and supply precepts.

Residential real estate markets for deeds and for leaseholds are essentially local and encompass the same universe of dwelling units. Properties in a housing market area are in competition with one another, by definition. Most realty transactions for residential property, pertaining to legal rights of possession and use, are made by persons living in the market area or intending to do so. All lease transactions on individual units and all owner-occupancy purchases have this characteristic. The market for residential investment real estate (multifamily structures), however, is less localized and may be regional or even national in scope. All residential property may be transferred by deed, whether for owner-occupancy or for investment, and all residential property may be offered for rental at one time or another. Thus, though the local market is divisible, its component portions are interchangeable in deed and leasehold participation. It follows that the functions determining price and rent are interdependent.

Although local real estate markets are internally competitive and there are few purchasers of local residential real estate for personal use who maintain residence in other localities, the price structure responds to and reflects external influences. Costs of materials, labor, land, and financing tend to fix costs of production and, hence, price for the marginal producer. Material and financing costs, operating in national market, are influenced by national forces. Since costs of materials, labor, land, and financing are the major elements of local construction costs, local real estate prices and rents are influenced in turn. Thus, external competitive forces are important determinants of prices and rents in local housing markets and national trends are a significant force underlying local trends.

Housing Demand

Demand-Price Relationship. The number of units that will be absorbed at a specific price may be defined as housing demand. The number of units is relative to price. Demand, by definition, must be effective and, therefore, is limited. A change in price causes a change in demand, other things being equal. As price decreases, new layers of potential demand tend to become effective in the market. As price increases, successive layers of effective demand tend to become ineffective and, therefore, latent or potential. This is the conventional cause and effect explanation of price-demand relationships in the market, assuming other things remain equal. Since the commodity itself has a high degree of variety, each variety may be considered to have corresponding and interdependent demand-price relationships.

Demand Determinants. The determinants of demand are the dynamic factors which, by virtue of changes in their magnitude or character cause departures from existing demand-price relationships through conventional economic cause and effect processes. The major demand determinants are (1) the rate of growth in the number of households; (2) income and employment patterns; (3) liquid asset holdings, down payment and mortgage term requirements, and availability of mortgage funds; and (4) space, convenience, and style requirements. In their variations they exert influence upon one another and are interdependent to a large degree. The composite of their variations determines the aggregate effective demand.

GROWTH IN HOUSEHOLDS. The rate of growth in the number of households is the principal demand determinant. In turn, rates of household growth are determined primarily by net population growth and those social forces tending to create smaller households within the aggregate population. Since, by definition, households comprise those related or unrelated persons occupying a dwelling unit, every household at some time will have been a dwelling unit demander.

Should the total number of households in a specified area remain absolutely static for any period of time, the demand for additional dwelling units could be zero. The major determinant of demand being inoperative, the only conceivable demand arising would originate from those households occupying dwelling units which wear out, are lost through disaster or condemnation, or (for personal reasons) are cast off by their occupant households. This condition is observable in numerous small towns. Demand would have become zero when inventory became equivalent to needs at a price just sufficient for complete market absorption to take place; in effect, a state of equilibrium. One spare unit of available supply would be reduced in price until a household were formed to take it off the market, that is, a new marginal household would be created. Conversely, one unit in short supply would raise price until one marginal household was dissolved. They are both in a state of disequilibrium until they are balanced by price.

Practically, in most communities, some small portion of the inventory is in process of replacement at any moment of time so that demand is never absolute zero. In addition, some vacant acceptable quality housing is required for mobility, the relative magnitude of which is dependent upon the rate of growth. However, some mobility has been observed in many communities for protracted periods although there was only a negligible vacancy factor.

Because of the century-old tendency in the direction of smaller average households, the rate of growth in the number of households has tended to be positive even in those communities with a small net population decline. With a positive net population growth, the rate of growth in number of households has tended to be greater than the rate of growth in total population. We are concerned, of course, with permanent primary homes and have excluded from the discussion secondary or transient homes for seasonal or temporary occupancy which occur in appreciable volume in resort communities. The rate of growth in the number of permanent households comprises a dominant determinant in the demand for permanent housing units in excess of existing supply.

INCOME AND EMPLOYMENT PATTERNS. Income and employment patterns influence demand through their effect upon the rate of growth in the number of house holds and their effect on consumption standards. If incomes rise and a general feeling of well-being persists over a period of time, individuals, sub-families, and secondary families will tend to break off from existing households and form households of their own, and existing households will tend to seek higher quality accommodations. The reverse tendencies will be effective should incomes fall. Similar tendencies occur with increasing and decreasing employment trends. Empirical data are not available to give even rough estimates of the number of households likely to be doubled or undoubled under given conditions of changing incomes

and employment nor of the magnitude of replacement construction resulting from these forces. Theoretically, there are minimum and maximum limits operative in any brief span of time. Family compositions, social trends, and incomes from other than gainful employment, however, can change appreciably within one or two decades and exert an influence upon the operative theoretical minima and maxima.

In the immediate post World War II period of housing scarcity and under conditions of high employment and incomes, a peak of 2,861,000 married couples without own household, or 7.3 percent of all households, was reached in 1947. As housing scarcity subsided, and incomes and employment reached new high levels, doubling-up was reduced. By 1962, continued prosperity had reduced doubling-up to 880,000, or 1.6 percent of all households. Whether further reductions in doubled-up households are possible, and to what extent, is a moot question. Whether high proportions will be equalled or exceeded in the future under the impact of drastic employment and income declines is impossible to predict.

LIQUID ASSETS, MORTGAGE TERMS, AND MORTGAGE FUNDS. Liquid asset holdings and down payment and mortgage term requirements influence demand directly, as well as indirectly through the household rate of growth function. Such influence is exerted, however, primarily in the sales market rather than in the rental market segment of demand.

Directly, the demand for housing is governed by the law of diminishing utility. In the majority of cases, the desires of an occupant group (household) are satisfied with one dwelling unit. Like bread and other staples of existence, there is rapid diminishing utility in the acquisition of more than is necessary for current consumption. The elasticity of the aggregate of potential demand is low. The availability of liquid asset holdings at least equal to current down payment requirements, however, together with the ability to pay maintenance costs for two dwellings in future years, tends to create a desire for secondary housing facilities. This may take the form of (1) a rental unit in town if one resides in a suburban area of a large city, (2) a seasonal residence in the mountains or at the shore if either a renter or an owner, or (3) for the very well-to-do, permanent homes in two or more locations. The satisfaction of such desires is weighed individually against alternative uses for savings however, and decisions are made on the personal marginal utility of each alternative.

Liquid asset holdings and down payment and mortgage term requirements also influence demand indirectly through the household rate of growth. The rate of undoubling and new marriages is affected by the availability of sufficient funds to maintain separate homes. Demand arising from both undoubling and new marriages may be satisfied with either rental or purchase, however, and the influence of liquid asset holdings is

indirect. The desire of household components to undouble, or for couples to marry, increases demand and tends to bid up price or rent. Those households in existing facilities and with available liquid assets to cover down payment are thereby encouraged, either by higher prices for their homes or by increased rent requirements, to improve their housing through purchase. If rents and prices rise to such an extent that undoubling and marriages are discouraged, the effect upon demand subsides.

The availability of mortgage funds also has a direct and indirect influence on the demand for housing. Here, too, the influence is exerted especially in the sales market segment of demand. A shortage of mortgage funds, like the unavailability of liquid asset holdings, is a critical and sensitive demand determinant. Even though buyers may be able and willing to make concessions in overcoming other obstacles in the purchase of a house, a scarcity of mortgage money leaves no alternative and effectively restrains the consummation of potential demand. A constriction of mortgage terms in a tight money market, for example, would tend to curtail demand for housing; but unless accompanied by a stringent shortage of mortgage funds, such curtailment would be temporary for the most part. In other words, mortgage money is vital to the implementation of potential demand except in those rare transactions involving all cash without benefit of mortgage financing; mortgage terms, on the other hand, exert a temporizing influence on demand.

SPACE, CONVENIENCE, AND STYLE REQUIREMENTS. Space, convenience, and style requirements are direct determinants of demand in terms of available assets and income. With assets and incomes at high levels, a higher rate of mobility is effected by households desiring to improve living standards and conditions. This is the basic element of the filtering process in housing. With low assets and incomes prevailing, a general attitude of "make do" prevails.

Space requirements, in terms of number of rooms, size of rooms, and persons per room change over time in response to the evolution of family composition and general living customs. The large households of the nineteenth century required more space than do today's households. Current housekeeping efficiency, labor saving devices, and modern design require fewer rooms (of smaller size) than formerly.

Convenience requirements have changed drastically in the short space of two generations. In the latter part of the nineteenth century, the typical house or apartment provided little except shelter and space. Today, it will have many, or perhaps all, of such conveniences as a modern heating and cooling system, electricity, range, washer, dryer, one or more complete baths, storm doors and windows, outer wall and roof insulation, and built-in conveniences such as ironing boards, furniture, wall closets, garage, etc.

Style changes occur from decade to decade and incorporate space trends and convenience improvements in modern architectural dress of progressively simpler utility value. Such changes have an appeal to a broad segment of the population and each change is gradually integrated into the fabric of life until the former luxury becomes today's necessity. By its appeal, style creates demand and is a direct determinant.

Marginal Demand. Marginal demand is the compound of the determinants of demand and, at a given price, will define the marginal household. It will barely have the income to pay rent or to make a down payment and pay recurring housing expense. Conditions of employment, household rates of growth, and space, convenience, and style requirements will determine the number of marginal households at any given time. With each change in price, new variants of marginal households make their appearance, other things being equal. If price is lowered, a new group of marginal households appears and demand increases. If price is raised, demand decreases since the former group of marginal households is reclassified to sub-marginal and a higher income group takes its place as the marginal group. The determinants of demand, however, are constantly changing and may completely compensate or overbalance price change considerations in their impact upon demand. Thus, although price may be lowered, household rates of growth may have decreased and employment and incomes may have declined, so that net demand is lessened rather than raised. The converse also may be true.

Demand for New Housing. New construction demand arises from the net impact of the operation of the determinants of demand upon the existing housing supply at a given price. Changing growth rates in the number of households, changing income and employment patterns, changing liquid asset holdings and down payment and mortgage term requirements, and changing tastes and desires in space, conveniences, and style will singly or in combination affect the magnitude of aggregate demand at a given price. If the volume of existing housing offered at a given price is insufficient to satisfy the aggregate demand, the difference is the effective demand for new construction.

The differential quality of demand is exemplified by new construction activity in the face of relatively large aggregate vacancy factors. A change in any one of the determinants of demand enumerated above will be reflected in new construction demand. In some cases, however, differential changes in demand may be met satisfactorily from the existing stock. That is, quantitatively and qualitatively, the number of units offered for rent or for sale will be sufficient to meet the demand created by the demand determinants operative at the time within the price and rent matrixes.

Any deviation tipping the balance of demand in excess of the supply offered, either quantitatively or qualitatively, creates an effective demand for new construction. Price will tend to rise until the demand is supplied by new construction. If the balance of demand is depressed (by the operative demand determinants) below the supply offered at a given price, new construction will subside so that supply is adjusted to the demand equilibrium. Should the supply in the existing stock (offered within a given price and rent matrix) exceed the demand, price will tend to decline until the excess supply is absorbed or withdrawn from the offerings of dwelling units. Because of its long life, housing once created becomes a supply factor repeatedly entering the market and influencing both price and the production of new units of supply.

Housing Supply

Supply-Price Relationship. Out of the total inventory or stock of housing at any point in time, the portion made up of units offered for sale or rent at a specific price may be defined, for purposes of housing market analysis, as housing supply. By definition, supply is limited to a portion of the stock already produced plus that in production. A change in price occasions a change in supply. As price increases, a greater proportion of the existing stock tends to be offered and new construction is encouraged. As price decreases, existing construction is withdrawn from the offering lists and new construction is discouraged. With a fixed demand, price varies inversely with supply so that pressure toward a corrective balance in the relation of supply to demand is exerted by price.

Supply Determinants. The determinants of supply are in a constant state of flux, however, causing departures from simple cause and effect supply-price relationships. With demand fixed by a specific rate of growth in the number of households, by stable income and employment levels, by given liquid assets, mortgage terms, and down payment requirements, and by certain space, convenience and style requirements, the determinants of supply are (1) the availability of mortgage funds, (2) entrepreneurial reluctance to change prices and rents, (3) the cost and availability of land, construction labor, and materials, and (4) availability of capital and entrepreneurial resources for construction operations. When demand determinants favor the construction of new dwelling unit additions to the housing stock, these supply determinants will impede or assist the provision of new supply. These determinants are interdependent with the determinants of demand, however, and can vary only within relatively narrow limits without affecting both price-demand and price-supply relationships.

Any unit of the existing stock of housing is available at a price. Under any given set of circumstances resulting in a price and rent matrix for units of different degrees of quality, a portion of the existing supply will be offered and absorbed. That portion of the supply with marginal price and rent levels (i.e., at the limit of the purchasers' capacity) will determine the market demand.

AVAILABILITY OF MORTGAGE FUNDS. Mortgage money, being in competition with other financial needs, fluctuates in availability through competition in the general money market; its flow in each channel can be attracted or impeded by interest rates, terms, and purely external factors. A downward shift in the availability of mortgage funds (other factors remaining constant) can reduce the number of units which otherwise would be offered, with consequent upward pressures on prices because of the reduced supply. Changes in availability of mortgage funds, however, also affect the levels of demand for housing, with tendencies to raise or lower prices directly opposite to the influence on supply. The net influence of availability of mortgage funds may, therefore, either raise or lower price levels or in any brief time period, the shifts in demand and supply determinants may compensate one another and result in stability in prices and rents.

ENTREPRENEURIAL RELUCTANCE TO CHANGE PRICES AND RENTS. The reluctance of builders, owners, and landlords to lower prices and rents to meet competitive market conditions causes changes in tenure relationships and in vacancy rates. The seller who must dispose of a new or owner-occupied dwelling unit and cannot find a buyer at his price may be disposed to rent rather than to lower his price, thus shifting the tenure pattern. The landlord with units unable to find tenants at specified rentals may be willing to accept vacancy rather than grant rent reductions to all tenants. A similar reluctance to change is found in periods of rising prices and rents. The landlord will not increase rentals until a generally high level of occupancy is attained in similarly competitive units. The rented single-family structure will be sold on a rising market rather than continue with the trials of landlordism; as a result, the price-rent relationship tips in favor of selling.

COST AND AVAILABILITY OF LAND, CONSTRUCTION LABOR, AND MATERIALS. The cost and availability of land, construction materials, and labor operate through cost-price and cost-rent relationships. Builders flourish in a period of rising demand and marginal operators shut down as demand subsides. Small homes, involving little capital risk, easily respond to demand when cost-price relationships are attractive to builders. Large expensive structures, including the majority of new rental accommodations, entail considerable capital outlay; demand must be strong and cost-rent relationships well established and with reasonable certainty of continuance before demand determinants take effect in inducing any volume of construction. Similarly, when demand can be met largely from existing stock, the abruptness of decline in the construction of rental accommodations is likely to be greater than in the case of small homes.

Quantitative Demand for Housing

Estimates of the projected demand for new housing are concerned with both the quantitative and qualitative aspects of demand. These estimates necessarily must be made in sequence since they cannot be made simultaneously in one operation; the quantitative estimates necessarily precede the estimates of qualitative distribution.

Basic Quantitative Demand Considerations

In the final section of a housing market study the economic, demographic, real estate, and current market relationships are synthesized in a concluding statement relative to the prospective quantitative demand for new construction for a specific forecast period. In essence, the considerations justifying the quantitative demand are set forth in bold relief, without detail, so that the analytical components may be quickly and easily grasped. The employment potential and the population and household growth anticipated are drawn from the conclusions in those respective sections of the report. Temporary aspects of future growth are delineated. The long-term employment potential of the community is summarized, if significant to the prospective demand conclusion. Modifying considerations of the available housing supply are summarized from the real estate and market factors. In sum, the quantitative considerations of demand for sales housing and for rental housing are clearly outlined as positive conclusions developed from the preceding analytical detail.

Quantitative Demand Concept and Scope

In the sense used in housing economics, demand is primarily a function of growth. In conventional economic terms it would refer to all units entering into exchange. Analysts of housing markets, however, are concerned primarily with the new units entering the market and only secondarily with exchanges in the existing stock. Although they reflect the market, the transactions in the existing stock are studied primarily for their controlling effect upon the incremental rate of new supply. Thus, when housing market analysts speak of demand, the term generally is restricted to the demand for new construction.

The quantitative demand for new residential units is derived from conclusions respecting the rate of household formation, modified by adjustments originating in other factors operating in the market. The number of additional households anticipated during the forecast period is premised, of course, upon an analysis of prospective population growth from net natural increase and net migration and of projected household size changes; in the analytical process, the economic considerations promoting population and household growth had been incorporated in the forecast. Since each additional household represents a demand for a dwelling unit, in either new or existing structures, the household formation anticipated during the forecast period plus required replacements is held to be equivalent to gross quantitative demand for housing financed at market rates for owner or tenant occupancy. The projected gross demand is subject to adjustments obtained from pertinent market factors to derive adjusted net quantitative demand. These adjustments are discussed on the following page.

The question arises as to whether the net (adjusted) quantitative demand includes the demand for all types of newly constructed housing. Some housing built under special legislative provisions for financing or reservation for occupancy is identified by "labels" and sometimes referred to as if outside routine housing market considerations. Included are military housing, various forms of subsidized housing, redevelopment housing, and housing for the elderly, to name the most prominent types. The answer to the question is rooted in the concepts embraced in the framework of analytical considerations. Briefly, excepting subsidized types of housing, any housing financed at market rates of interest, which enters into the market in competition with existing housing, or affects competitive forces in the free market, a priori, is included in the consideration of net quantitative demand. The precise purpose of the subject analysis may be to identify the impact of housing built under such provisions upon other types of housing. At times, analysis may be rendered difficult by the relatively thin lines of distinction as to where competition begins and ends, as with some types of subsidized housing. Or, demand elasticity may be high because of artificial rent determinations to fit income classes, as with military housing. Public housing generally has had a replacement character; public housing and other subsidized types, not being competitive in rent structure with desirable types of privately-owned structures, are not included in the quantitative demand. Should such housing assume a competitive character and compete directly with nonsubsidized new construction, that portion entering into competition would be included, of course. Projects developed under Section 236, for example, provide units which may be rented either with or without rent-reducing subsidy of interest payments. The analyst should take into account the impact of such projects on rental demand, including demand at rentals between the minimum Section 236 rentals and those established as minimum rentals based on market interest rate financing.

Derivation of Quantitative Demand

Technique. The procedure for deriving the estimates of adjusted net quantitative demand is detailed in Exhibit E, p. 267.

As already noted, quantitative demand is predicated on projected household growth--the principal ingredient--modified by adjustments reflecting other market factors which augment or reduce the magnitude of demand based solely on the change in households. These modifications, in broad terms, and other considerations pertinent to the derivation of adjusted net quantitative demand are discussed below.

The adjustments to the growth factor, distributed by tenure, to derive the adjusted net quantitative demand are made on the basis of estimates for the following elements, if applicable:

1. Positive or negative alterations in the existing stock resulting from demolition, conversion, and other factors associated with components of inventory change (this adjustment produces "gross quantitative demand").

2. An excess stock of existing housing, derived by a comparison of current available vacancy with the estimated vacancy requirement (this further adjustment produces "net quantitative demand").

3. An excess rate of new construction as of the survey date, derived by comparison with a desirable rate considered adequate during the forecast period (this final adjustment produces "adjusted net quantitative demand").

In the present state of analytical science, these adjustments may be possible only with considerable margins of error. In the absence of reliable data, conservative judgment in estimation is desirable for the derivation of the permanent net quantitative demand for nonsubsidized new sales and rental housing. When temporary demand from an obvious or declared temporary facility is observed, the projected household growth arising from this temporary facility should be discussed as a separate item. It should not be included in the projected household growth for the purpose of computing the adjusted net quantitative demand.

Forecast Period. Except as noted in the paragraph immediately below, the standard forecast period for which specific demand estimates in quantitative terms shall be developed is two years following the date as of which the market analysis is prepared. Periods of longer or shorter duration, however, may be justified at times by local circumstances. In all instances, the forecast period used should be stated explicitly and should be consistent with the period used for employment, population, and household forecasts. The longer the forecast period, of course, the less reliable will be the demand estimates. Estimates for periods beyond two to three years in the future should be presented only in qualified terms, because of inherent uncertainty concerning future economic and other developments. Where a local problem, such as urban renewal, requires a longer forecast period, tentative and qualified estimates shall be developed for the period required, together with specific estimates for shorter periods. In most cases of this type, additional analyses undoubtedly will be made before final commitments are entered into concerning the housing to be provided, thus permitting the original estimates to be modified as changing conditions warrant.

A forecast period of three years is to be utilized in those instances in which there is a substantial excess of vacancy. This will facilitate the attainment of a reasonable balance in the market over a more adequate period of time since downward adjustments in the rate of new construction are not made quickly in the absence of compelling reasons.

Subarea Fragmentation of Demand. The application of the work sheet procedure for estimating quantitative demand results in an estimate of demand for the housing market area as a whole. In many studies it will not be necessary to proceed beyond this point to the division of quantitative demand by subarea. Other studies, however, will require such division. In most housing market areas, established trends exist with reference to the location of new owner-occupied dwellings and new renter-occupied dwellings. The division of adjusted net quantitative demand by sub-area requires in the first instance a careful study of these trends, modified to reflect current differential vacancy rates, when available. Such trends may be

affected, however, by changes in transportation factors, in employment centers, and in the availability of land and public utilities, among other things. Prospective developments of this type, therefore, must be carefully considered before sub-area estimates of quantitative demand are completed.

Temporary Demand. Temporary demand may be occasioned by military or industrial installations of predetermined limited time durations. Unless the economic base is sufficiently strong to permit the visualization of growth in other forms of economic activity which would support the population attracted by the temporary activity, the demand from this source must be isolated from the long-term permanent growth of the community. Permanent new construction required to meet temporary demand can be justified only within the limits of the foreseeable potentials of economic expansion. The adjusted net quantitative demand derived by application of the work sheet procedure in Exhibit E reflects only permanent (long-term) demand. Thus, in calculating net quantitative demand, the prospective household growth should not include any known temporary element.

Long-term Absorptive Capacity of the Market: Effective Demand. The estimate of permanent net quantitative demand, derived as indicated in Exhibit E, may be considered equivalent to the long-term absorptive capacity of the market under presently known conditions of future economic changes. The long-term absorptive capacity (permanent net quantitative demand) is the realistic market potential for nonsubsidized privately-financed new construction and redevelopment, i.e., the effective demand. It is expressed in terms of reference to an analytically determined short-term quantitative demand and is compounded of the best data and judgment available with respect to the operative demand and supply determinants anticipated. In this regard, it must be recognized that the gift of prophecy has not been bestowed liberally and that the real potentials will be disclosed only as the future is unveiled.

Short-term vs. Long-term Demand. Estimated quantitative demand may differ at times from the actual number of new dwellings marketed during a particular period, for reasons other than miscalculations in estimating. In other words, actual short-term demand in a particular year may differ from long-term demand, which is the conceptual equivalent of quantitative demand. Such differences are not likely to continue over an extended period, however, without creating an imbalance in demand-supply relationships and setting in motion a reaction within the housing market which will affect the volume of new construction and will tend to restore balance in the market.

Judgments and Reconciliations Involved in Deriving Demand Estimates

The derivation of adjusted net quantitative demand estimates is not simply a mathematical process. To regard it as such will defeat the purpose of the technique and lead to erroneous conclusions. The entire procedure, being dependent largely on estimates, must be tempered with sound judgments and appropriate reconciliations to reach defensible conclusions regarding the demand for additional housing.

Realistic Considerations. The annual net quantitative demand for sales and/or rental housing calculated in accordance with the work sheet procedure detailed in Exhibit E may be significantly less than the volume of new construction in recent years and/or the projected increase in households. This conclusion is justifiable only when there has been a corresponding significant increase in the vacancy factor and/or new production has not been satisfactorily absorbed. If the new production of either sales or rental units has been absorbed at a satisfactory rate, any conclusion that a lower rate of production will be appropriate in the immediate future must be carefully, clearly, and succinctly justified, e.g., in terms of economic decline, a slower rate of household growth, past construction for backlog demand, or recent unwarranted increases in starts which are reflected in excessive units under construction.

An increase in vacancies above satisfactory levels when new construction is satisfactorily absorbed requires consideration as to whether the increase in vacancy may be entirely (or almost entirely) in the lower price or rent ranges of the existing sales or rental stock. This would reflect an effective operation of the filtration process and would not, in itself, be sufficient reason for a reduction in the projected demand (rate of new construction). Evidence that vacancy accumulation (new or existing) is in middle and higher quality levels would, of course, signal a need for a desirable reduction in the rate of production.

In market areas in which the current volume of construction of sales houses is being absorbed rapidly, and particularly when speculative construction represents a relatively minor proportion of completions, a downward adjustment of total home production would seldom be justified unless the projection of households indicates a significant decline in the rate of growth. Qualitatively, however, construction may be excessive in a certain price range, and that fact should be reflected in the distribution of demand by sales price ranges (discussed in a subsequent section of this chapter).

Essentially the same considerations pertain to a rental demand adjustment for excessive construction volume, with the following additional considerations, which require careful evaluation in the derivation of rental housing demand to avoid the development of an over-supply:

1. Virtually all construction of rental housing is of a speculative character and depends upon prospective absorption over a period of initial occupancy.

2. Individual rental projects usually involve a relatively large increment of housing supply which cannot be curtailed once a project is started.

3. Projects currently under construction or in the development stage may add substantially to total supply in the near future.

4. Rental housing production tends to have greater fluctuations than home production because of market and production characteristics.

5. Transfers of existing houses from owner to tenant occupancy add to total rental supply.

Common Sources of Erroneous Demand Estimates. An inappropriate conclusion with respect to demand almost invariably stems from inappropriate judgments respecting one or more of the factors discussed below.

THE QUALITATIVE CHARACTER OF VACANCIES. The qualitative character of vacancies is extremely difficult to ascertain if no qualitative surveys are available, as is generally the case. Older homes and apartments may be in excess supply because of obsolescence or unit sizes that do not meet with current market needs. Consequently, it is important that the analyst (1) determine whether the unsold inventory ratio for newly constructed homes is excessive by either a current survey or a recent annual FHA survey and (2) adequately spot check the relative absorptive experience of new rental construction. In the latter case the analyst may be assisted by absorption studies made by rental management agencies and others.

THE SHIFTS IN TENURE WHICH HAVE BEEN OCCURRING. The suggested formula for determining shifts in tenure (Exhibit E, Step 2 of instructions) relates primarily to a rough measurement derived from previous years. This measure may be inappropriate for the forecast period, and the analyst must sharpen his judgment to derive an accurate current tendency. This is indicated by the relationship of the absorption rates of new single-family structures and new rental units, as well as the increase in rental occupancy in existing single-family structures.

AN UNWARRANTEDLY LOW ANTICIPATION OF FUTURE DEMOLITIONS AND CONVERSION LOSSES. The volume of demolitions which may be anticipated is only partially measured by those occurring because of government action. Although demolitions occurring because of government action may be the dominant cause of inventory losses in most instances and are more extensively publicized, other demolitions occur through fire, casualty, condemnation, and voluntary private action. Inventory losses also occur from conversions to nonresidential use and from mergers of existing units (usually of units previously created by conversions) which, in recent years, have probably exceeded increases in inventory by conversions.

Until a few years ago it was a safe assumption that these other demolitions and conversion losses generally would be offset through the addition of units occurring through conversions. This is no longer the case and an estimate of demolition through these other causes and conversion losses should be incorporated in the appropriate additive factors of demand. One suggestive clue of the combined effect (not always reliable) would be obtained by relating the total building authorizations (with appropriate time-lag allowance) between the last two census dates to the difference between the total inventories (less trailers) on those dates (see Chapter V, page 111).

AN IMPROPER ESTIMATE OF THE NUMBER OF VACANT UNITS. It is extremely important that the analyst estimate sales and rental vacancies as accurately as possible. Although he may be guided by a postal vacancy survey, great caution should be taken to insure (1) that proper allowance is made for that portion of the area not covered by the postal vacancy survey, (2) that consideration is given to any likelihood of underreporting of vacancies by postal carriers, and (3) that the vacancies found by the postal vacancy survey are carefully translated to census concepts by deducting rented single-family residences and corresponding vacancies from the "residence" portion of the survey and transferring them to the "apartment" portion.

AN IMPROPER ESTIMATE OF THE NUMBER OF UNITS PRESENTLY UNDER CONSTRUCTION, OR USE OF TOO SHORT AN ESTIMATED CONSTRUCTION TIME PERIOD. The number of units under construction estimated by the analyst must have a reasonable relationship to the building permits authorized in the recent past. In the case of single-family structures, the number of units authorized in the past three or four months would be reasonable to indicate those under construction unless there are seasonal or local factors which justify a smaller or larger estimate. In the case of apartment units, the analyst must determine the length of time required to complete typical structures in the area; a preponderance of two- to four-unit structures may suggest a four- to six-month summation of building permits as a guide, but a preponderance of multistory apartments may suggest a 15- to 18-month total.

In the case of rental units there is no formula to be followed, and reliance must be placed exclusively upon the judgment of the analyst. The number of houses reported under construction by postal vacancy surveys cannot be relied upon in many cases since carriers sometimes include entire subdivisions as under construction when a large proportion of the subdivision may either be completed or not yet started. Furthermore, some new subdivision construction may be beyond all established carrier routes. These possibilities should be recognized in the discussion of the postal vacancy survey so that the reader of the analysis will not be misled by comparison of carriers' reports of under construction volume with the analyst's estimates.

CONSTRUCTION FOR SEASONAL OCCUPANCY. Another factor which may influence the volume of construction (hence the estimate of demand for new units) is the number of units constructed for seasonal occupancy. This is not reflected in household growth and thus is not included in the quantitative demand work sheet. In many areas there is a significant volume of seasonal type construction reflected in building permit data. Where appropriate, therefore, a projection of seasonal construction should be included in the analyst's demand estimate, either directly or by reference in the text. The volume of seasonal construction is difficult to measure, but comparisons of the difference in seasonal stock between census dates may be made and local investigation will provide information as to recent increases in seasonal type new construction.

SECONDARY HOUSING UNITS FOR PART-TIME OCCUPANCY. Another source of demand which is not measured by household growth is demand for secondary units by households (e.g., in-town apartments for households living in outlying suburbs) or year-round units in regional or national centers held by corporations or others for part-time occupancy by traveling executives, etc. Rental project management concerns and real estate brokers may have useful judgments about this type of demand.

Tenure and Type of Structure

The satisfaction of the adjusted net quantitative demand, derived by applying the procedure detailed in Exhibit E, ordinarily will be accomplished through the provision of single-family structures for owners and multifamily structures for renters. However, the analyst must give consideration to several factors, discussed below, which may modify or refine the estimated tenure distribution of quantitative demand and the structural type of housing which ordinarily would be provided to meet the estimated demand. These factors are treated independently of those which constitute the ingredients of the adjusted net quantitative demand estimate developed pursuant to Exhibit E; their relevance depends on the circumstances in each market study. Appropriate modifications or refinements, when warranted, are noted in the text of the analysis as qualifications of demand.

Consideration of the structural type of housing which will satisfy demand necessarily leads to the primary expression of demand in terms of structure in the textual presentation, rather than in terms of tenure as used in the development of quantitative demand up to this stage of the analysis. This transition, in effect, is a translation of the quantitative demand estimates into realistic and readily understandable terms for implementing the satisfaction of demand. In the text of the report, therefore, demand is expressed in terms of single-family and multifamily structures, with tenure subordinated for appropriate clarification.

Change in Tenure Status of Existing Houses. In addition to the shift that occurs in the tenure of occupants from owner to renter status, or vice versa, (discussed in Chapter V and accounted for in Step 2 of the work sheet procedure for estimating quantitative demand, Exhibit E), a net change may occur in the tenure status of existing single-family structures. This change involves the shift of such structures from owner-occupancy to renter-occupancy status, or vice versa, through transfer from the sales market to the rental market, or vice versa, resulting in a net tenure shift of such structures. While the shift in tenure status of single-family structures is reflected in the tenure classification of occupants at any point in time, it is not reflected in the projected shift in occupant tenure as determined by the procedure in Exhibit E. Hence, the shift in tenure status of structures is not to be confused with the shift in the tenure classification of occupants. The latter is an element in the determination of the tenure distribution of quantitative demand, whereas the former is an element associated with the satisfaction of that demand.

Since the one-unit structure is, to a great extent, readily adaptable to either the sales or rental market, an estimate of the net number of these units transferring from owner to renter occupancy or from renter to owner occupancy is necessary in order to determine the effect on the demand for sales and rental housing. Decennial census data show that between 1950 and 1960 there was a net transfer of one-unit structures from the sales to the rental market in most metropolitan areas, due in great part to (1) the generally low rental vacancy rates at that time, and (2) the large volume and proportion of single-family units built during the fifties, in addition to (3) the general tendency of single-family structures to shift from owner occupancy to renter occupancy as they age and deteriorate.

At the present time there is no precise statistical procedure for estimating this transfer (either owner to renter or renter to owner) in one-unit structures. In all probability the net rate of transfer from owner to renter between 1950 and 1960 has been reduced considerably in some areas and reversed in others, due to the increasing number and proportion of units in multifamily structures that have been built since 1960. Thus, any estimate of the current transfer of one-unit structures in a locality must be based on judgment after consideration of (1) the 1950-1960 experience, (2) the absolute number and proportion of single units to multiple units built in recent years, (3) the current rental vacancy rate, (4) the proportion of single units to multiple units built, related to the current owner-occupancy ratio, and (5) the relative effect of demolitions, conversions, etc. upon both owner-occupied and renter-occupied units in the market.

If the net transfer of existing houses is expected to be from owner occupancy to renter occupancy, the supply of rental housing will be increased. If this occurs in significant volume, such units should be deducted from the renter demand for new units and added to the owner demand prior to expressing demand by structural type in the text. This adjustment should be noted with appropriate explanation in the text discussion as a partial satisfaction of the quantitative demand for rental housing. Conversely, if the net transfer in tenure status of existing houses is from renter to owner occupancy in significant numbers, the opposite adjustment should be made. Transfers occur with great frequency when relatively few units in multifamily structures are added, as in the decade of the 1950's when the number of renter-occupied single-family structures rose significantly, or in some smaller areas where multifamily housing is not customarily preferred. It may be negligible in magnitude, however, if a large volume of units is provided in multifamily structures, as in the period since 1960.

Owner-occupant Demand for Duplexes, Row Housing, or Planned Unit Developments. Although building permit data in the locality may classify one or all of these structural types as multifamily structures, some of the units may be built "for sale" and some may be built "for rent." The extent to which such units meet the demand by owner occupants should be identified in the

section of the report concerned with the demand for single-family housing; and the extent to which they meet prospective demand by renter occupants should be identified in the discussion of the demand for multifamily housing.

The identification and extent of these respective categories of demand with reference to the particular types of structures mentioned provide a refinement of the prospective demand estimates for single-family housing and for multifamily housing. This refinement serves the important purpose of clarifying demand with a view to the provision of new housing in appropriate structural types to satisfy that demand.

Demand for Condominium and Cooperative Housing. These are multifamily structural types and are discussed in the section of the report concerned with demand for multifamily housing. By tenure, of course, they would be classified with owners and care must be exercised in interpreting the tenure distribution of the occupants of the existing stock if these types of financing have been common in the area in past years. In most cases, the proportion of condominium and cooperative units in existing construction is negligible; in some areas, however, the number may be significant in the forecast period. The qualitative demand distribution for multifamily housing, by rent, should include condominium and cooperative housing since both types may actually become rental in nature and usually are financed on the basis of their equivalent rental value. However, the analyst should identify in a separate table the probable magnitude of demand for condominium or cooperative units and indicate the probable sales price distribution as a part of the multifamily demand discussion. It should be noted explicitly in the discussion that, to the extent that these types of units may be supplied to satisfy demand during the forecast period, the projected estimate of demand for multifamily housing for rent is to be scaled down commensurately in rent brackets equivalent to the price brackets of the condominium or cooperative units supplied.

Qualitative Demand for Housing

Concept and Objective

Qualitative demand relates to the distribution of the net quantitative demand for new single-family sales housing and multifamily housing by price and rent classes and, with respect to multifamily housing, by size of unit. The qualitative aspects of new construction demand also relate to location factors, and determinable preference for structural types, design, and amenities. If the new additions to inventory are to be economically sound over the long-term, they must be guided into the submarket channels indicated by the current market and fitted into the concepts of urban growth revealed by the analysis. This objective can be achieved more easily by a qualitative interpretation of demand for the guidance of construction and mortgage lending activities in the market.

New housing that is qualitatively unsuited to the market demand forces operative during the forecast period under consideration will not be absorbed readily unless resort is made to sacrifice pricing. Although the incremental supply built annually in any one community is relatively small, its magnitude in relation to the total volume of housing, new and existing, offered in the market during that period may be predominant. The satisfaction of qualitative demand can assist in maintaining an orderly market; the introduction of disequilibria in the form of differentially unacceptable housing creates instability. Available evidence strongly supports the view that disequilibria in market forces, created by new construction differentially unsuited to market demand, tend to magnify the amplitude of both short and long cyclical phenomena in the construction industry. Although building cycles are rooted firmly in variations of employment, income, demographic phenomena, and psychological and sociological trends, cyclical amplitudes may be lessened appreciably by the consistent translation of differential demand into a qualitatively acceptable supply.

Since some of the families included in gross household formation are unable to afford the cost of newly constructed housing and the filtering process may not adequately supply this part of the total need, various programs have been developed for subsidy assistance to housing production. Until recent decades, only an insignificant volume of new construction was produced under subsidy arrangements. Virtually all of the incremental additions necessary for growth were produced for sale or rent in the competitive market. Since these increments can be produced only under prevailing costs of land, labor, and materials, there is at all times a minimum economic price or rent for new construction provided for the competitive market. In rapidly growing areas, the strata of population that could afford the new production absorbed a large volume and passed on, through the filtering process, used units to those who could not afford new ones.

The pyramid-like form of the income distribution determines the relative individual expenditures and suggests that in a prosperous economy, if the filtering process is functioning effectively, housing demand for nonsubsidized housing will conform qualitatively in terms of price and rent to that portion of the pyramid able and willing to incur at least the minimum monthly outlay necessary for new housing. Market experience proves that demand generally is stronger near the base of the corresponding pyramid of prices or rents and tapers rapidly as the scale ascends to successively higher price and rent levels.

Price and Rent Submarkets

The quantitative magnitude of the net demand for either new nonsubsidized single-family sales housing or new nonsubsidized multifamily housing is given added significance by appropriate distributions (or schedules) by price or rent. Households buying or renting housing units are known to

commit themselves for widely varying monthly payments, although they are in the same income class. Also, housing units with similar prices or rents will be marketed among families widely diverse as to income. Either form of dispersion reflects variations in the proportion of income that different families are willing to spend on housing, depending on variations in the financial conditions (down payment and mortgage term) under which housing is purchased, in basic differences in family responsibilities, in spending and saving habits, and in choice of neighborhood resulting from social or family considerations. Guides to qualitative distinctions in prices and rents in the form of demand schedules, therefore, are among the most important contributions that can be made by the analyst.

Single-family housing demand distributions by sale price (demand schedules) may be developed by the technique indicated in Exhibit F. The technique is based upon the current income distributions derived for all families in an earlier portion of the analysis. The resulting distribution is in terms of housing units at prices graded upward from the minimum price at which acceptable nonsubsidized housing currently can be produced in the locality.

Multifamily housing demand distribution by rent (demand schedules) may be developed by the technique indicated in Exhibit G. Qualitative demand is expressed in terms of gross rent (or rent equivalents), and distributions by unit size are derived from rent-income relationships. With certain exceptions, the distributions are graded upward from the minimum gross rent at which acceptable rental accommodations currently can be produced locally without subsidy. The matrix of rent levels produced by the suggested technique translates variations of choice by income from the projected income distributions for renter households derived earlier in the analysis.

Other Qualitative Submarkets

Upward or downward adjustments in the single-family or multifamily housing demand schedules may be necessitated by sharp positive or negative impacts arising from specific qualitative preferences in identifiable ranges of the price and rent distributions of the net quantitative demand. Market appeal, location, structural types, design, number of rooms, floor area, and other qualitative factors in specific price or rent ranges may create exceptionally good or adverse marketability. Such qualitative preferences exerted and observed in the market must be expressed in finite terms. They may require material adjustments in the entire range of demand distributions. It may be advisable to alter the distributions to reflect unsatisfied or satiated qualitative distinctions. Or, it may be adequate to make appropriate textual comment for consideration in guiding the provision of new housing.

Differential vacancy rates, whether classified by location, by price or rent, by age of structure, by structural size or qualitative structural differences, or by number of rooms, suggest individual qualitative submarkets. If available, they are among the most important factors in the guidance of future construction activities. At any instant of time, differential vacancy rates suggest the magnitude of the excess or deficiency of dwelling units available by these qualitative characteristics.

Qualitative submarkets of location are reflected in current marketability, in the vacancy rate, and in the unsold inventory. The identification of the best residential areas and the less desirable areas in the order of consumer preferences is a distinct asset in the guidance of future operations. Public transportation facilities or arterial highways which may be improved in the near future should be considered in the identification of prospective attractive areas for future building activities. Similarly, deteriorating or heterogeneous areas identified in the study of the urban structure will be significant to the analyst if construction activity is proposed in such areas.

Architectural design, room layouts, structural types and amenities are qualitative submarkets in both rental and sales types of new construction and bear close consideration in determining current marketability. Should weak points be discerned in the course of the field work with respect to these factors, they should be pointed out in the demand section of the analysis as possible future influences (if not now visible) in the absorption of new construction.

Derivation of Estimated Qualitative Demand for New Single-family Sales Housing

Technique. The procedure for deriving the estimated distribution of demand for new single-family sales housing by price class is detailed in the work sheet and instructions presented in Exhibit F, p. 269.

Comparative Price Distribution: Estimated Qualitative Demand vs. Production

The estimated distribution of the qualitative demand for single-family sales housing may require adjustment if it departs sharply from the price distribution of current production. FHA's annual inventory of unsold new houses provides qualitative data as to the production of the previous calendar year and may be used as a guide. However, the analyst must make allowance in unsold inventory distributions for (1) the volume of custom-built housing which generally is in the higher price ranges and is not reflected in subdivision activity, (2) individually-built housing which is not provided through custom builders, (3) housing built on scattered lots and in subdivisions with less than five completions during the calendar year, and (4) any special local circumstances affecting a particular enumeration of unsold units, such as the recent completion of large subdivisions or recent substantial completions in anticipation of spring selling programs.

Any adjustment should be made carefully, with due regard for possible changes in financing availability and terms, shifts in purchasers' habits and preferences, the quality of available statistical evidence, and changes in purchasers' ability to pay for new construction as reflected in changes in income distribution. Variations in the distributions of demand and unsold inventory which are not reconciled by adjustment would appear as internal inconsistencies in the analysis unless rationalized in text discussion with appropriate references to the significant considerations which account for the variations.

Derivation of Estimated Qualitative Demand for New Multifamily Housing

Technique. The procedure for deriving the estimated distribution of demand for new multifamily housing is detailed in the work sheet and instructions presented in Exhibit G, p. 275.

This technique, like the others in this volume, is a tool to aid the analyst. All market analysis techniques can be used effectively only if they are applied with the exercise of sound judgment at every step of the procedure. Such techniques, although necessarily based on statistical data and estimates, are not intended to be used in a routine manner. That would reduce the market analysis to a sheer arithmetical exercise or manipulation, defeating its entire purpose; and instead of providing valuable assistance, the analyst would render a disservice.

Modifications of Qualitative Demand Estimates

In addition to the tenure and type of structure considerations to be observed in the final estimation of demand, discussed in a preceding section of this chapter, there are several other pertinent considerations or qualifications to be noted by the analyst in the presentation of his demand estimates. These considerations relate primarily to multifamily rental housing and provide advisory guidance in implementing the demand estimates.

Rehabilitation as a Source of Housing Supply. Ordinarily, the projected demand for additional housing is satisfied by new construction, i.e., new single-family structures for owners and new multifamily structures for renters. Generally, new construction supplies all or practically all of the additional units to meet the housing needs arising from growth. It must be recognized, however, that some portion of the additional units needed may be supplied by the rehabilitation of existing units, particularly in multifamily rental housing. Net additions to supply from this source reduce the need for new construction only if the units to be rehabilitated are unoccupied and dilapidated and, therefore, not included in the stock of available vacant units. Otherwise, rehabilitation, which enhances the quality of the existing units, affects only the qualitative distribution of the housing stock; and, as a consequence, it may affect the qualitative distribution of projected demand, particularly if the rehabilitated units (1) are significant in number and (2) are within the over-all price or rent range of the estimated qualitative demand.

Inasmuch as the projection of rehabilitation is highly conjectural, both as to quantitative and qualitative aspects, the analyst can reckon with only those rehabilitation projects already in process and those definitely planned and committed, insofar as they may affect his estimated qualitative demand schedule. When such definitive information is lacking, he at least should direct attention to rehabilitation as a possible source of supply in lieu of new construction, especially if his analysis indicates a relatively significant demand for rental housing.

Deviations from Estimated Qualitative Demand for Multifamily Housing. The demand schedule developed in Exhibit G, (p. 275) is presented as a guide to the unit size and rent levels at which privately-owned net additions to the aggregate rental housing inventory might best be absorbed by the market. This distribution of estimated demand for additional multifamily housing is based on the size distribution of renter households and rent-paying propensities probably typical in the area; consideration must be given also to the recent absorption experience of new multifamily housing. Thus it can represent a pattern for guidance in the production of multifamily housing predicated on foreseeable quantitative and qualitative considerations.

Deviations from the demand schedule may be justified in certain circumstances and should be noted in the analyst's discussion of demand, when applicable. For example, where an adequate rental housing supply exists, it is appropriate for the analyst to indicate that the production of new units in greater numbers or higher rents than indicated in the demand schedule may be justified if a competitive filtering of existing accommodations to lower ranges of rent can be anticipated as a result. Also, where a substantial demand exists for rental housing, it would be pertinent to note that specific market demand opportunities or replacement needs may permit effective marketing of a single project differing from the pattern of the demand schedule.

The analyst should emphasize, however, that even though such a project may experience market success, it is not to be regarded as establishing a change in the projected pattern of demand for continuing guidance unless thorough analysis of all factors involved clearly confirms the change. In any case, the analyst's report should advise that any proposed project must be evaluated in light of actual market experience in specific rent ranges and neighborhoods or submarkets.

FHA-Assisted (Subsidized) Housing Demand

The market for subsidized housing can be determined only through experience. Eligibility for occupancy is most commonly determined by income limits established by law or regulation. Some eligible households are reluctant to move from their homes or apartments even though their accommodations may be relatively undesirable and may be classed as dilapidated, lacking adequate plumbing facilities, or located in a substandard area. With the passage of time, however, and the availability of more desirable accommodations, many of these households may be expected to be candidates for subsidized housing. It is incumbent upon the analyst, however, to determine the potential of the market for subsidized housing.

Forms of subsidy available may be generated under city, state, or federal auspices. Land donations or realty tax abatement may be offered by local municipalities. Financing terms may be eased or interest rates subsidized by local or state provisions; in some cases, this is accomplished through bond issues floated by the authority with reduced interest payments made available to sponsors of projects conforming to standards set forth by the authority. Federal forms of subsidy were considerably broadened by the Housing Act of 1968. In addition to public housing, rent supplement, and below-market-interest-rate provisions, available to local authorities and to rental property owners, interest rate subsidies (between one percent and the market rate of interest) now are available to home purchasers and to owners of rental property.

The Assistant Secretary for Housing Production and Mortgage Credit-FHA Commissioner is responsible for operations in the Department of Housing and Urban Development through which federally-assisted housing is produced for occupancy by low- and moderate-income families:

(1) financing housing owned or leased by local housing authorities

(2) monthly rent supplement payments, principally in rental projects financed with market-interest-rate mortgages insured by FHA under Section 221(d)(3)

(3) below-market-interest-rate (BMIR) financing for projects insured under Section 221(d)(3)

(4) partial interest payments to mortgagees for homes insured by FHA primarily under Section 235

(5) partial interest payments to mortgagees for owners of projects insured under Section 236.

Eligibility for occupancy in any one of these types of subsidized rental housing primarily rests upon evidence of household (or family) income below established income limits (which vary by size of household). In addition, housing designed for the elderly is limited by a minimum age qualification; rent supplement projects are limited to displacees, to occupants of substandard housing, to the elderly, to the physically handicapped, and to natural disaster victims whose housing was destroyed or extensively damaged.

The annual occupancy potentials for the subsidized types indicated above are to be estimated on the basis of:

(1) Statistical techniques designed to extrapolate to the current date the 1959 income distributions reported by the 1960 Census;

(2) Census and other available data with respect to occupancy and condition of renter-occupied housing, with adjustments to the current date;

(3) Current information regarding potential displacees;

(4) Estimates of the elderly based on adjustments of census data;

(5) Estimates of the potential shift from owner to renter housing by the elderly;

(6) Income limits currently in effect;

(7) Marketing experience of low-rent housing;

(8) The existence or potential of a workable program where applicable; and

(9) The adequacy of mortgage amounts legislatively authorized.

The two-year occupancy potentials thus derived are to be expressed on an annual basis to prevent confusion; market rate demand also is expressed on an annual basis. The occupancy potentials for these types of assisted housing are not additive because of overlaps of eligibility among programs.

Section 221(d)(3)BMIR. A substantial number of the families eligible for Section 221(d)(3)BMIR housing also are eligible for Section 236 housing.

Rent Supplement. Most of the families and individuals included under rent supplement also are eligible for public housing. Both rent supplement and public housing have the same income limits, but rent supplement assistance has stricter eligibility requirements. In some cases, however, specific local exemptions from income are applicable for public housing applicants, effectively raising these limits. For the purpose of determining eligibility and rent under the rent supplement program, the law exempts various unusual or temporary income as well as $300 per minor child.

Section 235 Sales Housing. All of the families eligible for Section 235 also are eligible for Section 236 rental housing. The extent to which this potential could be satisfied by either Section 235 or Section 236 housing will depend on the propensity for homeownership among these families and the availability of suitable sites with adequate access to employment sources and necessary shopping and service facilities.

Section 236. The occupancy potential estimate for Section 236 housing is calculated using the highest eligible income limits. Exception limits are 90 percent of Section 221(d)(3)BMIR income limits. Income exemptions permitted under both Section 235 and Section 236 are the same as those for rent supplement. In most localities, the potential is somewhat lower under limits based on 135 percent of public housing income limits. Some of those eligible for Section 236 housing also are eligible for rent-supplement and public housing.

Projects currently under construction under these programs will, of course, reduce the occupancy potentials calculated. In addition, a substantial inventory of existing subsidized housing units in the area would tend to reduce the potentials.

In housing markets in which the demand-supply relationships in the non-subsidized sector of the market are in reasonable balance, the occupancy potential for low-rent multifamily units is a function of the number of improperly housed low- and moderate-income households, and the propensity for households in these income classes to occupy new housing. If the local market is in an excess vacancy position, a realistic occupancy potential for each type may be significantly lower, particularly in the upper rental ranges of housing requiring subsidy under Section 236. Conversely, with extremely low vacancy in the market a realistic occupancy potential may be somewhat higher, particularly in the upper rent ranges of these subsidized types of housing. In certain instances, for example in the case of concerted public action resulting in widespread demolition, special analytical consideration of these markets may be required.

The location factor is of especial importance in the provision of new units at the lower-rent levels. Families in this user group are not as mobile as those in other economic segments; they are less able or willing to break with established social, church, and neighborhood relationships, and

proximity to place of work frequently is a governing consideration in the place of residence preferred by families in this group. The successful attainment of the calculated market for subsidized housing may well depend upon construction in suitable, accessible locations, as well as upon attainable rentals and competitive sales prices.

CHAPTER VII. SELECTED SUBMARKETS OF HOUSING DEMAND

Page

Demand Oriented to Temporary Impacts 186
- Examples of Temporary Impacts
- Nature of the Problem
- Analytical Approach
- Satisfaction of Demand

Military-oriented Demand 191
- Basis of Measuring Military Impact
- Scope of Military Impact
- Stability of Military Impact
- Housing Available to Military-connected Households
- Preliminary Determination of Need for Complete Analysis of Military Impact
- Data Requirements
  - Areas with Insignificant Impact
  - Areas with Significant Impact
- Estimation of Magnitude and Stability of Military Impact
- Interpretation and Application of Military Impact Determinations
  - Determination of Military-oriented Demand
  - Satisfaction of Military-oriented Demand
  - Need for Military Housing

Space- and Atomic Energy-oriented Demand 207

	Page
College-oriented Demand	208
Nature of the Market	
Analytical Treatment	
Housing Market Area	
Economic Considerations	
Demographic Factors	
College-oriented Housing	
Procedure for Estimating Demand	
Demand for Housing in Urban Renewal Areas	215
Nature of Urban Renewal Submarkets	
Data Requirements	
Estimation of Demand	
Demand for Rental Housing Designed for the Elderly	220
Submarkets of Demand Among the Elderly	
Incomes	
Demographic Factors	
Demand for Nursing Home Accommodations	225
Types of Nursing Home Facilities and Care	
Analytical Treatment	
Market area	
Economic Considerations	
Demographic Factors	
Existing and Proposed Nursing Homes	
Evidence of Need for Nursing Home Beds	
Procedure for Estimating Demand	
Demand for Cooperative Housing	231
Demand for Condominium Housing	233
Demand for Mobile Home Court Accommodations	235
Nature of the Market	
Analytical Treatment	
Market Area	
Data Limitations	
Existing and Proposed Mobile Home Courts	
Demand Determinations	
Estimation of Demand	

CHAPTER VII SELECTED SUBMARKETS OF HOUSING DEMAND

This chapter is concerned with certain submarkets related to particular housing needs or preferences expressed in demand and requiring supplementary information and treatment not covered by the standard market analysis procedure presented in preceding chapters. The analytical treatment of these submarkets ranges from a modification or adaptation of the standard procedure to complete departure from that procedure.

The submarkets associated with type of structure, tenure, price, rent, unit size, and location usually are encompassed in a comprehensive market analysis as a matter of regular practice. Other submarkets of housing demand, which often require attention as matters of special interest or as special market problems, include:

1. Demand oriented to temporary market impacts
2. Military-oriented demand
3. Space- and atomic energy-oriented demand
4. College-oriented demand
5. Demand for housing in urban renewal areas
6. Demand for rental housing designed for the elderly
7. Demand for nursing home accommodations
8. Demand for cooperative housing
9. Demand for condominium housing
10. Demand for mobile home court accommodations

The analytical framework of housing market analysis permits the discussion of the pertinent aspects of one or more of these submarkets in appropriate portions of the text, or entirely in a separate concluding section, depending upon the significance and relevance to the major problem under consideration and depending upon the separability of the subject matter. In some analyses, one or more of these submarkets may be focal points of discussion. Where subject matter pertinent to a submarket is integrated with corresponding subject matter relating to the over-all market, subtopical headings (identified with the submarket) should be used wherever feasible throughout the analysis to facilitate continuity of focus on the demand-supply factors germane to the particular submarket under consideration.

Specific techniques have not been developed as yet in FHA for the analysis of some of these submarkets. Hence, only broad and limited analytical guidance can be given in those instances, pending the availability of basic data and the accumulation of sufficient market experience essential to the development of useful techniques that will produce reasonably reliable results.

It is pertinent to note that, while FHA mortgage insurance programs have been provided to assist in supplying the housing for most of these submarkets of demand, as well as the over-all market demand, other agencies and private enterprise (unassisted) also participate in supplying these special housing needs. The analysis of these submarkets of demand, therefore, like the analysis of the over-all market, is directed at the determination of effective demand irrespective of the source of supply to satisfy the demand (except in the case of on-post military housing which is provided with Federal funds to satisfy a portion of military-oriented demand).

Demand Oriented to Temporary Impacts

As already noted, a housing market analysis is concerned primarily with demand from the standpoint of the long-range absorptive capacity of the market. This concept of demand is predicated on the continuity of adequate economic support indefinitely, notwithstanding interim recurring fluctuations. It has been referred to previously as "permanent" demand to distinguish it from temporary demand, which arises from sources of limited duration, i.e., temporary impacts on the market.

Ordinarily, temporary demand is only of incidental concern in a market analysis; the statistical elements involved are isolated from the pertinent data in the determination of "permanent" demand. Sometimes, however, a determination of the extent of temporary demand is necessary or desirable, e.g., when its satisfaction is a matter of special interest or urgency in achieving the objective of the activity which occasions the demand through a temporary surge of employment.

Examples of Temporary Impacts

The build up of military personnel and civilian employment at military installations in general during times of international tension or national emergency is, perhaps, the most common example of a temporary impact on the housing market. The shifting of military units from some installations to others for temporary or indeterminable periods during ordinary times is in the same category. Incidental to the abnormal build-up of over-all military strength, a secondary temporary impact may arise from the provision of facilities requiring large numbers of in-migrant construction workers.

A similar impact of construction activity would occur incidental to large scale permanent expansion of an installation (military, NASA, or AEC) or the establishment of a new installation.

Coincident with a military build-up in times of increasing international tension or national emergency, particularly the latter, production of materiel for the armed forces is accelerated. Depending on the circumstances, production facilities are used to full capacity or converted to meet military priorities, plants are expanded, and new factories are constructed. As a result, employment rises above the level and trend of "normal" requirements only to subside as the temporary impact of expanded military activity diminishes and terminates. Various localities are affected in different degree, of course, by both the incidence and the expiration of the impact.

Activities of an economic nature sometimes occasion an incidental temporary impact on local housing markets. These activities are exemplified by dams, seaways, canals, and power plants, which involve huge construction projects requiring several years to complete and large numbers of in-migrant construction and technical workers. In some instances more than one community is affected by the impact of the construction activity, and in most instances only a relatively small operating staff is required upon completion.

Nature of the Problem

Where a temporary impact is of relatively small magnitude as compared with the size of the housing market affected, it presents no particular problem and may be disregarded. The individuals and households associated with the activity usually can be accommodated in the existing stock of housing; it is not necessary to provide additional housing especially for them. Moreover, if additional permanent housing is provided to meet this need, it is not likely to affect adversely the demand-supply relationships in the market if vacated upon the termination of the impact; it will be absorbed readily, or within a reasonable time, in the course of the economic growth of the area. An exception might occur, however, where economic prospects indicate decline rather than growth. In such a situation the over-all market analysis would reflect the prospective decline; and the estimate of demand would take account of any projected surplus of housing, appropriately translated into the conclusions.

In those instances where the temporary impact is relatively significant, however, it exerts pressure for additional housing and may present a problem requiring a market analysis for guidance in its solution. When market analysis is concerned specifically with this type of problem, it entails a determination with respect to (1) the magnitude and duration of the impact in terms of housing need and (2) the satisfaction of that housing need.

Analytical Approach

Where a temporary impact is significant and a determination of the related demand for additional housing is required, the market analysis is effected in much the same manner as the analysis of a military-impacted area. Appropriate adaptations, of course, are made in the compilation and analysis of data to reflect the completely civilian character of the impact and its temporary duration.

Moreover, greater emphasis is placed on the expansibility of the labor market area as a source of local labor supply (in addition to unemployed local workers) in determining the need for in-migrant workers. Also, greater attention is directed to the capacity of the existing housing stock to accommodate additional households and individual workers through more intensive utilization, i.e.: reducing vacancies to or below the level of frictional vacancy; providing additional living quarters by conversion without, or with only minor, structural change; increasing the amount of doubling up of households; and making more rooms available to unmarried workers as lodgers in existing households. To be sure, temporary expedients of this nature impose some inconvenience on the persons involved, but past experience has demonstrated that they are effective, at least for relatively short periods.

Comparative levels of employment prior to the temporary impact, at the projected peak of the impact, and after the impact terminates provide essential perspective on the build up and decline of the temporary impact in relation to the level and trend of permanent employment. The extent to which prospective permanent employment in the post-impact period is expected to offset the decline in temporary employment and the timing of the offset have important bearing on the type of housing that may be provided most appropriately to meet the temporary demand for housing.

Thus, the analysis of temporary demand cannot be disassociated from the analysis of the long-term demand (absorptive capacity) of the market. The elements involved are isolated for separate discussion and analytical treatment where pertinent in various sections of the market report, culminating in the final section with an estimate of temporary demand and, when desired, an indication of appropriate means of satisfying it.

In summary, the analytical approach to the determination of demand oriented to temporary impacts on a housing market entails the following steps, as part of a comprehensive market analysis:

1. Delineation of a secondary (or auxiliary) housing market area, i.e., the area included within the boundaries to which the customary market area may be extended under pressure to enlarge upon the availability of labor and housing resources to help meet the requirements generated by a market impact of temporary duration.

2. Identification of the temporary impact; projection of its duration and year by year employment requirements.

3. Determination of (a) the extent to which the employment requirements can be met from the local labor force in the market area as extended and (b) the residual requirements which must be met by in-migrant workers.

4. Determination of the marital status of in-migrant workers and the household composition of married in-migrants.

5. Determination of gross housing requirements of in-migrant workers based on the determination in Step 4. (Married in-migrants who bring their families would generally require separate housing units; those who do not bring families and single persons would generally require room accommodations.)

6. Determination of net demand of in-migrant workers for additional housing. The results obtained in Step 5 are adjusted by (a) the number of suitable vacant housing units (and room accommodations) available for rent in the housing market area as extended, assuming that the vacancy rate can be reduced to the frictional level for the duration of the impact, (b) an allowance for additional vacant rental housing units available outside the extended market area but within range for convenient week-end commuting, (c) an allowance for in-migrants who will bring their own house trailers (mobile homes), a practice which is especially common among construction workers, and (d) an allowance for doubling up, which may be expected to increase during abnormally tight housing conditions.

Satisfaction of Demand

Since the demand associated with temporary impacts is of short duration, it may be assumed to reflect a need for rental units only. The provision of additional housing to satisfy this demand, however, must be predicated on consideration of its ultimate effect on demand-supply relationships in the housing market. Ordinarily, permanent type housing would not be warranted for this purpose because of the prospective surplus that would emerge as the impact subsides. The alternative in such situations is temporary type housing (e.g., trailers or demountable structures) which can be removed from the market when no longer needed. Such housing may be provided by the contractor engaged in the temporary activity, by the locality affected, or by the Federal Government.

If the prospective growth and absorptive capacity of the housing market area under study assures continued absorption of the housing that is required to meet the needs of a temporary impact, permanent type housing could be provided to satisfy a part or all of the temporary demand, depending on the prospective absorptive capacity of the market. In effect, this approach constitutes "borrowing from the future", i.e., providing housing currently on the strength of anticipated absorptive capacity at a future date. The risk of a possible development of a housing surplus through an error of judgment dictates that this approach be used only with extreme caution and only where the prospects of economic growth are supported on firm grounds.

Special housing programs may be inaugurated in times of national emergency to aid in the provision of permanent housing to meet temporary demand in defense (war) production areas, as well as in military areas. Thus, during the national emergencies occasioned by World War II and the Korean Conflict, special defense housing and war housing programs were enacted by the Federal government for the provision of privately-financed housing in defense production and military areas where acute housing shortages impeded defense- and war-related activities.

Demand among individuals for room accommodations not satisfied by existing facilities during a period of temporary impact can be met with trailers or temporary type dormitories. With reference to this segment of demand, it is important to note that the supply of available rooms for lodgers in the existing housing stock is very elastic and can be increased readily in response to demonstrated need.

Unless otherwise explicitly requested, the analyst ordinarily need not specify the type of housing (i.e., trailers, demountable units, dormitories) that should be provided to meet a temporary demand. His conclusions, however, should indicate clearly the magnitudes of long-term and temporary demand separately, the prospective duration of the temporary demand, and the extent to which the latter may be met by permanent housing in consideration of the absorptive capacity of the market beyond the period of the temporary impact.

Military-oriented Demand

As used in this discussion, "military activity" means the activity associated with various types of military installations; it is not to be confused with "defense activity" which is associated with the production of various materiel by private industry for the armed forces. For market analysis purposes, the analyst is interested in a military installation as an economic factor and its impact on the housing market in terms of housing demand.

The analysis of demand originating from this source cannot be disassociated from demand in the market as a whole. Based upon appropriate anlysis this component of demand is measured and evaluated in relation to the long-term absorptive capacity of the entire market, thus providing a basis for determining (1) to what extent the military-oriented demand can be supplied with privately-financed housing consistent with reasonable assurance of economic feasibility, (2) whether any special precautions are warranted in providing housing to meet the nonmilitary-oriented demand, and (3) where new military-controlled housing is proposed, the impact of such housing on comparable housing in the local housing market. These determinations are essential in the interest of avoiding the possible development of a surplus of housing and consequent market distress of serious proportions and prolonged duration in the event that the military activity is curtailed significantly or closed down.

It is not to be assumed, however, that the presence of a military installation necessarily introduces an abnormal contingency of risk which requires extraordinary precaution or special facilities in supplying housing to meet the total market demand. In many instances there is no cause for concern with respect to the impact of military activity on the market. At the other extreme, the impact may be such as to justify serious concern and a highly precautionary approach in the provision of housing to meet the demand. Between extremes, various degrees of concern and caution will be warranted in different situations, depending on the foreseeable implications of particular military activities.

The findings of a market analysis for an area in which a military installation is located should indicate whether the military factor poses a problem with reference to the provision of housing to meet the military-oriented demand. Where such a problem is indicated by the analysis, the report should indicate explicitly the extent to which the military-oriented demand can be met by privately-financed housing consistent with maintaining reasonable soundness in the housing and mortgage markets. In situations where prospective curtailment of military activity foreshadows a significant surplus of housing in the market, this prospect should be reflected in the estimate of nonmilitary-oriented demand and explicitly recognized in the conclusions and supporting text of the report.

Basis of Measuring Military Impact

There are several bases on which the impact of a military installation on a local community may be measured, i.e.: (1) the dollar volume of expenditures in the community including payroll of military and civilian personnel, procurement of materials and services from local merchants, and contracts for construction and other purposes; (2) the total number of personnel, both military and civilian (including contractors' employees, except construction workers), all of whom are considered employed workers in the local labor force; and (3) the number of households in the total personnel.

The dollar volume of expenditures as a measure of military impact is extremely difficult to apply and has very limited utility in market analysis. It is rarely used, and then only as a general indicator of related importance--which does not justify the work involved in compiling the data, albeit invariably incomplete.

The total number of personnel is useful as a measure of military impact. In relation to the total number of employed workers (including the military-connected personnel), these data provide a reliable indicator for a preliminary determination as to whether the military impact is sufficiently significant to require complete analysis as part of the housing market study. Moreover, in those instances where the military factor requires complete analysis, these data are essential to appropriate analysis of the economic and demographic portions of the study.

The objective of directing special attention to the impact of military activity on the housing market is concerned with the housing demand originating from this source. The most useful and meaningful and, at the same time, the most direct basis for measuring this impact is the number of households in the market area who derive their support from the military installation. These data, in relation to the total number of occupied housing units of permanent type in the housing market area, provide a more refined indicator than the number of personnel for preliminary determination of the military impact. More importantly, they are a key element in the data required in the final determination of military-oriented demand and its implications with reference to the privately-financed segment of the housing market.

Scope of Military Impact

The impact of a military installation on a housing market is both direct and indirect. The direct impact includes the personnel (or the households of personnel) connected with the installation and directly dependent on the installation for economic support. This element consists of military personnel and civilian workers, including Civil Service employees, other civilian workers, and contractor employees, except (unless they comprise a permanent cadre) construction workers. For simplicity, this group as a whole is referred to as "military-connected persons" (or "military-connected households").

The indirect impact includes those workers (or the households of workers) in local trade and service establishments whose employment is dependent upon supplying the needs of the military-connected persons and households for various merchandise and services. This group is referred to as "nonmilitary-connected persons" (or "nonmilitary-connected households") dependent on economic support generated by the military installation. Presumably, some or all of the workers in this group would be disemployed if the military activity (as reflected in the number of military-connected persons) should be curtailed or completely eliminated.

Stability of Military Impact

In addition to the measurement of military impact, it is equally essential to consider its stability in order to formulate the judgments to which an analysis of a military-impacted housing market is directed. Even though a military installation may be officially designated as "permanent," this does not necessarily mean that the level of its activity will be stable. Over the long-term, its activity may follow a rising or declining trend, or it may fluctuate up and down; and these movements may be moderate or substantial, gradual or sharp. In fact, "permanent" installations are known to have been deactivated and discontinued after many years of serviceability. "Permanent" installations, of course, are much less vulnerable to deactivation than installations not so designated; and within the "permanent" category there are subclassifications denoting variation in essentiality.

The size of the national military establishment varies with changes in the international situation and related considerations rather than with economic conditions. Such variations, of course, are reflected in the level of activity at local military installations; but local installations are not necessarily affected uniformly, either in direction or degree. Changes within the national military establishment may be in process simultaneously with a change in the national total of military and military-connected civilian manpower, or irrespective of any change in the national total. These internal changes occur constantly and are the result of such occurrences as transfers of military units from one installation to another, the deactivation or reactivation of installations, and changes in military strategy and priorities.

Variations in the level of activity at local installations may be either of temporary or indefinite duration. They may have serious or inconsequential effects on the housing market, depending on the direction, magnitude, and duration of the change and, in the case of a reduction in military activity, on the capacity of the local economy to offset the adverse change, i.e., the economic resilience of the area.

Past experience may be helpful in evaluating the stability of a military installation, but it never should be used arbitrarily as a guide to the future. Changes in the installation's mission and in over-all military strategy, tactics, and priorities, as well as in the international situation, national defense policy, budgetary conditions, and the attitude of Congress, all have a bearing and must be taken into consideration, insofar as possible, both with respect to past and projected levels and trends of activity at a particular installation.

While short-range changes are important in evaluating the stability of a military installation, the long-range prospects are of paramount significance in guiding the provision of privately-financed housing to meet the estimated demand of the market with reasonable assurance of sustained economic soundness. The long-range aspect of military activity as a source of housing demand is of special importance in housing market analysis because the level, fluctuation, and trend of military activity are determined by noneconomic influences which are more volatile and erratic than the economic influences which affect nonmilitary sources of demand.

Housing Available to Military-connected Households

The general policy of the Department of Defense is to rely upon "community support", insofar as possible, for housing to meet the needs of military-connected households. The extent to which this policy is effective in meeting the housing needs at individual installations depends on the following considerations:

1. The present and prospective availability and adequacy of housing in the community in sufficient quantity and appropriate type to meet the needs of military households other than those who are required to live on post because of "military necessity." The adequacy of available housing is determined in a periodic housing survey by the military installation on the basis of physical attributes (condition and environment), commuting time, number of bedrooms, and rent in relation to basic allowance for quarters.

2. The distribution of needs between civilian employees other than "key civilians" who are housed on post (only a few in most cases) and military personnel other than those housed on post because of military necessity. The military departments are not authorized (with very few exceptions) to provide housing for these civilians nor for those military personnel who are not "eligible" for on-post housing. These two groups and the households of "eligible" military personnel not provided with housing on post must seek housing in the community support area.

3. The willingness or reluctance of private capital to provide additional housing to meet military-oriented demand. This will depend on the risk to be assumed by private capital incident to the provision of housing in light of objective evaluation of the stability of the military activity, taking into account the absorptive capacity of the nonmilitary-oriented segment of the housing market.

The housing resources or assets available to eligible military-connected households usually are grouped into two broad categories, i.e., (1) military-controlled housing, also referred to as public quarters, and (2) private housing. Military-controlled housing assets include housing provided with appropriated funds, housing projects heretofore provided for military occupancy under FHA mortgage insurance programs (commonly referred to as Wherry and Capehart housing, after the names of the legislative sponsors), housing under military lease, Lanham Act low-rent housing, conversion housing (converted barracks or other structures), and trailers. Most of this housing is located on post. The latter three subgroups generally are classified inadequate as public quarters. Currently, new military-controlled housing is provided for eligible households only with funds within the limits appropriated by Act of Congress pursuant to programming by the Department of Defense. Programming is based on the annual family housing survey, a projection of housing requirements of eligible households, a determination of housing deficit after due allowance for available adequate housing (military-controlled and private) at each installation, and assignment of priorities based on the urgency of need for additional military housing.

Private housing assets include off-post housing units currently owner-occupied and renter-occupied by households of military personnel and vacant units available for rent, including units provided under the FHA Section 810 mortgage insurance program.

In both categories, only those adequate housing units which are suitable in size (number of bedrooms in relation to household composition) are included in the effective housing assets. Housing under construction or approved for construction is considered as part of the assets in both categories. Owner-occupied houses and trailers purchased by free choice are considered adequate and suitable in all respects, regardless of the criteria for determining adequacy and suitability.

Preliminary Determination of Need for Complete Analysis of Military Impact

Complete analysis of military impact is not necessary in all housing market analyses which may be undertaken for areas in which a military installation is located. If the impact of a military installation is of minor importance in the market as a whole, it generally is not necessary to enlarge the scope of a market analysis with supplementary detail and analytical treatment leading to a separate determination of military-oriented demand and its satisfaction. (This would be done only if, for some particular reason, it is specifically requested to be included in the market analysis.)

Where preliminary determination indicates that the military impact is significant, sufficient data and information should be assembled and compiled to enable the analyst to evaluate it in terms of its stability and, hence, potential risk. For the purpose of this preliminary determination, the significance of military impact is measured by the number of housing units occupied by military-connected households in relation to the total number of occupied units in the market area, including on-post housing. (Refinements necessary in a more precise determination of military impact for analytical purposes are discussed later.)

The question of what constitutes a "significant" impact can be resolved somewhat arbitrarily, as a preliminary determination. This is done by considering the seriousness of the effects on the market if the military activity were to be completely eliminated (the extreme eventuality), with due allowance for the growth potential of the market area exclusive of the military factor. Where the proportion of units occupied by military-connected households is in excess of 20-25 percent there should be further collection of data and information necessary for a more thorough and refined evaluation of the military impact.

In areas where the preliminary measure of military impact is below the criterion for more intensive investigation, such investigation need not be made unless (1) it has been specifically requested or (2) the analyst discerns in the course of his field work that the military impact does; in fact, constitute a market problem likely to affect the conclusions of his analysis.

Data Requirements

Although not dependent on economic considerations, a military installation is, basically, an economic factor in the area in which it is located. It contributes to the support of the housing market, directly and indirectly. Depending on the significance of the military impact, therefore, the data and information required with reference to a military installation will vary. Except as noted at the end of this section, these materials should be incorporated, when available, into the germane sections of the housing market analysis.

It is recognized that certain data and information pertaining to military installations will not be available because of security considerations and that, for various reasons, some other data will be difficult, if not impossible, to obtain for particular installations. In many instances, approximations or estimates instead of exact figures may be obtainable for certain items; for other items the analyst will have to make the best possible estimates to fill the gaps, or he may have to make assumptions deduced from pertinent fragments of information and generally-known trends of over-all military strategy. In all cases the source or basis of the data and information should be indicated; and the analyst should explore

possible sources in addition to the local military officials and military contractors, e.g., local newspapers, which sometimes publish information not made available to individuals. Often, data indicative of the trend of strength or level of activity will be made available more readily in terms of military-connected households rather than numbers of personnel. Actually, this is preferable since household data are the more useful series for housing market analysis purposes.

Areas With Insignificant Impact. A military installation is in the category of "specialty" factors (i.e., colleges, tourism, government agencies) in the economy of the housing market area. As such it should be accorded appropriate recognition in a housing market analysis regardless of its economic importance. In areas where the military impact is inconsequential as a source of housing occupancy (current or prospective) relative to the total market, only limited factual information need be included in the housing market report. In some cases, only the identification and current strength of the installation(s) will suffice. In other cases, more illuminating information is desired, i.e.:

1. The identification of the installation(s), with locations(s) spotted on the map of the housing market area.

2. A brief sketch of the history and mission of the installation(s)

3. Current and projected (if available) strength, i.e., military personnel and civilian workers, separately.

4. Family housing units on post, total and vacant, by type (appropriated fund, Capehart, etc.), by construction status (existing, under construction, and approved), and by adequacy.

Areas With Significant Impact. In areas with significant military impact (or in areas with lesser impact where complete analysis of the military factor has been requested or is indicated in the course of field observation), as much pertinent data and information as possible should be obtained to evaluate the current and prospective magnitude and stability of the military impact. The scope of this material is suggested in the paragraphs immediately following. Where more than one installation is involved, the data and information are to be obtained and presented separately for each installation; and, in addition, statistical data are to be consolidated to present a comprehensive summary of all military activity.

With respect to all items pertaining to civilian workers and housing requirements in the following list, it is essential to note that any data and estimates which may be obtained from the military installation ordinarily do not include the employees of any contractors. Military officials, however, may be helpful in obtaining information or in making reasonable estimates for this segment.

1. The installation should be described briefly and fully. This includes identification and geographical orientation within or in relation to the housing market area; location on the map of the market area; major current mission(s); historical sketch; type of construction (permanent vs. temporary); official designation as to permanency; special features, if any. (Extensive descriptive material is available at many installations, in printed or typewritten form.)

2. The geographic area considered to be within commuting distance from place of residence to the installation should be defined. This area may not coincide with the housing market area under study (e.g., where military-connected households live in two or more communities which are located in different directions from the installation but do not constitute a single housing market, or where only a sector of a housing market area is within commuting distance of the installation). Commuting criteria applicable to military personnel are established by the installation; civilian workers usually are not under such restriction and are more widely dispersed than military personnel who live off post.

3. Past, present, and projected (if available) military and civilian personnel should be obtained in some detail. Historical data on an annual basis for recent years and for selected earlier years (to show high and low levels) provide pertinent background on the fluctuation and trend of military activity. Distribution of military personnel by officers and enlisted men and of civilian personnel by civil service workers, nonappropriated-fund workers, and contractors' employees (except construction contractors) should be obtained whenever possible. If any of the personnel assigned to an installation have duty locations elsewhere, such locations should be identified and the number of personnel indicated in a separate tabulation, if possible.

4. Current income distributions for both military personnel and civilian employees of the installation should be obtained. Similar information for contractors' employees is desirable. This information is useful primarily as a guide in estimating family incomes for planning the provision of privately-financed housing for military-connected households where such housing is economically feasible and if its location convenient to the installation is essential.

5. Various housing data and estimates are necessary, as follows:

   a. An estimate of the total number of occupied, nonfarm, housing units in the market area (excluding units on post). Since house trailers and other temporary-type units are removable, if necessary to aid in maintaining or restoring market balance in the event of curtailed military activity, such units and units ordinarily intended for seasonal occupancy are excluded from consideration in evaluating military impact. A separate estimate if the number of occupied units of this type, therefore, should be made in order to derive the estimated number of occupied permanent-type housing units.

   b. The total (actual or estimated) number of military-connected households currently residing off post in the market area, distributed by location, with separate estimates for military households and civilian households. The latter will include households of civil service employees and other workers of the installation, as well as employees of contractors except construction workers.

   c. The estimated total number of off-post temporary units, trailers, and seasonal units currently occupied by military-connected households in the market area, with military and civilian households separately identified as in item b above.

   d. The number of housing units on post by type (appropriated fund, Capehart, etc.), by construction status (existing, under construction, and approved), and by adequacy; the number of units currently occupied by military households and civilian households, identified separately; and the number which may be removed during the next twelve months.

   e. The estimated number of nonmilitary-connected households in the market area who are dependent on economic support generated by the installation. As previously indicated, these households represent the measure of the indirect impact of the military installation on the housing market. Based on limited research, a 30-percent factor applied to the total number of military-connected households in the area (on post and off post) is suggested as a reasonable estimate, on average; a moderate variation up or down would be justified, depending on whether a high or low proportion of households of military personnel live off post.

f. The estimated current gross housing requirements for military-connected households, except households of employees of construction contractors, giving due consideration to all military-connected households now resident elsewhere who wish to move to the market area.

g. The projected short-range gross housing requirements for military personnel and civilian workers, based on the latest available projection of strength (usually made each year by the Military Departments).

h. The minimum long-range housing requirements of military connected households, derived from strength estimates for both military personnel and civilian personnel projected beyond the period covered by the projection in g above. This projection attempts to rationalize unforeseen contingencies in an estimate reflecting the minimum level of military activity reasonably representative of long-term peacetime requirements.

Rarely, if ever, is such a projection available from military sources. In essence, it is a conjecture which the analyst must venture in the absence of any other alternative to provide a key factor in analyzing the stability of the impact of military activity on the housing market. The estimate is approached most feasibly by means of relative comparison, i.e., the projected minimum long-range housing requirements as a percentage of the projected short-range housing requirements or the current housing requirements, whichever is larger. Recent and projected expansion which, from all indications, is of a temporary nature should be considered and may provide the basis for an alternative approach to the derivation of the long-range projection. It is not necessarily the sole consideration, however.

i. The estimated potential annual increase in housing requirements in the affected market area in the absence of the installation under consideration. This estimate requires an acute examination of the economy in order to determine the area's long-range, nonmilitary-impacted, growth capacity. If the military installation was originated in recent years, a projection of the previous rate of growth, with due consideration for any change in economic potential which has occurred in the interim

or which may be in prospect, would provide the estimate which is desired. This rate of growth is expressed in terms of the average number of households which may be generated each year through economic growth. If the installation has been active over many years, the change in the number of military-connected households during the period selected to measure growth exclusive of the military impact must be deducted from the total change in households to determine the rate of non-military-impacted growth, with due allowance for any change in economic potential.

The nonmilitary-impacted growth potential of the area reflects its economic resilience, i.e., the capacity of the area to recover from a decline in housing requirements (demand) due to a possible curtailment in military activity. A period up to five years would be a reasonable allowance of time for a market to absorb excess vacancies caused by curtailed military activity without experiencing serious distress. Thus, five times the annual nonmilitary-impacted growth potential would represent the cushion of economic resilience, i.e., the extent to which the market can offset, within a tolerable time limit, the adverse impact of a projected reduction in military activity.

Some of these data and estimates (i.e., items 5a, c, e, h, and i) are required only for the purpose of completing the work sheet referred to below. They have no particular relevance in a housing market report, and their nature dictates the impropriety of including them. They should be used merely as ingredients of a technique to aid the analyst in formulating judgments required with reference to specific market problems.

The concept of "housing requirements" as used here (items f, g, and h, above) is not to be confused with the military version which is much less comprehensive in scope inasmuch as it excludes almost all civilian households. (See discussion of this and other precautions below--last paragraph under "Determination of Military-oriented Demand.")

Estimation of Magnitude and Stability of Military Impact

As already noted, the extent and stability of military impact on a housing market have an important bearing on the conclusions of the analysis of a military-impacted area. The determination of the relative magnitude of the impact and its stability, therefore, is a logical early step in undertaking the analysis, since it affects the processing of data and estimates in various portions of the market study. To facilitate this determination, a work sheet (Exhibit H, p. 278) has been developed. In this work

sheet, military impact is expressed in terms of occupied housing units and is referred to as "economic support generated (in the housing market) by the military installation", consistent with its conceptual significance in housing market analysis.

The entries required on the work sheet are self-explanatory in light of the preceding data requirements discussion which, in effect, serves as the instruction for completing this form. Where there are two or more military installations, a separate work sheet should be completed for each installation, with common entries for lines 1 and 8b (3); and these work sheets, in turn, should be consolidated on a final work sheet to provide the aggregate measures of the magnitude and stability of military impact.

Interpretation and Application of Military Impact Determinations

While both of the critical factors derived for the purpose of measuring military impact have significance individually, the impact must be evaluated on the basis of the combined effect of both factors--relative importance and stability. For example, a military activity which is rated fairly high in terms of relative economic support and also very high (approaching 100 percent) in terms of stability should occasion no particular market problem in the ordinary course of events. In such a situation, however, the need for special consideration could arise with reference to the possible effect which additional, on-post, military housing might have on comparable housing in the market. As another example, a military activity which rates fairly high in terms of relative economic support, as in the preceding example, but low in terms of stability would occasion cause for concern and the possible need for precautions or even limitations in the provision of privately-financed housing.

For direct application in evaluating military impact, the stability factor (as developed in the work sheet) is converted to represent instability simply by computing the difference between the stability factor and 100 percent. This difference may be referred to as the risk factor. Thus, the product of the relative economic support factor and the risk factor provides a result which constitutes a meaningful evaluation of the impact of military activity and which may be referred to as a "risk rating." For example, a military impact for which the economic support factor is estimated at 30 percent and the risk factor is estimated at 25 percent (i.e., 100 percent minus 75 percent stability) would yield a risk rating of 7.5 percent; in terms of housing, this rating indicates that 7.5 percent of the off-post, occupied, permanent, nonseasonal, nonfarm, dwelling units in the market area probably would be vacated if the projected decline in military activity materializes without compensating economic expansion.

Obviously, there is a wide range of degrees of risk associated with military impact among the many areas affected by military activities. At one extreme, the risk may be nonexistent or negligible, whereas in other areas it may be very substantial, with various degrees in between. No fixed guide can be established for general application in resolving the special market problems that may arise in military-impacted areas. It seems reasonable to assume, however, that in instances where the military impact generates a risk rating of five percent or more, special attention in the analyst's report is warranted with reference to (1) the determination of military-oriented demand, (2) the satisfaction of that demand, and (3) in all instances where on-post military housing is proposed, the possible effect of such housing on comparable housing in the market.

Determination of Military-oriented Demand. Military-oriented demand for housing means the demand among military-connected households, as previously defined, i.e., households of military personnel and households of civilian workers at the post, including contractor employees (except temporary construction workers). An estimate of this demand can be derived quite readily from certain entries on the work sheet for estimating military impact. The estimate is derived as follows:

1. From the entry on line 8b(1), i.e., short-range projection of total households dependent directly on the installation for economic support,

2. Deduct the entry on line 4, i.e., current estimate of total households dependent directly on the installation for economic support.

3. The result equals the estimated increase or decrease in military-oriented demand covering the forecast period used in the work sheet. Annual distribution can be made on the basis of scheduled personnel strength, if available; otherwise as an annual average.

4. Adjustment of the result in Step 3 must be made, as appropriate, for on-post military housing (a) under construction but not completed and (b) approved but not yet started, with due allowance for any occupied military housing scheduled for removal. The timing of this adjustment must conform to the availability of military housing not yet completed and to the scheduled removal of occupied military housing.

5. A net increase in military-oriented demand is apportioned between on-post and off-post segments, depending on the number of vacant, on-post, dwelling units expected to be available for occupancy by households of eligible personnel year by year during the forecast period. In the case of a net decrease in demand, the housing market is subjected to an adverse impact. To evaluate its effect on the market, it may be assumed that the distribution of the "eligible" segment of such decline between on-post households will be proportionate to the current distribution.

> A further adjustment must be made then on the assumption that eligible households living off post will move on post to absorb the resulting vacancies in military housing, thus creating an equal number of additional vacancies in the off-post housing stock.

It should be noted that the estimate of military-oriented demand as derived above is not comparable to "housing requirements" as determined by the military installation. Gross housing requirements determined by the installation include only the number of housing units required for households of military personnel and a few "key" civilians and this number represents the total at a particular point in time. In contrast, the estimate of military-oriented demand covers all civilian, as well as military, households and it represents the difference between two points in time. As a further precaution, neither of these concepts should be confused with "housing deficit" as determined by the military installation. This figure may include only the military and civilian households who are "eligible" for on-post housing at a particular point in time and it represents the difference between (1) the total units required by this segment and (2) the sum of (a) the households who are suitably housed and (b) the number of suitable vacant units available. Care must be exercised, therefore, to assure the use of appropriate data and estimates in analyzing the impact of military activity.

Satisfaction of Military-oriented Demand. The net military-oriented demand (after adjustment for prospective on-post housing under construction or committed) may be satisfied entirely or only partially by vacancies in existing off-post housing, depending on the extent to which such vacant units are available and suitable. Any residual demand not satisfied from this source poses the question of whether the provision of new units to satisfy that demand is economically feasible.

It is essential to bear in mind that the estimate of military-oriented demand derived by the foregoing procedure is a short-term projection. In the context of the forecast period used in the market analysis, its significance must be evaluated in light of the risk rating derived from the work sheet. Thus, if the risk rating is less than five percent (to use the criterion suggested above), an indicated increase in military-oriented demand could be satisfied to its full extent by privately-financed housing without causing subsequent irreparable financial distress in the market. Even in such situations, however, exceptions may be dictated by circumstances. For example, in the case of a projected expansion of military activity which is rather clearly of a temporary nature during periods of accelerated build-up of total military forces above long-range peacetime levels, new construction would not be warranted to meet the resulting increase in demand. Other examples may be found in the case of expansions at certain installations due to the temporary transfer of military units from other installations rather than to a temporary over-all increase in military forces.

Where the risk rating derived from the work sheet is five percent or more, the need for a precautionary approach in the provision of new housing is more compelling. In addition to restricting the provision of new housing to the satisfaction of nonmilitary-oriented demand, additional precautions may be justified to minimize the eventual distress likely to result from any anticipated curtailment of military activity. The additional precautions might include such restraining actions as (1) holding vacancies to a minimum below the levels ordinarily considered to represent good balance in demand-supply relationships, (2) tightening the terms of mortgage financing, and (3) restricting mortgage loans on new houses to owner-occupant borrowers (to discourage speculative building).

Each situation must be considered on its own merits in light of conclusions based on careful analysis of all available information and formulated with the exercise of sound judgment. The conclusions must be explicit in terms of over-all market demand and the extent to which it can be met by privately-financed housing. The need for added precautions may be indicated implicitly in the wording of those conclusions. Generally, such precautions in specific terms are matters of policy determination on the basis of the analyst's study and are not included in his report unless specifically requested. Whenever military-oriented demand is determined to be of temporary duration, it should be excluded from the analyst's estimate of demand, and the estimate should be clearly qualified to that effect. In such instances it is essential, of course, to isolate and eliminate the military-oriented component in the demographic analysis and projections. The same approach should be followed in those instances where the risk rating (as determined from the work sheet) is at or above the five percent criterion, even though the current and near-term expansion is not clearly of a temporary nature. Progressively higher rates of risk rating would justify increasingly greater additional precautions affecting the provision of housing to meet the nonmilitary-oriented segment of demand.

Need for Military Housing. As indicated previously, the housing requirements at most military installations are met in part by housing provided on post and in part by housing available or provided in the community support area. Under present procedure, the requirements for on-post housing are determined initially by the installations, reviewed by the respective military department involved, evaluated and programed by the Department of Defense, and authorized by Congressional action subject to the appropriation of Federal funds in the discretion of Congress to implement the program.

At times, proposed military housing projects at individual installations may raise a question as to their justification from the standpoint of the availability of adequate housing in the community support area and/or the effect of the proposed project on housing of similar quality in the support area. This question can be resolved with the aid of (a) an

analysis of the housing market focused primarily on the rental housing segment; (b) an analysis of the military impact as outlined above; for this particular purpose, (c) a detailed exploration of the availability and qualitative characteristics of vacant rental units suitable to the needs of military households from the standpoint of commutation, condition, rent-paying capacity, and bedroom composition; and (d) a determination of whether the proposed project is likely to affect adversely housing of similar quality in the market. The latter possibility would be indicated by the prospective loss of significant numbers of eligible military households vacating such housing to live on post and/or by reducing significantly the potential of prospective occupants of off-post housing constructed primarily to meet the needs of eligible military households.

In some instances a proposed military housing project is justified on the basis of "military necessity" (i.e., to accommodate households of military personnel who are required to live on post because of the nature of the mission to which they are assigned). Such justification takes precedence over all other considerations and forecloses any question of need, regardless of available vacancies and adverse impact on off-post housing.

Space- and Atomic Energy-oriented Demand

For market analysis purposes, the activities at installations of the National Aeronautics and Space Administration and the Atomic Energy Commission may be classified in the same category with military activities. In their respective fields of interest, these activities consist of research, developmental, and operational functions, individually or in various combinations at different installations. From the standpoint of impact on the housing market, these activities have basic characteristics similar to those of military activities, i.e.: they are financed by the Federal government; they have economic significance, although they are not dependent on economic conditions; they are susceptible to sharp fluctuations governed by noneconomic considerations; their long-range stability is a key factor in evaluating their impact; they have military significance, though in various degree in different installations and more pronounced in the case of atomic energy activities; and they are interminable nationally, but subject to possible termination at individual installations. In consideration of this combination of similar characteristics, the analytical approach used for military-impacted housing markets is readily useful in its entirety for the analysis of markets impacted by space and atomic energy activities.

There also are, of course, important differences, of which the analyst must be cognizant in his analysis, i.e.: the activities have a significant nonmilitary orientation; they are staffed predominantly by civilians; personnel are less subject to transfer from one installation to another; average individual incomes are substantially higher; the functions are performed largely by employees of private contractors, whereas government employees are mostly in supervisory and administrative work; they are of relatively recent origin as programs of major national concern; there are fewer installations; and on-post housing generally is not provided for personnel, except at isolated or certain highly classified installations or in periods of national emergency.

These differences do not require modification of the approach suggested for the purpose of analyzing military impact. Certain items on the work sheet, however, will not be applicable in many instances, e.g., "military households", "military personnel", and "on-post housing" (for which the entry will be "none"); and some terminology changes will be necessary, e.g., substituting "NASA" or "AEC" for the word "military", consistent with the installation under consideration. Aside from these minor adaptations, the procedure for analyzing the impact of space and atomic energy activities, as well as the interpretation and application of the results of the analysis, is essentially the same as outlined for the impact of military activities.

The procurement of data pertaining to these installations will be equally as difficult as in the case of a military installation, if not more so; and the analyst's estimates and judgments probably will have to be relied upon more extensively.

College-oriented Demand

Generally, in the preparation of a comprehensive housing market analysis for an area in which a college (or university) is located, the analyst is interested in the educational institution as a primary economic factor, i.e., its significance as a source of employment and as a source of support (generated by its payroll and by student expenditures) for other local economic activities. The relative importance of this factor in the community usually dictates the extent to which it need be pursued in the collection, analysis, and presentation of pertinent data and information as part of the market study. Ordinarily, it is not necessary to make a separate determination of housing demand originating directly from this source. There are occasions, particularly in small communities, when college-oriented demand is of special interest and concern, requiring separate estimation as part of the over-all demand forecast.

This submarket of demand scarcely attracted special notice until the late 1940's. The great influx of veterans into colleges and universities following World War II and the increased proportion of married students created serious housing problems for many of these institutions. A substantial volume of housing has been provided, with and without public assistance, to relieve the impact of the accelerated growth in housing demand from this source. College enrollments have continued to increase, however, and further expansion may be in prospect. Thus, market problems with reference to college-oriented demand may continue to emerge, with an accompanying need for special attention in market analysis directed toward the estimation of demand in this submarket. Full recognition must be given, of course, to the effect of the expanding program of establishing college branches or "centers" in various localities. This program has been adopted extensively among colleges and universities to moderate the pressure of expanding enrollments on the main campus, and it is likely to accelerate as college matriculations continue to increase.

Nature of the Market

In the aggregate, college-oriented demand for housing is comprised of several elements, i.e., students, faculty staff (including research workers), administrative staff (including clerical workers), and custodial staff (including related hospital, clinic, and service workers). Usually, in the analysis of this submarket of demand, the student component generates the need for special study. Occasionally, housing for the faculty component may be the source of concern. The custodial staff and, to a large extent, the administrative staff generally are recruited from the local labor force; their housing needs are satisfied by sales or rental housing in the general market and usually do not occasion a special market problem.

Demand among faculty members reflects a predominant need for dwelling units, although some of the unmarried staff may prefer room accommodations. This demand also is met to a considerable extent, if not entirely, in the general market, provided preferences as to type of housing, location, and environment can be satisfied within the financial capacity of the faculty members. Problems requiring special market studies arise when shortages exist or when preferences cannot be satisfied and, as a consequence, sales and/or rental housing developments are proposed specifically to meet these needs.

In view of the much more frequent incidence of the student housing problem in this submarket, the emphasis in subsequent discussion is focused on this segment of college-oriented demand. The demand among students originates primarily in the nonresident segment of the student body, since the great majority of resident students (particularly unmarried students) live in their parental home. This demand reflects (1) a need for room accommodations among unmarried students and (2) a need for housing units among married students. It must be recognized, however, that many unmarried students share dwelling units while some married students occupy rooms. Much of the demand for housing units in the student segment is met in the general market. Growth in the housing capacity of many colleges has not kept pace with the growth in enrollment. As a result, a considerable portion of the increasing demand generated by student households has been met in privately-owned housing, new and existing. New apartments are in greater demand among groups of unmarried students who, by sharing expenses, have the capacity to pay rents charged in new construction, whereas the rent-paying capacity of married students generally is below the level of rents prevailing in new privately-financed apartments located near the campus.

The student component of college-oriented demand, with very few (if any) exceptions, is in the rental category. Among the other components, the demand is distributed between sales and rental housing in proportions that can be determined only by local inquiry and observation or by actual survey. Room accommodations for students are available in private homes and lodging houses, fraternity and sorority houses, YMCA's and YWCA's, and dormitories provided by the college, with or without public assistance, or by private enterprise. Housing units (for sale or rent) for all components of demand are available in the market; rental units for faculty and married students provided by the college, with or without public assistance, may be available in many instances.

Within the purview of FHA market analysis, the analysis of the college-oriented submarket of demand is concerned only with the segment of demand for housing units. The analysis of this demand cannot be disassociated from the analysis of over-all demand, of which it is a part. This segment, however, can be identified and isolated for measurement as may be necessary to assist in resolving particular problems related to this submarket.

Analytical Treatment

The analytical treatment of college impact on a local housing market depends on the purpose of the market study of the subject area and on the relative importance of the impact. Unless an estimate of college-oriented demand is required, the inclusion of pertinent data, information, and estimates in the over-all analysis will vary.

If this factor has no significant bearing on the market analysis, it may be given only passing reference at most, e.g., the identification of the college and its current enrollment. If it is relatively important and has some significant bearing on certain aspects of the over-all analysis, (e.g., the economy, demographic factors, and housing stock) pertinent data, information, and estimates should be incorporated in the appropriate sections of the report to achieve necessary perspective and refinements in the analysis, even though an estimate of submarket demand may not be necessary.

Where a projection of the submarket demand is necessary, the minimum requirements of subject matter coverage in the report are discussed below. If a comprehensive market analysis of the subject area has been made within the past year and its findings and conclusions are still sufficiently valid for current guidance, the submarket analysis may be presented in an abbreviated supplemental report concerned primarily with considerations pertinent to the segment of college-oriented demand of special interest. Otherwise it must be integrated with appropriate parts of a current comprehensive analysis.

Most of the data and information required for the analysis of college-oriented demand must be obtained from college authorities. As a result of the housing problems created by the rapid and continued increase in enrollments, colleges have compiled and maintain a considerable scope of data pertinent to the housing needs of students and employees.

In the interest of avoiding possible duplication of "head count" in the pertinent data, a word of caution is in order. Some students are employed at many colleges in part-time work, e.g., graduate students are hired as faculty or research assistants and undergraduates are hired in custodial or service activities. Since their primary status is that of a student and they are included in the enrollment figure, they should be eliminated from the data pertaining to the other categories of college personnel.

Housing Market Area. The description of the market area and its noteworthy characteristics should include the identification of the college(s), its size in terms of student enrollment and total employees, its relative importance in the economic structure of the area, and any outstanding features which may contribute to its prestige.

In large SMSA's the college impact on housing may affect only a geographic submarket. In such instances, if the analysis is concerned only with the problem of college-oriented demand, the market analysis can be confined to the submarket area as the primary focus, with appropriate consideration and evaluation of its economic and demographic relationships to the over-all housing market of which it is a part. Should the analysis be concerned with broader market problems, as well as college-oriented demand, the subarea analysis should be prepared as a supplementary part of the comprehensive analysis. If the market analysis for a large SMSA is not concerned specifically with college-oriented demand, the college factor may not be of sufficient relative importance as an economic force in the over-all market to warrant more than passing reference.

Economic Considerations. The description of the character of the economy should indicate the relative importance of the college(s) as a source of employment in the market area. Details on the level and trend of college employment, the distribution of employment by major components (faculty, administrative, and custodial), the trend of enrollment, and related special activities of importance (e.g., research and hospital) should be discussed under a separate subheading as part of the analysis of the economy of the market area. Projections of college employment and enrollment should be included.

If the study is concerned with housing demand among faculty members, a faculty income distribution should be included for guidance in determining the qualitative distribution of demand. Data on student incomes are practically nonexistent and not obtainable in useful form for qualitative demand considerations. (With possible minor exceptions, new housing for students--apartments and rooms--generally should be provided at the lowest possible rent levels achievable by privately-financed construction of acceptable quality to assure continued marketability.)

Demographic Factors. As indicated in the discussion of "College Enrollment" in Chapter IV, adjustment of total population often is required in college areas by deducting the nonresident student element to eliminate the possible bias which may be reflected by this element in the basic growth trend of the area and in the estimation of average household size. The analysis of population and household trends achieves most meaningful and significant results if the nonresident student segments are shown separately in comparison with resident population and households. Projections

should be made on this basis also. The isolation of the nonresident student segments is essential, moreover, for a projection of housing demand among students. Since student households include many groups of two or more single students who share a housing unit, as well as married students, a count of married students would not be indicative of the number of student households. In fact, the married segment of nonresident students, as previously inferred, well may constitute a smaller component of student demand for new privately-financed rental units than the unmarried segment. Thus, the analyst must explore thoroughly the composition of student households in making his estimate and projection in this portion of the demographic analysis.

College-oriented Housing. The section of the market analysis pertaining to housing stock and market trends should include a complete discussion of student housing conditions and trends. The scope of this discussion should provide specific information on the distribution of students by present living arrangements, off campus and on campus, by type of accommodation, i.e., housing units, dormitory rooms, rooms in private homes, and other (boarding houses, fraternity and sorority houses, YMCA's and YWCA's, parental homes, etc.); college-owned and privately-owned housing units and dormitories; the monthly rents for various types of accommodations, furnished and unfurnished; the trend in living arrangements among students; the location pattern of student households living off campus; the trend of new construction intended for students (apartments and dormitories, private and college); projects under construction and planned; marketing experience and current vacancy rates in student housing (apartments and dormitories). The discussion might well be prefaced by a reference to the policy of the college with reference to student housing; and it should reveal clearly the participation of private investors in meeting the demand for student housing.

Procedure for Estimating Demand

Student Housing. A suggested procedure for deriving an estimate of demand for new housing for students is presented in Exhibit I (p. 279). This procedure covers the estimation of demand for rooms, as well as apartments, for student occupancy. It is subject to revision and refinement pending the accumulation of wider experience and the availability of more definitive data. Meanwhile, it provides the analytical framework for an orderly approach to the estimation of demand for student housing.

Faculty Housing. Should an analysis of housing demand among the faculty be required, an entirely different approach is necessary. Basically, faculty households are more closely integrated (than students) with the general housing market, although strong preferences may exist to some extent in their choice of location and environment, e.g., within reasonable proximity to the college and/or in particular sections which are, or which are likely to be, popular among the faculty members. The preferences of faculty members with respect to (1) living in a neighborhood or rental project of homogeneous or heterogeneous occupancy and (2) location of residence are considerations of equal importance with the magnitude of demand. These preferences must be ascertained if the analysis is to provide effective assistance and guidance.

The need for an analysis of faculty demand for housing would arise usually under the following circumstances: (1) a general shortage of housing in the over-all market, (2) a shortage of housing in neighborhoods or in price or quality ranges acceptable to faculty members, or (3) a preference among faculty members for residence in a "faculty community." These circumstances usually crystallize in the form of a housing proposal, either under private or college sponsorship, intended primarily or exclusively for faculty occupancy. At times, a housing project or development may be proposed merely as a speculative promotion.

Regardless of the circumstances, the analytical approach would be the same in each instance, patterned largely on the principal components of a comprehensive analysis. The emphasis, of course, would be focused on the faculty segment isolated for separate discussion and analytical treatment in a report consistent with the format of presentation discussed earlier in this section. Minimum requirements for the analysis of this component of college-oriented demand are outlined as follows:

1. Current level, past trend, and projection of faculty members, exclusive of graduate students employed as part-time assistants to faculty members.

2. Current and projected faculty households.

3. Distribution of faculty households by income brackets.

4. Current housing situation among faculty households: tenure, condition, suitability, and location of housing occupied currently; existing and proposed housing projects (renter- and owner-occupied) intended especially for faculty households, with and without public assistance; market experience of existing housing projects intended for faculty households.

5. Current and prospective availability of suitable competitive housing in the market: vacancies; units under construction and planned.

6. Housing preferences among faculty members: type (rental, ownership); location; occupational environment (homogeneity vs. heterogeneity of neighbors' occupation).

In the absence of a recently-completed housing survey of faculty members, data and information may not be available readily for some of the subjects under Items 4, 5, and 6. The desired data and information could be obtained rather easily, however, with the cooperation of the college authorities in a questionnaire survey appropriately designed to achieve maximum response with a minimum of time and effort on the part of the respondents (who should be accorded the discretion of cooperating anonymously). The feasibility of such a survey should be explored in every instance in which an estimate of faculty-oriented demand is required.

Demand for Housing in Urban Renewal Areas

Nature of Urban Renewal Submarkets

The demand for housing in urban renewal areas is essentially a geographic submarket of demand. Either new or rehabilitated housing may be provided to satisfy this demand. From the standpoint of privately-financed housing, the demand in renewal areas is included in the concept of net quantitative demand. It is not to be construed as an "extra" or "additive" demand for housing, inasmuch as the housing provided to meet this demand enters into competition with other housing in the market. Thus, the market for housing in renewal areas does not exist independently of the overall market, and the demand for housing in these areas cannot be disassociated from the demand for housing in the market area as a whole.

Qualitatively, urban renewal involving residential re-use generally is endowed with some competitive advantages respecting transportation, proximity of employment sources, and urban appeal. Renewal projects compete directly with other newly-constructed housing units. Hence, it is important to evaluate their competitive position. Both renewal and non-renewal housing projects are subject to the same demand-supply forces reflected in quantitative and qualitative demand; and each is affected by the other in the competition for occupants as new units come on the market. Neither type has a monopoly on even one segment of demand; both share in the demand according to their respective competitive strength reflecting a composite of rent, location, environment, amenities, and general appeal.

Generally, residential development in urban renewal areas consists predominantly of high-rise multifamily structures, because of land value considerations. Town-house structures are not uncommon, however. Rental units generally predominate, although cooperative and condominium units may comprise significant proportions, particularly in the larger SMSA's .

Data Requirements

In all market analyses for localities which have an urban renewal program, the program should be discussed initially under a separate subject heading in the section of the report devoted to the housing stock and market trends. The scope of this discussion may range from a brief description to a comprehensive sketch of significant features, depending on the status of the program (i.e., active or inactive) and its relative importance (particularly as it relates to housing). In the case of active programs, the following list comprises the suggested scope of subject matter presentation to provide adequate orientation and perspective:

1. The over-all renewal plan adopted by the locality: redevelopment and rehabilitation aspects, relative importance of re-use classifications, progress status

2. Identification and location of renewal areas: area or project numbers, names, and boundaries, preferably delineated on a map and keyed by number to the descriptive text

3. Description of each renewal area or project:

    a. Size of area (acres or blocks)
    b. Pre-renewal use
    c. Type(s) of re-use (include the number of housing units for residential re-use)
    d. Redevelopment and rehabilitation
    e. Present status and time schedule of principal stages to projected completion date
    f. Quality of adjacent neighborhood environment
    g. Number and incomes of persons and families displaced or to be displaced
    h. For projects with residential structures in process of construction: the number of housing units and probable rental ranges
    i. For projects with residential structures completed: the number of housing units, rental ranges, marketing experience, and current vacancy; also the status of the renewal plan for the remainder of the project area, and the immediate environment of completed residential structures

4. Over-all status of the relocation program, including (a) persons and families displaced to date by urban renewal and other governmental activities and the number relocated to date with and without assistance, the geographical pattern of relocations, and type of housing, and (b) the projected relocation load and time-schedule.

Most of the pertinent data and information is obtainable from the local public agency in charge of the renewal program and the local planning commission; data and information not available from those sources must be obtained from resident managers of completed residential structures and from personal observation in the renewal areas.

Estimation of Demand

Generally, urban renewal areas constitute relatively small geographic submarkets, many of which consist of a single neighborhood or only a portion of a neighborhood. Under the allocation of functions and responsibilities in the over-all procedure established for FHA's mortgage insurance operations, judgments concerning market demand and related matters at the neighborhood level are the responsibility of the underwriting staff and outside the purview of the market analysis function.

With reference to geographic submarkets, therefore, FHA market analysis is limited to major components of a housing market area, i.e., counties, municipalities, and broad sectors of counties or cities. Thus, the smallest submarket area subjected to demand analysis in FHA market studies is comprised of a number of contiguous neighborhoods constituting a broad section of a city or county. This submarket area may embrace more than one urban renewal area. Because of data limitations, the estimation of demand for this type of submarket area cannot be approached on the same basis used for submarkets comprised of an entire county or city. In the latter instances, the division of estimated demand by subarea is determined on the basis of relationships and comparative trends in basic market factors between the subarea and the entire market area, with adjustment for foreseeable developments which are expected to alter past relationships and trends. In the "sectionalized" submarket, as defined above, the estimation of demand requires a judicious determination.

In some instances, previous marketing experience in the renewal area(s) within the submarket area or in comparable submarkets in the same locality is available as an aid in estimating demand. In the absence of such experience, judgment alone must be relied upon. Urban renewal experience in other localities is of limited assistance, and only as background information, unless an exact parallel is available in the localities as to size, type, growth rate, population and housing characteristics, incomes, vacancies, housing customs and preferences, etc.

Depending upon the type and quality of housing contemplated for re-use development in an urban renewal area, the following determinations and judgments are essential ingredients to formulating a judgment of prospective demand for the submarket area involved:

1. Estimates of qualitative demand for sales and rental housing in the market area, based on a comprehensive analysis, and the distribution of these estimates between major submarkets

2. Competitive position of the renewal housing project(s) as compared with newly-constructed housing of similar quality in other subareas of the housing market (comparative location, rental, quality of construction, environment, and general appeal; occupancy history of competitive housing in other subareas and current vacancy rate).

3. Marketing experience and competitive position of comparable housing provided in other urban renewal areas (if any)

4. Potential demand for the proposed housing among households displaced or to be displaced by urban renewal activity and by other governmental actions (income distributions, location and housing preferences, project appeal, relocation time-schedule).

In consideration of the generally low incomes of families displaced by urban renewal activity (and by other governmental actions, in most instances) the demand for privately-financed housing proposed for urban renewal areas must be drawn largely, if not wholly, from households in higher income levels throughout the market area. If, however, housing is proposed for urban renewal areas at the lower rents achievable with some form of public benefit or assistance, households at lower income levels (including displacees) also would qualify as potential occupants. Within the limits of the estimates of over-all qualitative demand derived in the comprehensive market analysis (inclusive of below-market-rate housing) and on the basis of the judgments and determinations reached with respect to the other pertinent considerations listed above, an estimate of demand is made for housing in the submarket area(s) as may be required by the purpose of the analysis. This estimate reflects a judgment as to the portion of the over-all demand, at various rental or price levels, which may be expected to be attracted to the submarket area(s).

In view of the time element involved between the initial planning stage and final completion of an urban renewal project--which may be five years, or longer in many instances--the firmness of a demand estimate varies with the stage at which the estimate is made. The longer the forecast period, the greater is the possibility of unforseeable occurrences affecting demand-supply relationships in the market area. Thus, in the early stages of an urban renewal project, an estimate of demand must be regarded as preliminary. Not until the project has advanced to a point within two or three years of completing housing units can an estimate be considered reasonably firm.

The approach outlined above is adaptable, of course, to the estimation of demand for specific urban renewal areas per se where the purpose of the market analysis requires a further fractionizing of demand. In such instances the analysis becomes, in effect, a marketability study with reference to a specific site, particularly if the urban renewal area is relatively small.

Demand for Rental Housing Designed for the Elderly

Each element of housing demand and supply, as well as their relationships, have the same significance in an analysis of the submarket of housing for the elderly that these elements have in the over-all analysis of the housing market. The analytical problems involved relate to a fragmentation of these elements in terms of the aging segment of the population. The problems arise because the data are sparse. Adequate data have not been developed because this segment of the market was ignored completely until mid-course in the 20th century. The needs of the elderly for specially designed housing have attracted increasing recognition in recent years, however, and data suitable for demand analysis are being developed gradually. The available data have limitations, however, since there are few guides to their interpretation. Only the development of a body of experience with housing projects designed for the elderly will provide reliable interpretive evidence and a basis for constructing refined analytical techniques. Until then, all data pertaining to this submarket must be interpreted with extreme caution.

Submarkets of Demand Among the Elderly

In general, housing demand among the elderly population parallels demand among the remainder of the population in terms of tenure (sales and rental housing) and type of structure (single-family and multifamily), although the patterns of qualitative distribution may differ significantly. Except with respect to new or rehabilitated rental housing specially designed and intended for occupancy by elderly persons, there has been no need in FHA for analyses of demand for new housing among the elderly. In the sales housing submarket there are relatively few large scale residential developments of single-family houses for the elderly (e.g., senior citizen or retirement communities). These are mostly in the warm climate belt (principally Arizona, California, and Florida) and, typically, they involve the sale of lots and the simultaneous or subsequent sale of houses from floor plans or models. Presale is customary also in the case of multifamily co-operative and condominium housing projects designed for the elderly. Not uncommonly, the age qualification of purchasers in the conventionally-financed projects and developments is as low as 50 years.

In the rental segment of the market separate submarkets exist for both profit-motivated and nonprofit types of rental housing for the elderly, with further variations dependent upon the extent of the services provided. The profit-motivated project designed for elderly persons but with a minimum of services compares closely with conventional types of rental housing in the market. Generally, they will appeal to the younger and more ambulatory among the elderly population, and the market area of competition is similar to that for other rental types. Nonprofit projects, regardless of the extent of services provided, may appeal to a limited group in an area which may be more restrictive or more extensive, dependent upon the geographic extent of the appeal of the nonprofit sponsor. Full-service profit-motivated projects may draw from a smaller market area in large SMSA's than would ordinarily be considered, but from a more extensive area in thinly populated communities.

Within the framework of present provisions of the National Housing Act, as amended, both profit and nonprofit rental housing designed for elderly persons may be promoted under the FHA mortgage insurance program as:

1. Conventional-type rental housing with a minimum of special services. Demand for such housing constitutes a portion of the annual increment of demand for new rental housing in the community; ordinarily, it is satisfied largely in new conventional rental housing in the market. Housing that is specially designed for the needs and convenience of the elderly, but with a minimum of special services may be expected to attract a portion of this demand. As yet there is no evidence that this type of housing stimulates an <u>additional</u> demand among the elderly for separate living units, except as noted below.

2. Rental housing with special services designed to provide a "secure" environment in the maintenance of an independent household status. Demand for such housing is wholly additive to annual increments of demand, or nearly so. The market for housing with special services is essentially a "backlog" demand to the extent that it has not been available in the community; incremental additions because of growth factors are believed to be negligible in most areas.

Either type of project (but more likely the nonprofit-motivated) may be sponsored by a local, regional, or national organization for occupancy by its members primarily. Demand for such housing is wholly additive to annual increments of demand among the elderly, or nearly so; the common ground of interest as members and beneficiaries of the same organization activates a demand that otherwise probably would remain ineffective in large part, particularly if the sponsoring organization has a regional or national scope of membership from which it is successful in attracting the majority of occupants for a particular project.

Since applications for housing under Section 231 have declined to a mere trickle in recent years (7 applications for 980 units in 1966; 7 applications for 803 units in 1967; and 4 applications for 347 units in 1968), it is obvious that the demand for housing among the elderly will be in large part satisfied through the subsidized housing programs under Section 236, Section 202, Rent Supplement and Public Housing.

Incomes. The distribution of elderly households by income provides a good perspective on the qualitative aspect of this segment of the market. The generally lower incomes among the elderly suggest the need for gearing the production of new housing for the elderly to rent levels below those of conventional rental housing for the general market, insofar as possible consistent with acceptable quality; this will achieve maximized competitive status and demand for housing specially designed for the elderly. (The current income distribution for the elderly is estimated with the aid of the same technique presented in Exhibit C, Chapter III, with one important modification, i.e.: the adjustment factor used to reflect the increase in income since the last census is 20 percent less than the factor developed for all households. This modification is based on comparison of national data on incomes for 1967 from the Census Bureau's Current Population Survey and for 1959 from the 1960 Census.)

Demographic Factors. A presentation of the number of elderly persons in the population will assist in clarifying the relatively small magnitude of the market. However small the proportion, a rapid rate of growth in the elderly population, both actually and proportionately, will be revealed almost invariably even in areas otherwise static or declining with respect to population. Ordinarily, the record from 1930 to the current date (by decades) will suffice. Population data published by the Bureau of the Census for all counties and most minor civil divisions are obtainable for persons 65 or over, both male and female.

Where in-migration is a significant factor in the growth of the elderly population, as in many localities in Arizona, California, and Florida, and in certain resort areas elsewhere, comparative data will be valuable. These may refer to the corresponding growth in the county, state, region, and/or nation. In other States, in-migration in most of the growing areas consists primarily of younger persons. In some instances, out-migration of elderly persons may be a significant factor.

A short-cut procedure that produces reasonably accurate estimates of elderly population and households is presented in the following example for an anonymous SMSA:

Technique for Estimating Current Elderly Population and Households with Head 65 Years and Over

		1960	Current
1.	Total population, all ages	1,194,290[a/]	1,369,000[d/]
2.	Total population, 65 and over	105,348[a/]	127,300[e/]
3.	Pop. 60 and over in households with head 65 or over	85,688[b/]	103,550[f/]
4.	No. of households with pop. 60 and over and head 65 or over	55,550[b/]	68,550[g/]
5.	Average size of household with pop. 60 and over and head 65 or over	1.54[c/]	1.51[h/]

Note: The average annual change during the period for any item is derived by dividing the aggregate change by the number of years involved (fractional years unrounded). The average annual change in households (Line 4) may be used as an approximation of the prospective near-term rate of change, with due regard for any current or foreseeable developments which warrant adjustment of this rate.

Sources:

a/ 1960 Census of Population.

b/ 1960 Census of Housing, Vol. VII, Housing of Senior Citizens, for selected SMSA's; also unpublished special tabulations for all SMSA's and for all places of 10,000 population or more in 32 selected States.

c/ Derived by dividing Line 3 by Line 4.

d/ Estimated.

e/ Estimated by applying to Line 1 the 1960 relationship of Line 2 to Line 1 adjusted to reflect the change in the relationship from 1960 to the current date for the State. For the current date use data in latest Current Population Report, Series P-25, "Estimates of Population of States, by Age: July 1, 19--", Bureau of the Census.

f/ Estimated by applying to Line 2 the relationship of Line 3 to Line 2 for 1960.

g/ Derived by dividing Line 3 by Line 5, which is determined first--See h/.

h/ Estimated by applying to the average size derived for 1960 the percentage change in the national average size household with head 65 or over from 1960 to the current year, based on data in Current Population Report, Series P-20, "Household and Family Characteristics: March 19--" (annual), Bureau of the Census.

A simple technique for estimating in- or out-migration of elderly persons, for use as an indicator of the significance of this factor in the growth of the elderly population, is illustrated below for two different counties. One of these counties reflects out-migration of elderly persons; the other reflects the influence of a resort area in attracting the elderly.

Technique for Estimating In- or Out-Migration of Elderly Persons

Item	1960	1968	Change
County "A"			
1. Population 65 years and over	25,797	27,700	1,903
2. Population 57 years and over in 1960	43,921		
3. Survival Rate (8 years)		66.9%	
4. Survivors 1968		29,383	
5. Net Out-migration			
a. Total		-1,683	
b. Average per year		- 210	
	1960	**1968**	**Change**
COUNTY "B"			
1. Population 65 years and over	47,455	71,990	24,535
2. Population 57 years and over in 1960	83,760		
3. Survival Rate (8 yrs.)		66.9%	
4. Survivors 1968		56,035	
5.. Net In-migration			
a. Total		15,955	
b. Average per year		1,994	

Notes: (1) The survival rate (Line 3) is the national percentage of the population age 57 and over in 1960 that was still living in 1968 (at age 65 and over). This rate is applied to the entry on Line 2 and the result is entered on Line 4 for 1968. If the entry on Line 4 is larger than that on Line 1 for 1968 the difference is a negative quantity and reflects out-migration; conversely, if the entry on Line 4 is smaller, the difference is positive and reflects in-migration.

Demand for New Nursing Home Accommodations

The demand for nursing home accommodations is developed in terms of beds, rather than housing units. These accommodations are not competitive with housing units as defined and described in general usage and as considered elsewhere throughout this volume. They are in a special category, only remotely related to housing, with primary emphasis on services oriented to the care of the occupants. The demand for these accommodations, therefore, is distinctly dissociated from and quite independent of the over-all demand for housing units.

Types of Nursing Home Facilities and Care

Institutions similar to nursing homes provide a wide variety of facilities and care. They may be classified by kind of facility, as follows:

By Kind of Facility

a. Nursing homes: Include convalescent homes, special service nursing homes, children's convalescent homes, and nursing home units of hospitals.

b. Homes for the aged: Include county homes, county infirmaries, county poor farms, "poor homes", public homes, aged home residences, and state veterans' homes for the aged.

c. Rest homes: Include sheltered care homes, adult care homes, and personal care homes.

Although the diversity of available facilities and types of care may be confusing, reference is made to it primarily to alert the analyst to the variety of accommodations which he may encounter in pursuing a study of the market for nursing home beds. For FHA purposes, such a market study is concerned only with the demand for the type of nursing home accommodations which are authorized for mortgage insurance under the National Housing Act, as amended.

Within FHA's legislative authorization, only privately-financed and -operated, profit and nonprofit nursing homes (as distinct from publicly-financed and -operated projects) that provide skilled nursing care as a primary and predominant function are insurable. They are intended for the accommodation of convalescents and other persons who are not acutely ill or in need of hospital care but who do need skilled nursing care and related medical services. Such nursing homes provide, in addition to room and board, those nursing services and procedures which require training, judgment, technical knowledge, and skills beyond those which the untrained person possesses. Round-the-clock, skilled nurses and attendants administer prescribed medications and otherwise comply with the orders, instructions, and prescriptions of attending physicians and/or surgeons. The discussion which follows pertains to this type of nursing home.

Analytical Treatment

The analysis of the market for nursing home beds is made independently of an over-all market analysis. It may be prepared as a separate report or it may be included in a comprehensive market analysis report as a supplemental section following the section on over-all sales and rental housing demand.

The minimum subject matter requirements for inclusion in a report concerned with the market for nursing home beds are indicated below. A major portion of the data and information must be developed by the analyst. This requires intensive field work in the market area, particularly with respect to the competitive aspects and monthly or weekly charges of existing nursing homes and those under construction and the vacancy rate in existing homes. There are no other guides as to the magnitude of need until an adequate body of experience has been developed.

Market Area. The market area for which an analysis of demand for nursing home beds is made may differ considerably from the area delineated for a sales or rental housing study. In small localities, for example, the area ordinarily regarded as the market area for sales and rental housing may not be sufficiently populated to support a nursing home of the size required for economically feasible operation. Thus, two or more such communities, or the adjoining counties in which they are located, may have to be combined to constitute a market area with sufficient potential to assure the economic feasibility of a nursing home. Since nursing home care is a matter of necessity rather than mere preference in most cases, the distance factor is a secondary consideration and a much larger geographical market area is justified for nursing home beds than for sales and rental housing in thinly populated areas.

In large localities where population is sufficient to support more than one nursing home, the market area for nursing home beds usually will coincide with the market area delineated for sales and rental housing. Within such areas, however, distance is an important consideration, especially in the larger SMSA's comprised of two or more counties where a choice of nursing homes is available. Nursing home patients tend to go to nursing homes near where they live, particularly in their county of residence, to facilitate accessibility to attending doctors and to relatives and friends. In such instances, geographical submarkets assume importance and should be delineated (at least the major components of the market area, i.e., counties) with a view to showing the distribution of demand between these submarkets.

Economic Considerations. If the analysis of the market for nursing homes is not included as a supplement to a comprehensive market study it should embody a brief review of current and prospective economic conditions and family incomes in the market area. The economic environment is indicative of the vigor of the housing market and is reflected in consumer attitudes and demand generally, thus affecting most sources which contribute directly and indirectly to the effective demand for nursing home beds.

The ability to pay for nursing home care and accommodations depends upon the income and resources of the patient, family contributions, public welfare payments, and charitable contributions, as well as other factors. The wide range and flexibility of these sources of payment are difficult to appraise. Therefore, income distributions of the elderly should not be used directly as a major component of any procedure for estimating the demand for nursing home beds.

Demographic Factors. Although nursing homes admit all persons in need of nursing care, the proportions of elderly who occupy beds in nursing homes are predominant. According to surveys made by the Public Health Service of the Department of Health, Education, and Welfare, for example, close to 90 percent of the occupants of nursing homes were 65 years of age and over. A survey of FHA-insured nursing homes in 1965 revealed that approximately 94 percent of the occupants were 60 years of age or older; 41 percent were in their 70's and 42 percent were in their 80's.

Existing and Proposed Nursing Homes. The proposed nursing home project(s) which occasion the need for the analysis should be described in some detail, including location, neighborhood environment, type of structure, number of beds (total, private, semi-private, and ward), services, and weekly or monthly charges.

Existing nursing homes and homes under construction, as well as those definitely planned, also should be inventoried with pertinent information (at least in a summary tabulation for the larger SMSA's), by submarket areas where appropriate. Particular attention should be directed, of course, to those projects which are competitive with the proposed project(s) under consideration.

The competitive aspects of existing and prospective nursing homes must be made clear in the analysis. Where feasible, this is done most effectively by showing a map of the locations of nursing homes, with a text keyed to each location. Information on each nursing home should include the type of nursing home, i.e., privately (profit or nonprofit) or publicly operated; number of beds; type of room accommodations (i.e., ward, semi-private, or private); weekly or monthly charges by type of accommodation; vacancy rates; charitable and/or welfare support; outstanding physical features and facilities; availability of nursing, medical, and infirmary care; and pertinent location advantages.

Location, scope and quality of care provided, and the occupancy charge are the key determinants of competitive advantage. The relative level of vacancy among comparable projects is indicative of their competitive status and, in the aggregate, the over-all level of vacancy among such projects reflects the demand-supply relationship. Historical data on the level of vacancy during the past several years, if available, together with data on nursing home beds added annually, and with due regard for the cause of significant changes, provide at least a clue to the absorptive capacity of the market with respect to nursing home beds.

With reference to location as a factor of competitive advantage, easy access to public transportation and to hospitals is desirable for nursing homes. As already noted, this provides ready accessibility to operative facilities, doctors, nurses and other personnel, families, relatives, visitors, and volunteer workers. Few nursing home patients desire an isolated location. A developed area near a main artery is preferable; generally, a major portion of the patients are porch-sitters and like to watch traffic, see people, and feel that they are "in the main stream of life." An easily accessible location is preferred also by those who provide the care or visit the patients.

Nursing home charges vary greatly from facility to facility depending upon the scope, quality, and type of care required by the patient, the relative training and experience of the nursing personnel, the scope of personnel benefits, the physical features and facilities of the nursing home plant, and the efficiency of operations. Costs naturally rise as the level of medical, nursing, and personal care increases. Ordinarily, charges are higher in metropolitan areas than in nonmetropolitan areas.

Within a particular area, comparison of charges should be made between projects of roughly the same quality of accommodation and care in evaluating competitive advantage. Projects of different quality serve people of different financial capacity. A person who needs nursing home care and has no alternative substitute will seek accommodation within his ability to pay even though it may not provide all the care which he needs. Another person needing less care would find the same accommodation quite adequate even though he could afford to pay a higher charge for an accommodation with a wider scope of care. Sometimes, within the same project the charges may vary depending upon the scope and/or frequency of services required by the patients.

Thus, the evaluation of competitive aspects and status of existing and proposed projects is a complex matter that cannot be accomplished easily or with a high degree of precision. The pertinent information obtained, however, should enable the analyst to apply sound judgments in formulating his conclusions regarding the demand for additional nursing home beds.

While the major portion of the data and information pertaining to individual existing projects ordinarily must be developed by the analyst through personal contact at the projects and through observation, in some instances the local Welfare Office may be able to supply considerable detail, as well as summarized information, helpful leads, data on the number of welfare claimants in nursing homes, and the scale of payments for nursing home care on behalf of these claimants. Considerable data and information may be available also from the State Health and/or Welfare Departments (or equivalent) which inspect and license nursing homes. Local representatives of these departments are available in some of the more populous areas.

Evidence of Need for Nursing Home Beds. Every State issues licenses for nursing homes based upon the need as calculated from an arbitrary formula. Some States apply this formula to each county and others issue licenses if the need falls within that calculated for the State as a whole. Some States designate existing nursing homes by quality, and some do not. The estimates of need, together with data on the number of nursing home beds (by type and acceptability of project, in some States), compiled by locality, county, or section of State, are published in annual reports.

Numerous variations exist. The U. S. Department of Health, Education, and Welfare, as a result of a nationwide inventory in 1961, concluded that "the supply of skilled nursing care beds in a State tends to increase with the average per capita income, the amount of old-age assistance payments, the proportion of persons aged 65 years and over, and the relative number of persons living in urban areas."

These are evidences of need. They must be examined and evaluated in light of the current occupancy of nursing homes and the relative quality of the facilities, care, and services rendered, in reaching a firm judgment on the demand for nursing home beds.

Procedure for Estimating Demand

A procedure for deriving an estimate of demand for new privately-financed nursing home beds is presented in Exhibit J (p. 281).
The approach used in this procedure is related basically to the elderly segment of the population; this is consistent with the predominant occupancy of nursing homes by elderly persons. The instructions in this procedure show by individual States the number of nursing home beds needed per 1,000 elderly (65 years and over) population. In its present stage of development, however, this procedure is considered highly tentative. Data essential to the establishment of criteria and relationships required in the development of a more refined technique are inadequate or unavailable, e.g., operating experience, the incidence of need for nursing home care, the financial capacity of potential occupants. Nevertheless, if used with extraordinary caution, the present procedure will yield a reasonably realistic estimate of demand.

Demand for Cooperative Housing

Cooperative housing may be provided either as single-family houses or as units in multifamily structures. In the case of single-family houses built for members of cooperative organizations (i.e., sales-type cooperative projects), the demand for cooperative housing is reflected in the quantitative demand for single-family sales housing and its qualitative distribution by price. In the case of multifamily structures owned and operated by cooperative organizations for member-occupants (i.e., management-type cooperative projects), the demand for cooperative housing in terms of carrying charges is reflected in the quantitative demand for multifamily units and its qualitative distribution by gross rent.

The availability of cooperative housing does not broaden the total market but merely provides a different means of satisfying the demand for single-family and multifamily housing. The analysis of demand for cooperatives, therefore, cannot be made independently of an over-all demand analysis.

If there is a marketing problem concerning cooperative housing, this submarket will require consideration in the text, in both the supply and demand analysis. Under FHA-insured financing, both the sales-type and the management-type cooperative require a substantial sales volume prior to construction; such housing project proposals, therefore, ordinarily will not require an analysis of demand. The FHA investor-sponsor type of project, however, is built as a rental project with a view to its sale after completion to a cooperative corporation; if not sold within a limited time period it continues to operate as rental housing. The demand for such units must be reflected in the estimate of demand for multifamily rental housing. Conventionally-financed cooperatives, usually multifamily type structures, are built either before or after the sales take place, depending on the strength of the market.

Sales-type cooperative housing is competitive with other single-family housing and is unlikely to bring more purchasers into the market. Management-type cooperatives generally require significant downpayments, offset by monthly charges lower than the comparable competitive rentals; most cooperators in this type of housing ordinarily would be in the rental market and regard the difference between monthly charges and competitive rents as an amortization of the downpayment.

The estimation of demand for cooperative units is solely a matter of judgment of the extent to which housing, to be provided to meet the estimated over-all qualitative demand for single-family sales housing and multifamily housing units, can be satisfactorily absorbed on a cooperative basis. No known techniques are available for deriving an estimate of this segment of demand; and pertinent data necessary for the development of a technique are practically nonexistent. Marketing experience and the current occupancy rate, if available for this type of housing in the market under study, will assist materially in arriving at an estimate and should be sought diligently by the analyst.

The market for cooperative housing in an area with no previous cooperative history must be examined with extraordinary care. The qualitative distributions of over-all demand for single-family sales housing and for multifamily housing units will be indicative of the prospective market for cooperative housing. There are few instances, however, in which more than a small proportion of the demand will reflect the demand from potential cooperators. In the absence of previous cooperative experience, the key determinant of the existence of <u>any</u> demand for cooperative units is the acceptability of this type of housing among the local population. Experience in other areas cannot be used as a guide; and the local attitude toward cooperative housing cannot be presumed except at great risk. Without convincing clues obtained from respected local sources or a soundly designed consumer-type survey, the only alternative in such situations is the presale of units in any proposed project.

The estimate of demand, as finally determined, is incorporated in the comprehensive analysis as part of the narrative following the presentation of the qualitative demand schedules for single-family and multifamily housing, as the case may be. This estimate, presented in a separate demand schedule, is clearly identified as the portion (in absolute terms) of the over-all demand that reasonably may be expected to be met by cooperative units in the single-family and multifamily categories, with appropriate indication of the quality ranges in terms of price and monthly charges, respectively.

Demand for Condominium Housing

Although condominium housing has been in use for many years in some European and Latin American countries, it is relatively new in the United States and is now permissible under the laws of most States. Its fundamental purpose is to provide housing in multifamily projects on an ownership basis in addition to the rental or cooperative basis. In condominium ownership a person owns, separately, one or more housing units in a multifamily project; and he has an undivided interest, with the owners of other units, in the common areas and facilities serving the project.

Condominium housing is similar to cooperative housing in some respects; there are, however, important differences (primarily of a legal nature) which distinguish the two forms of housing. The principal differences are:

1. In condominiums, individuals take fee simple title to their units; in cooperatives (management type), individuals acquire a stock ownership in the cooperative project and the right of occupancy to a specific unit.

2. In condominiums, individuals are taxed separately on their units; in cooperatives, individuals pay their share of taxes on the project in their monthly carrying charges.

3. In condominiums, individuals are responsible only for mortgage indebtedness and taxes involving their own property and their proportionate share of expenses of operating and maintaining the common property, and have no mortgage indebtedness, tax, or other liability for the other properties; in cooperatives, the individuals are responsible for their proportionate share of all expenses of the cooperative project including unsold units and, thus, are liable for any deficit in the project income due to vacancies.

Condominium projects may consist of different types of structures and more than one structure, e.g., a group of row houses, a group of garden apartment structures, a group of high-rise apartment structures, a group of single-family structures, or a combination of these types. Garden apartment and high-rise apartment structures, however, are the more common and predominant types.

As in the case of cooperative housing, the availability of condominium housing does not broaden the over-all market for housing. It provides an additional means of acquiring private ownership of housing units and, to that extent, it contributes to the shift from renter to owner tenure.

Through the element of fee simple ownership, the market for condominium housing is, technically, a portion of the sales market. However, the appeal of multifamily structures is essentially to those persons or households generally in the market for multifamily rental units. The demand for condominiums in such structures, therefore, must be considered as a portion of the rental demand and cannot be analyzed independently of an over-all demand analysis.

Under FHA-insured financing, mortgage insurance is available under Section 234 for (1) mortgages on individual units in projects which are or have been insured under any FHA multifamily housing program (except Section 213, Management) and which are converted to condominium ownership and (2) blanket mortgages on multifamily projects which are to be constructed or rehabilitated and sold as condominiums, with the individual units being released later from the blanket mortgage and financed separately as single units. In both types of projects, commitments for insurance are conditioned upon the sale of units amounting to 80 percent of the value of all units within two years, and, in the case of projects to be constructed or rehabilitated, construction must be completed. One person may purchase as many as four units, and he must live in one of them. All purchasers must be approved by FHA, but the individual units may be financed with either FHA-insured or conventional mortgages.

For purposes of housing market analysis, FHA projects converted to condominium ownership present no demand problem; if the presale requirement is not met, the project continues to operate as a rental project. In the case of new and rehabilitated projects submitted under Section 234, the major market consideration is whether there is sufficient rental demand in the rent ranges of the proposed units to justify the project; if the presale requirement is not fulfilled, it will be operated as a rental project.

Under conventional financing, the requirements and practices vary considerably with respect to structural type, new and existing construction, presale of units, etc. Where conventionally-financed projects occasion the need for market analysis, the requirements and practices prevailing in the locality under study must be ascertained in order to identify the demand problem for analysis. This information also is pertinent in considering the competitive position of the FHA- and conventionally-financed segments of the condominium market.

Notwithstanding the differences between condominium housing and cooperative housing, condominiums may be considered in the same category as cooperatives for market analysis purposes. Thus, the approach to the estimation of demand, the analytical treatment, and the presentation as part of a comprehensive market analysis report suggested in the preceding section on cooperatives are applicable to condominium housing.

Demand for Mobile Home Court Accommodations

The character of house trailers and their uses have changed materially since World War II. The modern house trailer has become a livable, two-bedroom dwelling unit with fully equipped bathroom and kitchen, and includes all the essential home furnishings. The modern trailer court is an attractive suburban development with landscaping, recreation areas, and utilities, approaching in many respects the average garden apartment. With this evolution the term "house trailer" has given way to the term "mobile home", which more appropriately describes the advance in living standards and amenities which has taken place in this type of abode.

Nature of the Market

As defined for FHA purposes, the market for mobile home courts is a segment of the rental market. It is concerned with space and facilities designed to accommodate mobile homes as a definite type of housing. It is not concerned with the mobile homes themselves but only with the spatial and service facilities provided on a rental basis as a site or location for such homes. For purposes of mortgage insurance under FHA's legislative authorization, a mobile home court must qualify as a place of residence rather than as a transient accommodation. This assumes a month-to-month period of residence by the occupants of a court of sufficient duration to characterize it as of a quasi-permanent nature, quite distinct from the limited visit of the transient traveler or tourist. It is in this context that the mobile home court is considered in FHA market analysis. The present discussion, therefore, is oriented to the market for this type of court.

This market is quite different and, generally, is more limited than that for courts which solicit the overnight or short-term occupant. In some areas, both markets may exist, depending on the incidence of need, whereas in other areas only one of the markets may exist. In both cases, the analytical approach is similar; the difference is primarily in the basic sources and the character of demand. A basic source of demand may support both markets. For example, a pleasant, equable climate the year round attracts both the transient and the quasi-permanent, mobile-home-court occupant in some areas. The distinction between the two markets is important. Only the "residence" courts are of concern here, i.e., those which are designed and intended for the accommodation of mobile homes or house trailers which serve as quasi-permanent residences of the owners who have a relatively long-time need for space in a given location. This type of court has a relatively low rate of occupant turnover as compared with the "transient" court, and it averages a fairly long stay per unit.

Analytical Treatment

The analysis of the market for mobile home courts is concerned only with certain housing market factors, and the primary emphasis is focused on the demand aspects of the market. The scope of the analysis is thus relatively limited, as compared with that of the typical market analysis. It is not necessary, for example, to undertake a complete analysis of the economic base of the area--only certain segments of the economy may have a direct bearing on the problem. Nor may it be necessary to analyze and project population and household trends, or to examine and analyze various aspects of the mortgage and housing markets--only certain limited aspects of these factors are germane to the analysis. Accordingly, the scope of the report is cut to fit the specific needs of the analysis.

The analysis may be presented as a separate report (if the problem is limited to the consideration of a proposed mobile home court); or it may be presented as a supplemental part of a more comprehensive market study if problems of broader scope are to be considered simultaneously with a proposed mobile home court.

Market Area. Because of the comparatively limited sources of demand for mobile home court space in relation to the over-all demand for housing in most communities, the market area for purposes of this type of demand analysis may be much more extensive in some instances than the market area for purposes of analyzing the demand for conventional housing. For example, it may require several communities within feasible commuting distance of one another (although otherwise considered to be independent housing market areas) to support a mobile home court. This possibility suggests the desirability of exploring this aspect of the problem in every analysis of this type until sufficient experience has been gained to provide a reliable basis for future guidance.

Within the market area as defined for the purpose of analyzing demand for mobile home court accommodations, the identification and location of local sources of demand are of the utmost importance and should be included in the description of the market area as pertinent information for purposes of orientation. If climate is a significant factor in attracting mobile home court occupants for prolonged periods of residence, its salient features, together with other complementing competitive advantages of the locality, should be noted with appropriate emphasis.

Data Limitations. Only very limited data pertaining to mobile homes (house trailers) are available for localities (or States). In the 1960 Census of Housing (HC(1) Report), trailers occupied as living quarters were included as a separate type of structure in the housing inventory. When one or more rooms had been added to the trailer, it was classified by census as a house or apartment. Trailers also were reported in the 1950 census when occupied; in 1940, they were combined with tents, boats, railroad cars, and shacks.

Census data provide a meager background of information as a starting point for the analysis. Other pertinent information should be obtained, insofar as possible, to make the market analysis of maximum usefulness. Such additional information would include the ability and willingness of prospective court occupants to pay the rentals asked. Precise information on these factors in the form of statistical data probably will not be available. Generally, some information on the incomes of prospective occupants can be obtained from the underlying sources of demand or well-informed local persons. The willingness of occupants to pay the established rentals, however, is largely a matter of determination on the basis of judgment predicated on information available from well-informed local sources, observation, and local experience.

Compiled data on the occupancy experience of court space is not generally available; no doubt occupancy varies greatly as between courts which cater to transient trailers and those which cater to "residence" trailers.

For the most part, the analyst must rely upon his resourcefulness and the cooperation of local sources in the development of data and information which will be helpful in estimating the demand for mobile home court space. Some general background information and suggested guidance are discussed in the remainder of this section.

Existing and Proposed Mobile Home Courts. If there are other mobile home courts in the area under study they could be a source of much information which would be very helpful in the analysis. Insofar as possible, complete historical and current information, including operating experience, on other courts in the area should be obtained and taken into account. The competitive status of such courts relative to the proposed court is an essential element in the determination and evaluation of the potential demand for space in the proposed court. Of particular importance for this purpose are the sources of demand and the relative location with respect to the existing courts and the proposed court.

In the absence of other courts in the same area, information available from courts in other areas beyond commuting range of sources of employment for the study area would provide some helpful guides for the analysis, although such courts would not, of course, have any competitive bearing on the proposed court under consideration.

Demand Determinations. The analysis of demand for the type of mobile home court space under consideration requires a series of determinations essential to the sound evaluation and realistic estimation of demand. This approach is of the nature of a diagnosis of demand itself, which must be distinguished from the demand of transient users of mobile home court space. Thus, it is necessary to determine:

1. whether or not there is a demand for such space,
2. the magnitude of the demand,
3. the continuity of the demand during the year, and
4. the longevity of the demand.

EXISTENCE OF DEMAND. The first determination necessitates an exploration of the possible sources of demand in the locality under consideration, i.e., the existing or prospective sources of employment or amenities which would attract or bring people to the area for periods sufficiently long to distinguish them from transient visitors and not long enough to classify them as permanent residents--i.e., a quasi-permanent duration. At this exploratory stage a determination must be made as to whether any of the people drawn to the community by each of the identified sources of attraction are or will be actual or potential mobile home dwellers. Each existing or prospective source of demand should be clearly identified and fully explored and evaluated from the standpoint of the other determinations which must be made with respect to the demand in each instance.

The limited locality data available from the census on house trailers provide only a clue to the possible existence of current demand for mobile home court space in a particular locality. These data reflect the situation as of the census date and may have changed; they include all trailers which were occupied as living quarters on the census date, without regard to the duration of occupancy; they do not indicate whether the demand at that time was partially supplied, fully supplied, or oversupplied; they do not indicate the existing sources of demand; nor do they reveal potential sources of demand. These determinations must be made on the basis of information and data obtained from current observation and inquiry in the course of field investigation.

National data from the 1960 Census provide over-all perspective on the occupational distribution of the heads of mobile home households as compared with all household heads. While these data do not indicate the basic source of demand for mobile home space and are subject to the additional limitations noted above, they provide general clues to the possible sources of demand. For example, the occupations with the five highest percentages of mobile home household heads, and particularly those which have a higher percentage than the corresponding categories among all household heads, suggest several current and/or prospective local sources of demand, namely: military, defense, space, and atomic energy installations; huge public works construction projects, such as dams and irrigation, drainage, and waterway systems; large educational institutions; climatic resources coupled with other community amenities attractive to retirees seeking a quasi-permanent place of residence.

In the great majority of cases the need for mobility in conjunction with the occupation of the head of the family no doubt is the primary motivation for mobile home residence. In other cases the combination of economy and a desire for mobility motivates the occupants, especially in the "retired" category.

THE MAGNITUDE OF DEMAND. A quantitative estimate of demand must be made with respect to each source which the analyst has identified in the course of his field investigation. This estimate, of course, relates to additional demand, exclusive of those households already housed satisfactorily in mobile home courts or otherwise. There are no known techniques available for making such estimates; nor has past experience been recorded and compiled for use as a guide. Accordingly the estimates will be largely, if not entirely, a matter of the best possible judgment that can be formulated on the basis of all pertinent information which can be obtained locally. Personal preference and necessity are the two primary considerations to be taken into account in arriving at the final estimate of quantitative demand. Necessity (and to some extent personal preference) is contingent upon the availability of other housing in the community suitable to the needs and financial capacity of the people under consideration in each source of potential demand for mobile home court space. The availability of vacancies in existing competitive mobile home courts, of course, has a direct bearing on the magnitude of demand for additional spaces. The occupancy experience of such courts, therefore, must be taken into consideration. Typical year-round levels of occupancy should be ascertained for this purpose.

CONTINUITY OF DEMAND. The continuity of demand is important from the standpoint of providing adequate income to meet annual mortgage payments and other expenses, as well as a reasonable return on the investment. Highly seasonal demand for a short period out of each year obviously would be a risky venture. Continuity of demand does not necessarily mean continuous, unbroken demand from the same source, for there could be a succession of eligible demands from different sources, one after the other, which together would constitute a continuous year-round demand. The continuity of demand from each established source should be evaluated and the relationship of each one to the others should be shown in the over-all pattern of demand.

LONGEVITY OF DEMAND. Longevity of demand is a vital consideration in view of the fact that the financing of mobile home courts involves long-term mortgages. This determination is to be made with respect to the demand attributable to each source individually and to the combination of sources in the aggregate. Estimates of duration should be made for each source in terms of years, except in those instances where the duration is expected to be indefinite. As in the case of continuity of demand, the longevity of demand may be predicated on a succession of several eligible prospective sources of demand which, together, provide support over a sufficiently long period to assure the economic feasibility of mobile home court spaces commensurate with the demand estimate for the forecast period. The projection of longevity beyond the forecast period relates to the source(s) of demand as such rather than to a specific estimate of magnitude(s); it must be premised, however, on a reasonable expectancy of prolonged demand consistent with the current forecast.

Estimation of Demand. The estimate of demand for additional mobile home court space designed and intended for quasi-permanent residence is developed by co-ordinating the foregoing determinations, with due regard for all pertinent information which has a bearing on the final estimate. Where more than one source of demand is found to exist or is in prospect, the estimates of demand (magnitude, continuity, and longevity) should be tabulated in the form of a demand schedule. If seasonal factors or successions of short-term demand are involved in any of the demand sources, the schedule will show the minimum and maximum aggregates of demand during each year over the forecast period.

Exhibits

		Page
A.	FHA Housing Market Analysis Outline	242
B.	Percentage Distribution of Employment by Industry Groups	248
C.	Instructions for Estimating Family Income Distributions	249
D.	Market Analysis Work Sheet and Instructions	264
E.	Instructions for Estimating Net Quantitative Demand (Nonassisted Housing)	267
F.	Instructions for Estimating Qualitative Demand for Nonassisted New Single-Family Sales Housing	272
G.	Instructions for Estimating Qualitative Demand for Nonassisted New Multifamily Housing	275
H.	Work Sheet for Estimating the Magnitude and Stability of Military Impact	278
I.	Instructions for Estimating Quantitative Demand for New Housing for Students--Apartments and Rooms	279
J.	Work Sheet and Instructions for Estimating Quantitative Demand for New Privately-financed Skilled Nursing Home Beds.	282

Exhibit A

FHA HOUSING MARKET ANALYSIS OUTLINE

The following outline is indicative of the scope and sequence of subject matter to be considered in an over-all market analysis. It does not reflect geographic submarket considerations; these can be incorporated by the analyst at appropriate points wherever feasible and to the extent required by each analysis. An abbreviated form of analytical treatment is adaptable from these components.

PREFACE

If a brief statement of the purpose of the analysis, i.e., the specific problem which occasioned the need for the market study, is desired, it could be included as a preface. Alternatively, it may be omitted or incorporated into a letter or memorandum of transmittal as a substitute for the preface.

SUMMARY AND CONCLUSIONS

Generally, a summary is desired to provide a quick, over-all perspective on the principal findings and conclusions of the analysis, preferably at the beginning rather than at the end of the report. The summary is not intended to be a resumé of the entire analysis. To achieve its purpose most effectively it should be limited to the salient statistical findings and major conclusions and presented concisely in a series of brief paragraphs in the same sequence of subject matter followed in the text. Specific page references to parallel subject matter in the text may be utilized to facilitate ready access to pertinent details.

HOUSING MARKET AREA

1. Definition (delineation), including identification of entire area encompassed and principal cities; geographic submarkets discussed and defined.

2. Description, including
   a. Size (total population)
   b. Major topographical features
   c. Principal transportation arteries (highway, rail, water) and distance to other urban areas
   d. General urban structure and direction of growth
   e. Special features, characteristics, or considerations
   f. Major community developments in process or planned which are germane to the present analysis
   g. Net (in or out) commutation; significance

3. Map of area.

ECONOMY OF THE HOUSING MARKET AREA

1. Economic character and history
   a. General description
   b. Principal economic activities and developments--past and present

2. Employment--Total, wage and salary, other
   a. Current estimate
   b. Past trend (last 8-10 years)
   c. Distribution by major industry
      (1) Current
      (2) Comparison with previous years
   d. Female employment (if significantly high or low)
   e. Trend of employment participation rate

3. Discussion of principal employers
   a. Manufacturing
   b. Nonmanufacturing
   c. Military, if any (history and mission)
   d. Other

4. Unemployment
   a. Current level and composition
   b. Past trend

5. Estimated future employment
   a. Total and annual increments
   b. Analytical exposition

6. Income
   a. Average weekly wages of manufacturing workers
      (1) Current level
      (2) Trend since last census
   b. Other data from State estimates for counties, if available
   c. Estimates of current family income distribution (after tax) for all families, for renter households, and for other segmental groups, if necessary

DEMOGRAPHIC ANALYSIS

1. Population
   a. Current estimate
   b. Past trend
   c. Estimated future population--total and annual increments
   d. Net natural increase and imputed migration
   e. Distribution by age
   f. Trend of military and military-connected civilian strength, if applicable
   g. Trend of college enrollment, if applicable

2. Households
   a. Current estimate
   b. Past trend
   c. Estimated future households--total and annual increments
   d. Household size trends
   e. Military and military-connected civilian households, if applicable
      (1) Present--on-base and off-base with distribution by minor civil divisions
      (2) Projected
   f. College oriented households, faculty and student, present and projected

HOUSING STOCK AND MARKET CONDITIONS

1. Housing supply
   a. Current estimate
   b. Past trends, including last census date
   c. Principal characteristics: last census and current estimates
      (1) Type of structure
      (2) Year built
      (3) Condition
      (4) Plumbing facilities

2. Residential building activity, by type
   a. Annually, last 10 years
   b. Monthly, January to latest month for current and previous year
   c. Units under construction
   d. Demolition and conversion trends and projections

3. Tenure of occupancy
   a. Current estimate
   b. Past trends

4. Vacancy
   a. Last census--net available
      (1) Over-all, homeowner, and rental
      (2) Number of units lacking one or more plumbing facilities
   b. Postal vacancy surveys--current and previous, if any, and conversion and adjustment to census concepts of owner and renter unit vacancy
   c. Other occupancy-vacancy indicators and surveys, including surveys of FHA-insured projects
   d. Current estimates--net available (qualified for units lacking one or more plumbing facilities)
      (1) Owner
      (2) Renter
      (3) Quality differentials
      (4) Evaluation

5. Mortgage market
   a. Sources and availability of funds
   b. FHA participation
   c. Interest rates and terms of mortgages
   d. Mortgage and deed recordings

6. Sales market
   a. General market conditions--strong and weak points
   b. Major subdivision activity
   c. Speculative vs. contract building
   d. Marketing experience--new and existing
   e. Price trends--new and existing
   f. Unsold inventory of new houses
      (1) Price
      (2) Months unsold
      (3) Comparison with previous period, if available
   g. Houses under construction--volume and quality
   h. Foreclosures
      (1) Over-all trend
      (2) FHA and other
      (3) Sales vs. acquisitions
   i. Outlook

7. Rental market
   a. General market conditions--strong and weak points

b. New rental housing, FHA and other, by years, type, and rents
   (1) General marketing experience
   (2) Competitive status with existing rental housing

c. Rental housing under construction
   (1) Volume, type, and quality
   (2) Probable marketing schedule

d. Rental housing committed but not started--volume, type, and quality

e. Foreclosures--FHA and other

8. Urban renewal activity, if applicable (Federal, State, and local)
   a. Summation: Over-all renewal plan and progress
   b. Urban renewal areas
      (1) Identification and location (street boundaries)
      (2) Description and renewal plans of areas
      (3) Environment (surrounding area)
      (4) Housing unit demolitions and replacements
      (5) Present status and time schedule

9. Military housing, if applicable
   a. Housing available to military (including military-connected civilians, i.e., civil service and contractor employees)
      (1) Number of units by type and construction status, on- and off-base
      (2) Physical adequacy
      (3) Occupancy status
   b. Current and projected housing requirements and deficits
      (1) Eligible military personnel
      (2) Ineligible military personnel
      (3) Civilians, including contractor employees

10. Subsidized housing, Section 221(d)(3), rent-supplement, Section 235, Section 236; quantity, (existing, under construction, and planned), rents, income limits, vacancy

DEMAND FOR HOUSING

1. Quantitative demand (annual basis)
   a. Projected increase in households
   b. Adjustments
   c. Net quantitative demand (privately financed), by tenure
   d. Net quantitative demand by geographic submarkets
   e. Occupancy potentials for subsidized types, with submarket proportions

2. Qualitative demand
   a. Demand for single-family housing (nonsubsidized)
   b. Demand for multifamily housing (nonsubsidized)
   c. General locations favorable to market absorption
   d. Qualitative occupancy potential for subsidized housing: Section 221(d)(3), rent-supplement, Section 235, Section 236, public housing.
   e. Geographic demand distribution for nonsubsidized housing and subsidized potential

3. Submarkets of demand
   (At times, the purpose of the housing market analysis may require an estimate of demand for one or more submarkets identified in Chapter VII. Subject matter pertinent to a particular submarket may be integrated with the discussion of the broader scope of the respective subject matter in the comprehensive analysis; or it may be consolidated and presented as a supplement following the over-all estimates of qualitative demand for housing.

STATISTICAL APPENDIX

The statistical appendix is intended to contain the detailed tables of only the key data used in the analysis. It should not be used as a catch-all for extensive statistical material of less than primary importance in the analysis.

Much of the data used in the analysis can be included in text tables or the narrative in the body of the report. Text tables, maps, and charts, serve a helpful purpose when used effectively. They provide sharp focus on important facts, relationships, and trends which require special emphasis otherwise achievable only by lengthy narration. Text tables, however, must be carefully selected and strategically integrated with the discussion; they must be simple and highly condensed; and they must be minimized rather than maximized in usage. The accompanying text must be analytical and interpretative to reveal the significance of the data shown in the tables rather than a mere repetition of these data in narrative form. Caution must be exercised, of course, to avoid overloading the text with statistics--thus rendering the report difficult to read and distracting from the salient facts and findings.

Exhibit B

Percentage Distribution of Total Employment by Industry Group

United States, Chicago SMSA, and Hartford SMSA, 1960

Industry Group	United States	Chicago SMSA	Hartford SMSA
Total employed	100.0%	100.0%	100.0%
Agriculture	6.6	0.7	2.2
Forestry and fisheries	0.1	a/	a/
Mining	1.0	0.1	a/
Construction	5.9	4.7	5.3
Manufacturing	27.1	34.2	34.5
Furniture and lumber and wood products	1.7	1.0	0.4
Primary metals industries	1.9	2.6	0.6
Fab. metal industries (incl. no spec. metal)	2.0	3.8	2.5
Machinery, except electrical	2.4	4.4	8.3
Elec. mach., equip. and supplies	2.3	5.6	1.8
Motor vehicle and motor vehicle equipment	1.3	0.8	0.2
Transp. equip. except motor vehicle	1.5	0.5	12.5
Other durable goods	2.1	2.9	1.5
Food and kindred products	2.8	3.7	1.6
Textile mill products	1.5	0.3	1.1
Apparel and other fab. textile products	1.8	1.1	0.6
Printing, publishing and allied products	1.8	3.3	1.7
Chemical and allied products	1.3	1.6	0.5
Other nondurable goods (incl. not spec. mfg.)	2.7	2.6	1.2
Transportation	4.2	5.8	1.8
Railroad and railway express service	1.5	2.4	0.3
Trucking service and warehousing	1.4	1.8	0.8
Other transportation	1.4	1.6	0.7
Communications and utilities	2.7	2.6	2.3
Communications	1.3	1.4	1.0
Utilities and sanitary services	1.4	1.2	1.3
Trade	18.2	18.0	16.5
Wholesale trade	3.4	3.9	3.5
Food and dairy product stores	2.6	2.3	2.3
Eating and drinking places	2.8	2.6	2.0
Other retail trade	9.4	9.2	8.7
Finance, insurance and real estate	4.2	5.1	11.6
Services	21.0	18.2	18.3
Business services	1.2	1.9	1.1
Repair services	1.3	0.9	1.1
Private households	3.0	1.4	1.8
Other personal services	3.0	2.9	2.2
Entertainment and other recreational services	0.8	0.7	0.4
Educational services: Government	3.9	2.3	2.9
Private	1.3	2.3	3.1
Welfare, religious and nonprofit membership orgs.	1.3	1.6	1.4
Hospitals	2.6	1.3	1.4
Other professional and related services	2.5	2.7	2.8
Public administration	5.0	4.0	4.2
Industry not reported	4.0	6.5	3.3

a/ Less than 0.1 Note: Figures may not add to totals because of rounding.

Sources: U.S. Census of Population, 1960, Vol. 1, Parts 1, 15, 8.

EXHIBIT C

INSTRUCTIONS FOR ESTIMATING FAMILY INCOME DISTRIBUTIONS

		Page
General		250
Part I	All Families	251
Part II	All Nonwhite Families	255
Part III-A	All Renter Households[1/] in Areas Covered by HC(2) 1960 Census Reports (SMSA's and Cities of 100,000 Population or More)	256
-B	All Renter Households[1/] in Areas Not Covered by HC(2) 1960 Census Reports	257
Part IV-A	Nonwhite Renter Households[1/] in Areas Covered by HC(2) 1960 Census Reports	258
-B	Nonwhite Renter Households[1/] in Areas Not Covered by HC(2) 1960 Census Reports	258
Part V-A	All white, and nonwhite families in Central cities of SMSA's	259
-B	All Families outside of Central city of SMSA	261

1/ Households of two or more persons.

INSTRUCTIONS FOR

ESTIMATING FAMILY INCOME DISTRIBUTIONS

General

Column letters in these instructions refer to the work sheet appended at the end of this Exhibit. Although the instructions are oriented specifically to the estimation of current family and household income distributions they are applicable, as well, to the estimation of projected family and household income distributions. The work sheet is designed to serve this dual purpose. For making projections, the only difference in the procedure is the use of an income change adjustment factor in Step 7 Column (j) projected beyond the current data, corresponding to the forecast period. Projections must, of course, be made with great caution and careful qualification of limitations.

Income distributions can be developed on a single work sheet for all families and renter households.1/ A separate work sheet is required for each housing market or major submarket thereof and for current and projected distributions. If additional distributions by color are desired, separate work sheets must be used for these also. The entries in the spaces at the top of the work sheet identify the area, the type of income distribution, and the date to which the distribution applies.

Certain adjustment factors contained in the detailed instructions are subject to periodic revision. Aside from the source data used directly in the estimating procedure (i.e., 1960 decennial census data and current earnings data, the most recent of which are readily available and usable), the following adjustment factors are revised recurringly as more recent data utilized in their development become available:

> The factor for adjusting underreporting of income in the decennial census--column (h) of work sheet--may have to be revised after each census, depending on the post-census evaluation of the results of each census by the Census Bureau.
>
> The factors for adjusting income change as between regions and at the several decile levels--column (j) of work sheet--are subject to revision every year as the income data in the annual Current Population Survey of the Bureau of the Census become available.
>
> The adjustment factor for deriving "after-tax" income--Columns (n) and (o) of work sheet p. 262--are subject to revision with changes in the provisions of the Federal income tax law that significantly affect the amount of income tax payments.

Unless these factors are revised as may be necessary from time to time the estimates of family and household income distribution could be impaired significantly.

1/ Households of two or more persons.

Part I--All Families

1. Column (a). - The income classes in this column (p. 262) correspond to the classes in most tables on family income in the 1960 decennial census reports.

2. Column (b). - Enter from the 1960 census the absolute family income frequency distribution and median for the appropriate locality from Table 76 (for SMSA's, urbanized areas, and urban places and selected towns of 10,000 or more) or Table 86 (for counties) or Table 81 (for urban places of 2,500 to 10,000 population) in Census PC-(1)-C report for the State in which the area is located. No entries are necessary for Column (c) in the derivation of an income distribution for all families.

   Note: In counties where adjustment is to be made to eliminate incomes of rural farm families (i.e., where rural farm population constitutes over five percent of total population), the 1960 census data for incomes of this segment may be found in Table 93 and are to be deducted before making the entries in Column (b).

3. Column (d). - Enter the simple percentage distribution computed from the absolute frequencies in Column (b).

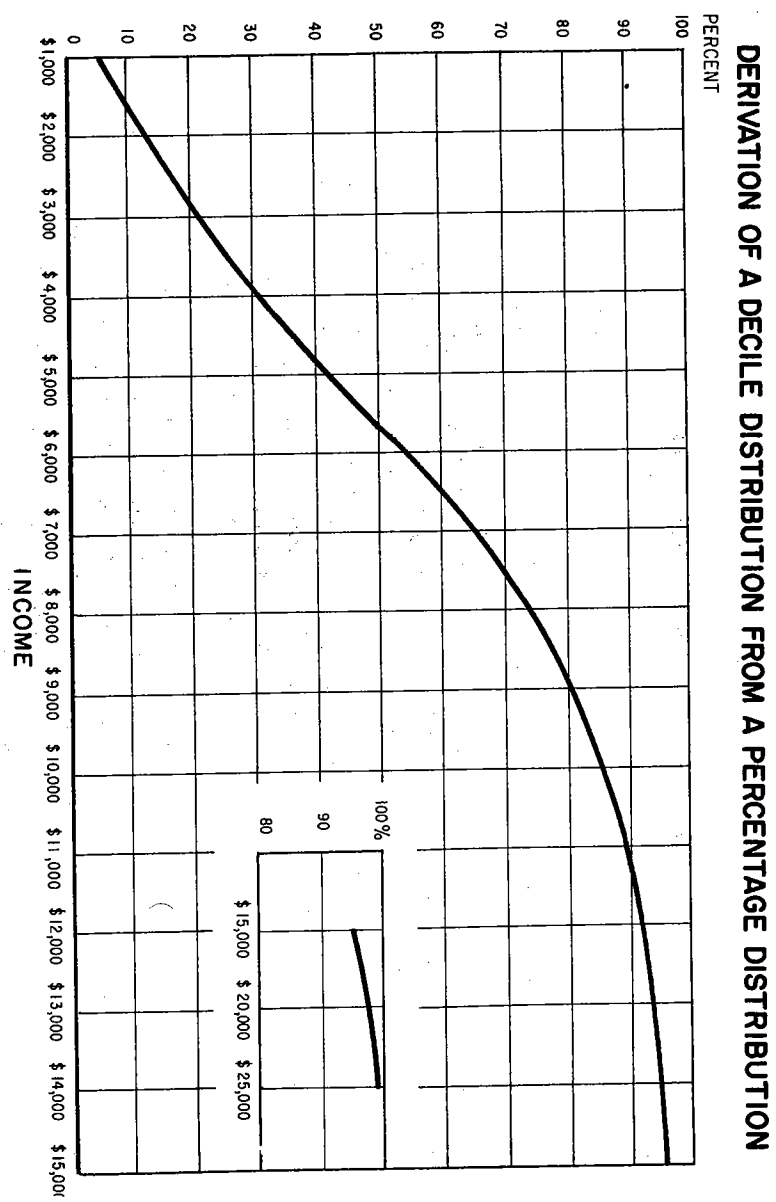
4. Column (e). - Enter the cumulative percentage distribution developed from the simple percentage distribution in Column (d).

5. Column (g). - Enter census family income amounts for 1959 in decile form derived graphically from data in Column (e). Enter D-9.5 or, where necessary, D-9.7 or 9.8 on blank line following 9th decile (D-9); these points should be read off the graph in the same manner as the deciles. The procedure for the graphic derivation of family income amounts in decile form from a percentage distribution is described below and illustrated by the accompanying chart. Graph paper ruled 10 x 10 to the inch is recommended for this purpose.

   (a) Plot the cumulative percentages from Column (e) at the upper limit of each income class.

   (b) Connect the plotted points, preferably with a French curve to assure the smoothest possible curve through the maximum number of plotted points. Any points that are significantly out of line should be rechecked for possible error.

   (c) Determine the income amount for each decile at the point where the curved line intersects the decile line.



The value for D-5 should compare closely with the median entered at the foot of Column (b).

6. Column (i). - Multiply Column (g) x Column (h). Enter the respective products in Column (i). Note: The underreporting factor shown in Column (h) on the work sheet is applicable to all areas except Alaska, Guam, Hawaii, Puerto Rico, and Virgin Islands; for these areas the analyst should endeavor to obtain pertinent information locally and/or consult the Bureau of the Census to determine an appropriate adjustment factor.

7. Column (j). - Enter increase adjustment factors reflecting change in family income since 1959. The income increase for localities shall be estimated from County Business Patterns employment and wage data which are prepared by the Bureau of the Census with the assistance of the Social Security Administration. Derivation of the income increase is as follows:

   (1) Compute the average wage in all covered industries for first quarter of 1959 and first quarter of the latest available year for appropriate county by dividing total wages by total employment.

   (2) Compute percent increase in average quarterly wage between 1959 and the latest year.

   (3) To project the increase in (2) above to the current period or to a projected date, assume the annual rate of increase from 1959 to the latest year for which data are available will prevail, but limited to an average annual increase of 6%.

   (4) Add the increases developed in (2) and (3) above.

   (5) Because median family incomes have increased faster than average wages per wage earner since 1959 (reflecting effects of part-time jobs, additional workers per family, and family income from non-wage sources), the appropriate following regional percentage point adjustment factors are to be added to the percentage increase in average wages recorded in County Business Patterns:

PERCENTAGE POINTS *

U.S.	North East	North Central	South	West
15	12	18	18	13

Example: Charlotte, N.C. SMSA - 1959 - August 1970.

(a) 1959: first quarter wages ($96,199,000) ÷ employment (103,114) = $933.

(b) 1968: first quarter wages ($216,701,000) ÷ employment (156,392) = $1,386.

(c) $1,386 ÷ $933 = 49% increase, 1959 to 1968.

(d) Annual rate of increase = 49% ÷ 9 = 5.4%; thus, two years (11 %) added to the 49% = 60% on the as of date.

(e) Adjustment factor: 18% + 60% = 78%, the total family income increase from 1959 to August 1970.

* These adjustments reflect the gap between the percentage increase in nonfarm family income and the increase derived from the County Business Patterns wage data from 1959 to 1968; they are subject to change as new annual data become available.

Note: If the increase obtained from 1959 to the most recent year of County Business Patterns data is under 20%, the data should be carefully reexamined in connection with economic aberrations in the area.

(6) The family income increase adjustment should be entered as a ratio (i.e. 67 percent as .67) in Column (j) at the median or D-5 decile.

Increases at other decile levels may be obtained by applying the following adjustment factors to the in-income increase at the median or D-5 decile.

Income adjustment factors at decile levels

D-1	1.16	D-6	1.04
D-2	1.03	D-7	1.04
D-3	1.00	D-8	1.07
D-4	1.00	D-9	1.07
D-5	1.00		

Example--Estimated increase at median or D-5 = 62%; D-1 = 1.16X 62% or 72%; D-6 = 1.04 X 62% = 64%; and D-9 = 1.07 X 62% = 66%

Before entering income increases for all deciles in Column (j) of the income work sheet, add 1.00 to each percentage; e.g., at D-5 enter 1.62

8. Column (k). - Multiply Column (i) X Column (j). Enter product in Column (k). This represents current family income before deduction of Federal income tax.

9. Columns (l) and (m). -No entries are necessary for these columns in the derivation of income distribution for all families.

10. Column (n). - Income after tax can be derived by the application of the following steps used in conjunction with the appropriate schedule below:

(a) Relate the current income at each decile in column (k) of the income worksheet to the corresponding income bracket in column (1) of Schedule A in the following column.

(b) Multiply the decile income used in step (a) above by the respective factor in column (2) of the appropriate schedule below, i.e., the factor corresponding to the income bracket determined in step (a).

(c) To the income derived in step (b) above add the appropriate amount from column (3) of the appropriate schedule below, i.e., the amount corresponding to the income bracket determined in step (a).

(d) Enter income from step (c) above in column (n) of the income worksheet

Procedure for Estimating Income After Tax

All families and Renter Households of two-or-more persons*

(1) Income bracket	(2) Multiply by	(3) and add
Schedule A. Effective July 1, 1970		
0-$2,222	1.000	-
$2,223- 3,333	.874	$280
3,334- 4,444	.865	310
4,445- 5,556	.856	350
5,557- 6,667	.847	400
6,668-11,111	.829	520
11,112-15,555	.802	820
15,556-20,000	.775	1,240
20,001-24,444	.748	1,780
24,445-28,889	.712	2,660
28,890-33,333	.676	3,700
Schedule B. Effective for 1959		
0-$2,222	-	-
$2,223- 6,667	.820	$400
6,668-11,111	.802	520
11,112-15,555	.766	920
15,556-20,000	.730	1,480
20,001-24,444	.694	2,200
24,445-28,889	.658	3,080
28,890-33,333	.613	4,380

Note: 1959 family income after tax is developed for use in column (G) of the sales housing worksheet.

*Based on 10 percent for deductions and $2,000 for exemptions.

11. To convert Columns (k) and (n) to percentage distributions, graph the decile distributions shown in these columns at corresponding decile levels.

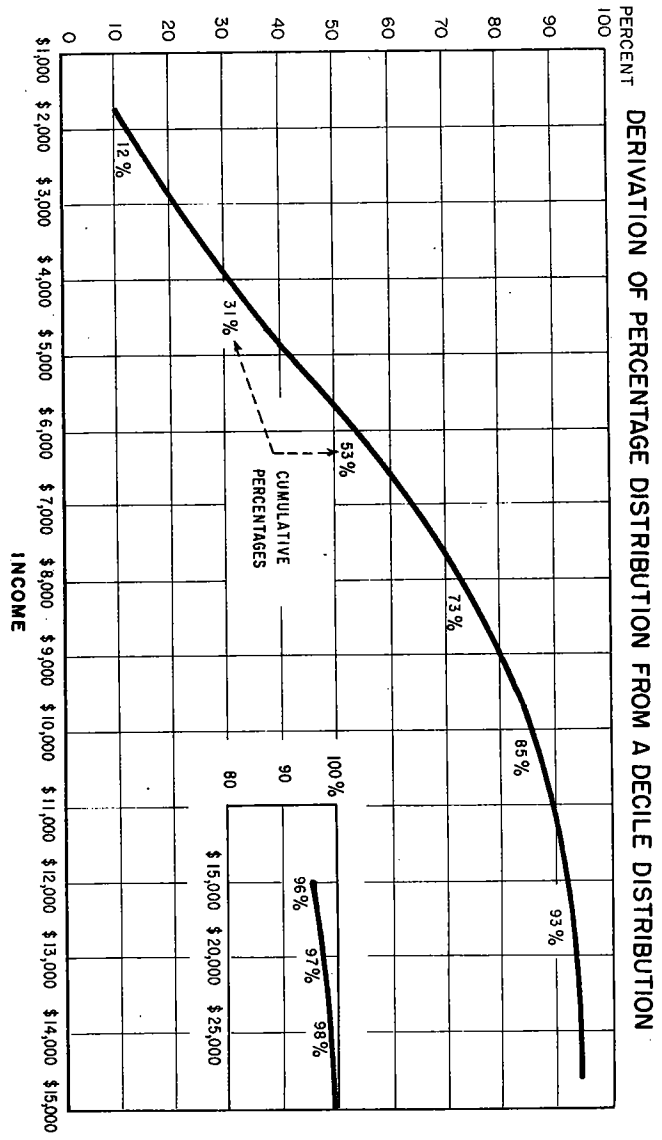
The procedure for deriving a percentage distribution is the reverse of the procedure shown in Step 5 for Column (g), above, for deriving a decile distribution from a percentage distribution, i.e., the decile amounts are plotted, the plotting points are connected to form a curve, and the percentages for each income class are read from the curve.

A graphic example of this procedure is shown in the chart in the next column, and the plotting points and readings on this chart are shown below. Entering the cumulative percentages on the graph, as indicated in the example, will facilitate the calculation of the percentages for class intervals.

Decile amounts plotted to form curve		Percentage Distribution read from graph[a]	
D-1	$1,650	Under $2,000	12%
D-2	2,850	2,000 - 3,999	19
D-3	3,900	4,000 - 5,999	22
D-4	4,850	6,000 - 7,999	20
D-5	5,650	8,000 - 9,999	12
D-6	6,550	10,000 - 12,499	8
D-7	7,550	12,500 - 14,999	4
D-8	9,000	15,000 and over	3
D-9	11,400		
D-9.5*	14,600		
D-9.75*	20,000		
D-9.87*	25,000		

*Percentile amounts above the D-9 level may be utilized in the income work sheet form beginning with Column (f) for those localities which will yield a significantly large proportion of income in the upper brackets.

a/Class intervals selected should conform to a reasonable delineation of the incomes in the locality under study.



Part II--All Nonwhite Families (outside SMSA's)

Note: Nonwhite family income distributions for SMSA's shall be developed by the central city method set forth in Part V-A (p. 259). The nonwhite family income distribution for the central city will be representative of the nonwhite family income distribution for the SMSA.

1. Column (c). -Enter from the 1960 census the absolute family income frequency distribution and median for all nonwhite families for the appropriate locality from Table 78 (for urban places and selected towns of 10,000 or more) or Table 88 (for counties) in Census Report PC(1)C for the State in which the area is located.

   Note: In counties where adjustment is to be made to exclude incomes of nonwhite, rural farm families, the required data for this adjustment are not available in the 1960 census. An estimate, therefore, must be made for this segment. The following procedure is applicable:

   (a) Obtain from table 33 in the 1960 Census Report HC(1) the total rural farm housing units occupied by nonwhites in the appropriate county (derived by adding units occupied by nonwhite owners and renters, reported separately).

   (b) Obtain from Table 65 in the 1960 Census Report PC(1)C the income distribution of nonwhite, rural farm families in the State (the percentage distribution is to be calculated from the absolute distribution).

   (c) Apply the percentage distribution derived in (b) above to the total units derived in (a) above, and deduct the result from the frequency distribution of all nonwhite families before making the entries in Column (c).

2. Column (d). -Enter simple percentage distribution computed from the absolute frequencies in Column (c).

3. Column (e). -Enter cumulative percentage distribution developed from simple percentage distribution in Column (d).

4. Column (g). - Enter census family income amounts for 1959 in decile form derived graphically from data in Column (e).

5. Column (i). - Multiply column (g) x Column (h). Enter respective products in Column (i).

6. Column (j). - Enter increase adjustment factors reflecting change in nonwhite family income since 1959. The income increase at the median or D-5 is derived as follows:

   (a) For the area under study, subtract the unadjusted 1959 median income for all families (Part I) from the unadjusted current median income for all families (Part I).

   (b) Multiply result in (a) above by the appropriate regional nonwhite adjustment factor shown below:

Adjustment factors			
North East	North Central	South	West
.70	.85	.80	1.00

   (c) Add the product in (b) above to the 1959 unadjusted (Column g) nonwhite median family income.

   (d) Compute percentage increase between the result in (c) above and the 1959 unadjusted nonwhite median family income. Add 1.00 to this percentage and enter at the D-5 level in Column (j) of the income work sheet.

Increases at other decile levels may be obtained by applying the adjustment factors (Part I, Step 7) to the income increase at the median or D-5 decile.

7. The remainder of the procedure is identical to that of Part I, Step 8 et sequa of the instructions for Part I-All Families.

Part III-A

All Renter Households[1/] in Areas Covered by HC(2) 1960 Census Reports (SMSA's and Cities of 100,000 Population or More)

1. Column (b). - From Table 3 of the 1960 Census Report HC(2) for the State in which the area is located, subtract the 1-person renter households from the total renter-occupied units (at each income class) and enter the results in comparable income classes of the work sheet stub. Several pairs of income classes in the work sheet must be combined to be comparable to those of the census. The heading of column (b) should be changed by inserting the word "renter" to read "All renter households.[1/]"

   Note: It will be recalled from the discussion of family income distributions in Chapter III that, because of technical problems, the one-person households are excluded from the income distributions developed for use in connection with rental housing demand, and that they are subsequently included indirectly through adjustment factors in the rental demand technique.

2. The remainder of the procedure is identical to that for all families in Part I (beginning with Step 3) of the instructions for estimating all family income distributions. Columns (m) and (p) are substituted for columns (k) and (n).

3. No entries are necessary in Column (1) for areas in the 100,000 or more population size class covered by the HC(2) census reports.

1/ Households of two or more persons.

Part III-B

All Renter Households[1/] in Areas Not Covered by HC(2) 1960 Census Reports

1. Column (b). -Enter from the 1960 census the absolute income frequency distribution for all families for the appropriate locality from Table 76 (for SMSA's, urbanized areas, and urban places and selected towns of 10,000 population or more) or Table 86 (for counties), or Table 81 (for urban places of 2,500 to 10,000 population) in Census Report PC(1)C for the State in which the area is located. No entries are necessary for Column (c) in the derivation of the income distribution for all renter households.[1/]

2. Column (d). - Enter the simple percentage distribution computed from the absolute frequencies in Column (b).

3. Column (e). - Enter the cumulative percentage distribution developed from the simple percentage distribution in Column (d).

4. Column (g). -Enter census family income amounts for 1959 in decile form derived graphically from data in Column (e). See Part I, Step 5, for procedure.

5. Column (i). -Multiply Column (g) x Column (h) and enter the respective products in Column (i). See note, Part I, Step 6.

6. Column (j). - Enter the income change adjustment factors reflecting the change in family income since 1959 for the locality under study. See Part I, Step 7, for procedure.

7. Column (k). - Multiply Column (i) x Column (j) and enter product in Column (k). This represents current family income before deduction of Federal income tax.

8. Column (l). - Enter the appropriate renter household[1/] income factors in accordance with the following:

   (a) SMSA's under 100,000 population. These areas are not covered by HC(2) 1960 census reports. The derivation of the appropriate renter-household[1/] income factors for these areas will depend on a judgment as to the use of (c) below or the selection of another SMSA (100,000 population or more) in the State and the application of the procedure in (b) below.

   (b) Subarea of SMSA of 100,000 population or more. Where estimates of income are developed for a subarea of an SMSA, special renter-household[1/] income factors shall be developed from the SMSA universe as follows:

      (1) Develop in decile form for the SMSA a 1959 income distribution for all families,[1/] 1960 Census Report PC(1)C.

      (2) Develop in decile form for the SMSA a 1959 income distribution for renter households,[1/] 1960 Census Report HC(2).

      (3) Develop renter income factors at each decile level by dividing the income in (2) by the income in (1).

      (4) Apply the renter income factors developed in (3) above to the estimated current all-family decile income distribution for the subarea.

   (c) Areas outside of SMSA. The renter income factors shown below are applicable to these areas. These factors should not be applied to an SMSA covered by the HC-2, 1960 Census Report.

All Families
Renter Income Factors

Decile	Factor
D-1	.82
D-2	.82
D-3	.83
D-4	.83
D-5	.84
D-6	.84
D-7	.83
D-8	.83
D-9	.82

9. Column (m). - Multiply Column (k) x Column (l) and enter product in Column (m).

10. Column (n). - No entries are necessary for this column in the derivation of income distribution for renter households.[1/]

11. Column (o). - Income after-tax can be derived by the application of the procedure described in Part I, Step 10, using renter household[1/] income in Column (m) instead of all family income in Column (k).

[1/] Households of two or more persons.

Part IV-A Nonwhite Renter Households[1/] in Areas Covered by HC-(2) Bulletins

Note: Nonwhite family and renter household[1/] income distributions for SMSA's shall be developed by the central city method set forth in Part V-A. The nonwhite family and renter household[1/] income distribution for the central city will be representative of the nonwhite family and renter household[1/] income distribution for the SMSA.

1/ Households of two or more persons.

Part IV-B Nonwhite Renter Households[1/] in Areas Not Covered by HC-(2) Bulletins

(Column letters refer to accompanying work sheet, p. 262)

1. Column (c). - Enter from 1960 census the absolute income frequency distribution of all nonwhite families for appropriate locality from Table 78 (for urban places of 10,000 population or more) or Table 88 (for counties) of Census PC-1(1) C bulletin for state in which area is located.

2. Column (d). - Enter simple percentage distribution computed from absolute frequencies in Column (c).

3. Column (e). - Enter cumulative percentage distribution developed from simple percentage distribution in Column (d).

4. Column (g). - Enter census family income amounts for 1959 in decile form derived graphically from data in Column (e).

5. Column (i). - Multiply Column (g) X Column (h) and enter product in Column (i).

6. Column (j). - For derivation of increase adjustment factors, see Part II, Step 6.

7. Column (k). - Multiply Column (i) X Column (j) and enter product in Column (k).

8. Column (l). - Enter renter household[1/] income factors from the following table.

Nonwhite Households
Renter Income Factors

Decile	Factor
D-1	.90
D-2	.90
D-3	.89
D-4	.89
D-5	.88
D-6	.87
D-7	.86
D-8	.85
D-9	.84

9. Column (m). - Multiply Column (k) x Column (l) and enter the respective products in Column (m).

10. Column (o). - Income after tax can be derived by the application of the procedure described in Part I, Step 10, using renter household[1/] income in Column (m) instead of all family income in Column (k).

Part V-A

All families, white families, and nonwhite families
(Column numbers refer to accompanying worksheet, p. 262 and table of adjustment factors, p. 260).

Instructions for Estimating Current Income Distributions for Central Cities of SMSA's

1. Enter at the top of the work sheet for 1960 and the current period, the percentage (carry one decimal place) that city total population is to SMSA total population.

2. Column (1) and (2) - Enter at each decile the appropriate 1959 unadjusted family income.

3. Column (3) - Divide column (1) by column (2) and enter percentage (carry one decimal place) in Column (3).

4. Column (4) - Enter at each decile the appropriate income adjustment factors (plus or minus).

   These factors are selected as follows:

   (a) Identify factors in the table (p. 260) for the appropriate population group.

   (b) From the work sheet, subtract the current population percentage from the 1960 population percentage.

   (c) Relate the percentage derived in (b) above to the appropriate column in table identified in (a) above.

5. Column (5) - Add or subtract column (4) from column (3).

6. Column (6). - Enter at each decile the appropriate current adjusted family income. Note- upper panel will be either total or white family income for the SMSA--lower panel will be total family income for the city.

7. Column (7) - Multiply column (6) by column (5).

8. Column (8) - Enter renter household 1/ income factors. These factors are derived as follows:

   (a) Develop for the central city an unadjusted 1959 (total, white, or nonwhite) all family income distribution in decile form. The basic data can be derived from the 1960 Census report PC(1). See column (1) of Worksheet.

   (b) Develop for the central city an unadjusted 1959 (total, white, or nonwhite) renter household 1/ income distribution in decile form. See the appropriate HC-2 bulletin.

   (c) Relate incomes at each decile level in (b) above to the incomes for the comparable deciles in (a) above. Enter factors in Col. (8).

9. Column (9) - Multiply col. (7) by col. (8) and enter product in column (9).

10. Columns (10) and (11) - For income after tax, see Part I. Step 10 of the instructions for estimating family income. Columns (7) and (9) of the central city work sheet are comparable to columns (k) and (m) of the income work sheet.

1/ Households of two or more persons.

Income Adjustment Factors For Central Cities of SMSA's

All Families

Decile	Percentage point change of city total pop. to SMSA total pop.--1960 to current period						
	Under 0.8	0.8-1.4	1.5-2.4	2.5-3.2	3.3-3.9	4.0-5.4	5.5 or more
D-1	No Adjustment	x	x	x	x	x	x
2		-0.5	-1.0	-2.3	-3.6	-5.0	-7.0
3		-1.0	-1.5	-2.7	-3.9	-5.2	-7.0
4		-1.5	-2.5	-3.4	-4.3	-5.2	-6.5
5		-1.5	-2.0	-3.0	-4.0	-5.0	-6.5
6		-2.0	-2.5	-3.3	-4.1	-5.1	-6.5
7		-2.0	-2.5	-3.2	-4.0	-4.8	-6.0
8		-1.0	-1.5	-2.3	-3.1	-3.8	-5.0
9		-1.0	-1.5	-2.1	-2.7	-3.3	-4.5
9.		-0.5	-1.0	-1.5	-2.5	-3.0	-4.0

White Families

Decile	Under 0.8	0.8-1.4	1.5-2.4	2.5-3.2	3.3-3.9	4.0-5.4	5.5 or more
D-1	No Adjustment	+3.0	+2.0	x	-2.0	-4.0	-5.5
2		-0.5	-1.0	-3.3	-5.6	-8.0	-9.5
3		-1.0	-2.0	-4.0	-6.0	-8.0	-9.5
4		-1.5	-3.0	-4.0	-5.0	-6.0	-7.5
5		-1.0	-2.0	-2.7	-3.4	-4.0	-5.5
6		-1.5	-2.5	-3.5	-4.5	-5.5	-7.0
7		-1.5	-2.5	-3.3	-4.1	-5.0	-6.5
8		-1.5	-2.5	-3.3	-4.1	-5.0	-6.5
9		-2.0	-4.0	-5.3	-6.6	-8.0	-9.0
9.		-2.0	-4.0	-5.3	-6.6	-8.0	-9.0

Nonwhite Families

Decile	Under 0.8	0.8-1.4	1.5-2.4	2.5-3.2	3.3-3.9	4.0 or more
D-1	No Adjustment	+1.0	+2.0	+4.0	+6.5	+9.0
2		+1.0	+1.5	+3.8	+5.9	+8.0
3		+0.5	+1.0	+3.0	+4.5	+6.0
4		+0.5	+0.5	+2.5	+3.5	+4.5
5		x	x	+2.0	+3.0	+4.0
6		x	x	+1.8	+2.7	+3.5
7		x	+0.5	+1.3	+1.6	+2.0
8		+0.5	+1.0	+1.0	+1.0	+1.0
9		+1.0	+1.0	+0.5	x	x
9.		+1.0	+1.0	+0.5	x	x

Part V-B

Area Outside Central City of SMSA--All Families

(Column numbers refer to accompanying work sheet, p. 263, bottom panel)

Instructions for completion of work sheet for Estimating All Family Income Distributions for Area Outside Central City of SMSA.

1. Column (1) - Enter simple percentage distribution as follows:

   Graph column (6) of the central city work sheet, p. 263, top panel. Read off percentages for appropriate income classes, and enter percentages in column (1).

2. Column (2) - Enter on "total" line the number 1,000; apply percentages in column (1) to this number (1,000) and distribute in column (2).

3. Column (3) - Graph column (7) of the central city work sheet, p. 263, top panel. Read off percentages for appropriate income classes, and enter percentages in column (3).

4. Column (4) - Take the current percentage that city population is to SMSA population, and multiply it by the number 1,000; enter product on total line, column (4). Apply the percentages in column (3) to number on total line and distribute in column (4).

5. Column (5) - Subtract column (4) from column (2) and enter results in column (5).

6. Column (6) - Develop a simple percentage distribution of column (5) and enter percentages in column (6).

7. Column (7) - Develop a cumulative percentage distribution from the percentages in column (6); enter results in column (7).

8. Column (9) - Graph column (7); read off decile amounts and enter in column (9).

9. Column (10) - Enter renter household[1/] income factors. These factors are derived as follows:

   (a) Develop for the area outside the central city an unadjusted 1959 (total, white, or nonwhite) all family income distribution in decile form. The basic data can be derived from the 1960 Census report PC (1).

   (b) Develop for the area outside the central city an unadjusted 1959 (total, white, or nonwhite) renter household (2 or more persons) income distribution in decile form. See the appropriate HC(2) bulletin.

   (c) Relate incomes at each decile level in (b) above to the incomes for the comparable deciles in (a) above. Enter factors in column (10).

10. Column (11) - Multiply column (9) by column (10) and enter product in column (11).

11. Columns (12) and (13) - For income after tax, see Part I, Step 10, of the instructions for estimating family income. Columns (9) and (11) of the work sheet for area outside the central city are comparable to columns (k) and (m) of the income work sheet.

1/ Households of two or more persons.

Work Sheet for Estimating Family Income Distributions

Locality_____ Tenure_____ Color_____ Date as of_____

Income	1959		Percent Distribution		Deciles	1959 Census Family Income	Under Reporting Adj.	1959 Adj. Inc. Col(g)x Col(h)	Income Increase Adj.	All Fam. Income Col.(i) xCol.(j)	Renter Factors	Renter Fam. Inc. Col.(k)x Col.(l)	All Fam. Income After Tax	Renter Fam. Inc. After Tax
	All Fam.	Nonwhite Families	%	Cum.										
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
Total					D-1		1.05							
Under $1,000					D-2		1.05							
1,000-1,999					D-3		1.05							
2,000-2,999					D-4		1.05							
3,000 3,999					D-5		1.05							
4,000-4,999					D-6		1.05							
5,000-5,999					D-7		1.05							
6,000-6,999					D-8		1.05							
7,000-7,999					D-9		1.05							
8,000-8,999														
9,000-9,999														
10,000-14,999														
15,000 24,999														
25,000 and over														
Median														

WORKSHEET FOR ESTIMATING ALL FAMILY INCOME DISTRIBUTIONS IN CENTRAL CITIES OF SMSA'S

City total population as a % of SMSA total Population -- 1960_____ Current _____

City _____ Total Families and White Families Date_____

Decile	1959 Unadj. Fam. Inc. City	1959 Unadj. Fam. Inc. SMSA	Col.(1)as a % of Col. (2)	Percentage Point Adjustment	Col.(3)plus or minus Col. (4)	Current Adj.Income SMSA	Current Adj. Income-City	Renter Income Factor	Current Renter Income	All Fam. Income After Tax	Renter Household Income After Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
D-1											
2											
3											
4											
5											
6											
7											
8											
9											

NONWHITE FAMILIES

Decile	1959 Unadj. Nonwhite Fam. Inc. City	1959 Unadj. Total Fam. Inc. City	Col.(1)as a % of Col. (2)	Percentage Point Adjustment	Col.(3)plus or minus Col. (4)	Current Adj. Total Fam. Inc. City	Current Adj. Nonwhite Inc. City (5) x (6)	Renter Inc. Factors	Current Nonwhite Renter Income	Nonwhite Fam. Inc. After Tax	Renter N.W. Family Income After Tax
D-1											
2											
3											
4											
5											
6											
7											
8											
9											
9.											

WORK SHEET FOR ESTIMATING ALL FAMILY INCOME DISTRIBUTIONS FOR AREA OUTSIDE OF CENTRAL CITY OF SMSA

Date

Income	SMSA		CITY		AREA OUTSIDE CENTRAL CITY								
	Percent	Number	Percent	Number	Number	Simple Percent	Cum. Percent	Decile	Col. (7) Decile Form	Renter Income Factors	Current Renter Income	All Fam. Income After Tax	Renter H.H Income After Tax
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total								D-1					
Under $2,000								2					
2,000 - 2,999								3					
3,000 - 3,999								4					
4,000 - 4,999								5					
5,000 - 5,999								6					
6,000 - 6,999								7					
7,000 - 7,999								8					
8,000 - 8,000								9					
9,000 - 9,999								9					
10,000 - 14,999													
15,000 - 24,999													
25,000 and over													

MARKET ANALYSIS WORK SHEET, _____ **HOUSING MARKET AREA**

RECONCILIATION OF BASIC ESTIMATES AND PROJECTIONS, AS OF_____ (Period since 1960 Census: _____ years), PROJECTED FOR_____Years

TABLE A - LABOR FORCE AND NONAGRICULTURAL EMPLOYMENT

COMPONENT	RESIDENT (CENSUS)		TOTAL (12 MONTH BES AVERAGE)			RESIDENT PARTICIPATION RATE		TOTAL PARTICIPATION RATE		
	1950	1960	1959	Last 12 Mos.	Projected	1950	1960	1959	Current	Projected
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Labor Force										
Nonag. Employment										

TABLE B - POPULATION

AREA	TOTAL POPULATION				NONHOUSEHOLD POPULATION				POPULATION IN HOUSEHOLDS	
	1950	1960	Current	Projected	1950	1960	Current	Projected	1950	1960
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

TABLE C - HOUSEHOLDS (OCCUPIED H. U.'s)

AREA	TOTAL HOUSEHOLDS				ADDED HOUSEHOLDS		PERSONS PER HOUSEHOLD				POPULATION IN HOUSEHOLDS	
	1950	1960	Current	Projected	'60 - Current	Projected	1950	1960	Current	Projected	Current	Projected
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)

TABLE D - HOUSING INVENTORY

AREA	TOTAL UNITS			VACANT UNITS					
				1950		1960		Current	
	1950	1960	Current	Total	Avail.	Total	Avail.	Total	Avail.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

TABLE E - COMPONENTS OF INVENTORY CHANGE SINCE LAST CENSUS

AREA	H. U. AUTHORIZED (INCL. PUBLIC & MILITARY)			ADJUSTMENTS			NET CHANGE IN HOUSING INVENTORY	VACANCY CHANGE 1960 - Current
	Total Since Jan. 1, 1960	S. F. Units Not Completed	Multifamily Not Completed	Est. Net H. U. Conversions	Est. H. U. Demolitions	All Other		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

TABLE F - TREND COMPARISONS

AVERAGE ANNUAL CHANGES

	'50 - '60	'60 - Cur.	Projected
	(1)	(2)	(3)
Labor Force			
Rate			
Employment			
Rate			
Pop.			
Rate			
Households			
Rate			
Inventory			XXX

Notes:

INSTRUCTIONS FOR RECONCILIATION OF BASIC ESTIMATES AND PROJECTIONS

GENERAL

Completion of this work sheet should be undertaken as the first step preparatory to the analytical process after the basic data have been collected and compiled. This work sheet is designed to provide the framework of key data and estimates for the market analysis. These data and estimates will reflect determinations previously made with respect to the delineation of the market and submarket areas, the elimination of the rural farm element, the treatment of data pertaining to military personnel and military-connected civilians, etc.

Two lines in each item of the reconciliation work sheet are to be developed for those housing market areas in which military or space activities have a significant impact on the local economy. In table A, one line will include the total labor force, including military personnel. The other line will include the civilian labor force minus civilian military-connected employees, such as civil service personnel, other persons working on base, and contractor and subcontractor personnel (including construction). The same procedure is to be followed with respect to employment in table A, and with respect to corresponding data for tables B, C, D, and E. This dual approach will enable the analyst to make a proper judgment as to the proportion of total housing demand being generated by military or space activities as contrasted with the civilian economy. Where military or space activities exist but do not exert a significant impact on the market, no distinction is to be made in the data, which will be inclusive of military personnel and military-connected civilians in all the entries on this form.

Other lines on the reconciliation work sheet may be used for individual submarkets, with due recognition of military or space impacts where significant. In most cases, submarket data will not be available for table A.

Care and judgment must be exercised in every entry derived from other entries in the work sheet. Inconsistencies in magnitudes or trends, when compared with other items of similar nature, must be reconciled. Participation rates and persons per household for current and projected years, particularly, are sensitive in their effect upon other items and may require adjustment to effect appropriate reconciliation.

TABLE A - LABOR FORCE AND NONAGRICULTURAL EMPLOYMENT

Column A(1). - Enter from the 1950 Census of Population, State Bulletin P-B, the number of persons in the resident labor force and nonagricultural employment (as per the general instructions above). For SMSA's, urbanized areas, and urban places of 10,000 population or more, table 35; urban places of 2,500 to 10,000 population, table 39; counties, table 43.

Column A(2). - Enter from the 1960 Census of Population, State Bulletin PC(1)C, the number of persons in the resident labor force and nonagricultural employment (as per the general instructions above). For SMSA's, urbanized areas, and urban places of 10,000 population or more, table 73; urban places of 2,500 to 10,000 population, table 81; counties, table 83.

Column A(3). - Enter the average number of persons in the labor force and nonagricultural employment for the year 1959. These data are to be obtained from Bureau of Employment Security sources.

Column A(4). - Enter the average number of persons in the labor force and nonagricultural employment for the last 12 months available prior to the data of the market study.

Column A(5). Enter the projected number of persons in the labor force and nonagricultural employment; the projection is for two or three years from the last twelve months average available (Column A(4)). In deriving this projection, due consideration shall be given to the trend in labor force and nonagricultural employment, as well as an evaluation of (1) local data with respect to possible new industries and individual industry group expansions and (2) prospective unemployment trends.

Column A(6). - To obtain the 1950 participation rates, divide the entries in Column A(1) by the total population in Column B(1). Participation rates are expressed in percentage form to three decimal places.

Column A(7). - To obtain the 1960 participation rates, divide the entries in Column A(2) by the total population in Column B(2).

Column A(8). - To obtain 1959 participation rates, divide the entries in Column A(3) by the total population in Column B(2).

Column A(9). - To obtain the durrent participation rates, divide the entries in Column A(4) by the total population in Column B(3). Both this entry and the entry in Column A(10) are subject to adjustment to effect the proper reconciliation with other entries on the work sheet for current and projected years.

Column A(10). - The projected participation rates are derived as a matter of judgment, after due consideration is given to the trend in the participation rates from 1950 to 1960 and the trend from 1959 to the current period. As a general guide and measure of control, participation rates developed from the labor force will not (as a rule) show significant changes through time.

TABLE B - POPULATION

Columns B(1) and B(2). - Enter from the 1960 Census of Population, State Bulletin PC(1)A, the total population for 1950 and 1960. For SMSA's table 11; urbanized areas, table 10; places with a population of 1,000 or more, table 8; and counties, table 7.

Column B(3). - To obtain the total current population add Columns B(7) and G(11).

Column B(4). - To obtain the total projected population divide Column A(5) by Column A(10).

Column B(5). - Subtract Column B(9) from Column B(1) and enter result in Column B(5).

Column B(6). - Subtract Column B(10) from Column B(2) and enter result in Column B(6).

Column B(7). - The derivation of the current nonhousehold population will be based mainly on judgment. Since institutional population tends to remain fairly constant through time, it is assumed that reasonably accurate estimates of projected nonhousehold population can be obtained by using the 1960 count of nonhousehold population, adjusting for growth in proportion to total population and for possible changes in the number of nonresident college students, the number of military personnel in group quarters, and for known institutional population changes.

Column B(8). - The approach set forth for Column B(7) is also applicable to Column B(8).

Column B(9). - Enter from the 1950 Census of Population, State Bulletin P-B, the population in households. For SMSA's, urbanized areas, and places of 10,000 population or more, table 34; counties, table 42. For places of 2,500 to 10,000 population, the population in households may be derived from the 1950 Census of Housing, State Bulletin H-A, table 22, as follows: From the panel identified as "number of persons", multiply each size household by the respective number of occupied units; use a multiplying factor of 11 for "10 persons or more."

Column B(10). - Enter from the 1960 Census of Population, State Bulletin PC(1)B, the population in households. For SMSA's, urbanized areas, and places of 10,000 population or more, table 21; places of 2,500 to 10,000 population, table 22; and counties, table 28.

TABLE C - HOUSEHOLDS

Column C(1). - Enter from the 1950 Census of Housing, State Bulletin H-A, the number of occupied units. For SMSA's and constituent counties, urbanized areas, and urban places of 10,000 population or more, table 17; urban places of 2,500 to 10,000 population, table 22; and counties, table 26.

Column C(2). - Enter from the 1960 Census of Housing, State Bulletin HC(1), the number of occupied units. For SMSA's and constituent counties, urbanized areas, and places of 50,000 population or more, table 15; places of 25,000 to 50,000 population, table 20; places of 10,000 to 25,000 population, table 24; places of 2,500 to 10,000 population, table 26; and counties outside of SMSA's, table 29.

Column C(3). - Enter the sum of Column C(2) and Column C(5).

Column C(4). - Divide Column C(12) by Column C(10) and enter the quotient.

Column C(5). - The number of households added since April 1, 1960 to the current date is equal to Column E(7) plus or minus (depending on the sign) Column E(8).

Column C(6). - The projected number of households added is derived by subtracting Column C(3) from Column C(4).

Column C(7). - Divide Column B(9) by Column C(1) and enter the quotient.

Column C(8). - Divide Column B(10) by Column C(2) and enter the quotient.

Columns C(9) and C(10). - Enter the estimated current and projected household size in Columns C(9) and C(10). These estimates will be based on judgment after due consideration is given to the local trend in household size from 1950 to 1960 (with allowance for definitional changes from "dwelling unit" in 1950 to "housing unit" in 1960) and the national trend in average household size which is as follows: 1950, 3.42; 1960, 3.29; and 1966, 3.30. Local conditions might warrant some modification of the national trend. The entries to Columns C(9) and C(10) are subject to adjustment to effect the proper reconciliation with other entries for current and projected years.

Column C(11). - Multiply Column C(9) times Column C(3) and enter the product.

Column C(12). - Subtract Column B(8) from Column B(4) and enter the remainder.

TABLE D - HOUSING INVENTORY

Columns D(1) and D(2). - See Columns C(1) and C(2) instructions for sources of data for these entries of total units.

Column D(3). - Enter the sum of Column E(7) and Column D(2).

Column D(4). - Enter from the 1950 Census of Housing, State Bulletin H-A, the total number of vacant units (including those available, not available, seasonal, and nonresident dwelling units). For SMSA's and constituent counties, urbanized areas, and places of 10,000 population or more, table 17; places of 2,500 to 10,000 population, table 22; counties, table 26.

Column D(5). - From the source for Column D(4), enter the total number of available units only.

Column D(6). - Enter from the 1960 Census of Housing, State Bulletin HC-1, the total number of vacant units (including those available, not available, and seasonal). For SMSA's and constituent counties, urbanized areas, and places of 50,000 population or more, table 12; places of 25,000 to 50,000 population, table 18; places of 10,000 to 25,000 population, table 22; places of 2,500 to 10,000 population, table 25; and counties outside SMSA's, table 28.

Column D(7). - From the source for Column D(6), enter the total number of available units only.

Columns D(8) and D(9). - Blow up the vacancies from the postal vacancy survey in proportion to the relationship of units covered in the postal vacancy survey to the current total inventory. The vacancies thus obtained often will approximate the count of available vacancies derived from the census method of enumeration and may be entered in Column D(9). Whether or not this entry is valid without modification for the area under consideration is left to the judgment of the analyst. To derive total vacancies for Column D(8), add the number of "other" vacant units. The determination of the current number of "other" vacant units is a matter of judgment, for the most part.

TABLE E - COMPONENTS OF INVENTORY CHANGE SINCE LAST CENSUS

Column E(1). - From local building permit records and other sources, enter the total number of units authorized and those units started without building permit authorization (including public and military) from January 1, 1960 to the current date.

Column E(2). - Enter the number of single-family units not completed. Generally, houses authorized during the three months prior to the date of the analysis will approximate the current number of units under construction. Local conditions or other available data may warrant some adjustment from this general rule, however.

Column E(3). - Enter from available records the number of units in multifamily structures not completed. If these data are unavailable or incomplete, assume that all multifamily projects authorized in the past six months are incomplete (longer for high-rise structures).

Column E(4). - Enter the number of net conversions (plus or minus) from April 1, 1960 to the current date. Because of the lack of appropriate data, this item is difficult to estimate. Due to varying local market conditions, some areas may show either a net conversion-in or conversion-out. If local data are not available for estimating a reasonable net conversion figure, this column may be left blank.

Column E(5). - Enter from local building and urban renewal records and other sources the number of units demolished between April 1, 1960 and the current date.

Column E(6). - Enter all other increases or decreases in the housing inventory since the last census date, such as net trailer movement, etc. If no entry is made in either Columns E(4) or E(5), the entry for Column E(6) should be a consolidated estimate of net inventory change from all sources other than new construction, in accordance with established procedure.

Column E(7). - Enter the sum of Columns E(1), E(4), and E(6) with due regard to sign, after deducting the sum of Columns E(2), E(3), and E(5).

Column E(8). - Enter the change in the number of vacant units (plus or minus) by subtracting Column D(6) from Column D(8).

TABLE F - TREND COMPARISONS

Column F(1). - For Labor Force and employment, subtract Column A(1) from Column A(2) and divide by 10; for Population and Households, subtract Columns B(1) and C(1) from Columns B(2) and C(2), respectively, and divide by 10. The rate is derived from a formula designed to calculate the rate of change on a compound basis (Footnote 3, Chapter 4). For Inventory, subtract Column D(1) from Column D(2) and divide by 10.

Columns F(2) and F(3). - Entries for these columns are derived in the same manner as those for Column F(1), substituting data from the appropriate columns of tables A, B, C, and D corresponding to the respective periods involved and using the proper number of years for computing the annual averages and rates.

Exhibit E

INSTRUCTIONS FOR ESTIMATING NET QUANTITATIVE DEMAND

(Nonassisted housing)

General

The specific steps involved in the determination of net quantitative demand are detailed in the attached instructions. The line numbers in these instructions refer to the work sheet appended at the end of this Exhibit.

In the application of the attached instructions the analyst must be thoroughly conversant with and constantly mindful of the pertinent considerations discussed in the text of Chapter VI, particularly the portion relating to the derivation of quantitative demand and the judgments and reconciliations required in deriving the estimates. That portion of the text, in essence, constitutes an essential part of the procedure for determining quantitative demand.

Most of the entries required in the attached work sheet are drawn from the findings, observations, and estimates developed in the preceding section of the market analysis pursuant to Chapter V of the volume with respect to the housing stock and market conditions. The obviously important use which those materials serve in the derivation of estimated demand re-emphasizes the essentiality of thoroughness, accuracy, and objectivity in the collection, processing, and compilation of basic data and information in all the preceding stages of the analysis.

Instructions for Completing Quantitative Demand Work Sheet (p. 271).

1. Line (1). - Enter (in appropriate columns) the total estimated household growth (excluding that to be served by temporary facilities) for the forecast period as developed in the Demographic Section of the analysis. For over-all studies, enter the household growth estimate in Column (a); and for studies of the nonwhite population, in Column (g). Break down the estimated total growth between owner and renter categories on the basis of the estimated current tenure distribution in the occupied housing stock of the appropriate population group and enter the results in appropriate columns. In over-all studies, do not differentiate total estimated household growth for nonwhite unless a study of this component is required.

2. Line (2). - Enter the estimated number of households expected to shift on a net basis from renter to owner status, or vice versa, during the forecast period. When the net shift is from renter to owner an entry in the appropriate "owner" column is a plus item; in the appropriate "renter" column the entry is a minus item. (The opposite algebraic signs are used when the shift is from owner to renter.) Estimate the net number of renter households shifting to owner status (or from owner to renter) as follows:

   A. Tabulate on scratch paper the tenure breakdown in 1960 and the current (estimated) occupied housing stock by tenure in absolute and percentage form.

   B. Apply the 1960 owner and renter percentages to the current total occupied housing stock.

   C. Obtain the difference between the estimated number of renter-occupied dwellings (produced in Step B) and the current renter-occupied housing stock, and compute the differential on an annual basis.

   D. Relate the average annual shift in tenure to the average annual increase in total households, multiply by the projected annual increase in households to obtain the projected annual shift in tenure, and apply a multiple corresponding to the number of years in the forecast period.

The method of estimating the shift in tenure is illustrated in the following hypothetical example, using 1960-1968 as the base period:

Total occupied dwellings	1960 Number 100,000	1960 Percent 100%	1968 Estimate Number 110,000	1968 Estimate Percent 100%	1960 percentage applied to 1968 total 110,000
Owner	52,000	52	59,400	54	57,200
Renter	48,000	48	50,600	46	52,800

Average annual net shift to owner status = $\frac{52,800 - 50,600}{8} = 275$

Average annual household increase = $\frac{110,000 - 100,000}{8} = 1,250$

The annual net shift of 275 units is a relative of the average annual household increase of 1,250 units. For illustrative purposes, it is assumed that this rate of tenure shift will continue in the forecast period. Thus, if estimated household growth for a one-year forecast period is 1,500, then the average annual net shift would be $\frac{1,500}{1,250} \times 275 = 330$ units. For a two-year forecast period, the shift would be 660 units, etc.

The foregoing adjustment to prospective household growth should be entered on Line 2 as follows: If the computation indicates an increase in ownership (as in the example above), enter the figure as a plus item in the owner column and as a minus item in the renter column, and vice versa if the shift indicates an increase in renter occupancy. Similar computations are made for white and nonwhite, if required.

It is essential to note that the shift in tenure during the forecast period should not be assumed, arbitrarily, to follow the pattern of the past in direction or rate. The prospective shift in each instance will depend on circumstances and developments (current and prospective) which the analyst must evaluate carefully as to their probable effect on the shift in tenure during the forecast period as compared with past experience.

3. Line (3). - Enter (in appropriate columns) the anticipated net losses due to demolitions, conversions, and other factors involved in components of inventory change. Estimates of planned government actions including urban renewal and public works can be obtained from local public agencies. Other necessary replacements, because of fire, casualty, and other losses should be added. Conversions-out should be considered carefully inasmuch as many residential units are converted to offices, stores, or other nonresidential uses in some phases of the business cycle. Many residential conversions constitute housing quality of minimum acceptability and are marginal in the sense that they enter

and leave the supply in response to demand pressures. Conversion estimates must be included to reflect true quantitative demand. Unless the analyst has succeeded in isolating or estimating fire and casualty losses, they may be assumed to represent about 0.1 percent (annually) of the existing inventory.

4. Line (4). - Enter the gross quantitative demand (in appropriate columns) by adding Lines 2 and 3 to Line 1, with due regard to plus and minus symbols.

5. Line (5). - When a study of the nonwhite population is involved, enter in Columns (g), (h), (i) the number of dwellings estimated to be transferred from white to nonwhite occupancy during the forecast period. The entries in Columns (g), (h), and (i) are given a minus sign. Corresponding entries with plus signs are made in Columns (d), (e), and (f). Obtain data for estimates from local sources and from differences in nonwhite occupancy between 1950 and 1960, making a correction for an estimate of nonwhite occupancy of new units added during the 1950-60 decade.

6. Line (6). - Enter the adjusted quantitative demand (in appropriate columns) by adding Lines 4 and 5, with due regard for plus and minus symbols.

7. Line (7). - Enter (in appropriate columns) the number of net "available" vacancies with all plumbing facilities estimated on the basis of the results of a postal vacancy survey (with adjustments as detailed below) or estimated from other local sources as of the beginning of the forecast period (i.e., the "as of" date of the market analysis). If the results of a postal vacancy survey are used, the number of vacancies should be estimated by applying the adjusted postal vacancy ratios to the estimated stock of housing of the housing market area by tenure and, if necessary, making appropriate adjustments for white and nonwhite.

   Postal vacancy survey ratios (by type of structure) should be adjusted for tenure by transferring the number of renter-occupied and vacant-for-rent single-family structures from the "residence" to the "apartment" category of the postal vacancy survey and recomputing the percentages in both categories. This adjustment may be approximated as follows:

   (a) $100\% \text{ minus } \frac{\text{(owner occupied units + vacant units for sale)}}{\text{(total single-family structures)}}$

   equals the percent of total residences covered (by the postal vacancy survey) to be transferred to the apartment category. Data from the last census may be utilized, updated wherever possible. The data for owner-occupied units, vacant units for sale, and total single-family structures relate to single-family attached or detached structures only.

   (b) To obtain the total number of residences to be transferred, apply the percentage derived in (a) to the total number of residences covered by the postal vacancy survey.

   (c) The distribution of the units derived in (b) between occupied and vacant units should conform to the typical proportions of occupied and vacant single-family rental structures in the area. This is based on judgment, guided by census data, current information, and observation. (Note: the vacancy ratio in single-family rental structures generally is somewhat above the homeowner vacancy ratio and considerably below the apartment vacancy ratio).

   (d) Apply the proportions from (c) to the number of units derived in (b); subtract the results from the respective occupied and vacant segments of the residence category, and add them to the respective segments of the apartment category, as reported in the postal vacancy survey; and recompute the vacancy ratios on the tenure basis (homeowner and renter).

   Vacancies in postal sub-station areas or zones which are predominantly nonwhite should be assumed to be available for nonwhite occupancy.

   Vacant units "lacking some or all plumbing facilities" are to be deducted from the current tenure distribution since they are not competitive with units to be provided to meet the demand for new housing. Estimates of such units may be derived by utilizing the proportions shown in the 1960 census for vacant units "with all plumbing facilities" and vacant units "lacking some or all facilities." Current data obtained in the field, however, may suggest more appropriate deductions.

8. Line (8). - Enter (in appropriate columns) the estimated number of vacancies which will maintain a balance in the housing market. Separate estimates are to be prepared for the owner-occupied and the renter-occupied segments of the housing stock. These figures are to be determined partially as a matter of judgment on the basis of observation of local conditions and experience. A table of ratios is presented below as a preliminary guide to required vacancy for various types of localities. The specific rates finally selected as appropriate for the locality under study should be entered in the stub on Line (8).

In localities affected by seasonal variation in vacancy, the suitable vacancy rate in the off-season may be considerably greater than indicated below. However, during the height of the seasonal impact the vacancy rate should be less than half that indicated in the guide below.

Tenure	Range of desirable vacancy by growth rate of area[a/]		
	Rapid	Moderate	Slow
Owner-occupied housing	1½% - 2%	1% - 1½%	Less than 1%
Renter-occupied housing	6% - 8%	4% - 6%	Less than 4%

a/ As determined on the basis of the annual percentage increase of population from 1950 to 1960 or more recent years, if justified: Rapid, 5% or more; moderate, from 1% to 5%; and slow, less than 1%.

The number of vacancies for owner or renter occupancy, respectively may be computed by dividing the respective estimated current stock of occupied housing (the dividend) by the complement of the appropriate vacancy ratio (the divisor) and deducting the dividend from the quotient.

9. Line (9). - Enter (in appropriate columns) the excess in vacancy by subtracting Line 8 from Line 7. Except in extremely tight housing markets, a deficiency in vacancy is to be ignored; in this event, some allowance to permit mobility may be added. (Ordinarily, it is neither necessary nor desirable to encourage the provision of new housing to increase vacancies to a "desirable" level.) The analyst should carefully consider seasonal influences, as indicated in Step 8, and make an appropriate correction for any apparent excess of vacancy.

10. Line (10). - Enter (in appropriate columns) the net quantitative demand by deducting Line 9 from Line 6, with due regard to sign.

11. Line (11). - Enter (in appropriate columns) the estimated volume of construction started, but not completed (i.e., under construction), as of the survey date, exclude public housing and subsidized housing under construction.

12. Line (12). - Estimate the desirable rates of construction for owner and tenant type housing, as derived from Line 10, and enter the estimate in the appropriate columns. For this purpose, each item in Line 10 should be converted to an annual rate, and translated into a desirable average number of units under construction during the forecast period for entry on Line 12. For example, for owners, the entry on Line 12 may be 1/4, 1/3, or more of the annual rate, depending on whether the typical production period for homes is three months, four months or more; for renters, the entry may be 1/2 to 1 1/2 times the annual rate equivalent to Item 10 depending upon whether the typical production period for apartments is six months to 18 months (variations used are dependent upon a judgment of the typical production period, with due regard for seasonal factors). The typical production period for each type should be entered in the stub in Line 12.

13. Line (13). - Enter (in appropriate columns) the subtraction of Line 12 from Line 11. A deficiency of new construction is to be ignored. The analyst should be careful to consider any seasonal influence and make appropriate correction if there is an apparent excess of new construction.

14. Line (14). - Enter (in appropriate columns) the adjusted net quantitative demand by deducting Line 13 from Line 10. The adjusted net quantitative demand excludes demand for subsidized housing.

15. Line (15). - Enter (in appropriate columns) the annual rate of net quantitative demand by dividing Line 14 by the number of years in the forecast period.

In the text of the report the annual rate of demand, rather than the aggregate demand, is used consistently to express prospective demand during the forecast period. This is preferable as a means of emphasizing the desirability of an orderly satisfaction of demand as it evolves over time, thus forestalling a possible tendency toward overproduction which might be induced by misinterpretation of an aggregate demand projection for the entire period. Moreover, the projection of demand on an annual basis is essential in those situations where demand is expected to be generated unevenly over the forecast period and in those situations where circumstances suggest the need for staggering the annual rate up or down over the forecast period, thus facilitating the maintenance or smooth achievement of reasonable balance in demand-supply relationships in the market. Finally, an annual rate provides better perspective in ready comparison with pertinent basic data compiled on an annual basis in other sections of the analysis.

WORK SHEET FOR ESTIMATING NET QUANTITATIVE DEMAND

Locality_____

Forecast period, from _____ to _____

	All races			White			Nonwhite		
	Total (a)	Owner (b)	Renter (c)	Total (d)	Owner (e)	Renter (f)	Total (g)	Owner (h)	Renter (i)
1. Prospective household growth in forecast period									
2. Shift in tenure (plus or minus)	X			X			X		
3. Anticipated net losses (demolitions, conversions, etc.)									
4. Gross prospective demand (1+2+3)									
5. Transfers, white to nonwhite occ. (where applicable)	X	X	X						
6. Adjusted prospective demand (4+5)									
7. Vacancies available, current date[1/]									
8. Vacancies required for reasonable balance[1/] sales___% rental___%									
9. Excess of vacancy (7-8)									
10. Quantitative demand (6-9)									
11. Dwelling units under construction (current)									
12. Desirable rate of construction sales____mos. rental_____mos.									
13. Excess of construction (11-12)									
14. Adjusted net quantitative demand (10-13)									
15. Annual rate of demand (14 ÷ years forecast)									

1/ Includes only estimates of vacant units with all plumbing facilities.

By_____ Date_____

Exhibit F

INSTRUCTIONS FOR ESTIMATING QUALITATIVE DEMAND FOR NONASSISTED NEW SINGLE-FAMILY SALES HOUSING

General

The specific steps involved in estimating the qualitative demand for new single-family sales housing are detailed in the attached instructions. The column letters in these instructions refer to the work sheet appended at the end of this Exhibit.

The work sheet is designed for use in estimating demand separately for all families, white families only, or nonwhite families only, as may be required by the analysis in process. Appropriate identification of the coverage in each instance is to be noted in the space provided in the heading of the form.

The instructions for completing the work sheet are presented in two parts. Part I is applicable to Standard Metropolitan Statistical Areas covered by the 1960 Census of Housing, Bulletin HC-2. Part II is applicable to all other areas and population groups not covered in Part I.

INSTRUCTIONS FOR ESTIMATING QUALITATIVE DEMAND FOR NEW SINGLE-FAMILY SALES HOUSING

Part I For Standard Metropolitan Statistical Areas Covered by the 1960 Census of Housing Reports HC-2

1. Column (B). - Enter from the appropriate 1960 Census of Housing Bulletin HC-2, the value distribution of owner-occupied units built from 1955 through March 1960. The value distribution above $25,000 is distributed as follows: 44% between $25,000 and $30,000; 32% between $29,000 and $34,999; and 24% over $35,000.

2. Column (C). - Enter a simple percentage distribution computed from the absolute frequency distribution in Column (B).

3. Column (D). - Enter a cumulative percentage distribution developed from the simple percentage distribution in Column (C).

4. Column (F). - Enter in decile form the adjusted 1955-March 1960 values as follows:

   a. Identify decile amounts from graph developed from Column (D).

   b. Increase the value at each decile level by 6% in order to bring 1955-March 1960 values in line with 1959 income.

   c. Enter adjusted value amounts in Column (F).

   Enter at D-9.5 or, where necessary, D-9.7 or D-9.8 on blank lines following the 9th decile (D-9); these points are read from the graph in the same manner as the other deciles.

5. Column (G). - Enter in decile form from the income work sheet the appropriate adjusted 1959 all family income after tax (total, white, or nonwhite).

6. Column (H). - Divide Column (F) by Column (G). Carry the ratio two places beyond the decimal point; e.g., 3.50.

7. Column (I). - Enter the appropriate set of regional adjustment factors from the following table:

Decile	North East	North Central	South	West
D-1	.98	.97	1.10	.97
2	.94	.96	1.05	.93
3	.94	.95	.98	.93
4	.93	.94	.96	.93
5	.93	.93	.95	.92
6	.93	.92	.95	.92
7	.93	.91	.95	.92
8	.93	.90	.93	.91
9	.93	.90	.91	.91
9+	.93	.90	.91	.91

8. Column (J). - Multiply the ratios developed in Column (H) by the adjustment factors in Column (i).

9. Column (K). - Enter in decile form from the income work sheet (Exhibit C) the appropriate adjusted current all family (total, white, or nonwhite) income after tax.

10. Column (L). - Multiply Column (K) by Column (J) and enter sales price in Column (L).

11. Column (N). - Graph Column (L) and enter percentages (round to nearest unit)in Column (N), conforming to sales price classes in Column (M).

12. Column (O). - Determine the minimum level at which new sales housing can be built in the locality. Eliminate percentage frequencies below this level. Enter remaining percentages in Column (O) with total at head of column.

13. Column (P). - Convert percentages in Column (O) to 100 percent basis by dividing each percentage in Column (O) by the total of Column (O). Enter converted percentages in Column (P), rounding to nearest unit.

14. Column (Q). - Enter estimate of quantitative demand for new sales housing on total line of Column (g), and distribute in accordance with percentages in Column (P).

Part II. For Areas and Population Groups Not Covered in Part I.

1. Column (K). - Enter in decile form from the income work sheet (Exhibit C) the appropriate adjusted current family (total, white, or nonwhite) income after tax.

2. Column (J). - Enter the appropriate ratios of sales price to income. These ratios are derived by interpolation-- by relating the income in Column (K) to the appropriate regional income levels and ratios in the table below.

Table of Ratios and Incomes

North East		North Central		South		West	
(J)	(K)	(J)	(K)	(J)	(K)	(J)	(K)
5.28	$3,350	5.03	$3,350	5.58	$2,350	5.21	$3,150
3.81	5,150	3.71	5,100	3.95	3,850	3.63	5,150
3.39	6,450	3.27	6,900	3.21	5,200	3.17	6,600
3.18	7,500	3.07	7,950	2.88	6,400	2.97	7,750
3.02	8,450	2.88	8,950	2.69	7,500	2.77	8,800
2.92	9,700	2.78	10,500	2.57	8,650	2.66	10,000
2.80	11,150	2.68	11,450	2.48	10,050	2.58	11,300
2.76	13,000	2.60	13,150	2.33	11,900	2.48	13,200
2.72	16,300	2.55	15,750	2.19	15,350	2.41	16,400
2.72	16,300+	2.55	15,750+	2.19	15,350+	2.41	16,400+

Example-- Area in North Central Region

Decile	Column (K) Income	Regional Income	Regional Ratio
D-1	$3,800	$3,350	5.03
D-2		5,100	3.71

$5,100- $3,350= $1,750
$3,800- $3,350= 450
$ 450
1,750= 26%
5.03- 3.71= 1.32
26% of 1.32= .34
5.03-.34= 4.69= ratio of sales price to income at $3,800 level.

3. Column (L). -Multiply incomes in Column (K) by the ratios in Column (J).

4. Remainder of procedure is identical with that in Part I beginning with Step 11.

Note: See Page 271 for Worksheet

WORKSHEET FOR ESTIMATING QUALITATIVE DEMAND - NEW SINGLE FAMILY SALES HOUSING

LOCALITY_____ POPULATION GROUP _____ DATE (AS OF) _____

VALUE CLASSES	OWNER OCC. UNITS BUILT 1955 THRU MARCH, 1960	PERCENTAGE		DECILE	ADJUSTED 1955-60 VALUE	1959 ALL FAMILY INCOME AFTER TAX	RATIO VALUE TO INCOME	ADJ. FACTORS	ADJ. RATIOS	CURRENT ALL FAMILY INCOME AFTER TAX	SALES PRICE
		%	CUM.								
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
TOTAL				D-1							
UNDER $5,000				D-2							
5,000 - 7,499				D-3							
7,500 - 9,999				D-4							
10,000 - 12,499				D-5							
12,500 - 14,999				D-6							
15,000 - 17,499				D-7							
17,500 - 19,999				D-8							
20,000 - 24,999				D-9							
25,000 - 29,999				D-9.							
30,000 - 34,999				D-9.							
35,000 OR MORE				D-9.							
				D-9.							

SALES PRICE CLASSES	EST. % DIST.		EST. QUAL. DEMAND	
	OVER-ALL	ABOVE MIN-IMUM LEVEL	% DIST.	ABSOLUTE DISTRI-BUTION
(M)	(N)	(O)	(P)	(Q)
TOTAL				
UNDER $11,000				
11,000 - 11,999				
12,000 - 12,999				
13,000 - 13,999				
14,000 - 14,999				
15,000 - 17,499				
17,500 - 19,999				
20,000 22,499				
22,500 - 24,999				
25,000 - 29,999				
30,000 - 34,999				
35,000 AND OVER				

DEPARTMENT OF HUD - FHA

Exhibit G

INSTRUCTIONS FOR ESTIMATING QUALITATIVE DEMAND FOR NEW NONASSISTED MULTIFAMILY HOUSING

General

The specific steps involved in estimating the qualitative demand for new multifamily housing are detailed in the instructions below. The column numbers in these instructions refer to the worksheet, p. 277. Briefly, the derivation of qualitative demand for new multifamily housing involves the use of the following data:

(a) Percentage distribution of renter-occupied units by number of bedrooms.

(b) Minimum gross rents achievable, by number of bedrooms.

(c) Distribution of annual quantitative demand for new multifamily units by (a) and (b) above and

(d) Derivation of demand estimates at varying gross rent levels by application of predetermined factors to (c) above.

Estimates of qualitative demand are derived as indicated in the instructions on p. 276.

INSTRUCTIONS FOR ESTIMATING QUALITATIVE DEMAND FOR NEW MULTIFAMILY HOUSING

1. Complete Exhibit A shown on work sheet, p. 277, as follows

   Note (I): Instructions under 2., below, are applicable to the following: All renter households in areas with 10,000 inhabitants or more: Census Report HC(1), Table 15 for SMSA's, constituent counties, and places of 50,000 inhabitants or more; Table 20 for places of 25,000 to 50,000; and Table 24 for places of 10,000 to 25,000. Nonwhite renter households in SMSA's with 25,000 nonwhite households or more: Census Report HC(2), Table A-12.

   Note (II): Instructions under 3., below, are applicable to the following: All renter households in counties outside SMSA's and in areas with 2,500 to 10,000 inhabitants; Census Report HC(1), Tables 29 and 26, respectively. Nonwhite renter households in areas with fewer than 25,000 nonwhite households: Census Report HC(1), Tables 36, 37, and 38. For counties outside SMSA's, use the nonwhite all-persons distribution for the largest city in the county or housing market area.

2. If applicable under Note (I), enter in Column (D) of Exhibit A, the 1960 renter-occupied units by number of persons.

3. If applicable under Note (II), enter in Column (B) of Exhibit A, the 1960 total occupied units by number of persons.

   a. Enter in Column (C) at all levels from 2 persons through 6-or-more persons the estimated (or 1960) percentage of renter-occupied units to total occupied units in the area under study.

   b. Add 10 percentages points to the percentage estimated in 3.a. above and enter the result on the 1-person line in Column (C).

   c. Multiply the numbers in Column (B) by the percentages in Column (C) and enter the results in Column (D).

4. Multiply the numbers in Column (D) by the appropriate percentages in Columns (E), (G), (I), and (K). Enter the results in Columns (F), (H), (J), and (L).

5. Enter on the total line the totals for Columns (F), (H), (J), and (L), respectively.

6. Compute a percentage distribution from the total line as follows:

   a. Combine totals in columns (F),(H),(J),(L) and enter grand total under Column (D). Note:-- Do not total column (D).

   b. Develop a percentage distribution by dividing totals for columns (F), (H), (J), (L) by the grand total under column (D) and enter percentages on percent distribution line for respective columns.

7. a. The minimum conventional gross rents for nonsubsidized new family housing are obtained for two bedroom walk-up apartments from absorption surveys, local builders and realtors, and other informed persons.

   b. The minimum gross rent derived in (a) above times 0.70 equals the gross rent for a 0-BR unit; times 0.85 equals the gross rent for a 1-BR unit; times 1.15 equals the gross rent for a 3-BR unit.

   EXAMPLE:

   $107 x .70 = $ 75 gross rent for 0-BR
   $107 x .85 = $ 91 gross rent for 1-BR
   $107 x 1.15 = $123 gross rent for 3-BR

   c. The minimum conventional rents developed in (b) above, may be assumed to represent the minimum achievable rents for nonsubsidized new multifamily housing at market rates for FHA Section 207, 221(d)(3) market rate, 221(d)(4) and for conventional financing.

8. Apply the percentages developed in Exhibit A, Step 6(b) to the annual quantitative demand for multifamily housing entered in heading of worksheet. Enter on worksheet, p. 277 (Exhibit C) the estimates of demand at the appropriate minimum gross rent levels for each unit size (Columns (B), (C), (D) and E)--see Step 7(b).

9. To obtain demand at succeeding higher rent levels, multiply the estimates developed in Step 8 by the appropriate factors shown in Exhibit B, p. 277.

Gross Rent	Number of Bedrooms 0-BR	1-BR	2-BR	3-BR
$100 and over				
110 "				
120 "	25			
130 "	15			
140	10			
150	5	200		
160		130		
170		85	240	
180		55	180	
190		35	135	
200		25	100	35
210		15	75	30
220		10	55	25
230		5	45	20
240			30	18
250			25	16
260			20	13
270			15	11
280			10	10
290			5	8
300				7

Assumes a 500 unit annual demand and a unit size distribution of 5% for 0-BR, 40% for 1-BR, 48% for 2-BR, and 7% for 3-BR.

WORK SHEET FOR ESTIMATING THE QUALITATIVE DEMAND FOR NEW MULTIFAMILY HOUSING

LOCALITY _____ POPULATION GROUP _____

ANNUAL QUANTITATIVE DEMAND M.F. HOUSING _____ DATE _____

EXHIBIT A

DERIVATION OF THE DISTRIBUTION OF MULTIFAMILY HOUSING DEMAND BY UNIT SIZE

PERSONS	OCCUPIED UNITS			DISTRIBUTION OF PERSONS BY UNIT SIZE							
				0 - BR.		1 - BR.		2 - BR.		3 - BR.	
	TOTAL	% RENTER	RENTER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER	PER-CENT	NUMBER
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
1				22		44		10			
2						64		37			
3						34		67			
4						13		69		19	
5								39		21	
6+								18		32	
TOTAL											
% DIST.											

EXHIBIT B

CUMULATIVE DEMAND FACTORS FOR NEW MULTIFAMILY HOUSING

$ ABOVE MINIMUM ACHIEVABLE RENT	0 - BR.	1 - BR.	2 - BR.	3 - BR.
$ 0	1.000	1.000	1.000	1.000
10	.600	.650	.750	.850
20	.360	.423	.563	.723
30	.216	.275	.422	.614
40	.130	.179	.316	.522
50	.078	.116	.237	.444
60	.047	.075	.178	.377
70	.028	.049	.134	.321
80	.017	.032	.100	.273
90	.010	.021	.075	.232
100		.014	.056	.197
110			.042	.167
120			.032	.142
130			.024	.121
140			.018	.103
150			.013	.087
160			.010	.074
170				.063
180				.054
190				.046
200				.039
210				.033
220				.028

EXHIBIT C

GROSS RENT	QUALITATIVE DEMAND FOR NEW MULTIFAMILY HOUSING			
	0 - BR.	1 - BR.	2 - BR.	3 - BR.
(A)	(B)	(C)	(D)	(E)
$ 100 & OVER				
110 "				
120 "				
130 "				
140 "				
150 "				
160 "				
170 "				
180 "				
190 "				
200 "				
210 "				
220 "				
230 "				
240 "				
250 "				
260 "				
270 "				
280 "				
290 "				
300 "				
310 "				
320 "				
330 "				
340 "				
350 "				

Exhibit H

WORK SHEET FOR ESTIMATING THE MAGNITUDE AND STABILITY OF MILITARY IMPACT ON A HOUSING MARKET

Housing Market Area:_____

Military Installation:_____

I. ECONOMIC SUPPORT GENERATED BY MILITARY INSTALLATION

1. Off-post occupied, permanent, nonseasonal, nonfarm housing units as of _____.....:_____

2. Off-post housing units occupied by military-connected households

   a. Total, including temporary units, trailers, and seasonal units, as of _____.....:_____

      (1) Military households.....:_____
      (2) Civilian households.....:_____

   b. Net, excluding temporary units, trailers, and seasonal units, as of _____.....:_____

      (1) Military households.....:_____
      (2) Civilian households.....:_____

3. On-post housing units occupied by military-connected households as of_____.....:_____

   a. Military households.....:_____
   b. Civilian households.....:_____

4. Total of 2a and 3.....:_____

5. Nonmilitary-connected households dependent on economic support generated by the installation--_____% of 4.....:_____

6. Total households dependent directly or indirectly on the military installation--2b plus 5.....:_____

7. Relative economic support factor--6 divided by 1 (not over 100%).....:_____%

II. STABILITY OF ECONOMIC SUPPORT GENERATED BY MILITARY INSTALLATION

8. Estimate of stability

   a. Current gross housing requirements as of.....:_____

      (1) All military personnel.....:_____
      (2) All civilian personnel.....:_____

   b. Projected gross housing requirements

      (1) Short-range projection to FY_____.....:_____

         (a) All military personnel.:_____
         (b) All civilian personnel.:_____

      (2) Minimum long-range projection.....:_____

         (a) All military personnel.:_____
         (b) All civilian personnel.:_____

      (3) Adjustment for economic resilience.....:_____

      (4) Adjusted minimum long-range housing requirements--8b(2) + 8b(3).....:_____

   c. Stability factor--8b(4) as a percent of 8b(1) or 8a, whichever is larger (not over 100%).....:_____%

Exhibit I

INSTRUCTIONS FOR ESTIMATING QUANTITATIVE DEMAND

FOR NEW HOUSING FOR STUDENTS--APARTMENTS AND ROOMS [1/]

Line numbers and column letters in the instructions below refer to the work sheet on p. 281.

The identification of the housing market area, the name of the college or university, and the period covered by the forecast should be entered in the spaces provided in the heading of the work sheet. Where more than one college or university is located in the housing market area, a separate work sheet should be completed for each institution.

Because of the unavailability of data for many of the entries required on the work sheet, the implementation of the procedure is heavily dependent on fragmentary information and on judgment. The analyst, therefore, must use extraordinary care in developing estimates for the entries on this work sheet to assure the most reasonable and realistic results possible under the circumstances.

Policies and regulations relating to student living arrangements off campus vary considerably between colleges and change from time to time. It is not possible to take specific account of these differences in an analytical procedure developed for general application. These differences, however, are reflected to a considerable extent, if not wholly, in the student housing experience revealed in pertinent current data and estimates utilized in the suggested approach. If sharp changes in policies and regulations occur which affect the magnitude and composition of demand, such changes should be reflected in the appropriate factors and estimates used at various steps in the procedure.

Inasmuch as the marital status and living arrangement preferences differ materially as between graduate and undergraduate students, it would be desirable to develop separate estimates of demand for each group and combine them to provide the estimate of total demand. The additional complications and difficulties involved in this approach, however, would not justify its use in the absence of compelling reasons. It is believed that the consolidated approach suggested herein produces results that are reasonably realistic; the ratios and factors employed in the procedure inherently reflect the impact of the graduate students.

Where separate estimates of demand are required for unmarried male and female students, additional complications and difficulties are introduced in developing the necessary data and factors. The suggested procedure, however, is adaptable to the derivation of separate estimates. When the work sheet is used for this purpose, dual entries are to be made in Column C.

Lines 1 - 3. - Obtain from the college and enter on these lines the projected increase in student enrollment for the forecast period, cross-classified by marital status (Columns B and C) and resident status. "Resident" means students having permanent residence or abode in the market area under study; "nonresident" means students having only temporary residence or abode in this area while attending college and whose permanent residence is located outside the market area. (These classifications do not relate to residence inside or outside the State.) The enrollment figures should not include students at the college branches or centers in other localities.

ESTIMATED DEMAND FOR APARTMENTS:

Line 4. - Entries are to be made in Columns B and C first; add these entries and enter the total in Column A. For 4B, add the entries in 2B and 3C and adjust the sum to eliminate the duplication of two students per student family. The proportion of such families (to be ascertained from college authorities) determines the adjustment factor. For example, if 20 percent of the student families contain two students the adjustment factor is: 100% - (20% ÷ 2) = 90%; if the proportion is 25 percent, the factor is: 100% - (25% ÷ 2) = 87½%. Apply the factor to the sum of 2B and 3B and enter the result in 4B. For 4C, prepare an estimate using (a) the entry on Line 3C as the multiplicand and (b) a factor, as the multiplier, based on current experience representing the ratio of the number of apartments occupied by nonresident unmarried students to the total number of unmarried nonresident students, i.e., x number of apartments per 1,000 unmarried nonresident students.

Line 5. - Enter in Columns B and C the number of vacant apartments currently available for student occupancy within reasonable commuting distance in the range of rent levels within their financial capacity. Enter in each of these columns (a) the number of available units as a negative quantity; or (b) zero, if no units are available and there is no backlog of unfilled need; or (c) the estimated shortage, as a positive quantity, if no units are available and there is an actual backlog of unfilled need. Add the entries in Columns B and C algebraically and enter the total in Column A.

Line 6. - Enter in Columns B and C the net shift that may be anticipated during the forecast period in the occupants of apartments and rooms. If the net shift is from rooms to apartments enter as a positive quantity; if from apartments to rooms, enter as a negative quantity. (For this purpose, it is presumed that the number of persons per room and per apartment are equivalent within the respective marital status categories.) Add the entries in Columns B and C algebraically and enter the total in Column A.

1/ See definition of "room" on work sheet, p. 281.

Line 7. - Add the entries on Lines 4, 5, and 6 algebraically for the respective columns and enter the totals on Line 7.

Line 8. - This line requires an approximation in Columns B and C of the percentage of potential demand units with capacity to pay the rent for new apartments for student occupancy. For Column C, it is presumed (in the method of estimating the entry for Line 4C) that all units of estimated need have the capacity to pay; hence, the demand factor for this column is 100 percent. For Column B, an estimated factor must be determined in light of available information on current housing experience with references to married students. No entry is required for Column A.

Line 9. - Multiply the entries in 7B and 7C by the respective factors in 8B and 8C and enter the results in 9B and 9C. Add the entries in 9B and 9C for the entry in 9A.

Line 10. - Enter in Columns B and C the number of student apartments under construction and approved for construction, with completion scheduled within the forecast period. Care must be exercised to assure proper classification of units between Columns B and C. For example, publicly-assisted apartments are not available to groups of unmarried students. If both married students and groups of unmarried students are eligible for occupancy in privately-financed projects, a distribution between Columns B and C should be estimated. Add the entries in Columns B and C to obtain the entry for Column A.

Line 11. - Subtract the entries on Line 10 from the respective entries on Line 9 and enter the results in Line 11. These entries represent the estimates of demand among married and unmarried students for additional new apartments during the forecast period.

Line 12. - Divide the entries on Line 11 by the number of years (unrounded, i.e., including fractional year) in the forecast period and enter the results on Line 12.

ESTIMATED DEMAND FOR ROOMS:

In this portion of the work sheet no entries are required in Columns A and B on any lines; consistent with the derivation of the entry for 4B above, it is assumed that all married students will seek apartments (new or existing) within their capacity to pay. Thus, all of the following instructions relate to Column C.

Line 13. - Deduct from the entry in 3C (above) the entry in 4C multiplied by a factor representing the average number of unmarried students per apartment unit occupied by such students, based on current experience. Enter the result on Line 13.

Line 14. - Enter the number of vacant spaces in rooms currently available for student occupancy in dormitories, boarding houses, and private homes at rent levels within their financial capacity. Enter (a) the number available, as a negative quantity; or (b) zero, if no spaces are available and there is no backlog of unfilled need; or (c) the estimated shortage, as a positive quantity, if no spaces are available and there is an actual backlog of unfilled need.

Line 15. - Enter the net shift in the occupants of rooms--from rooms to apartments or from apartments to rooms. This entry is derived by multiplying the entry in 6C (above) by the average number of students per room, based on current experience, and prefixing the opposite algebraic sign (i.e., if 6C is positive the entry on Line 15 will be negative).

Line 16. - Add the entries on Lines 13, 14, and 15 algebraically and enter the total in Line 16.

Line 17. - Enter the number of spaces in dormitory-type structures under construction and approved for construction for student occupancy, with completion scheduled within the forecast period.

Line 18. - Subtract the entry on Line 17 from the entry on Line 16 and enter the result on Line 18.

Line 19. - Since new dormitories are designed with rooms of various capacities to accommodate from one to four students per room (suite), it is presumed that all students have the financial capacity to pay for accommodations tailored to their means. Thus, the entry on Line 18 represents the estimated net demand for new accommodations in terms of spaces during the forecast period. To translate this estimate in terms of rooms it is necessary to apply a conversion factor for multiple occupants per room. The average number of students per room should be determined from current experience in existing accommodations. This average is the conversion factor.

Line 20. - Divide the entry on Line 18 by the entry on Line 19 and enter the result on Line 20. This entry represents the estimated net demand for new dormitory accommodations in terms of rooms during the forecast period.

Line 21. - Divide the entry on Line 20 by the number of years (unrounded, i.e., including fractional years) in the forecast period and enter the result on Line 21.

Note re demand for dormitory accommodations: In the text of the report, demand should be expressed both in terms of spaces and rooms to assure clarity and to maximize the effectiveness of the analysis as a basis for guidance.

WORK SHEET FOR ESTIMATING QUANTITATIVE DEMAND
FOR NEW HOUSING FOR STUDENTS -- APARTMENTS AND ROOMS[1/]

Housing Market Area _____

College or University _____

Forecast Period, from _____ to _____

	Marital Status		
	Total (A)	Married (B)	Single (C)
PROJECTED INCREASE IN ENROLLMENT (STUDENTS):			
1. Total			
2. Resident			
3. Nonresident			
ESTIMATED STUDENT DEMAND -- APARTMENTS (UNITS):			
4. Projected increase in requirements			
5. Available vacant units -- (+, 0, or -)			
6. Shift in occupants -- (+, 0, or -)			
7. Estimated net requirements			
8. Demand factor	XXX	%	100%
9. Estimated demand			
10. Units under construction and approved			
11. Estimated net demand -- forecast period			
12. Annual rate of demand			
ESTIMATED STUDENT DEMAND -- ROOMS:			
13. Projected increase in requirements	XXX	XXX	
14. Available vacant spaces -- (+, 0, or -)	XXX	XXX	
15. Shift in occupants (spaces) -- (+, 0, or -)	XXX	XXX	
16. Adjusted est. of requirements (spaces)	XXX	XXX	
17. Spaces under construction or approved	XXX	XXX	
18. Est. net demand (spaces) -- forecast period	XXX	XXX	
19. Conversion factor -- average spaces (students) per room	XXX	XXX	
20. Est. net demand (rooms) -- forecast period	XXX	XXX	
21. Annual rate of demand (rooms)	XXX	XXX	

1/ The term "room" is defined to mean a suite of two or more nonhousekeeping rooms with accommodations (spaces) for multiple student occupancy, as well as an individual room with accommodations for one or more students.

Exhibit J

INSTRUCTIONS FOR ESTIMATING QUANTITATIVE DEMAND

FOR NEW PRIVATELY-FINANCED SKILLED NURSING HOME BEDS

Line numbers in the instructions below refer to the work sheet on p. 283.

The work sheet is designed to provide for the derivation of demand estimates for submarket areas, as well as for the entire market area, where submarket distribution is appropriate. Estimates may be derived for one or more submarkets, depending on the circumstances. If estimates are derived for selected submarkets only, the derivation for the remainder of the housing market should be shown also, so that the sum of the components will equal the total for the entire market. The work sheet should be extended with columns for additional subareas, if necessary.

The identification of the housing market area and the forecast period should be entered in the spaces provided in the heading of the form. Where the market area for the purpose of analyzing demand for nursing home beds is different from the usual market area for an analysis of sales and rental housing, the delineation of the area should be footnoted at the bottom of the work sheet. The forecast period ordinarily should not exceed two or three years.

For want of more adequate data and more extensive research of nursing home experience to establish pertinent criteria and relationships, this procedure is predicated basically on a factor of need for nursing home accommodations (see instruction for Line 2, below).

If data for entries on Lines 4, 6, 7, 9, and 10 are not available from Public Health Service offices (local or State), the required data must be collected from individual nursing homes, if feasible. As a last resort, the best possible estimates must be made on the basis of all available pertinent information.

Line 1. - Enter in thousands the projected total elderly population (65 years of age and over) for the market area. This projection should conform to the forecast period of an over-all market analysis, usually not over two or three years. The projection includes the elderly farm population (an exception to the five percent rule applied for other market analysis purposes) inasmuch as the farm population constitutes a potential source of demand for nursing home beds in or reasonably accessible to rural-farm areas.

Line 2. - Enter, from the table below, the appropriate "need factor" for the State in which the subject market area is located. The factors in this table represent privately-financed and publicly-financed skilled nursing home beds; they have been developed from pertinent data published by the Public Health Service of the Department of Health, Education, and Welfare (Hill-Burton State Plan Data--A National Summary As of Jan. 1, 1968). Variations in these factors are due primarily to different rates used by States in their health facility plans as of January 1, 1968 for estimating nursing home bed needs within the prescribed rate for determining the maximum number of beds allowable for assistance under the Hill-Burton program. Many States used a rate below the permissible maximum.

Total Skilled Nursing Home Beds Needed
Per 1,000 Elderly Population 65 Years Old and Over

Alabama	45	Kentucky	24	N. Dakota	53
Alaska	68	Louisiana	36	Ohio	38
Arizona	25	Maine	42	Oklahoma	73
Arkansas	49	Maryland	43	Oregon	51
California	39	Massachusetts	68	Pennsylvania	39
Colorado	60	Michigan	42	Rhode Island	51
Connecticut	49	Minnesota	67	S. Carolina	43
Delaware	46	Mississippi	27	S. Dakota	63
Dist. of Col.	29	Missouri	50	Tennessee	41
Florida	29	Montana	50	Texas	42
Georgia	57	Nebraska	51	Utah	36
Hawaii	41	Nevada	29	Vermont	60
Idaho	51	New Hampshire	53	Virginia	30
Illinois	39	New Jersey	34	Washington	66
Indiana	39	New Mexico	35	W. Virginia	30
Iowa	39	New York	37	Wisconsin	66
Kansas	34	N. Carolina	23	Wyoming	43

Line 3. - Multiply the entry on Line 1 by the factor on Line 2 and enter the product on Line 3. This entry represents the estimated total number of privately-financed and publicly-financed acceptable beds needed.

Line 4. - Enter the ratio of acceptable privately-financed skilled nursing home beds to the total number of acceptable skilled nursing home beds (publicly-financed and privately-financed).

Line 5. - Multiply the entry on Line 3 by the entry on Line 4 and enter the product on Line 5.

Line 6. - Enter the number of existing acceptable privately-financed skilled nursing home beds.

Line 7. - Enter the number of privately-financed skilled nursing home beds to be available from projects under construction or definitely approved.

Line 8. - Add the entries on Lines 6 and 7 and subtract the total from the entry on Line 5 and enter the result on Line 8.

Line 9. - Enter the number of vacant privately-financed skilled nursing home beds as of the current date.

Line 10. - Enter the number of vacant privately-financed skilled nursing home beds required for reasonable balance in the demand-supply relationship of the skilled nursing home market. Available data indicate that an occupancy rate of 85 to 90 percent is typical for privately-financed skilled nursing homes. Local experience, however, should be checked for possible variation from this criterion. The number of "required" vacancies may be computed by multiplying the number of existing acceptable privately-financed beds (Line 6) by the complement of the typical occupancy rate. (Enter the complement in the parenthetic space provided in the stub of Line 10.)

Line 11. - Enter the excess of the entry on Line 9 over the entry on Line 10. If the entry on Line 10 is greater than the entry on Line 9, enter a "zero" on Line 11.

Line 12. - Enter the difference between the entry on Line 8 and the entry on Line 11. If the entry on Line 11 is greater than the entry on Line 8, enter a "zero" on Line 12.

Line 13. - Divide the entry on Line 12 by the number of years (unrounded, i.e., including fractional year) and enter the result on Line 13.

WORK SHEET FOR ESTIMATING QUANTITATIVE DEMAND
FOR NEW PRIVATELY-FINANCED SKILLED NURSING HOME BEDS

Housing Market Area _____

Forecast Period, from _____ to _____

Items 1/	Entire Area	Subareas 2/			
		A	B	C	D
1. Projected elderly population (000)					
2. Number of acceptable beds needed per 1,000 elderly					
3. Est. total number of acceptable beds needed					
4. Existing acceptable priv.-financed beds as % of all acceptable beds					
5. Est. number of acceptable privately-financed beds needed					
6. Number of existing acceptable privately-financed beds					
7. Number of priv.-financed beds under construction or approved					
8. Est. number of additional privately-financed beds needed					
9. Vacant acceptable priv.-financed beds available, current date					
10. Vacant acceptable privately-financed beds required (%)					
11. Excess of vacancy					
12. Est. foreseeable need for privately-financed beds in forecast period					
13. Annual demand					

1/ All references to beds means skilled nursing home beds.

2/ Identify subareas (counties or other delineation):

A_____ B_____

C_____ D_____

_____ _____

FOOTNOTES

Chapter I

1/ E.g., a proposed new, self-sufficient town-site development; or a community primarily dependent on depletable natural resources; or a community with prospective impact of a new factor involving long-range economic implications.

Chapter II

1/ The Institute for Urban Land Use and Housing Studies, Columbia University, New York, Housing Market Analysis: A Study of Theory and Methods, (Housing and Home Finance Agency, Washington, D. C., 1953), Chapter II.

2/ Ibid.

3/ Arthur M. Weimer and Homer Hoyt, Principles of Real Estate, (4th ed.; New York: The Ronald Press Company, 1960), p. 386.

4/ The Institute of Urban Land Use and Housing Studies, op. cit.

5/ This discussion is concerned only with the market for owner- and renter-occupied dwelling units of all types. The market for residential income property as an investment is not necessarily localized.

6/ Further refinement in submarket segmentation requires progressively narrower subclassification of characteristics to identify the submarkets that may be desired. Analysis of such refined submarkets is hampered by lack of data and techniques and would be possible only with the aid of special surveys and research in each instance. Ordinarily, this extensive work is not feasible and, as an alternative, such analysis must be based on a general approach with improvised methods and greater dependence on observation, available sources of non-statistical information, and judgment, pending the development of pertinent data and appropriate techniques.

7/ For detailed discussion of the theories and principles of urban growth and structure, see:

Arthur M. Weimer and Homer Hoyt, op. cit., pp. 348-9.

Richard M. Hurd, Principles of City Land Values (New York: The Record and Guide, 1924).

E. W. Burgess, "Urban Areas" in Chicago: An Experiment in Social Science Research, T. V. Smith and L. D. White (editors) (Chicago, Illinois, University of Chicago Press, 1929), pp. 114-123.

Ernest M. Fisher, Advanced Principles of Real Estate Practice (New York: The MacMillan Company, 1930), Chapter VII "Types of Real Estate Uses and Their Characteristics", particularly pp. 125-128.

Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities (Federal Housing Administration, Washington, D. C., 1939; U.S. Government Printing Office).

8/ Homer Hoyt, "Recent Distortions of the Classical Models of Urban Structure", Land Economics, (Madison, Wis., University of Wisconsin, May 1964), pp. 199-212.

9/ E.g., exclusion of rural farm population, households, and dwelling units; modification of labor force and employment data to conform to the area delineated.

10/ For an excellent illustration of the overlay technique see Hoyt, Structure and Growth - - -, op. cit. This technique is particularly useful in intensive basic studies or research for which funds and time are amply budgeted.

11/ For the definitions of all Standard Metropolitan Statistical Areas and the criteria followed in establishing these areas see Standard Metropolitan Statistical Areas, prepared by Office of Statistical Standards, Bureau of the Budget, Executive Office of the President, 1967 (or later edition, if available).

12/ For further discussion pertinent to housing market area delineation see Richard B. Andrews, "Mechanics of the Urban Economic Base: The Problem of Base Area Delineation", Land Economics (Madison, Wis., University of Wisconsin, August 1954), pp. 260-269. Or same article reproduced in: Ralph W. Pfouts, Editor, The Techniques of Urban Economic Analysis, (West Trenton, New Jersey: Chandler-Davis Publishing Company, 1960), pp. 118-138.

Chapter III

1/ The discussion in this paragraph is adapted, in part, from: Charles M. Thiebout, The Community Economic Base Study, Supplementary Paper No. 16 (New York, N. Y., Committee for Economic Development, December 1962), Chapter 2.

2/ Richard B. Andrews, "Mechanics of the Urban Economic Base: General Problems of Base Identification", in The Techniques of Urban Economic Analysis, R. W. Pfouts, Editor (West Trenton, New Jersey: Chandler-Davis Publishing Company, 1960), p. 82.

See also Charles M. Thiebout, op. cit., for a cohesive summary description of what an economic base study is and some guidelines for conducting this kind of research and analysis.

3/ For a statement of the methods of economic base analysis see: Arthur M. Weimer and Homer Hoyt, Principles of Real Estate, op. cit., Chapter 19, "Economic Base and City Growth", pp. 362-381, and Exhibit E, "Economic Base Analysis", pp. 704-706.

4/ This is not meant to imply any criticism of the merit of the theory; as a working tool for studies involving long-range projections for the execution of community planning programs, it is superior to less refined analyses and justifies the additional costs entailed.

5/ It may be noted in passing that more difficult and complex problems are involved in applying other refined methods of analyzing an area's economy, such as the community income multiplier method and the input-output method. For a discussion of these approaches see R. W. Pfouts, Editor, The Techniques of Urban Economic Analysis, op. cit., pp. 342-358 and 360-408, respectively.

6/ The advantage which one area has over another in generating employment opportunities is relative. Thus, growth is a competitive matter between urban areas. For a discussion of this and related subject matter oriented toward urban planning studies see Technical Guide 20, Economic Factors in Urban Planning Studies, (Department of Housing and Urban Development, Urban Renewal Service, Washington, D. C., Feb. 1966; U.S. Government Printing Office), particularly pp. 15-33.

7/ The compilation of such indexes by the individual analyst is not a feasible undertaking. For the methodology and results of a study of this kind, which is particularly relevant and enlightening, see Diversification of Manufacturing Employment for States and Metropolitan Areas, An Analysis of Diversification Indexes of States and 172 Standard Metropolitan Statistical Areas Based on a Special Tabulation of 1954 and 1947 Censuses of Manufacturers (U.S. Department of Commerce, Business and Defense Services Administration, Office of Area Development, Washington, D. C., 1960; U.S. Government Printing Office).

8/ Allan Rodgers, "Some Aspects of Industrial Deversification in the U.S."; Economic Geography, Vol. 33, No. 1, January 1957, pp. 16-30.

Also Lowell E. Galloway, "Some Aspects of Economic Structure of Depressed Industrial Areas", Land Economics, Vol. 35, No. 4, November 1959, pp. 337-346.

9/ Diversification of Manufacturing Employment for States and Metropolitan Areas, op. cit.

10/ Public Law 304 - 79th Congress.

Among other laws and governmental actions effected in recent years which provide supplementary aid programs in line with the broad objectives of the Employment Act of 1946, the following are particularly pertinent from the standpoint of direct significance to localities:

> Public Works and Economic Development Act of 1965; superseded the Area Redevelopment Act (1961) and established the Economic Development Administration. Federal aid is provided through (1) financial assistance (including grants, loans, and guarantees) to communities, enterprises, and industries, and (2) technical assistance and research, with a view to establishing stable and diversified local economies.
>
> The Appalachian Redevelopment Act of 1965, created the Appalachian Regional Commission and authorized a broad spectrum of economic development programs for an economically depressed region extending from New York to Alabama, including major segments of 12 states, adversely affected over many years by a decline in the coal mining and agricultural industries.

Small Business Act, 1953, enacted for the purpose of aiding and protecting the interests of small business concerns, implemented through programs of financial assistance, assistance in procuring a fair share of governmental contracts and purchases, and economic analysis and research pertaining to matters affecting the competitive strength and position of small business enterprises.

11/ For a comprehensive review of experience in economic policy formulation under this Act see Twentieth Anniversary of the Employment Act of 1946--An Economic Symposium, Hearings before the Joint Economic Committee, Congress of the United States, Eighty-Ninth Congress, Second Session, February 23, 1966, (U.S. Government Printing Office, Washington, D. C., 1966).

See also "Bibliography: The Employment Act of 1946 and Its Administration" in Employment Act of 1946, as Amended, With Related Laws and Rules of the Joint Economic Committee, Congress of the United States, February 1966, Joint Committee Print, 89th Congress, 2nd Session, (U.S. Government Printing Office, Washington, D. C., 1966), and

"The Annual Report of the Council of Economic Advisers", Chapter 7, transmitted with Economic Report of the President, January, 1966, (U.S. Government Printing Office, Washington, D. C., 1966).

12/ "Report on Manpower Requirements, Resources, Utilization, and Training" by U.S. Department of Labor, transmitted with Manpower Report of the President (U.S. Government Printing Office, 1966), data extracted from various Appendix Tables.

13/ Special Labor Force Report "White-Collar Employment: Part I--Trends and Structure and Part II--Characteristics", Monthly Labor Review, U.S. Department of Labor, (U.S. Government Printing Office, Washington, D. C.), January 1961, pp. 11-18 (Part I) and February 1961, pp. 139-147 (Part II).

14/ This section is based largely on information contained in the following sources:

"A Look at Tomorrow's Jobs", Bulletin No. 1650-1, Reprint from 1970-71 edition of Occupational Outlook Handbook, Bureau of Labor Statistics, U.S. Department of Labor.

"The U.S. Economy in 1980: Estimates of Labor Force, Growth in the Economy, and Employment by Industry and Occupation", Reprint No. 2666 from The Monthly Labor Review, April 1970.

15/ For complete Bureau of Census definitions see U.S. Census of Population 1960, separate State Reports, Series PC(1)-C or PC(1)-D, or Volume I Characteristics of the Population, Introduction.

Bureau of Labor Statistics data on employment and unemployment are developed principally from two basic surveys, which supplement each other, namely:

(1) A national monthly sample survey of households conducted for BLS by the Bureau of the Census in conjunction with its Current Population Survey.

(2) A national monthly sample survey of employers, relating to persons on payrolls, conducted by State agencies in cooperation with BLS.

For a complete description of these surveys, including concepts, scope, survey methods, etc., see Technical Note in current issue of Employment and Earnings and Monthly Report on the Labor Force, U.S. Department of Labor (U.S. Government Printing Office, Washington, D. C.).

16/ Most cooperating State agencies are identified as Employment Security Division (or Commission, or Department); others are identified by various names, e.g., Department of Industrial Relations (or Employment), Unemployment Compensation Division (or Department), Industrial Commission, etc.

17/ These categories are included, however, as other components of employment (i.e., "other nonagricultural" and "agricultural") listed separately among the major segments comprising the total work force.

18/ In addition to the exclusions noted with reference to the "wage and salary" employment data, another difference between the two series that may be significant in some instances is that the Census data represent employment status of persons by place of residence whereas the State data are compiled by place of work.

19/ Inmates of institutions ordinarily live there for long periods of time.

20/ "Labor Force Projections for 1970-80," Reprint No. 2455 from Monthly Labor Review, op. cit., February 1965, pp. 138-140.

Also: Thomas Dernburg and Kenneth Strand, "Hidden Unemployment 1953-62: A Quantitative Analysis by Age and Sex," The American Economic Review, (Menasha, Wisconsin: The American Economic Association, March 1966), pp. 71-95.

21/ In some areas military installations occasion market problems which require special consideration. This may involve minor or major modification of the standard market analysis prodecure, depending on the relative impact of the military factor on the housing market. Somewhat similar problems may arise in some areas affected by installations of National Aeronautics and Space Administration and Atomic Energy Commission. Other submarket categories of housing demand also may require modified or special procedures for analysis and estimation. Variations from the standard procedure required by special submarket problems are discussed in Chapter VII.

22/ Considerable material on the historical development of an area usually is available at the local library, chamber of commerce, utility offices, municipal offices, and newspaper offices in the form of a history of the locality, centennial or semicentennial editions of newspapers, special purpose studies, city directories, etc.

23/ As indicated elsewhere in the preceding text and footnotes, Census data report employment by place of residence whereas SES data report employment by place of work; Census includes in the respective industry categories proprietors, self-employed persons, unpaid family workers, and domestic workers in private households whereas SES groups all of these under "other nonagricultural" and "agricultural"; and, by virtue of the difference in survey methodology, SES data contain some duplication in the case of dual job-holders whereas Census data do not.

24/ Individual industry studies have been prepared by various private and governmental sources. If not available in local libraries or Chambers of Commerce, leads to such studies may be obtained from the bibliographical index files maintained in most libraries or from officials of the respective leading industries in the locality.

25/ In the interest of simplification, the term "labor force" will be used as synonymous with "work force" in the remaining text of this volume. In the use of these data in a market analysis, however, the analyst should identify each series by its respective appropriate designation.

26/ County Business Patterns, (U.S. Department of Commerce, Bureau of the Census, Washington, D. C.; U.S. Government Printing Office

27/ Over the years, the Bureau of the Census has noted a tendency for respondents to underreport their income. The Bureau notes that the estimated aggregate income derived from the 1960 census returns was equal to about 95 percent of the estimate prepared by the National Income Division of the Office of Business Economics (adjusted to make it as comparable as possible with census data).

Chapter IV

1/ Vital Statistics of the United States, U.S. Department of Health Education, and Welfare, Public Health Service, Division of Vital Statistics (U.S. Government Printing Office, Washington, D. C.).

Volume I--Natality (Births, by County and urban places), annual.

Volume II--Mortality - Part B (Deaths, by County and urban places), annual.

Note: The time lag on these publications is about one and one-half years; more recent data are obtainable from local Public Health Service offices or the State Registrar of Vital Statistics.

2/ Ibid., Volume II--Mortality - Part A (Life Tables for United States).

3/ The alternative method of computing the average annual rate of change in population is described as follows:

Since the population has continued to change throughout the period, the base on which the rate of change must be computed has varied continuously. The formula for continuous compounding is $\frac{Pt}{Po} = e^{rt}$

where Pt = population at the end of the period, Po = population at the beginning of the period, r = rate of change expressed as a decimal, and t = time interval in years (and fractions of a year). e is the standard constant 2.718...

The rate (r) may be obtained with little difficulty by computing the ratio $\frac{Pt}{Po}$ and using a standard table of values for e^{rt} from which it is possible to determine the value of rt.

Source reference: Tables of the Exponential Function e^x, U.S. Department of Commerce, National Bureau of Standards (U.S. Government Printing Office, Washington, D. C.), January 1961.

Where the average rate of change has been calculated on this basis, the column heading in the population table will be "rate" rather than "percent" and the word "rate" will be footnoted as follows: "Derived through use of a formula designed to calculate the rate of change on a compound basis."

4/ Sources which will be useful references in adjusting for rural farm population and households are as follows:

1. 1960 Census of Population, General Social and Economic Characteristics, State Separates, PC(1)C, Tables 82 and 91.

2. 1960 Census of Housing, State and Small Areas, State Separates, HC(1), Tables 12, 28, and 33.

3. 1950 Census of Population, General Characteristics, State Separates, P-B, Tables 41 and 49.

4. 1950 Census of Housing, General Characteristics, State Separates, H-A, Tables 26 and 32.

5/ Sources of annexation data:

1. 1960 Census of Population, Number of Inhabitants, State Separates, PC(1) A, Table 9 and the footnotes to Table 7.

2. Current Population Reports, Special Censuses, Series P-28, Bureau of the Census, gives not only the count of population at the time of the special intercensal enumeration but also the population living in the area annexed as of the time of annexation.

3. Population in 1960 of Areas Annexed to Large Cities of the United States between 1950 and 1960 by Age, Sex, and Color, Technical Paper No. 1, Population Research Center, University of Pennsylvania, November 1961.

4. Population in 1960 of Areas Annexed to Large Cities of the United States between 1950 and 1960 by Household Relationship and Marital Status, Technical Paper No. 2, Population Research Center, University of Pennsylvania, August 1962.

5. The Municipal Year Book, published each year by The International City Managers' Association of Chicago contains a table entitled "Annexations of One-fourth Square Mile or more by Cities over 5,000." Certain limitations underlie the Year Book annexation figures. Since they are compiled by means of an annual questionnaire, the statistics may be incomplete and annexation and population figures are local estimates which may be subject to error of an undetermined degree.

6/ Sources of institutional population data:

1. 1960 Census of Population, General Population Characteristics, State Separates, PC(1)B, Tables 21 and 28.

2. 1960 Census of Population and Housing, Census Tracts, Separate Localities, PHC(1), Table P-1.

3. 1960 Census of Population, Detailed Characteristics, Inmates of Institutions, PC(2), 8a, Table 52.

4. 1950 Census of Population, General Characteristics, State Separates, P-B, Tables 34 and 42.

5. 1950 Census of Population, Census Tracts, Separate Localities, P-D, Table 1.

6. 1950 Census of Population, Institutional Population, Special Report P-E, No. 2C, Table 44.

7. Local public and private agencies with jurisdiction of specific institutions.

7/ Sources of data and information on armed forces stationed at local military installations:

1. 1960 Census of Population, General Social and Economic Characteristics, State Separates, PC(1)C, Tables 73, 81, and 83.

2. 1950 Census of Population, General Characteristics, State Separates, P-B, tables 35, 39, and 43.

3. Officials of local military installations.

8/ Sources of college enrollment data:

1. Registrars of the various colleges located within the housing market area.

2. 1960 Census of Population, General Social and Economic Characteristics, State Separates, PC(1)C, Tables 73 and 83.

3. 1950 Census of Population, Characteristics of the Population, State Separates, P-B, Tables 34 and 42.

4. Opening (Fall) Enrollment in Higher Education; Office of Education, U.S. Department of Health, Education, and Welfare, (U.S. Government Printing Office, Washington, D. C., 1966).

5. Circular No. 637, Opening (Fall) Enrollment in Higher Education, 1960; U.S. Office of Education.

6. Circular No. 281, Fall Enrollment in Higher Education, 1950; U.S. Office of Education.

7. Report OE--54025, Total Enrollment in Institutions of Higher Education, First Term, 1959-60, Basic Data; U.S. Office of Education.

9/ Data on the characteristics of population are presented in the decennial census by various subject groupings for various type areas in different tables too numerous to list specifically. The desired data can be located in the census reports rather easily, however, with the aid of the subject content and table titles listed in the front of each report. The pertinent census reports (State Separates) for 1960 and 1950 are as follows:

1960 Census of Population
PC(1)B -- General Population Characteristics
PC(1)C -- General Social and Economic Characteristics
PC(1)D -- Detailed Characteristics

1950 Census of Population
PB -- General Characteristics
PC -- Detailed Characteristics

10/ Special population censuses taken since 1960 at the request and expense of local governments are listed and summarized in the Current Population Reports, "Summary of Special Censuses Conducted by the Bureau of the Census," Series P-28.

11/ "Estimates of the Population of States," Current Population Reports, Series P-25, Bureau of the Census.

"Estimates of the Population of the Largest Standard Metropolitan Statistical Areas," Current Population Reports, Series P-25, Bureau of the Census.

12/ A list of State and local agencies which prepare current population estimates (and projections) is available in "Inventory of State and Local Agencies Preparing Population Estimates, Survey of 1965," Current Population Reports, Series P-25, No. 328, Bureau of the Census, March 8, 1966.

13/ Actually, most of the techniques of estimating current population are useful also for making estimates or projections of future population. A more complete description and discussion of the four methods outlined briefly in this Chapter, as well as a description of other methods, will be found in the following references.

1. "Suggested Procedures for Estimating the Current Population of Counties," Population--Special Reports, Series P-47, No. 4, Bureau of the Census, April 30, 1947.

2. "Population Estimates," Handbook of Statistical Methods for Demographers, (Bureau of the Census, U.S. Department of Commerce, Washington, D. C.; U.S. Government Printing Office), Preliminary Edition--Third Printing, 1960, Chapter 7.

3. Better Population Forecasting For Areas and Communities, a Guide Book for Those Who Make or Use Population Projections; Domestic Commerce Series No. 32, (U.S. Department of Commerce; U.S. Government Printing Office, September 1952).

4. Current Population Reports--Population Estimates, Series P-25, No. 330, op. cit. (Methodology is discussed in the text of this report.)

14/ A sophisticated alternative to the method of estimating net migration is based upon the application of actuarially derived survival rates to individual ages by sex and by color recorded in the most recent census. This method is summarized in "Methods of Estimating Piecemeal Populations," by Henry S. Shryock, Jr., in the American Journal of Public Health, Volume 28, No. 9, September 1938, and in Bureau of the Census release, Series P-47, No. 4, op. cit.

15/ "Households and Families, by Type: 1966," Current Population Reports, Series P-20, No. 152, Bureau of the Census, July 13, 1966.

16/ Source references in the 1960 and 1950 censuses for data on the number of married couples without own household:

1960 Census of Population, General Social and Economic Characteristics, PC(1)-C, Report, Tables 72, 77, 82, and 87.

1950 Census of Population, General Characteristics, P-B Report, Tables 34 and 42.

17/ Pertinent census data useful in making estimates of household formation by population segments are quite limited. They consist of the number and average size of households by nonwhite classification and, in selected places only, by Spanish surname and Puerto Rican classifications. The source references for these data in the 1960 and 1950 censuses are as follows:

Nonwhite Households:

1960 Census of Population, General Population Characteristics, PC(1)-B Report, Tables 21, 22, 23, 25, and 28.

1950 Census of Population, Detailed Characteristics, P-C Report, Table 59.

Households with White Heads of Spanish Surname:

1960 Census of Population, Population of Spanish Surname, PC(2) Report, Tables 3, 10, and 15.

1950 Census of Population, P-E No. 3C.

Households with Puerto Rican Heads:
1960 Census of Population, PC(2)-1D, Tables 2, 9, and 15.

1950 Census of Population, P-E No. 3D.

Chapter V

1/ Richard U. Ratcliff, Urban Land Economics, (First Edition, Second Impression; New York: McGraw-Hill Book Company, Inc., 1949), Chapter 11, "The Housing Market", pp. 321-322.

2/ Ernest M. Fisher and Louis Winnick, "A Reformulation of the 'Filtering' Process" in The Journal of Social Sciences, (New York, N. Y.: Associated Press), Vol. VII, Nos. 1 & 2, 1951, pp. 47-58.

William G. Grigsby, Housing Markets and Public Policy, (University of Pennsylvania Press, Philadelphia, 1963), Chapter III, "The Filtering Process", pp. 84-130.

3/ Data on the total number of housing units and on the characteristics of the housing stock are presented in the decennial census by various subject groupings for various type areas in different tables too numerous to list specifically. The desired data can be located in the census reports rather easily, however, with the aid of the subject content and table titles listed in the front of each report.

4/ Construction Reports, C40, U.S. Department of Commerce, Bureau of the Census (U.S. Government Printing Office, Washington, D. C.), Annual and Monthly.

In addition, data concerning new construction may be obtained from local building inspectors and public utility companies.

5/ While great strides have been made by students of cyclical theory in formulating generalizations applicable to time-series fluctuations, and although there are relationships of significance in time-series movements, it is dubious that the cyclical approach can be relied upon in a local housing market analysis for forecasting future events. Moreover, the use of this approach is rendered unfeasible from a practical standpoint because of the limitations of time and data resources.

General knowledge of the nature of business and real estate cycles, however, is germane to the analysis of local housing markets; it broadens the analyst's understanding of the movements and relationships of local real estate, housing, and economic phenomena and enhances the soundness of his evaluation and interpretation of local market trends. The selected references listed below should be helpful toward this end.

Homer Hoyt, One Hundred Years of Land Values in Chicago, (Chicago, Illinois: The University of Chicago Press, 1933), especially Chapter VII, "The Chicago Real Estate Cycle," pp. 368-423.

Richard U. Ratcliff, Urban Land Economics, op. cit., pp. 334-345.

Weimer and Hoyt, Principals of Real Estate, op. cit., pp. 402-408.

Wesley C. Mitchell, Business Cycles, Volume I, The Problem and Its Setting, Publication of the National Bureau of Economic Research, Incorporated, (New York: J. J. Little and Ives Company, 1927).

Elmer Clark Bratt, Business Cycles and Forecasting, (5th ed.; Homewood, Ill.: Richard D. Irwin, Inc., April, 1961).

Geoffrey H. Moore, Editor, Business Cycle Indicators, (Princeton, N. J.: Princeton University Press, 1961), Volume I, "Contributions to the Analysis of Current Business Conditions."

6/ E. H. Boeckh and Associates, Building Costs, Washington, D. C. Monthly. Contains indexes (1926-1929 = 100) for 52 selected local areas and a national index (average of 20 local areas) for frame and brick residences; brick-wood, brick-concrete, and brick-steel apartments, hotels, and office buildings; and commercial and factory buildings of various types of construction.

American Appraisal Company, Clients' Service Bulletin, Milwaukee, Wisconsin. Bi-monthly. Contains indexes (1913 = 100) for 22 local areas (also covered by the Boeckh indexes) and a national index (average of 30 representative cities) for a composite of four types of buildings--frame, brick, concrete, and steel.

The foregoing local indexes reflect the cost trend in each area but do not indicate the relative costs between areas. They are not applicable to specific buildings nor to other areas.

7/ Current Population Reports, Series P-20, No. 150, Bureau of the Census, April 14, 1966, Table 1 and Table 7 (derived), and corresponding reports for previous years, same series.

8/ For a detailed discussion of the principals and procedures involved in the capitalization of income under the rent multiplier and capitalization rate methods of appraisal see FHA Underwriting Handbook, Volume VII, Book 1, Section 15, FHA Manual (U.S. Government Printing Office, Washington, D. C., Revised September 15, 1959).

9/ The only official rent index available is compiled and published by the Bureau of Labor Statistics as part of the Consumer Price Index (CPI). Current indexes are published monthly in The Consumer Price Index. A description of the index and historical tables are available on request to the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D. C.

10/ The activities of the Federal government in public housing, under its present concept and philosophy, began during the depression of the 1930's. For a brief historical resume, see: Weimer and Hoyt, Principles of Real Estate, op. cit., pp. 462-463; also Ratcliff, Urban Land Economics, op. cit., pp. 442-444; and Fisher, Robert Moore - Twenty Years of Public Housing: Economic Aspects of the Federal Program; New York, Harper. 1959 303 pages.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1970 O - 404-730