A TECHNIQUE FOR UTILIZING ASSESSMENT DATA TO DETERMINE CHANGES IN RESIDENTIAL LAND USE PATTERNS

Thesis for the Degree of M. U. P.
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GWEN R. COLEMAN
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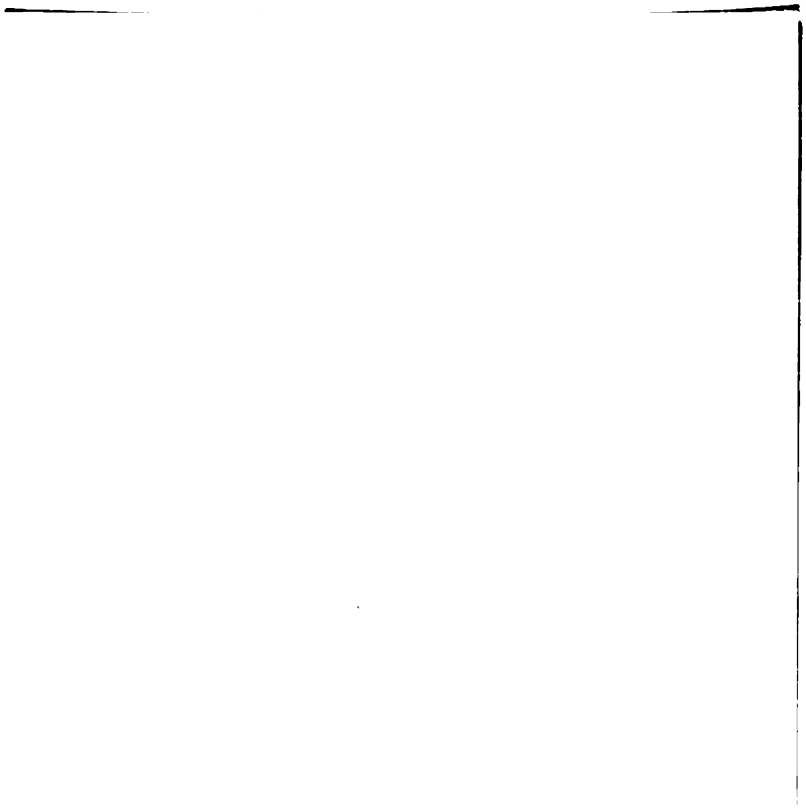

ABSTRACT

A TECHNIQUE FOR UTILIZING ASSESSMENT DATA
TO DETERMINE CHANGES IN RESIDENTIAL LAND USE PATTERNS

By

Gwen R. Coleman

This thesis suggests a technique which utilizes assessment data to indicate residential land use changes in urban areas of old, single-family houses.

An analysis of housing survey methods and statistical sources reveals a general inadequacy of household unit measurements. Urban Planning decisions regarding relocation needs in residential areas affected by highway and urban renewal projects, are based upon total household units. Planning for public utilities and facilities, social services and other residentially-related land uses, is reliant upon the household as a basic indicator of demand. Therefore, the purpose of this study was to develop a method to accurately measure household units through the use of data from tax assessor's records.

Four objectives form the basis of this research endeavor. They can be stated as follows:

1. to examine current methods of conducting housing studies and determining changes in residential land use patterns,
2. to explore the possibility of utilizing assessor's records for determining changes in residential land use patterns,
3. to develop a planning technique for utilizing assessment data in the determination of changes in residential land use patterns, and
4. to demonstrate the application of this technique in a laboratory community and discuss its practicality for indicating changes in residential land use patterns.

The study explored each of these objectives in detail and produced the following conclusions:

1. A common weakness in current housing survey methods is the lack of accurate information about total household units as measured by numbers of dwelling units.
2. Specific attributes of tax assessors' records indicate a potential source of housing information, seldom utilized for planning studies.
3. Housing conversions can serve as indicators of residential land use changes based on: a) total conversions, providing an overview of residential character and, b) cumulative conversions, indicating the rate with which change is occurring.

4. The technique serves a dual purpose of: a) yielding accurate counts of total household units and, b) providing a screening device to indicate areas in need of more intensive housing "quality" studies.

A basic method of time-series analysis was used to analyze both total and cumulative housing conversions at three specific levels of data aggregation.

Lansing, Michigan was chosen as the laboratory community in a case study designed to demonstrate the usefulness of the technique.

Major contributions of this study to the field of urban planning were: (1) it provides a technique for determining problem areas of housing, (2) it demonstrates the use of a body of accurate, continuous data available for planning studies in an up-to-date form, (3) it illustrates a screening survey method which can be completed rapidly and inexpensively and which requires no special training for survey personnel, and (4) it proposes interdepartmental cooperation in data collection procedures and shared use of the study findings.

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on population and housing for Lansing. Her knowledge of these documents contributed to the idea of a time-series study.

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INTRODUCTION

The urban planner is under increasing pressure to perform objective analysis on urban problems and, at the same time, to bolster the theoretical footing on which such analysis is based. The study of housing is certainly one of the most common problems with which planners must deal.[1]

The complexity of the housing concept and its multi-disciplinary relationships provides an inviting challenge for study from any one of several approaches. Catherine Bauer Wurster, a noted planning authority on housing, makes a plea for a social approach:

> The fact is that those who make the decisions concerning the satisfactoriness of our homes and communities are more and more forced to grapple with fundamental social, psychological and cultural questions which the traditional experts in the field---architects, engineers, city planners, economists, political scientists and lawyers---are ill equipped to answer.[2]

Traditionally, the physical approach to the study of housing has focused on the requirements for "determining the extent to which conservation or construction should be pursued."[3]

However, Richard U. Ratcliff, a land economist, favors a comprehensive approach. He encourages housing studies from the point of view that housing is more than a building,

it is the living environment. His total concept includes the physical parcel of land--focused on the occupant group--resulting in social, spacial and ecological relationships with material, human and cultural components of the community. "Housing may be viewed as a situation and a process."[4]

The attempt to combine elements of physical dwelling units and their occupants, along with a common planning concern that, "We actually know pitifully little about urban densities and their relations to the functions and problems of cities," leads to the stated problem which follows.[5]

The Problem

This research is designed to develop a possible planning technique for determining changes in the character of urban single-family residential areas.

Specific objectives, designed to fulfill the above goal are:

1. to examine current methods of conducting housing studies to determine changes in residential land use patterns,
2. to explore the possibility of utilizing assessor's records for determining changes in residential land use patterns,
3. to develop a planning technique for utilizing assessment data to determine changes in residential land use patterns, and

4. to present an actual demonstration of the technique utilizing the City of Lansing, Michigan as the laboratory community.

The research problem will be developed in six chapters. The format for the first three chapters will be based on the pursuit of objectives 1, 2 and 3, respectively. Chapter I will describe and evaluate six possible housing survey techniques. Chapter II will discuss the tax assessor's record system and advantages associated with the use of assessment data. Chapter III will deal with the rationale and design of the technique and suggest several methods for its practical application.

Objective 4 will serve as the basis for the final three chapters. Chapter IV will describe the laboratory community of Lansing, Michigan, define the study area and sub-areas within it and explain the general applications of the technique to this case study. Chapters V and VI will present the study findings in several forms and examine their contributions to urban planning.

The Rationale

The necessity for determining the character of an urban residential area is related to making proper planning decisions concerning:

1. highway location
2. urban renewal
3. public facilities and utilities
4. social services
5. related land uses.[6]

"City planners generally spend most of their time gathering information, and many give little thought at the start of the planning process to the kinds of data needed to support the types of recommendations they hope to make."[7] Thus, planning for highway route locations and urban renewal projects is not always based on accurate information about the residential neighborhoods where they are to be located. For example, the requirements for relocation aid and housing are often under-estimated due to inaccuracies in determining household needs.

Planning for public utilities (water and power), public facilities (schools and parks), social services (clinics and day-nurseries), and other related land uses (gas service stations and corner grocery stores), requires information about the neighborhoods to be served and the relative demands for special types of services. Although some facilities (libraries, playgrounds and general health services) are roughly proportional to the total population, others (refuse disposal, public utilities and fire protection), are related to the density of residential development.[8]

A common method for measuring residential density is based on estimates of persons per acre or persons per square mile. However, Stuart Chapin suggests the key unit of measurement is the household, a crude substitute for the family. "Thus, population data being the original yardstick

of growth, are translated into household data, which in turn can be expressed in terms of dwelling units."[9] Dwelling units then become synonymous with household units.

The U.S. Bureau of the Census points out that most problems associated with the coverage of housing units, generally arise from:

> difficulty in identification of units in old "one-family" houses that have been converted to multiunit use without any apparent structural changes; e.g., where units are created as the use of space--often based on the whims of the owner--and the relationships of the occupants vary.[10]

Thus, the assumption that a single-family house is equivalent to one dwelling unit (or one household unit), is perhaps fictitious.

An urban planner acknowledges housing conversions as a problem and identifies general areas of occurrance as:

> the near-in formerly good residential district where large single-family homes are cut up either into makeshift apartments or makeshift offices, for neither of which they are adapted.[11]

A practical reason for the problem occurring in such locations is that, "The older parts of most of our cities were built in the context of ideas or standards of urban living that were current in the nineteenth century and even earlier."[12]

Thus, a problem of determining accurate changes in urban residential densities measured by household units is known to exist in areas of old, single-family houses. The need for such measurement is predicated on objective planning analyses concerned with the location of residential land use

projects (highways and urban renewal neighborhoods), and the adequate provision of household services (public utilities, parks, health clinics, day-nurseries, etc.) and other related land uses (gas service stations and corner grocery stores).

The Method

A possible indicator or proxy of change in residential land use patterns is a measurement of housing conversions, operationally defined as:

> any structural change in a house originally intended for single-family use, for the purpose of adding one or more dwelling units.

In addition, all references to dwelling units are synonymous with households or household units (see Footnote 9).

"The immediate concern becomes one of selecting from the available data on housing that which, while lending itself to simple analysis, will produce meaningful conclusions."[13] In conducting studies of urban development at various densities, "it is well to consider first the basic units of land on which dwellings are located."[14] This concept together with some experience in the utilization of assessment data, leads to the conclusion that assessor's records offer a potential source of housing conversion data.

However, the use of assessment data requires some technique for practical application. For example, how can it be used to determine total change in residential character and demonstrate this change over time?

Change is indicative of continuous measurements, ones which will detect differences of degree. Thus, the basic method utilized to develop the technique will be a time-series analysis. Housing conversion data will be analyzed from two points of view. First, total housing conversions will be used to demonstrate an overview of all such activity. Second, historical trends or rates of housing change will be established by date of occurrance in 5-year intervals. Both of these approaches will be accomplished at three levels of analysis: individual blocks, sub-areas within the study area and the entire study area.

In addition, the technique's practical application will be demonstrated in a case study for which Lansing, Michigan will serve as laboratory community.

The intent of this research endeavor is to demonstrate the utility of assessment data in the design of a residential land use study. The resulting technique functions as an accurate indicator of household units and thus, provides the basis for planning decisions concerning physical and social aspects of human needs.

FOOTNOTES

[1]Hodge, Gerald, "Use and Mis-Use of Measurement Scales in City Planning," Journal of the American Institute of Planners, (May, 1963), p. 112.

[2]Wurster, Catherine Bauer, "Social Research as a Tool for Community Planning," a special article in Festinger, Schachter and Back's, Social Pressures in Informal Groups, (New York: Stanford University Press, 1950), p. 186.

[3]A statement from the Introduction of Planners' Journal, Vol. 8, (July-September, 1942), p. 26. (This approach proved inadequate for later urban renewal programs because without accurate counts of household units, it became difficult to estimate the housing needs of relocated families).

[4]Ratcliff, Richard U., "How Can Housing Research Serve City Planning?", Journal of the American Institute of Planners, Vol. 8, (July-September, 1942), p. 103.

[5]Ludlow, William H., "Urban Densities and Their Costs: An Exploration into the Economics of Population Densities and Urban Patterns," Part II in Urban Redevelopment: Problems and Practices, edited by Coleman Woodbury, (Chicago: University of Chicago Press, 1953), p. 101.

[6]It is not to be assumed that this list is all inclusive but, rather it suggests some of the major planning decisions which require information about the total character of the area to be served or disrupted.

[7]Altshuler, Alan A., The City Planning Process, (Ithaca, New York: Cornell University Press, 1965), p. 189.

[8]Op. cit., Ludlow, pp. 142-143.

[9]Chapin, F. Stuart, Jr., Urban Land Use Planning, (Urbana, Illinois: University of Illinois Press, 1965), p. 423.

[10]U. S. Bureau of the Census, Self-Enumeration as a Method for the 1970 Census of Housing, Working Paper No. 24, (Washington, D. C., 1966), p. 2.

[11]Wood, Edith Elmer, "A Century of the Housing Problem," in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 1.

[12]Op. cit., Ludlow, p. 199.

[13]Pollard, Leon, "Technique for Determining the Relative Housing Quality," Journal of the American Institute of Planners, Vol. 19, (Fall, 1953), p. 234.

[14]Op. cit., Ludlow, p. 120.

CHAPTER I

RESIDENTIAL LAND USE INDICATORS

Urban residential land uses are determined and evaluated by several different techniques. Some of these have evolved from the Depression Years of the 1930's when Work Relief Projects were originated to provide employment and stimulate the economy. The Real Property Survey (RPS) Technique was developed in 1935 as the "first comprehensive body of housing information."[1]

By 1940 other statistical sources of housing information had been developed in the form of the U. S. Census of Housing's introduction of Block Statistics for Cities.

In 1945 the American Public Health Associations' Committee on the Hygiene of Housing created a more scientific technique for measuring housing quality. This comprehensive approach for determining residential land uses was utilized in dealing with housing programs following World War II.[2]

Census data has continually improved. The 1960 Census of Housing refined and improved the rating system for housing deficiencies to include three categories and the 1960 Census of Population began to yield population figures for individual city blocks. This information, when combined with the number

of dwelling units per block obtained from Census of Housing data, can be comparably utilized to approximate measures of gross residential densitites.

Urban planners have combined residential land use survey techniques and statistical information from these and other sources in an infinite variety of housing surveys. Any definition concerning the elements of a "good housing survey" appear to be subjected to two kinds of influences: 1) the examiner's knowledge and personal experiences with different kinds of techniques and data sources and, 2) the unique problems of the city or residential neighborhood for which the study is designed. These two factors, modified by budgetary considerations, time allotments and the degree to which the survey results are published and utilized, determine judgments made about the quality of most housing surveys.[3]

Harland Bartholomew's planning philosophy is based on his belief that both statistical criteria and judgment of first-hand knowledge are indispensable in the design of housing surveys. It is his opinion that 75 per cent of the survey conclusions should be based on statistics and 25 per cent on the personal knowledge of the planner.[4] Mr. Bartholomew sees the need for a subjective approach in the final determinations of housing studies.

Ladislas Segoe states that, "A housing survey consists of two parts, 1) the adaptation of useful data from such secondary sources as public records or earlier surveys, and

2) the collection of additional or fresh data in the field by house-to-house canvass. The first determines the magnitude of the second."[5] Mr. Segoe's philosophy is more objective in that he relies on the use of statistical information but, cross checks one source with another. He goes on to say: "The second part is the larger and longer of the two. It may include every structure or may be narrowed down to include only a representative sample of structures."[6]

Most planners would agree with Allan A. Twichell, designer of the APHA Appraisal Method for Measuring the Quality of Housing, that "Good housing surveys are not packaged products that can be bought from the shelf."[7] Mr. Twichell believes the main problem to be one of overall design. "Surveys are too seldom designed to provide for a desirable progression from lesser to greater intensity of study."[8]

A housing study design is greatly modified by the puspose for which it is intended, mainly the determination of residential land uses through the measurement of housing changes. The U. S. Bureau of the Census lists five requirements of statistics used for such measurement.[9] The statistics should:

1. reflect the real state of affairs (use indicators based on present standards.),
2. reflect real trends (both past and future.),
3. be geographically comparable,

4. be built up from data obtained for individual housing units, and

5. be based on methods that distinguish various levels of quality of individual housing units.

Planning philosophies about the proper functions of housing surveys, combined with unique residential area situations, result in various choices of housing statistics and survey methods. A 1950 survey to determine the criteria used by various U. S. Cities to delimit redevelopment areas revealed the following results: small cities (Beaver Falls, Pa.), generally used first-hand information gained through reconnaissance surveys while larger cities used one of two basic statistical sources. Atlanta, Philadelphia and San Francisco housing surveys were based on statistics from APHA Appraisal questionnaires gathered on a house-to-house canvass. Baltimore and Los Angeles used housing statistics from the U. S. Census of Housing. And one example, St. Louis, used both Census and APHA statistics.[10]

The choice of housing statistics as the major input, is determined by the depth of study. Based on this criteria, housing surveys are of two general types: screening and intensive. A screening survey may be defined as one that roughly outlines the problem areas, suggesting the nature of problems to be anticipated there, but which lacks the detail or accuracy needed as a guide to definitive programs.[11] Intensive surveys indicate whether the solutions lie in rehabilitation of present dwellings, in demolition and rehousing, or

in ultimate conversion from residential to some other kind of land use.

"Although housing surveys will not yield all of the facts that urban planners need, they can produce probably the most significant single set of data."[12] Since there are a variety of techniques for conducting such surveys, an inventory and general description will reveal the choices available to most cities.

Housing Survey Techniques

Special attention will now be given to the standard housing survey methods most widely used, either independently or in some combination. Each of them has some specific advantages, dependent upon the depth of the study; that is, if the study is a screening or intensive type of survey. An attempt is made here to describe the method and its application. An evaluation, including method limitations, will be given in the following section.

American Public Health Appraisal Method

The American Public Health Associations' (APHA) Appraisal Method for Measuring the Quality of Housing has been a parent to much of the effort expended in determining housing changes. The publication of this method in 1945 followed a long period of pressure on city planners to produce tools for such measurements. "The Appraisal Method was a major step forward and soon became the most widely used measurement device in city planning."[13]

This method is an attempt to measure "substandardness" of housing stock in that it assigns penalty points for conditions that fail to meet certain standards of adequacy. Two separate surveys, one for dwelling unit conditions and a second for local environmental conditions are based on criteria of unhealthy, unsafe and unamenable conditions for residence.

The Quality of Dwellings Survey consists of three sections, totaling 600 points:

1. facilities,
2. maintenance, and
3. occupancy (suitability for human habitation).

The Quality of Neighborhood Environment Survey consists of six sections for evaluation, totaling 350 points:

1. land crowding,
2. nonresidential land uses,
3. hazards and nuisances from transportation system,
4. hazards and nuisances from natural causes,
5. inadequate utilities and sanitation, and
6. inadequate basic community facilities.

Either the dwelling or the environmental appraisal can be made alone, but soundest results are based on a combination of both.[14] "The neighborhood environment, usually disregarded in housing surveys, is recognized as an essential part of housing."[15]

The APHA housing appraisal is a negative (penalty) scale which measures basic deficiencies---the higher the point total, the worse the dwelling. A basic deficiency is a major substandard condition warranting drastic corrective

action such as the lack of sanitary facilities, unsafe structure or conditions of crowding.[16] The numerical scores are based on objective items which given consistent results from different enumerators.

Scoring is completely separated from the collection of data so that the penalty values can be adjusted for given communities. For example, the values for inadequate heating facilities would be reduced for southern cities. This feature lends flexibility to the method and permits adjustments for all sizes and types of cities. Total scores permit instant comparison between individual dwellings, blocks or larger areas so that the aggregate of housing information is also flexible, according to the user's needs.

Additional merits of this method are based on its central purposes "to serve all agencies concerned with housing and city planning."[17] "Surveys with this technique are usually made as a cooperative undertaking of several official agencies."[18] Joint efforts in the provision of personnel and data, plus joint utilization of the survey results furnishes a valuable opportunity for cooperation between the city health, housing, building, fire, planning, parks and recreation, and administrative departments.

One advocate of this technique points out that it has sometimes been successful in a manner not anticipated by its sponsors. For example, some cities have added planning or enforcement personnel because of needs discovered by the

survey findings. In addition, "Attention has been focused on the importance of controlling dwelling conversions."[19]

City Building Department Records

A common method used to determine gross changes in the housing stock is the use of information from building department records. Residents are normally required to apply for a building permit before making any structural changes in their properties. Additions such as garages (attached or detached), enclosed porches, rooms or exterior stairs would require such a permit.

In instances of major renovations such as the addition of a second story or the conversion of a single-family dwelling to multiple dwelling units, the building contractor normally obtains a building permit as part of the necessary prerequisites to construction.

Building permit records are filed for follow-up procedures, and building inspectors periodically check the projects. When the work is finished, a final field inspection is completed and a copy of the building permit is circulated to the assessor's office. The permit number, date, type of change and cost are entered on the assessor's property record so that the appraised value can be adjusted accordingly.

Residential demolitions and new construction are also a part of building permit records. This kind of data, indicating changes in the housing stock, together with Census

of Housing data, indicative of the housing stock in a base year, are normally combined to determine contemporary housing situations.

For example, a 1963 Nashville, Tennessee housing inventory for the metropolitan area, utilized a combination of Census data (starting with an inventory of housing units in 1950), and building department data (gross dwelling unit additions based on new construction and conversions, and gross dwelling unit subtractions based on demolitions and fire losses), to determine the 1950-1960 net additions to the metropolitan area housing supply.[20]

Philadelphia's 1955 dwelling unit estimates used building permit information and applied them to Census statistics to yield estimates by census tracts, wards and the total city. This approach combined the same two kinds of housing data as the Nashville study, but in a method more appropriate to small area measurement.

The procedure employed in the Philadelphia study may be described as follows: all permits issued by the Department of Licenses and Inspections for residential demolitions, conversions and new construction were allocated by address to census tracts, and housing changes were calculated on this basis. These changes were then applied to the 1950 Census data to yield estimates of total dwelling units by census tracts for 1955.[21]

In general, city building department records yield some basic ideas of changes occurring in the total number of dwelling units, including the extent of new residential construction and the total number of deleted units. However, two points should be kept in mind concerning the use of this method: 1) building permit records must be utilized in conjunction with base year housing statistics from another source and, 2) building permit data measure quantity and not quality.

U. S. Census Statistics

The planner often finds it difficult to do much original data collecting. Thus, he uses census statistics for a ready source of basic data to get an overview of the housing situation. "Although census data do not furnish all the answers to questions, block statistics and census tract data furnish an overwhelming proportion of the factual background material necessary to make intelligent decisions."[22]

The advantages of gathering information by census tract lend greater flexibility to the manipulation and presentation of data.[23] Census tract statistics can be used as isolated samples, aggregated by wards or other sub-sections of a city or for the city as a whole. This flexibility permits problem identification in specific areas.

Methodological innovations in the 1960 Census included a heavy reliance on sampling (25 per cent), and the introduction of a self-enumeration technique.[24] This

second feature was an attempt to eliminate some of the subjectivity and biases of census enumerators covering several adjacent city blocks.

In addition, the 1970 Census will attempt to provide more information related to housing problems such as residential mobility and average rents or housing values.

1. Census of Population

Housing surveys, particularly those of the intensive type which are designed to identify problems and suggest solutions, require population data in addition to the total number of dwelling units. The 1960 Census of Population provided the first tabulations of population by city block, comparable to the Block Statistics of the Census of Housing. These data permit the planner to assess average population per dwelling unit for individual city blocks. This is an important step forward in the identification of housing problems concerned with the implications of personal space on social adjustment. Leo F. Schnore, a prominent sociologist, concludes that the Census of Population is a major source of information for all those who are responsible for local area plans.[25]

2. Census of Housing

The first Census of Housing in 1940 evolved as a technique succeeding the Real Property Surveys and other housing surveys carried on with the aid of workers from relief rolls during the 1930's. Census definitions and cate-

gories have changed with each decade. The early concept of "state of repairs" was a structural indicator, containing no measure of building quality. By 1950 the concept was broadened to the "condition of structure" including two categories: not dilapidated and dilapidated. A second refinement in the 1960 Census added two separate measurements in the not dilapidated category: sound and deteriorating, to yield three categories of housing quality.[26]

The unit of enumeration used in 1940 and 1950 was "dwelling units". This concept didn't include rooming houses and residential hotels (considered non-dwelling units), and resulted in major problems during the 1950's when statistics for a significant proportion of the residents in urban renewal clearance areas had not been included in the census. In 1960, a broader concept of "housing unit" became the unit of enumeration with the idea of including all single-person households and previously uncounted residences.[27]

The U. S. Bureau of the Census is continually attempting to develop better indices of housing quality on the basis of objective data which can be obtained in a self-enumerative Census of Housing. The 1970 Census is attempting to meet this challenge with quality assessments based on: 1) the housing unit and the structure in which it is located and, 2) the character of the neighborhood in which the unit is located.[28]

Most housing studies of the screening type utilize Census of Housing indices of housing quality by block or tract in order to get a general idea of the housing stock.[29] Urban planning determinations primarily based on physical criteria such as the total number of dilapidated housing units, utilize Census of Housing statistics as quick reference guides.

Reconnaissance Surveys

Reconnaissance or windshield surveys are a prerequisite to all types of housing surveys. Empirical observations provide the planner with some basis for making generalizations about the nature and extent of the area to be studied and possible environmental influences in adjoining areas. While undoubtedly crude, this method's validity must be determined subjectively.[30]

Field investigations, completed by foot or from a slowly moving auto, have been widely used for screening purposes. Though examinations are restricted to glimpses of exterior structural conditions, usually from a distance, the planning analysis done on this basis usually determines the study design and influences the study area boundaries.

Additional empirical observations where a count of dwelling units is required, such as the detailed techniques suggested by Stuart Chapin, include block maps and forms for field notations. "Field survey procedures will differ according to whether data storage is to be in punch card or map form."[31]

Reconnaissance surveys may be viewed as simple screening procedures or, as Chapin suggests, as field procedures in intensive surveys. Either way, the method is widely accepted and utilized as a practical technique for obtaining a general overview of residential study areas.

Urban Renewal Procedures

Broad guidelines for conducting housing surveys are published in the Urban Renewal Manuals. Cities desiring to qualify for Federal funding must provide evidence of deteriorated housing based on the following criteria: any urban area where at least 20 per cent of the buildings contain one or more building deficiencies and at least two or more environmental deficiencies, becomes eligible for urban renewal treatment. Building and environmental deficiencies are defined by Federal guidelines and rated by the local agency making the housing survey.

Housing surveys based on Federal criteria are completed on a point-score system of deficiencies, in much the same method as the APHA technique. Stuart Chapin points out two ways to utilize this technique in the designation of urban renewal treatment areas:

> Under federally assisted urban renewal programs of slum clearance and area rehabilitation, low-ratio sampling surveys have been used for screening purposes, that is for identifying in generalized form the treatment areas. Such a survey is then followed by a house-to-house or high-ratio sampling resurvey in the areas tentatively identified in the screening survey as most in need of attention.[32]

For most housing surveys, the first screening technique is usually the only coverage necessary.

In most instances where urban renewal criteria are used in housing surveys, classifications of "substandard" or "not substandard", originated by HHFA and currently used by HUD, are based on public health standards and not on census definitions. A substandard unit is defined as dilapidated or lacking one or more of the following: 1) hot running water, 2) private flush toilet, and/or 3) private shower or bathtub.

Public Utility Records

The records of public utilities, particularly those from municipal water and electric power companies, are indicative of residential mobility and vacancies in the housing stock. The addition of housing units, whether by new construction or by conversions of existing structures, creates a demand for water and light meters to serve individual households. Records, filed according to the customer's address or the date of meter installation or adjustment, reveal the approximate number of new or vacant housing units in the city. This data can be disaggregated by address, to specific areas within the city.

Public utility statistics normally supplement the information obtained from Building Department records or for small areas they can be used independently. Additional

assessments of losses to the housing stock due to fire and demolition are recorded in utility meter cancellations.

A variety of filing systems, record maintenance time periods and service areas of individual utility companies, influence the utilization of these statistics for local housing surveys.

Evaluation of Survey Methods

Housing surveys, as noted in the previous section, consist of a few basic techniques and a wide variety of statistical sources. These two components are utilized in various combinations according to the surveyor's budget allowances and workable time period. But more important, the study design normally results from a decision concerning the purpose and depth of the survey to be undertaken.

One category of housing study design is the screening method. Most housing surveys use this technique.[33] Typical aspects of this kind of survey include: 1) a heavy reliance on sampling procedures, 2) several empirical observations and assumptions, 3) normally a large area to be studied in a relatively short period of time and, 4) a work program based on a limited budget with few personnel. The basic objective of a screening survey is to reveal problem areas within large residential sections.

The independent use of the reconnaissance survey technique or statistical records from the U.S. Census, city

building department, or public utility companies, are examples of screening surveys.

The second category employs an intensive method in the study of housing. The approach is more comprehensive and includes suggestions for problem solutions as well as identifying problem areas. This kind of study may also rely on sampling techniques, but the observations are based on statistics rather than empirical surveys.

The American Public Health Association's method of housing and environmental appraisal is the best example of an intensive housing study. Also, studies done under Federal criteria, particularly urban renewal and community renewal programs (CRP), rely heavily on this adopted technique.

A basic difference in these two study methods is the treatment afforded dwelling occupants. Screening studies are descriptive, being primarily designed for determining changes in the housing stock. In most instances, little attempt is made to go beyond an initial assessment of housing unit losses and additions to develop an estimate of future unit needs based on population projections.

Intensive studies include a two-pronged approach with an emphasis on housing unit quality and environmental influences, viewed as factors affecting the health, safety and general welfare of the occupants. There is an attempt to do more than describe problems and estimate future needs in terms of numbers of housing units. Human needs are the basis for both problem identification and problem solutions.

Evaluations of these two basic types of housing surveys reveal the weaknesses associated with each and the need for a common statistical approach, available to cities of all sizes and circumstances.

Screening Surveys

In a discussion of urban housing problems, sociologist, Robert K. Merton, describes a heavy reliance on windshield surveys as the "hazard of empiricism" without basic research. He goes on to say, "But this difference between sheer empiricism and scientific research is not widely recognized in the field of housing. Here, empiricism still rules."[34] Reconnaissance surveys serve an important function in all planning procedures, as a prerequisite to moving into more intensive kinds of research. However, a basic reliance on empirical observations without the benefit of other supporting statistics or survey methods, provides a weak basis for making planning decisions.

The common practice of using data from local building permits is widely criticized in the literature. One planner charges that, "Portions of the construction statistics are incomplete, particularly the reports on razings and conversions."[35] The American Public Health Association raises three specific problems with the use of these records:

1. There are no systematic inspection procedures (inspections are made only in response to citizen complaints or requests for building permits),

2. Forms and records are seldom designed to be useful to agencies other than the building department, and

3. Inspection findings are not summarized by areas large enough to be significant for planning.[36]

(The researcher's attempts to utilize building permit records proved these charges to be generally well founded.) "Data from customary legal inspections of building departments should be a wealth of basic data, but as a rule, they show only the violations of archaic codes that fail to give a balanced appraisal according to contemporary standards."[37] These comments lead one to conclude that building department statistics should be utilized with caution and some knowledge of the workings of local systems. The value of such statistics remains in their use for cross-checking with other record systems.

It appears that public utility records are seldom used for housing surveys. Some cities have several companies servicing one particular utility, each with unique filing procedures making records incomparable. Secondly, there is limited accessibility in areas where water and electric power services are distributed by private companies instead of city departments. (Private records are not generally available for public use.) Finally, records of utility meter connections and servicing are sometimes maintained for short periods of time. (The researcher's attempt to use records of the Lansing Board of Water and Light proved unsuccessful due to a 7-year record maintenance period.)

U. S. Census Statistics are commonly used by urban planners, particularly for quick reference purposes. The major problem with census information is its static character and the fact that much of its utility diminishes rapidly with the passage of time.[38] Census materials contain numerous advantages for making generalizations but, other data sources may be more effectively employed for particular purposes.[39] The Bureau of the Census identifies one enumeration problem as "the bias of enumerators' subjective judgments when determining housing quality."[40] On the other hand, "Occupants, homeowners in particular, tended to understate the nature and extent of structural defects," while renters exhibited a reversal of this tendency.[41] Thus, based on this problem, the bureau hypothesizes that "The statistics for blocks appear to be of very low accuracy", and "Intracity comparisons of structural condition may be adequately based while intercity comparisons may not be."[42]

While the Census of Housing has been invaluable in dealing with national housing problems and mobilizing support for housing programs at that level, it has been of limited value in dealing with the complex, highly localized problems of local planning commissions, housing and redevelopment authorities, and local law enforcement bodies.[43] The problems of attempting to compare data from decade to decade are innumerable due to changes in enumeration units, categories of housing quality, standard measurements denoting crowded

conditions and housing unit counting procedures.[44] (The researcher attempted a time study using the 1940-50 and 60 Census of Housing, Block Statistics and found it impossible due to the problems defined above.)

In conclusion, "The census has many objectives to serve and cannot focus as heavily on the needs of specific local areas for data on housing quality as may sometimes be required." Therefore, locally originated housing surveys will continue to be necessary even with improved census measurement systems.[45] The recent innovations in the 1970 Census are based on the assumption that "there exist objective characteristics that will provide a better measure of structural condition than a structural condition rating by an enumerator."[46]

Intensive Surveys

Housing surveys completed for urban renewal and other Federal program eligibility, are normally conducted on an intensive basis. The U.S. Department of Housing and Urban Development guidelines are closely drawn from APHA standards. Thus, the following evaluation also pertains to housing studies completed under Federal government criteria.

The APHA technique of measuring housing and environmental qualities is the most comprehensive survey method available. General characteristics based on: 1) housing quality indices, 2) the evaluation of neighborhood environment, 3) a rating scale with penalty scores for deficiencies

and 4) a plan of tabulation and analysis with flexibility for local needs, extend broad application possibilities. The Bureau of the Census commends this technique and adds, "with the aid of regression analysis techniques, it could be more satisfactory than census enumerator ratings on structural condition." As with all other survey techniques, there are some major problems with the use of this method. The cost of conducting an intensive house-to-house survey prevents its use in many instances.[47] The American Public Health Association provides information and gives instructions in the use of the method to interested cities, but the cost of hiring and training dwelling enumerators and statisticians for data analysis are beyond many housing survey budgets. This technique also requires a considerable period of time for completion, (e.g. dwelling enumerators require three to four days of special instruction).[48] A final consideration is "the needed right of entry into dwellings."[49] The questionnaire used for dwelling unit appraisal requires information about the dwelling interior and this may pose problems in some residential areas.

The APHA technique is the most intensive and adaptable housing survey model however, major considerations of time and cost are basic preventatives. Therefore, cities have been forced to use modified and shortened versions of this form.

Conclusions

Research and experience with the foregoing housing study techniques and statistical sources lead to the recommendation of the APHA Appraisal Method where budgets, personnel and time schedules encourage an intensive housing survey. However, in most situations, these criteria induce a screening survey, with techniques and statistical inputs determined on the basis of local planning capabilities. Traditional methods and information are not adequate as independent indicators of residential land uses and remain questionable as techniques when used in combination with one another. One source, accessible to all cities, and commonly overlooked by most planners, is the local assessment data. The following two chapters describe and analyze assessment data and propose a technique for determining changes in residential land use patterns through the use of assessor's records.

FOOTNOTES

[1]Twichell, Allan A., "Measuring the Quality of Housing in Planning for Urban Redevelopment," Part I in, Urban Redevelopment: Problems and Practices, edited by Coleman Woodbury, (Chicago: University of Chicago Press, 1953), p. 17.

[2]American Public Health Association, Committee on the Hygiene of Housing, An Appraisal Method for Measuring the Quality of Housing: A Yardstick for Health Officers, Housing Officials and Planners, Part I., Nature and Uses of the Method, (New York, 1945), p. 6.

[3]Housing and Home Finance Agency, How to Make and Use Local Housing Surveys, (Washington, D. C., 1954), p. 2.

[4]Symposium, "Criteria Used in Delimiting Redevelopment Areas", Journal of the American Institute of Planners, Vol. 16, (Summer, 1950), p. 120.

[5]Segoe, Ladislas, "Housing; Rehabilitation of Blighted Areas and Slum Eradication", Local Planning Administration, (Chicago: International City Managers' Association, 1941), p. 425.

[6]Ibid., Segoe, p. 425.

[7]Op. cit., Twichell, p. 7.

[8]Ibid., Twichell, p. 80.

[9]U. S. Bureau of the Census, Measuring the Quality of Housing, An Appraisal of Census Statistics and Methods, Working Paper No. 25, (Washington, D. C., 1967), pp. 9-10.

[10]Op. cit., Symposium, p. 120.

[11]Op. cit., Twichell, p. 48.

[12]A quote by Coleman Woodbury, the editor of, Urban Redevelopment: Problems and Practices, (Chicago: University of Chicago Press, 1953), p. 3.

[13]Hodge, Gerald, "Use and Mis-Use of Measurement Scales in City Planning," Journal of the American Institute of Planners, (May, 1963), p. 116.

[14]Op. cit., American Public Health Association, p. 10.

[15]Ibid., American Public Health Association, p. 8.

[16]Ibid., American Public Health Association, p. 14.

[17]Ibid., American Public Health Association, p. 7.

[18]Op. cit., Twichell, p. 25.

[19]Ibid., Twichell, p. 35.

[20]Hammer and Company Associates, Housing Study and Market Analysis of Metropolitan Nashville, (Atlanta, 1963), p. 53.

[21]Philadelphia City Planning Commission, Estimates of Population and Dwelling Units in Philadelphia, April 1, 1955, (Philadelphia, 1955), p. 1.

[22]Kristof, Frank S., "The Increased Utility of the 1960 Housing Census for Planning", Journal of the American Institute of Planners, (February, 1963), p. 43.

[23]Schnore, Leo F., "A Planner's Guide to the 1960 Census of Population", Journal of the American Institute of Planners, (February, 1963), p. 32.

[24]Ibid., Schnore, p. 30.

[25]Ibid., Schnore, p. 29.

[26]Op. cit., U. S. Bureau of the Census, p. 1.

[27]Op. cit., Kristof, p. 40.

[28]U. S. Bureau of the Census, Self-Enumeration as a Method for the 1970 Census of Housing, Working Paper No. 24, (Washington, D. C., 1966), p. 7.

[29]Op. cit., Twichell, p. 48.

[30]Op. cit., Hodge, p. 118.

[31]Chapin, F. Stuart, Jr., Urban Land Use Planning, (Urbana, Illinois: University of Illinois Press, 1965), p. 285.

[32]Ibid., Chapin, p. 314.

[33]Ibid., Chapin, p. 314.

[34]Merton, Robert K., "The Social Psychology of Housing", in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 24.

[35]Siegelman, Leonore R., "A Technical Note on Housing Census Comparability, 1950-1960", Journal of the American Institute of Planners, (February, 1963), p. 50.

[36]Op. cit., American Public Health Association, pp. 6-7.

[37]Twichell, Allan A., "An Appraisal Method for Measuring the Quality of Housing", in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 395.

[38]Op. cit., Schnore, p. 39.

[39]Ibid., Schnore, p. 36.

[40]Op. cit., U. S. Bureau of the Census, Working Paper No. 24, p. 12.

[41]Op. cit., U. S. Bureau of the Census, Working Paper No. 25, p. 6.

[42]Ibid., U. S. Bureau of the Census, p. 5.

[43]Op. cit., Twichell, Urban Housing, p. 395.

[44]Op. cit., Siegelman, p. 49.

[45]Op. cit., U. S. Bureau of the Census, Working Paper No. 25, p. 3.

[46]Ibid., U. S. Bureau of the Census, p. 25. (All of these methods, e.g., the Census, APHA and Urban Renewal, are check-list kinds of measures. Thus, there is no way to make comparisons of housing conditions throughout the city. For example, is a 300-point house (APHA) in one part of the city any better or worse than one in another part? That is, "how many broken windows add up to not having a flush toilet?" Clearly, these kinds of measures can't give suitable information for making decisions about relative building conditions throughout the city.)

[47]Op. cit., Hodge, p. 116.

[48]Op. cit., American Public Health Association, p. 60.

[49]Ibid., American Public Health Association, p. 59.

CHAPTER II

UTILIZATION OF ASSESSMENT DATA

An important statistical source of accurate, up-to-date information which is traditionally overlooked in designing residential land use studies is assessment data for property tax purposes. This source is available to all municipalities and political units, regardless of size or unique circumstances. Each property is recorded individually, providing the opportunity to analyze residential uses by lot, block, or census tract.

Residential land use analyses are most commonly completed with a screening technique which does not permit original data gathering methods such as those utilized by the American Public Health Appraisals. Conversely, screening studies require existing housing data. Traditional sources of U. S. Census data, particularly the Census of Housing, combined with local building permit records, have not provided satisfactory information for most housing surveys. The static nature of census statistics and the incompleteness of building records, weaknesses pointed out in the previous chapter, are not conducive to accurate measurements of residential land use patterns.

Assessment records provide valuable information for public decision-making processes. The following description of the assessing record system demonstrates why this is so.

Assessment Record System

Tax assessor's records are filed according to a system of original blocks, assessor's plats, subdivisions, supervisor's plats, additions and, in some cases, section numbers if the land has not been platted. This system either evolves as the city develops new subdivisions and additions around its fringe areas or as developers re-plat areas in older parts of the city where original metes and bounds property descriptions were formerly utilized. Thus, factors of residential growth and change are accommodated through a filing system based on specific land development.

A description of the system can best be understood by beginning at the city level. Planners and others using this data might be interested in examining the entire city, but more commonly they'd be looking for statistics about particular problem areas within the city (perhaps originally defined according to U. S. Census statistics). Usually, the names and boundaries of all subdivisions, plats, etc., are superimposed on a wall map of the city. After determining which of these areas are to be studied, a set of smaller scale individual maps for particular subdivisions or sub-areas can be utilized to show exact properties with

description numbers. Description numbers are assigned by the assessor because original lots are divided, subdivided, bought, sold and recombined until parts of several original lots make up one property, thus rendering the "lot number" unsatisfactory for unique property descriptions. The use of description numbers becomes important to the data user if his study requires statistics for only a part of a subdivision or plat. For example, he can use these numbers as a basis for data on one or two city blocks.

Once the user has determined the names of all subdivisions and property description numbers for fractions of subdivisions which lie within the study area, he can begin collecting pertinent data from manuals for each subdivision. Properties are listed in numerical order around each block with basic information available on one page for each property (see Figure 1.) In recent years, photographs of each property are also included.

Instances of razed properties are usually marked with the date of such action and removed from the active tax rolls, but the property record remains in the subdivision manual so that each property is accounted for. Properties taken by urban renewal agencies, or sold to the state for highway or government building projects are also marked accordingly, as are properties demolished by fire. In all these instances, where land uses are changed, individual property records must be kept up to date for tax purposes.

Since each property description number must be accounted for, whether it appears on the tax rolls or not, its history must remain in the subdivision manual. This record system makes it possible to ascertain specific reasons for land use changes in any desired block or special area.

The general filing system of assessment records is efficiently structured for daily use. For example, a wide range of inquiries are received from developers, realtors, private citizens, lawyers and city government agencies requesting property information by address, subdivision or general area. Also, a large number of daily property transactions must be incorporated, so the system must allow for proper record maintenance.

In summary, the immediate location of property records and the efficient use of filing methods must meet the needs of many city departments and private citizens. In order to fulfill this requirement, the tax assessment records must be available, accurate and up to date at all times. These requirements add to the data's reliability if they are to be used as basic statistical inputs to planning surveys.

The advantages of using tax assessment records as pointed out in the following section, are based on what are believed to be general assessing practices.

Advantages of Assessment Data

The tax assessor represents an important department to every city and the efficiency with which he operates his department has a direct influence on the city's tax base and operating budget. Tax assessment records must be accurate, based on a complete inventory of all city properties and must be constantly up-dated to show any changes occurring over time. Accuracy and recency are probably the two most important qualities of assessment data from the assessor's point of view, but there are additional qualities of particular importance to the urban planner. Accessibility, continuity and level of aggregation make these records amenable to the development of a residential survey technique.

Accuracy

The advantage of using accurate data in the determination of housing problem areas cannot be over-estimated. Assessor's records must be accurately maintained by law in order for the taxing system to function properly and legally for they provide the city with a major source of income. Property appraisers perform scheduled field checks on each property and make additional checks whenever there are citizen complaints or requests concerning annual property taxes. Checks are also made on building permits and any new construction in the immediate vicinity of the property which might affect its value. Information from

building permits circulated from the building department is entered on each appropriate property record. The valuation is altered to compensate for structural changes which add to the value of the building. Bookkeeping procedures require that property transactions, address changes, and appraiser's comments be entered on individual records so that tax statements reach the proper destinations. These records are required to reflect fluctuations in the tax base as a basis for predicting annual operating budgets. Therefore, they must be accurately maintained. Such accurate statistics alao reflect precise changes in urban residential land uses.

Recency

One of the main problems in designing planning studies is the inclusion of current data, which in many instances are not available. Tax records cannot permit a time lag to occur between property changes and record adjustments, so these records provide a current statistical picture of the existing situation. For example, if a property is purchased by the state highway department and scheduled for demolition, the change must be recorded immediately and it must be removed from the tax rolls. If property ownership is transferred to a church or non-taxable organization, the records must reflect this transfer immediately so that the tax will be based only on the portion of the year when the property was taxable. The same situation remains with the removal

of any property from the tax rolls or the addition of new properties. The records must always reflect the current situation, thus providing an ideal data source for studying contemporary housing situations.

Accessibility

Assessor's records are always available for public scrutiny although many of the general inquiries are handled by telephone requests. Most citizen interests appear to be tax-related, requiring explanations about appraised values, assessment rates and tax computation procedures. Realtors, land developers, and lawyers request property information for market transactions and legal matters involving property rights, inheritance and non-payment of taxes. Many city departments such as the sanitation, streets, housing and building, plus public utility companies request legal property descriptions related to public utility rights-of-way and owner/renter occupancy. Besides daily information requests by phone, assessor's records can be available for planning studies. A planner, with some pre-conceived idea of the data he needs, can utilize a subdivision manual to collect housing information from pages which are all of the same format. Items of particular interest can be copied on a form for each city block or other desired study unit. The essential point is that these records are available to planners and the record system is amenable to many types of planning studies.

Level of Aggregation

The flexibility of assessment data permits its usage in various units from individual properties to entire municipalities. This is an advantage not possible with any other type of housing statistics. Although Block Statistics for the Census of Housing were a major contribution to survey techniques, these data have some major disadvantages. Assessment statistics can be aggregated to any level the planner chooses in examining and analyzing housing problems. Beginning with basic statistics from individual properties, data can be assembled by blocks, census tracts, Model City Neighborhoods or any unit comparable with other sources of housing information. The advantage of manipulating assessment data for special residential studies is perhaps one of its most valuable aspects.

Continuity

Assessors' records are filed permanently so that a history of property changes is possible. In the event of revised record forms due to changes in appraisal techniques, information is copied onto a new form to provide record continuity. The old record forms are filed for permanent references so that any questions of property history or back taxes can be settled with a minimum of effort and record searching. Trends in land and building values, major types of physical improvements, changes in ownership or zoning restrictions can all be ascertained over a period of some

30-40 years (assuming that most cities began assessing properties during the Depression years of the 1930's when Real Property Surveys and housing studies were completed by the Works Progress Administration and other Federal Relief Agencies.) The continuity of these records also permits comparisons with data based on intervals determined by the data user, as well as comparing these statistics with other sources.

These five advantages of assessor's records tend to correct the weknesses found in other data sources. For example, accuracy, overcomes the problems associated with the use of building permit records; recency, corrects the weakness of using Census data (although Census data can be effectively used as a prerequisite for determining broad problem areas within a city), and accessibility, avoids the disadvantage of using public utility records to indicate residential land use changes. The other advantages, continuity and level of aggregation, offer additional inducements to the development of a technique which utilizes specific items of the assessment data to determine residential land use patterns.

CHAPTER III

A TECHNIQUE FOR DETERMINING RESIDENTIAL LAND USE CHANGES

Rationale

> City planners generally spend most of their time gathering information, and many give little thought at the start of the planning process to the kinds of data needed to support the types of recommendations they hope to make.[1]

Residential land use studies can be approached from two points of view. The traditional, physical planning approach is based on the idea that, "Exactly what data will be collected in any given community will depend upon a number of things, the most important of which are the purposes to be served, the time available and the financial resources of the sponsoring group."[2] A contemporary social planning approach was stated by Catherine Bauer Wurster who believed that housing studies could not be completed without making "unavoidable judgments in the realm of social values and human relations."[3] Keeping these two views in mind, the problem "becomes one of selecting from the available data on housing that which while lending itself to simple analysis, will produce meaningful conclusions."[4] The advantages of utilizing assessment data should not be overlooked since, "No housing program can be more effective than the factual information on which it is built."[5]

Several literature citations identify housing problems which require study designs that include both physical and social planning considerations. This then is the focus of this study. The development of a method for determining housing conversions to ascertain change in residential land use patterns (see "the Method" section of the Introduction).

"The older parts of most of our cities were built in the context of ideas or standards of urban living that were current in the nineteenth century and even earlier."[6] The problem of housing conversions is associated with these areas of the city where:

> large single-family homes are cut up either into makeshift apartments or makeshift offices, for neither of which they are adapted.[7]

or where problems of housing generally arise from:

> difficulty in identification of units in old "one-family" houses that have been converted to multiunit use without any apparent structural changes; e.g., where units are created as the use of space--often based on the whims of the owner--and the relationships of the occupants vary.[8]

Three cities have acknowledged the problem of housing conversions in different ways. The Boston planning staff noticed curious variations between 1940 and 1950 dwelling unit counts by blocks and assumed that "by and large conversions constituted the major possibility for physical change in the housing plant."[9] A Philadelphia housing survey "surmised" that a considerable number of conversions

occurred without benefit of a legal permit, either because no structural or plumbing changes were made or because they were made by the owner or some unauthorized person without fulfilling the legal obligation of obtaining a permit.[10] Both of these studies based on planning assumptions were completed during the 1950's. A 1963 Nashville housing survey actually prorated conversions on the basis of the existing ratio in the original housing inventory. This ratio amounted to approximately one conversion in every twenty housing units.[11]

An A.S.P.O. Planning Advisory Service, Information Report, "Conversions of Large Single-Family Dwellings to Multiple-Family Dwellings", indicates major areas of occurrance are, "large single-family residences that were built in once fashionable districts to house the wealthy families of the community." The two major pressures for housing conversions are: 1) periodic housing shortages and, 2) difficulties of smaller families to maintain such large structures.[12]

Housing conversions indicate a relative increase in the number of households in each block or neighborhood. Social trends of decreasing space standards, smaller average family size and less home-centered functions will not entirely offset the demands of increasing numbers of households operating as individual decision makers and demanding individual services.[13] For example, some services (schools,

health, library and recreation) are roughly proportional to the total population. Other services (refuse disposal, larger capacity public utilities, police and fire protection, street capacities and off-street parking facilities), are based on demands placed by household units related to the density of development.[14]

Additional problems indicating the need for a more accurate count of housing conversions are related to relocation procedures necessary in urban renewal and highway development projects with subsequent increased demands for social services. The dissolutions of problems centering on the household, as a decision-making and public service-using unit, are dependent upon an accurate measure of housing conversions.

One group of planners views housing conversions as effecting: 1) decreased appearance and attractiveness of single-family residential areas (influence on aesthetic/social environment), and 2) increased demands placed on public facilities and utilities (influence on physical environment).[15]

Planning acknowledgment of the housing conversion problem has progressed to the method used in Nashville (see Footnote 11), of introducing a fudge factor to account for an increased number of households. Planners are also aware that many property owners do not secure building permits for one of several reasons: either from fear of a tax

increase because of increased property values, or because of a lack of knowledge about such a procedure (see Footnote 10 for Philadelphia situation). Apparently many homeowners are not aware that some home improvements, such as new roofs and plumbing usually do not carry an increased tax penalty.

It is commonly agreed that building department records don't accurately reflect residential changes. "In discussing the efficiency of urban development at various densities, it is well to consider first the basic units of land on which dwellings are located."[16] Property assessment records fulfill this prerequisite, plus including a historical record of housing changes which occurred with or without legal permits. Further, a residential survey technique, utilizing assessment data, helps to put in the local community both the ability to evaluate its housing problem and the responsibility for framing a program suited to its own needs.

Design

The accessibility, accuracy, recency, continuity, level of aggregation and general format of assessor's records are inducements to their more frequent utilization. More specifically, measurements of housing conversions are indicative of increased numbers of households which tend to increase demands for public services and influence the aesthetic and/or social environment of the occupants.

The two basic concerns of this technique are: 1) to indicate the numbers and locations of housing conversions

in order to assess the character of residential land use changes, and 2) to indicate the dates of occurrance so the rate of change in housing patterns can be estimated.

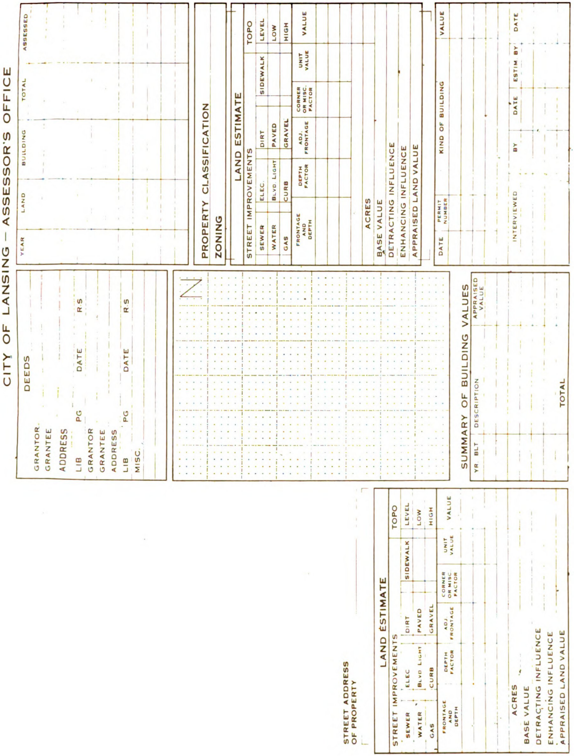
All categories of information included on each property assessment record (see Figure 1), are not directly relevant to this type of housing study. Thus, the following technique is designed to extract those basic items required of each property.

To obtain maximum utility from this technique, proper record forms should be prepared for tabulating assessment data by block within the study area. In addition, these recording forms should be keyed to a specific block map especially prepared for the study. Each block record should include columns for specific data on all single-family residential properties (see Figure 2). Schools, churches, apartment buildings and commercial properties should not be included.

Subtotals for each block, computed along the bottom of each record are utilized to handle the two parts of this housing analysis technique.

Part One -- Determining an Overview of the Study Area

To fully understand this part of the design, the reader is asked to refer to the data collection form, Figure 2. On this form, "Total Conversions" (last column), for each property are based on the number of resulting



CITY OF LANSING – ASSESSOR'S OFFICE

YEAR	LAND	BUILDING	TOTAL	ASSESSED

DEEDS

GRANTOR
GRANTEE
ADDRESS
LIB PG DATE R.S
GRANTOR
GRANTEE
ADDRESS
LIB PG DATE R.S
MISC.

PROPERTY CLASSIFICATION
ZONING

LAND ESTIMATE

STREET IMPROVEMENTS				TOPO
SEWER	ELEC.	DIRT	SIDEWALK	LEVEL
WATER	BLVD. LIGHT	PAVED		LOW
GAS	CURB	GRAVEL		HIGH

FRONTAGE AND DEPTH	DEPTH FACTOR	ADJ. FRONTAGE	CORNER OR MISC. FACTOR	UNIT VALUE	VALUE

ACRES
BASE VALUE
DETRACTING INFLUENCE
ENHANCING INFLUENCE
APPRAISED LAND VALUE

N

DATE	PERMIT NUMBER	KIND OF BUILDING	VALUE

INTERVIEWED	BY	DATE	ESTIM BY	DATE

SUMMARY OF BUILDING VALUES

YR BLT	DESCRIPTION	APPRAISED VALUE
	TOTAL	

STREET ADDRESS OF PROPERTY

LAND ESTIMATE

STREET IMPROVEMENTS				TOPO
SEWER	ELEC	DIRT	SIDEWALK	LEVEL
WATER	BLVD LIGHT	PAVED		LOW
GAS	CURB	GRAVEL		HIGH

FRONTAGE AND DEPTH	DEPTH FACTOR	ADJ. FRONTAGE	CORNER OR MISC FACTOR	UNIT VALUE	VALUE

ACRES
BASE VALUE
DETRACTING INFLUENCE
ENHANCING INFLUENCE
APPRAISED LAND VALUE

Figure 1.--Property Assessment Record:
City of Lansing, Michigan

Figure 2. Data Collection Form

Block # _____

Assessor's Description Number	Street Address	Year Built	Year Converted	Year/Years Reconverted	Total Conversions
Total Single-Family Dwelling Units					Total Conversions

Conversions by 5-Year Intervals

'20	'25	'30	'35	'40	'45	'50	'55	'60	'65

____ % Increase in Dwelling Units

dwelling units. For example, if a 1948 housing conversion resulted in three dwelling units, this date would be shown twice in the "year converted" column and be counted as two conversions to indicate an addition of two dwelling units. In like manner, if a 1939 conversion resulted in a total of two dwelling units and a second conversion in 1943 resulted in three dwelling units, the record would show 1939 under the "year converted" column and 1943 under the "year reconverted" column, to indicate a total addition of two dwelling units. This procedure permits the subtotal "total conversions" to be the equivalent of increased dwelling units for the block.

Since city blocks range in size from 10 - 50 or more single-family houses, it becomes necessary to show total conversions as a percentage increase of the total existing single-family dwelling units (see lower right corner of record). Block statistics are then comparable for purposes of determining the changed character of the study area.

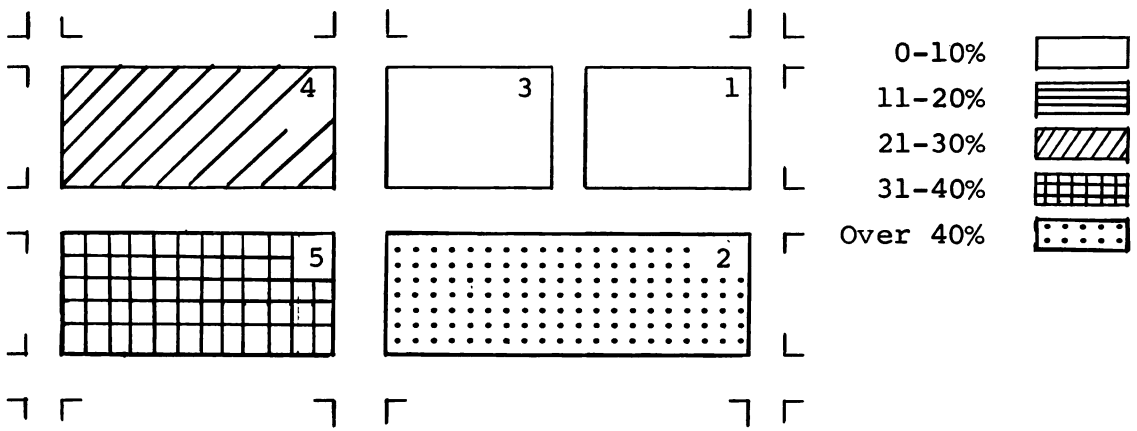
The following hypothetical example demonstrates this method as an overview map of all such activity within the study area for a specific period.

Figure 3. Overview Method: An Example

Block Record Forms

Block 1	Block 2	Block 3	Block 4	Block 5
Total Dwelling Units . . .16	Total Dwelling Units . . .27	Total Dwelling Units . . .21	Total Dwelling Units . . .43	Total Dwelling Units . . .38
Total Conversions . . . 1	Total Conversions . . .11	Total Conversions . . . 2	Total Conversions . . . 9	Total Conversions . . .12
06% Increase	41% Increase	10% Increase	21% Increase	32% Increase

Study Area Housing Conversions 1930 - 1965



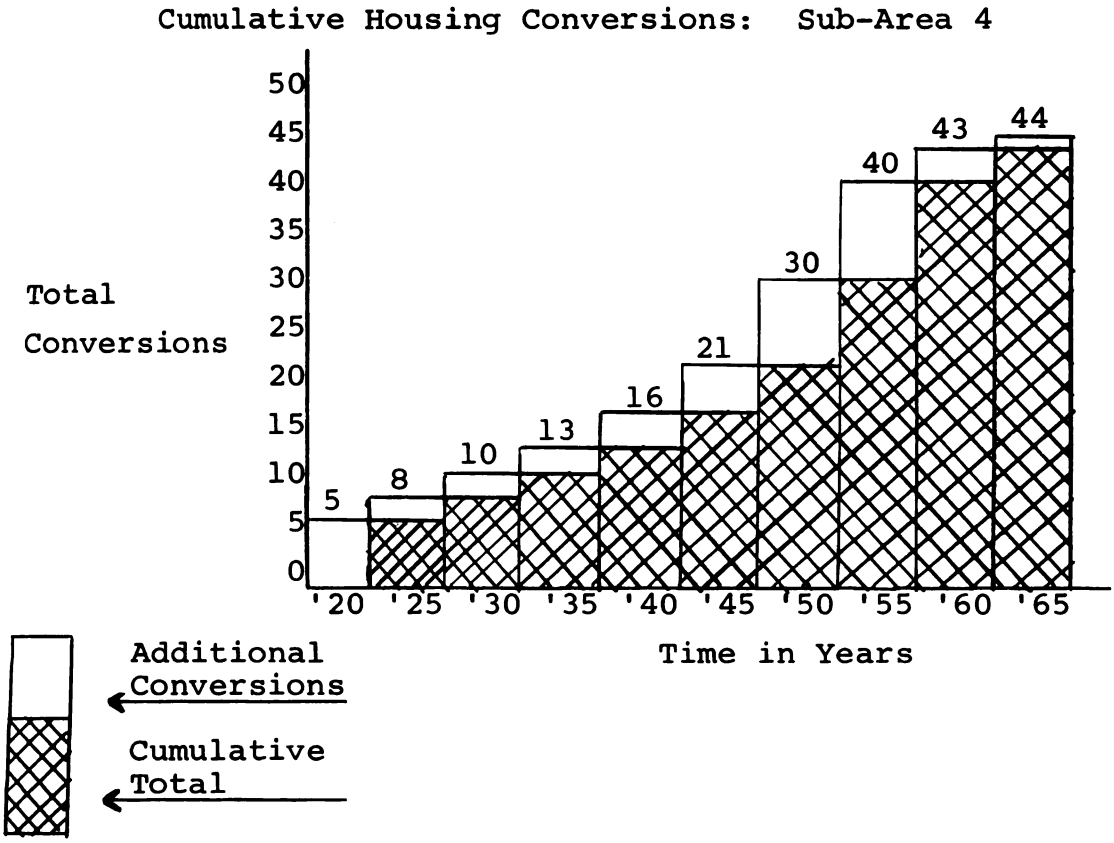
This type of map (Figure 3), yields a measure of housing conversion activity for all blocks in the study area, regardless of block size; that is, it is based only on numbers of housing units. This overview would also be very useful in determining specific areas of increased household units. Such areas appear to require more public and/or social services than the original design for a single-family neighborhood necessarily included. Comparisons of individual blocks provide opportunities to pinpoint problem areas and subject them to more intensive survey techniques.

Part Two -- Determining Rates of Change in Housing Patterns

A second view of residential land use changes is also possible from a historical perspective. Again, referring to Figure 2, it can be seen that subtotals in the lower left corner of each block record indicate the total number of conversions by 5-Year intervals.

Thus, conversion profiles developed from this data can be constructed for purposes of tracing the evolution of housing patterns and making comparisons with present urban development. Two profile versions are possible with the use of this data. One example would be the conversion totals for each 5-Year period as plotted in histogram form.

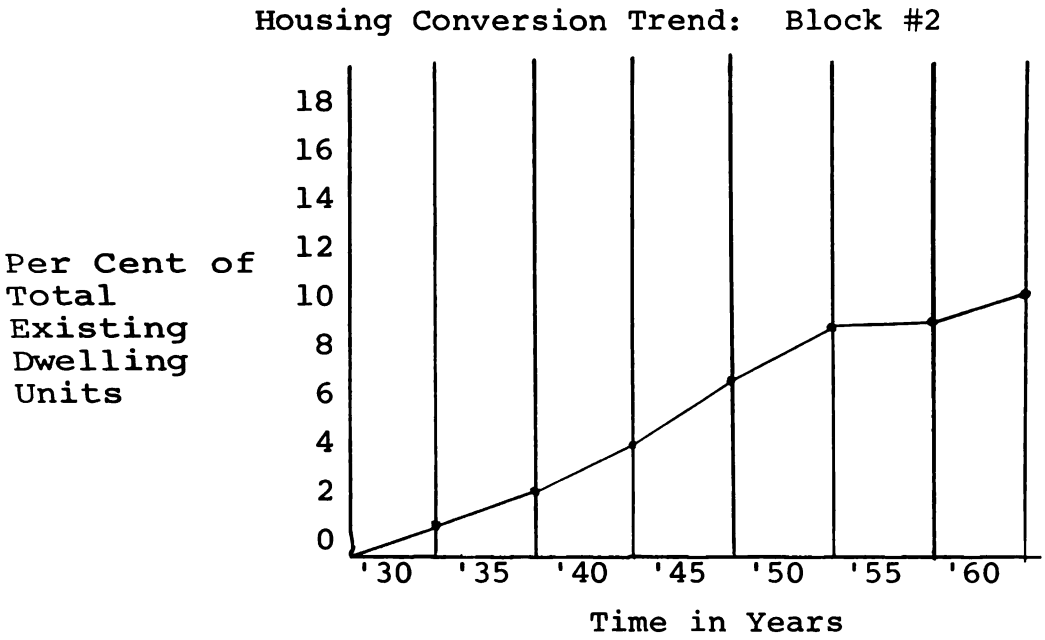
Figure 4. Histogram Method: An Example



This type of profile (Figure 4), appears to be a more viable approach to individual block statistics or to smaller portions within the study area. It reveals short-range changes in the overall rate of housing conversions. (This procedure might just as conveniently be based on 2-3 year intervals, dependent upon the length of time for which data was available.)

Another possibility would be a profile based on the per cent change of the additive effects of these 5-year increments or the cumulative results of such changes. This use of data yields a general trend line as noted in Figure 5.

igure 5. Trend Method: An Example



This method, (Figure 5), presents housing conversions as an increasing percentage of the total housing stock.[17] It appears to be more valuable for analyzing long-range effects over the entire study area or larger portions thereof.

Both of these profiles (Figures 4 and 5), can be used with data from various levels of statistical aggregates but, the histogram approach for smaller areas and the trend line approach for larger areas appear to be more direct concepts for analytical purposes.

In conclusion, the data summarized on the bottom of each block record (Figure 2), can be utilized in two specific ways. First of all, total numbers and locations of housing conversion can be used as a basis for determining

he changed character of residential land uses. This change, n turn, affects increased household demands for services and may result in the unaesthetic appearance of the immediate environment. Secondly, the total and cumulative numbers of housing conversions by date of occurrance can be plotted to determine rates and trends of residential land use change. A large total number of conversions in any block and sub-area indicates an overall change in neighborhood character while the rate of change can be depicted by the distribution of conversions over time.

It is not suggested that the employment of this technique will produce a comprehensive housing appraisal. It is felt, however, that assessment data on housing, in particular, statistics on housing conversions, if properly grouped, may be efficiently collected and quickly analyzed to give both a current and historical perspective of housing changes. If need be, the method of analysis could also be used to point out areas needing more detailed appraisals (such as the APHA method), in order to determine the feasibilities of housing rehabilitation procedures as opposed to total clearance.

An additional consideration should also be noted. One contribution of a good survey technique is to minimize wastes of time and money by providing trustworthy information (e.g., proxies or social indicators), in a suitable form that meets the needs of many users.[18] City departments

with common or overlapping interests have often conducted separate studies, frequently resulting in large duplications of effort. The success of this particular method hinges on the broad sponsorship of several departments and the joint utilization of the study findings. The design is based on the belief that planning and housing departments can gain from cooperation with the building, tax assessment, and health departments.[19]

The application of this technique and an analysis of findings are described and demonstrated in the discussion of an actual case study in following chapters.

FOOTNOTES

[1]Altshuler, Alan A., The City Planning Process, (Ithaca, New York: Cornell University Press, 1965), p. 189.

[2]Housing and Home Finance Agency, How To Make and Use Local Housing Surveys, (Washington, D. C., 1954), p. 2.

[3]Wurster, Catherine Bauer, "Social Questions in Housing and Community Planning", in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 34.

[4]Pollard, Leon, "Technique for Determining the Relative Housing Quality", Journal of the American Institute of Planners, Vol. 19, (Fall, 1953), p. 234.

[5]Twichell, Allan A., "Measuring the Quality of Housing in Planning for Urban Redevelopment", Part I in, Urban Redevelopment: Problems and Practices, edited by Coleman Woodbury, (Chicago: University of Chicago Press, 1953), p. 8.

[6]Ludlow, William H., "Urban Densities and Their Costs: An Exploration into the Economic of Population Densities and Urban Patterns", Part II in, Urban Redevelopment: Problems and Practices, edited by Coleman Woodbury, (Chicago: University of Chicago Press, 1953), p. 199.

[7]Wood, Edith Elmer, "A Century of the Housing Problem", in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 1.

[8]U. S. Bureau of the Census, Measuring the Quality of Housing, An Appraisal of Census Statistics and Methods, Working Paper No. 25, (Washington, D. C., 1967), p. 2.

[9]Op. cit., Pollard, p. 235.

[10]Philadelphia City Planning Commission, Estimates of Population and Dwelling Units in Philadelphia, April 1, 1955, (Philadelphia, 1955), p. 2.

[11]Hammer and Company Associates, Housing Study and Market Analysis of Metropolitan Nashville, (Atlanta, 1963), pp. 52-53.

[12]American Society of Planning Officials, "Conversions of Large Single-Family Dwellings to Multiple-Family Dwellings", Planning Advisory Service, Information Report No. 5, (August, 1949), p. 1.

[13]Op. cit., Wurster, p. 40.

[14]Op. cit., Ludlow, pp. 142-143.

[15]Op. cit., American Society of Planning Officials, p. 1.

[16]Op. cit., Ludlow, p. 120.

[17]A basic assumption with the use of these block statistics is that the number of single-family dwellings remains constant throughout the study period. Reasons for this assumption are that any property removed from the housing stock by reason of fire or converted land use will not be included. Secondly, few new properties are added due to the completely developed nature of older, single-family residential neighborhoods.

[18]Op. cit., Twichell, p. 76.

[19]The health department would become involved if an APHA appraisal were required for specific areas revealed by this technique to need further study.

CHAPTER IV

THE LANSING CASE STUDY

This study is an application of the housing analysis technique that was previously described. Thus, in this chapter actual statistics for total numbers of single-family housing conversions will be used to demonstrate: 1) the changed character of the study area through increased numbers of household units and, 2) statistics for cumulative conversions will be used to indicate the rate of change (see "The Method" section of the Introduction).

The research was completed as part of an interdisciplinary summer studies program jointly supported by the Michigan Department of Public Health and the Michigan State University, College of Human Medicine. The topic and method of study were entirely of the researcher's choice and design. Data from the City Assessor's Office was collected during the months June through August, 1969.

Lansing, Michigan was the laboratory community used in the study since it lay conveniently at hand for empirical observations during the data collecting process. Though each city is unique and cannot claim to represent cities in general, Lansing is in many respects typical of other medium-sized cities in the United States. It furnished the

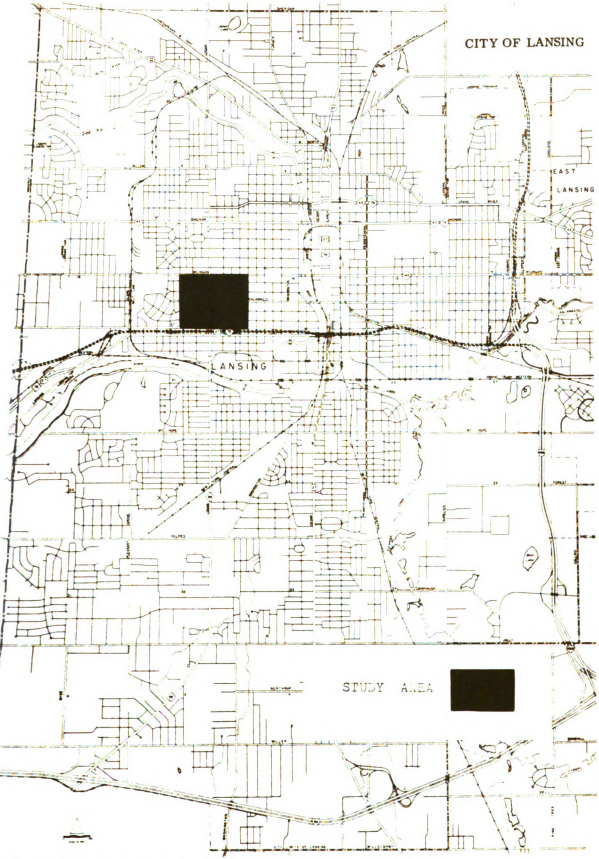
advantages of historical perspective, so important to the establishment of trends and rates of residential areal change. Lansing's residential neighborhoods, since the filing of the original city plat in 1847, have tended to develop outward from the city core in a definite growth pattern.

If the disadvantages and limitations of studying one small section of a city are self-evident, the compensating advantage is that the study was reduced to manageable proportions. Whether the technique of utilizing assessment data for determining residential land use changes, as described and utilized in this study, might be applicable in other cities certainly remains to be tested.

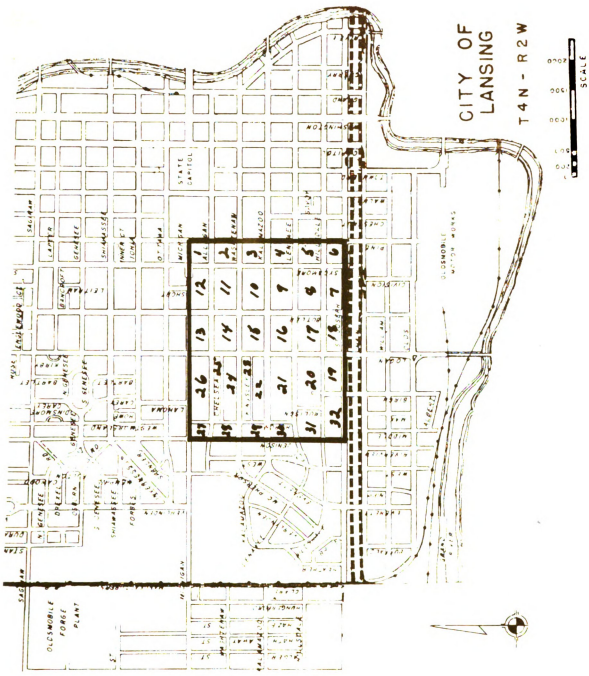
The specific part of Lansing chosen for study was a thirty-two block area in the west central portion of the city (See Map 1). The area was chosen at the suggestion of Dr. Robert Lewis, summer studies coordinator, who expressed an interest in the older single-family homes currently being occupied by several families. Final determinations of study area boundaries were confirmed according to recommendations from the Ingham County Health Department (See Map 2).

Technique Applications

The basic research method incorporated in this study was that of time-series analyses. As such, the initial problem was, of course, that of choosing an appropriate period of time over which to gather sufficient observations



1.--Study Area: City of Lansing, Michigan



Map 2.--Study Area Blocks: City of Lansing, Michigan

for the study. Since Lansing's first property tax appraisals were completed in 1934, it was felt that the period 1934 to 1969 would be a suitable expanse of time.[1] This period was long enough to permit several opportunities for field appraisals and data analyses and it included all the appraisal data for each property.

Secondly, the usual difficulty of getting comparable data from one time period to another, due to changes in record systems or methods of collection, were overcome by matching all records for one property. The vault maintenance of Lansing records prior to 1963, filed by the same system of subdivision, plats, etc., as current records, permitted access to all original statistics. Though three assessment forms were used during the 35-year study period, there were only minor changes in the basic format and arrangement of information.

A 1963 city-wide appraisal done in conjunction with the institution of a new appraising method revealed many multiple-family dwellings which had never been discovered or noted previously.[2] Therefore, block records contained several conversions recorded in 1963. For example, from a total of 368 conversions in the study area, there were 41 that were recorded in 1963.

Lansing properties are currently appraised every third year but, for early years when the city was smaller and the department staff was limited, there were 5-10 year

lag periods in which field checks were not completed for all properties. Thus, the study was based on data for every single-family dwelling in each of the 32 blocks, rather than drawing a representative sample of dwellings. This procedure resulted in a total of 1,142 single-family dwelling units in the study area.

Sub-Area Delineations

It became evident upon working with the data, that groups of properties could be viewed in terms of three distinct periods of growth (See Map 3). Sub-Areas were established on the basis of average plat dates, indicative of physical design (lot widths and street patterns), and the average age of the residential structures in each of the three sections.[3] These areas were numbered outward from the State Capitol according to their period of development. The sub-area level proved useful for analyzing conversion data on an interim level between individual blocks and the entire study area.

The 6 blocks in Sub-Area 1 were platted in 1847 and represented the western boundary of the original city plat. They are still referred to as "Original Blocks" in the Assessor's records.[4] Most of the structures in this section of the city were built in 1895. The average lot width in this Sub-Area is 44 feet. These figures indicate that Sub-Area 1 has the oldest housing and widest lots in the study area.

Map 3. -- Study Area Sub-Areas: City of Lansing, Michigan

Sub-Area 2 was platted in 1909.[5] The blocks are rectangular and lots are uniformly laid out. Most of the houses were constructed about 1902 and the average lot width is 41 feet. There are 12 blocks in this unit.

Sub-Area 3 is the largest (14 blocks) and the most complexly platted of the three units. There are 13 different plats in the unit, platted between 1894 and 1930, with an average plat date of 1912. Some small pieces of land remain unplatted, as section land. Blocks are primarily rectangular, but less uniform in size and shape, reminiscent of land development which occurred under the influence of land speculators popular in the 1920's. A majority of the lots are 30-33 feet wide, having been subdivided several times since the original plats were completed. Most of these houses were built in 1913. Thus, the buildings were at least 10 years newer than those in Sub-Area 2 and almost two decades newer than those in Sub-Area 1.

A summary of the study area statistics, including Sub-Area characteristics, reveals comparative dwelling-unit ages, sizes (number of blocks and dwelling units), and conversion rates for each Sub-Area (See Table 1).

Interestingly, the next area of outward growth (See blocks west of study area, Map 2), which was not included in this study, represents a fourth developmental phase of curvilinear street designs and irregular lot and block shapes, popular during the 1930's.

Table 1. Study Area Summary: City of Lansing, Michigan

Sub-Area #	Total City Blocks	Total Dwelling Units	Total Housing Conversions		Per Cent Of All Dwellings Converted		Average Plat Date	Average Year Built	Average Lot Width (approx.)
1	6	125	82		66		1847*	1895	44 ft.
2	12	473	196		41		1909*	1902	41 ft.
3	14	544	90		17		1912+	1913	41 ft.
Study Area Totals	32	1142	368	Study Area Rate	32	Study Area Averages	1908#	1903	42 ft.

* One plat

\+ Average of 13 plats

#Average of 15 plats

Although the study area originally appeared to contain homogeneous housing, the data revealed unique growth sections, based on relative ages and development design patterns, to be quite distinct.[6] As Sub-Areas, they provided important units for comparing and analyzing housing conversion trends, related to the average age of dwellings developed as natural units (original blocks, subdivisions and plats).

In conclusion, the City of Lansing appeared to be a suitable choice for the application of this technique for exploring changes in residential land use patterns. An ideal combination of assessment data available in a continuous, comparable form, and an urban development pattern yielding natural divisions in the study area, resulted in three levels of data analysis.[7] The findings of this investigation are discussed and evaluated in the following chapter.

FOOTNOTES

[1]Though property tax appraisals began in 1934, appraisers remarks indicated that many housing conversions had occurred prior to that date (e.g. five conversions were recorded prior to 1920. Based on 5-year intervals from 1920 to 1965 there were ten observations from which to develop statistical profiles. Thus, tax assessments were recorded over a 35-year period (1934-1969), but the assessment records yielded housing conversions for a 45-year period (1920-65).

[2]Lansing changed its method of assessment from 85 per cent of the appraised value (based on the cost of reproducing the structure) to 40 per cent of the appraised value (based on current market value). This major change was accomplished during the Fall of 1963, with extra personnel hired to interview property owners and photograph properties for all sections of the city for which field checks had not been made in the past three years. These interviews and extensive field observations revealed many housing conversions which had been in existence for some period of time, but which were not entered on the property record until 1963. Thus, several conversion dates became effectively recorded in 1963.

[3]The original data collection procedure included several categories of information which were later deleted. A major emphasis in the development of this technique was to determine a minimum number of items believed to be valuable indicators of land use changes so as to permit practical application of the method. Therefore, although such items as plat date and lot width were useful in the delineation of sub-areas within the Lansing study area, it is not suggested that they are necessary inclusions in the data collection form (See Figure 2).

[4]Blocks 1, 2 and 3 have been purchased and cleared by the state for the Capitol Expansion Project. It was decided not to delete them from the study area since the properties were among the oldest in the city, providing evidence of historical trends.

[5]These 12 blocks (except for end lots facing on Sycamore Street which were part of the 1847 city plat), are all one plat known as the Bush, Butler and Sparrow Subdivision. More than half of the properties in blocks 10, 11 and 12 are state-owned. Some demolition has occurred in preparation for the Capitol Expansion Project, however, most houses are being rented in the interim in order to prevent unnecessary depletion of Lansing's already critically short housing stock.

[6]These phenomena became evident after working with the collected data. A close examination of the map reveals three patterns of urban development with a grid design:

Sub-Area 1 = small, square blocks with large uniform lots.
Sub-Area 2 = rectangular blocks with average uniform lots.
Sub-Area 3 = large rectangular blocks with street cuts and many extremely long, narrow lots.

The next area of outward growth is marked by irregular block shapes and sizes with varied lot configurations shaped by curvilinear street patterns (See Map 2).

[7]The levels utilized were individual blocks, sub-areas and the total study area. It should be pointed out that the study area includes: 23 of the 27 blocks in Census Tract 15 plus 4 blocks of Census Tract 16 and 5 blocks of Census Tract 18.

CHAPTER V

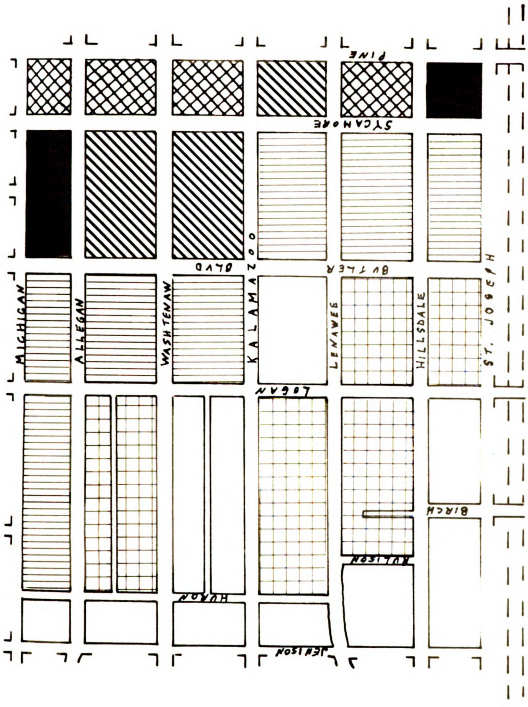
FINDINGS OF THE STUDY

Overview of the Study Area

A basic consideration in the use of assessment data to determine changes in residential land uses is that of determining housing conversions for all blocks in the study area. Total conversions computed as a percentage of all dwelling units in each block serve as comparative indicators for total amounts of conversion activity. Such an overview permits the observer to identify general problem areas. The first level of analysis, block totals, resulted in the findings which follow in Table 2 and are demonstrated in block distributions for the study area in Map 4.

Table 2. Total Housing Conversions: Blocks

Block Number	Total Dwellings	Total Conversions	Per Cent Change
1	23	16	69
2	18	11	61
3	26	17	66
4	27	13	48
5	22	14	64
6	9	11	122
7	40	14	36
8	40	20	40
9	52	21	40
10	48	25	52
11	44	23	52
12	36	29	81
13	24	8	33
14	41	18	43
15	41	14	34
16	37	5	14
17	40	11	28
18	30	8	26
19	31	4	13
20	63	11	17
21	63	10	16
22	52	2	4
23	44	4	9
24	53	15	28
25	41	8	20
26	58	26	45
27	16	1	6
28	17	1	6
29	16	2	13
30	16	1	6
31	32	1	3
32	42	4	10



Map 4. -- Study Area Housing Conversions, by Block: City of Lansing, Michigan

Three Sub-Areas (See Map 3) which identify specific sections within the total Study Area provided data for a second level of analysis as follows:

Table 3. Total Housing Conversions: Sub-Areas

Sub-Areas	Block Numbers	Total Dwellings	Total Conversions	Average Per Cent Change
I	1 - 6	125	82	66
II	7 - 18	473	196	41
III	19 - 32	544	90	17

An examination of the findings in Table 3 is shown by average per cent changes in each of the three Sub-Areas, according to the following patterns (Map 5).

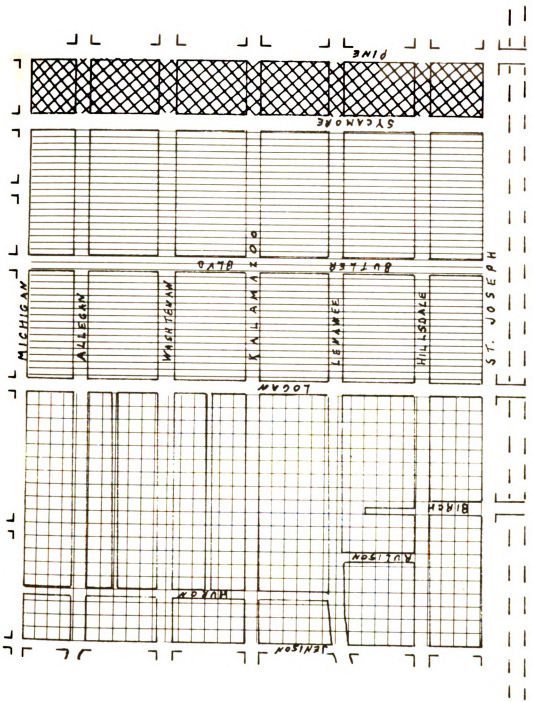
Findings for the third and final level of analysis are for the overall Study Area. The aggregate totals of dwelling units and housing conversions yield an average percentage for the Study Area in the following summary:

Table 4. Total Housing Conversions: Study Area

Total Blocks	Total Dwellings	Total Conversions	Average Per Cent Change
32	1,142	368	32

Summary

Tables 2, 3 and 4 contain data for total housing conversions at three levels of aggregation: block, Sub-Area and Study Area, respectively. Maps 3 and 4 illustrate this



Map 5. -- Study Area Housing Conversions, by Sub-Area: City of Lansing, Michigan

data by comparing total conversions shown as percentages of total dwelling units.

These findings demonstrate the changed character of a block or larger unit, by virtue of the total amount of conversion activity.

Rates of Change in Housing Patterns

A second method of demonstrating the findings of the Lansing Study Area is presented in the form of a time-series analysis. Two conversion profiles are possible at the block, Sub-Area and Study Area levels. Data for conversions by 5-Year intervals will be used for histograms to demonstrate an additive measure of conversion activity. Secondly, housing conversions computed as per cent changes based on total existing dwelling units, will be used in 5-Year increments to demonstrate historical trends.

Four sample blocks representative of various parts of the Study Area will be used for the first level of analysis. Block data for histograms (Table 5) and trend lines (Table 6) are shown as follows:

Table 5. Housing Conversions by 5-Year Intervals: Sample Blocks

Block No.	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
3	0	4	3	1	2	2	2	2	1	0
14	0	1	0	3	3	4	1	3	0	3
20	0	1	1	1	3	1	1	1	0	2
26	1	1	2	1	1	4	3	3	2	8

Table 6. Housing Conversion Percentages by 5-Year Increments: Sample Blocks

Block No.	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
3	0	15	27	30	38	46	54	62	66	66
14	0	2	2	10	17	27	29	37	37	43
20	0	2	3	5	10	11	13	14	14	17
26	2	3	7	9	10	17	22	28	31	45

A histogram and trend line, based on data from Tables 5 and 6, for Block 3 can be shown as follows:

Figure 6. Cumulative Housing Conversions: Block #3

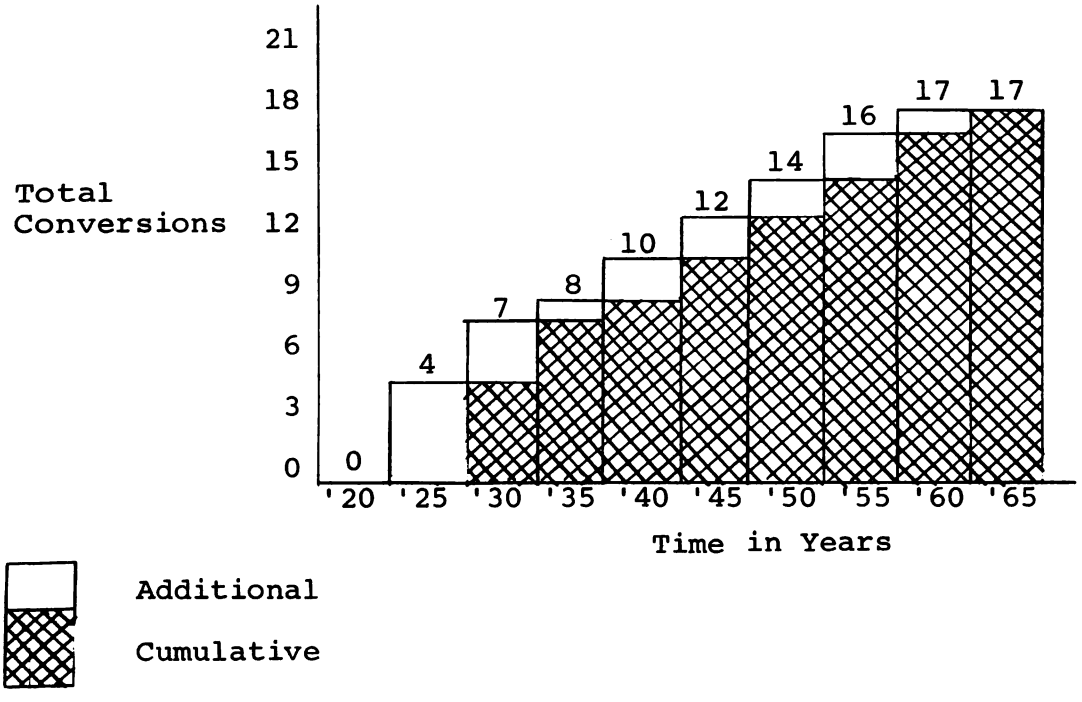
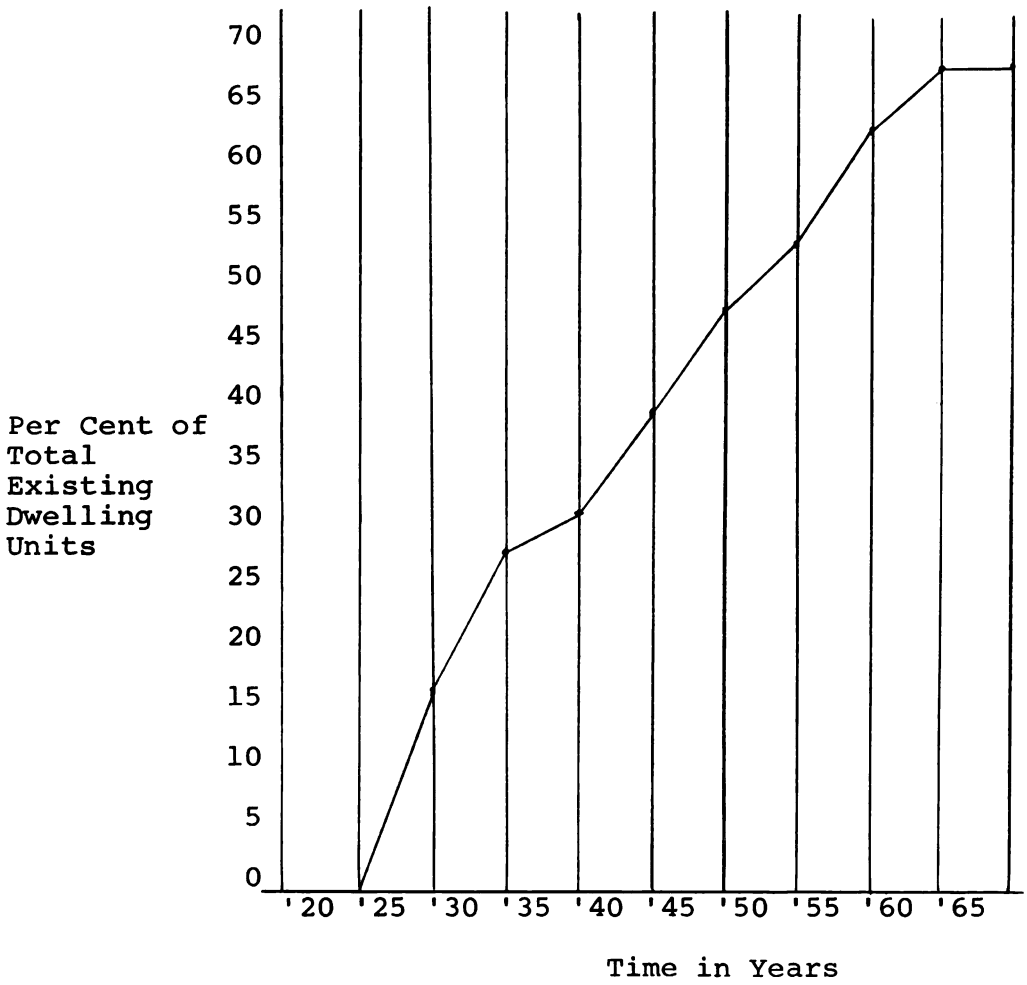


Figure 7. Housing Conversion Trend: Block #3



A histogram and trend line, based on data from Tables 5 and 6, for Block 14 can be shown as follows:

Figure 8. Cumulative Housing Conversions: Block #14

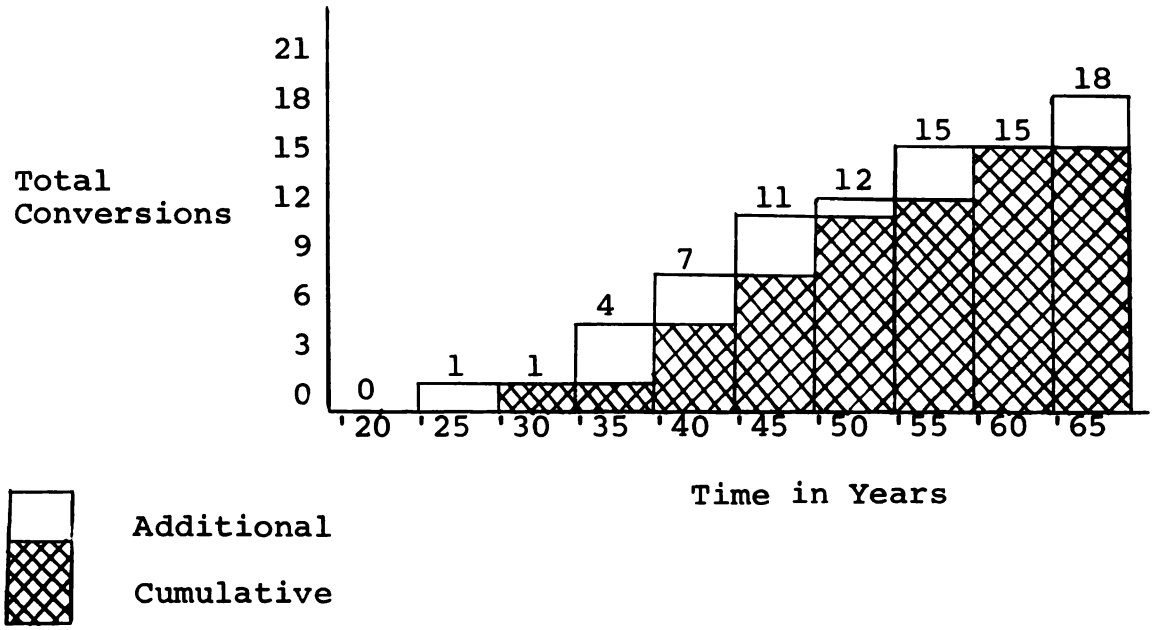
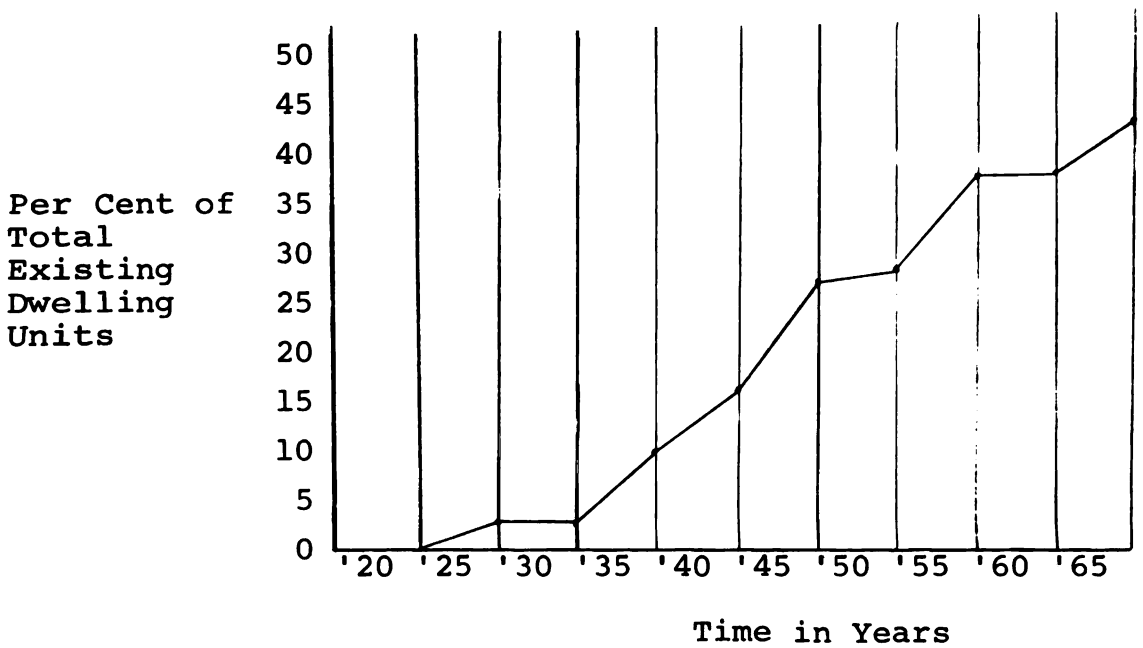


Figure 9. Housing Conversion Trend: Block #14



A histogram and trend line, based on data from Tables 5 and 6, for Block #20 can be shown as follows:

Figure 10. Cumulative Housing Conversions: Block #20

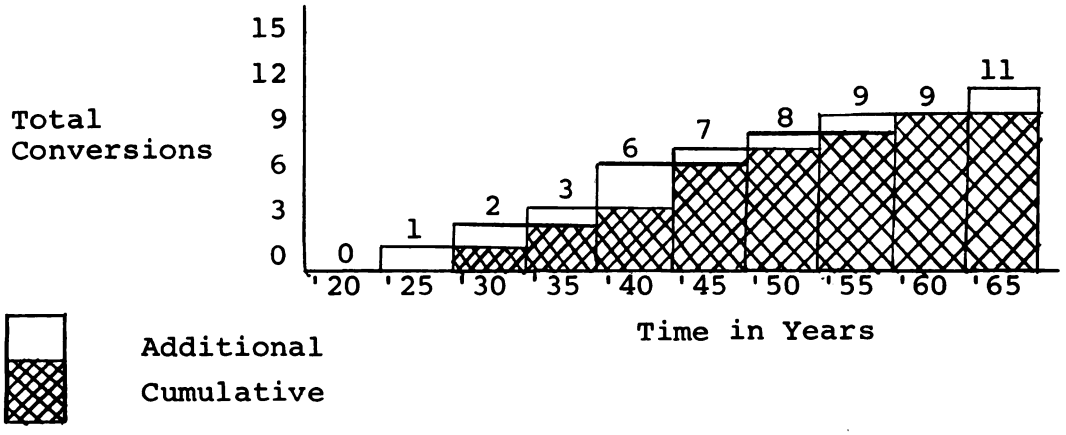
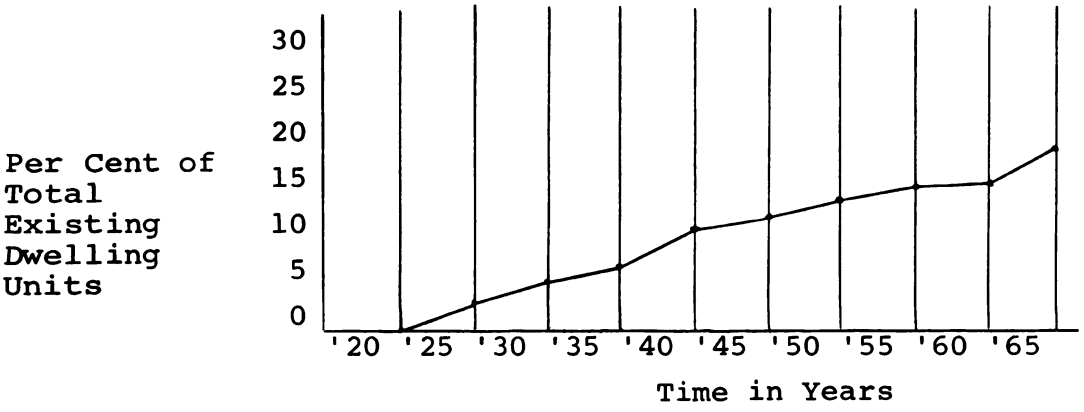


Figure 11. Housing Conversion Trend: Block #20



A histogram and trend line, based on data from Tables 5 and 6, for Block #26 can be shown as follows:

Figure 12. Cumulative Housing Conversions: Block #26

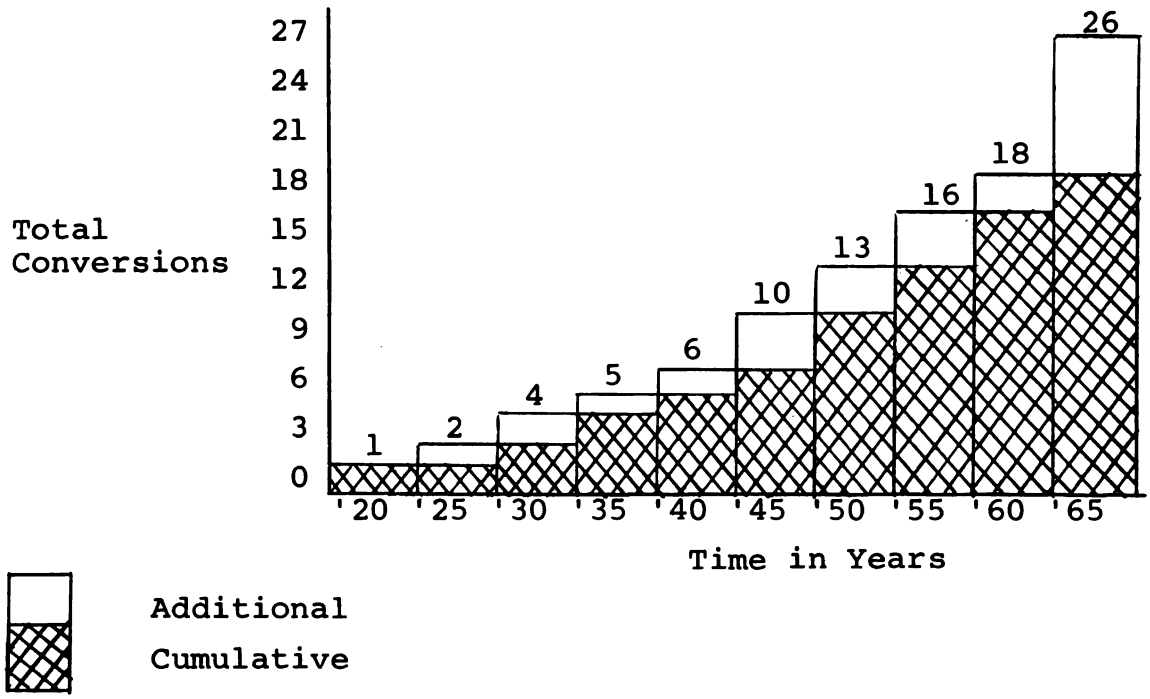
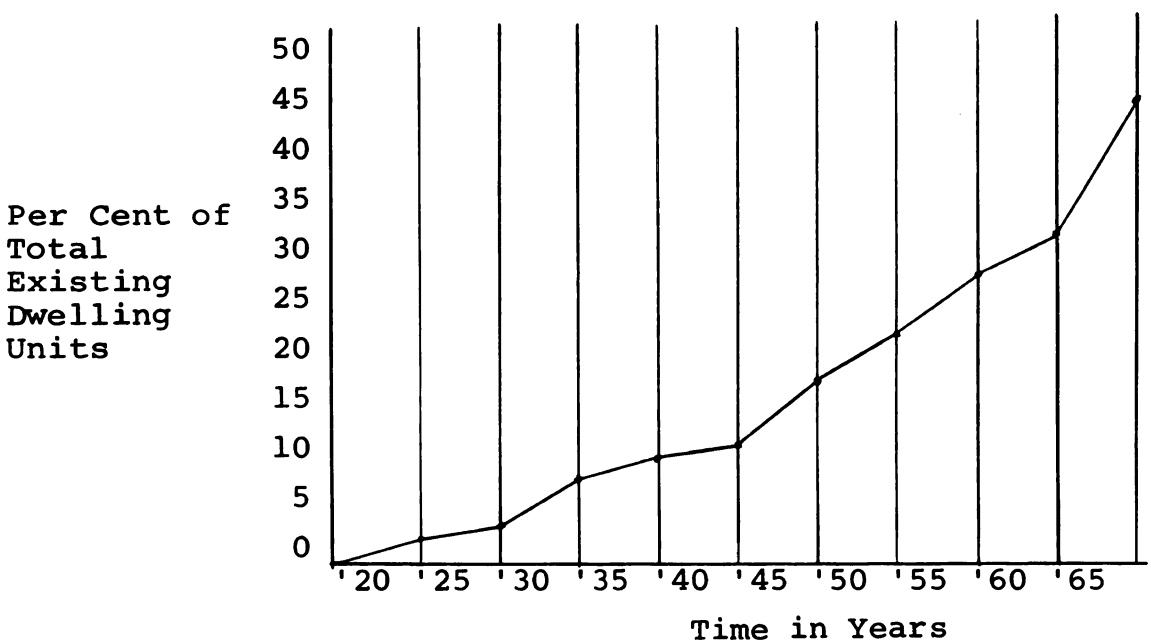


Figure 13. Housing Conversion Trend Block #26



Findings for the three Sub-Areas will be used for the second level of analysis. Sub-Area data for histograms (Table 7.) and trend lines (Table 8.) can be shown as follows:

Table 7. Housing Conversions by 5-Year Intervals: Sub-Areas

Sub-Area	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
1	1	9	6	5	16	12	18	8	3	4
2	3	12	13	14	36	37	29	19	7	26
3	1	4	5	4	14	23	15	7	3	14

Table 8. Housing Conversion Percentages by 5-Year Increments: Sub-Areas

Sub-Area #	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
1	0	8	13	17	30	39	54	60	62	66
2	0	3	6	9	16	24	30	34	36	41
3	0	0	2	3	5	9	12	13	14	17

Conversion profiles based on data from Table 7 for histograms and Table 8 for trend lines, are plotted for each of the three Sub-Areas. Profiles for Sub-Area 1 are shown as follows:

Figure 14. Cumulative Housing Conversions: Sub-Area 1

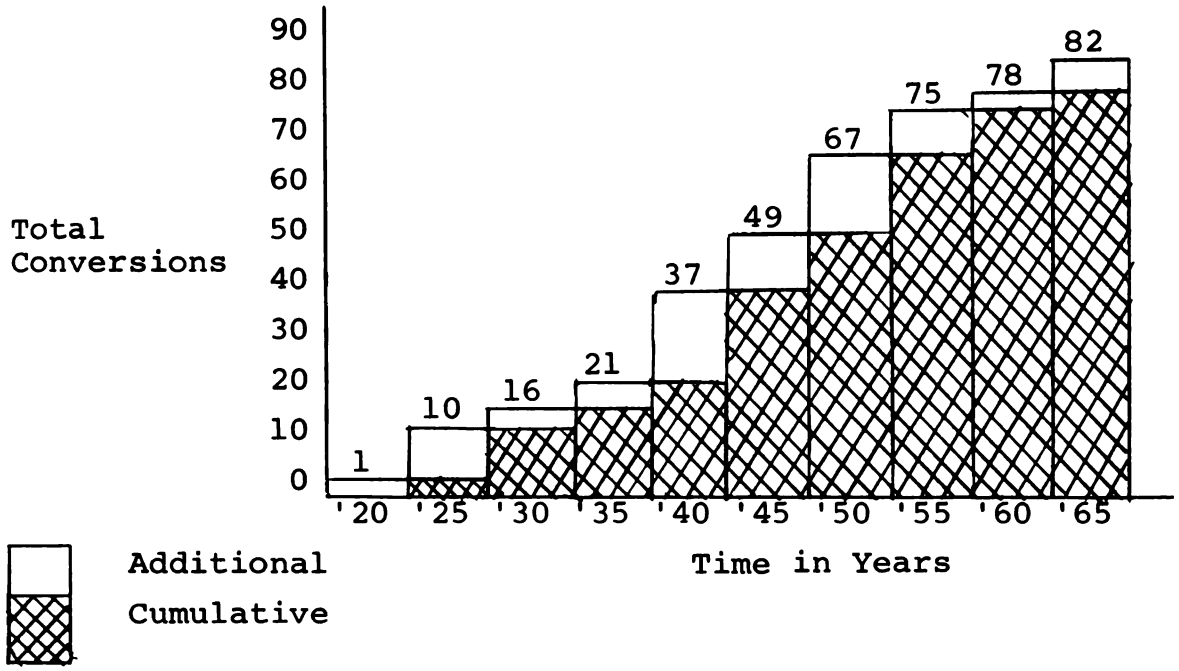
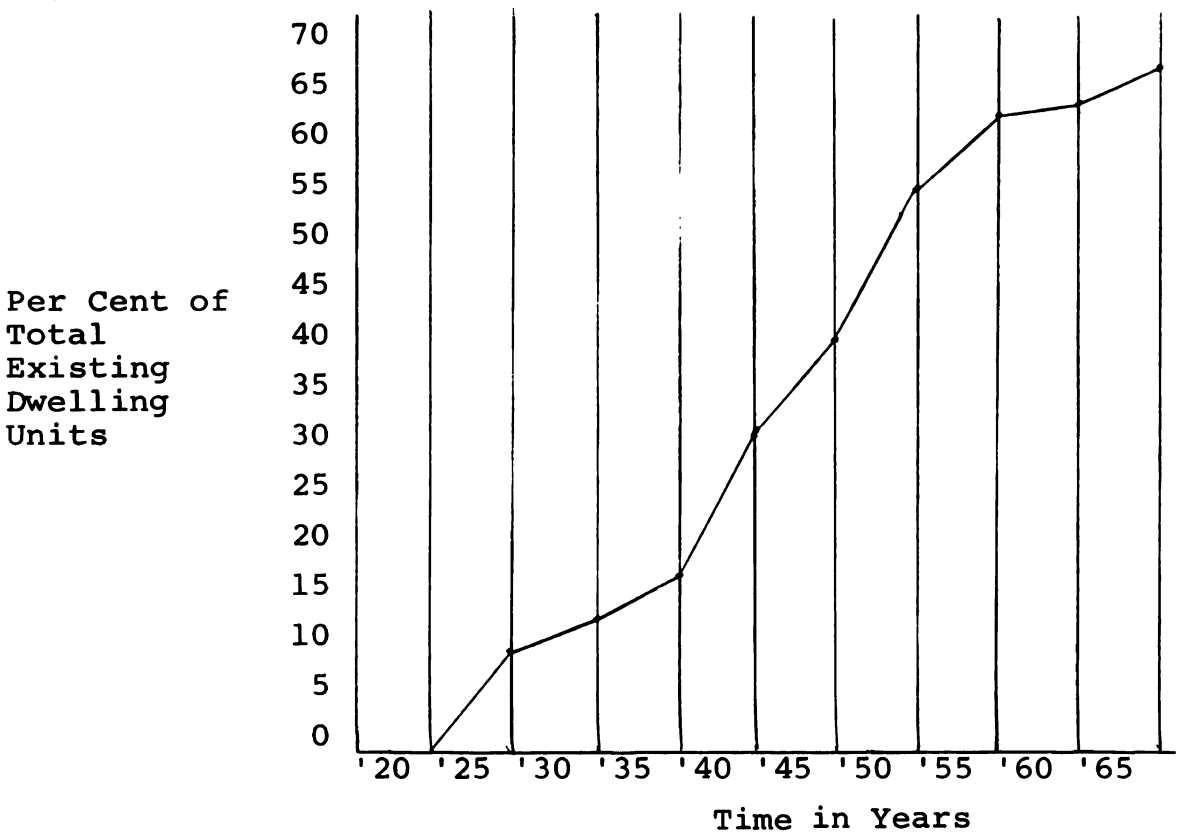


Figure 15. Housing Conversion Trend: Sub-Area 1



A histogram and trend line, based on data from Tables 7 and 8, for Sub-Area 2 are shown as follows:

Figure 16. Cumulative Housing Conversions: Sub-Area 2

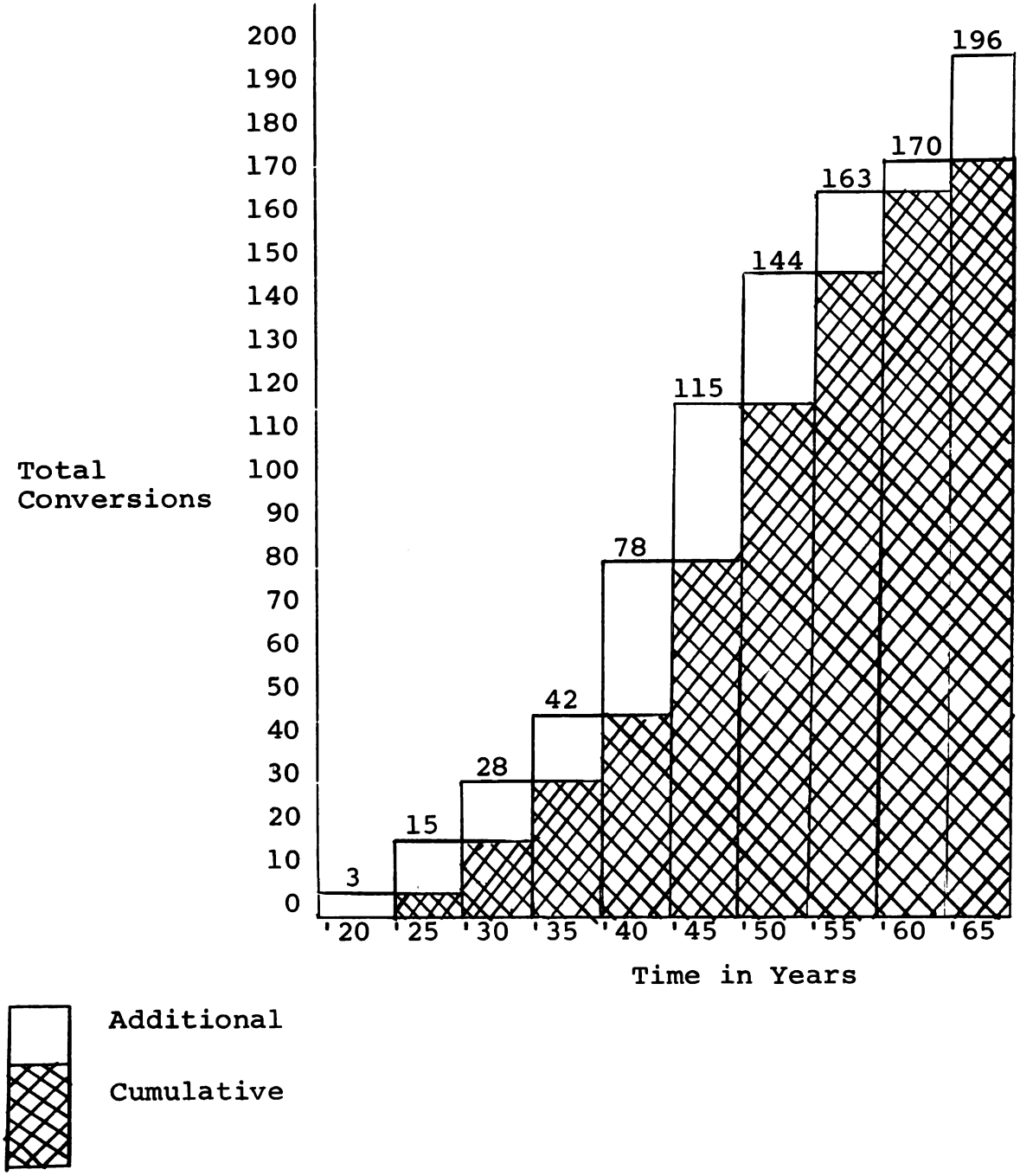
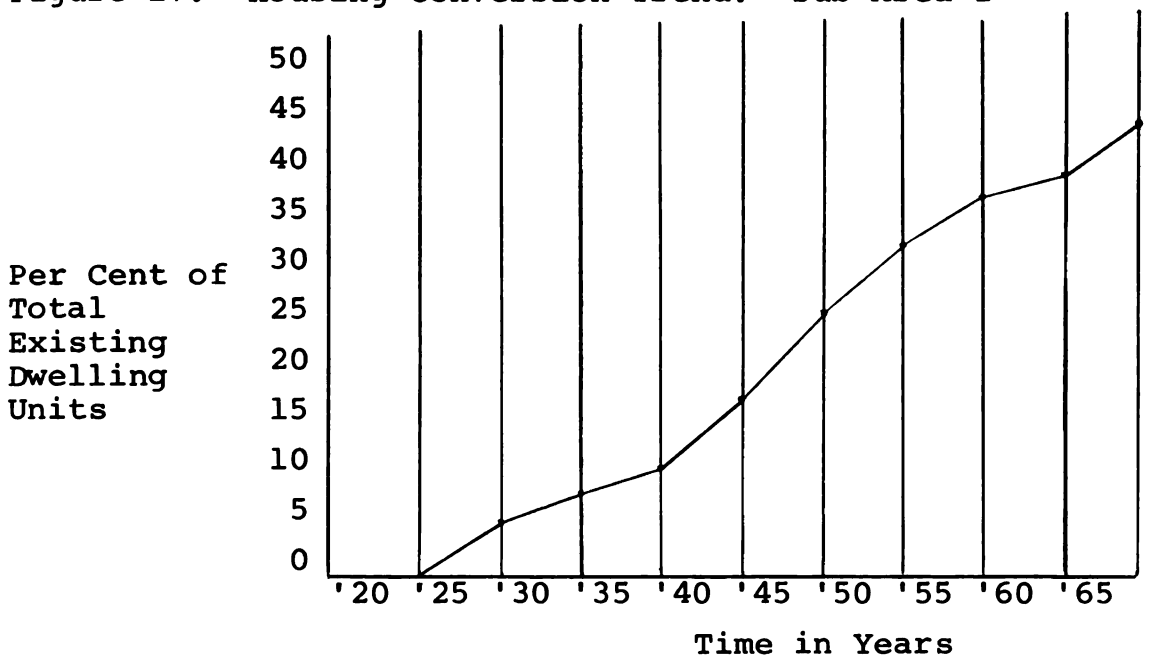


Figure 17. Housing Conversion Trend: Sub-Area 2



A histogram and trend line, based on data from Tables 7 and 8, for Sub-Area 3 are shown as follows:

Figure 18. Cumulative Housing Conversions: Sub-Area 3

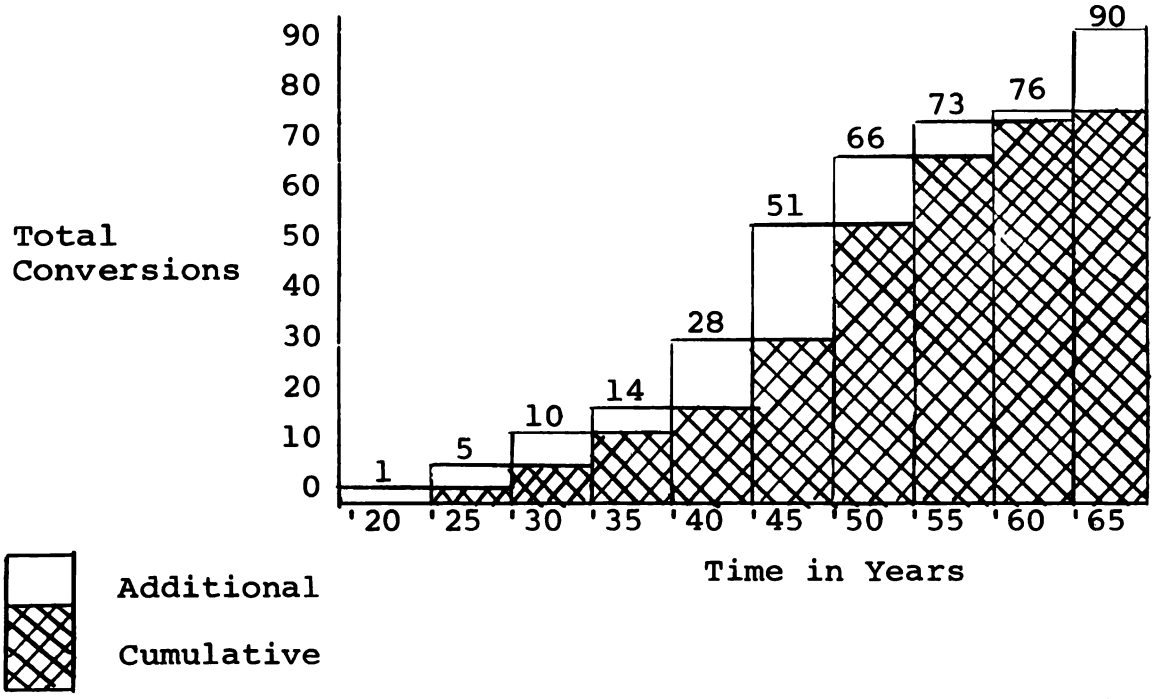
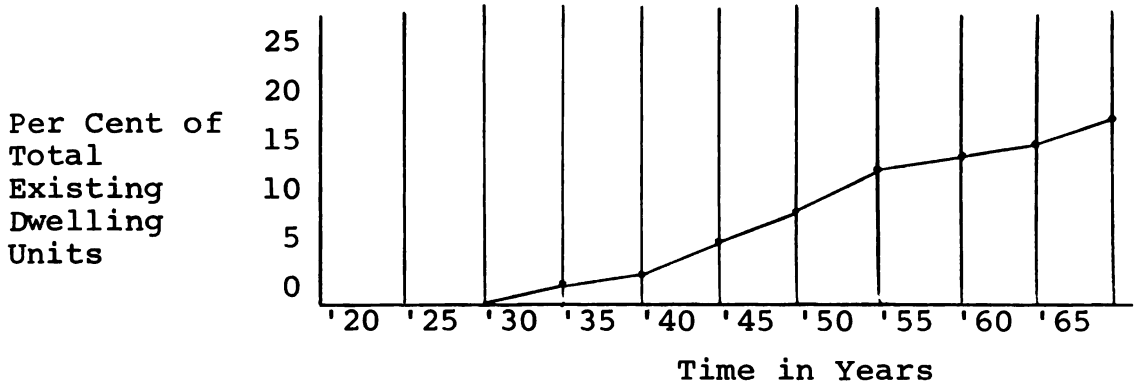


Figure 19. Housing Conversion Trend: Sub-Area 3



Findings for the total Study Area (32 blocks) will be used for the third and final level of analysis. Study Area data for a histogram (Table 9) and trend line (Table 10), are shown as follows:

Table 9. Housing Conversions by 5-Year Intervals: Study Area

Study Area (32 Blocks)	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
	5	25	24	23	66	70	53	35	13	54

Table 10. Housing Conversion Percentages by 5-Year Increments: Study Area

Study Area (32 Blocks)	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
	-1	3	5	7	13	19	23	26	28	32

Conversion profiles based on the data from Table 9 for a histogram and Table 10 for a trend line, are plotted for the Study Area as follows:

Figure 20. Cumulative Housing Conversions: Study Area

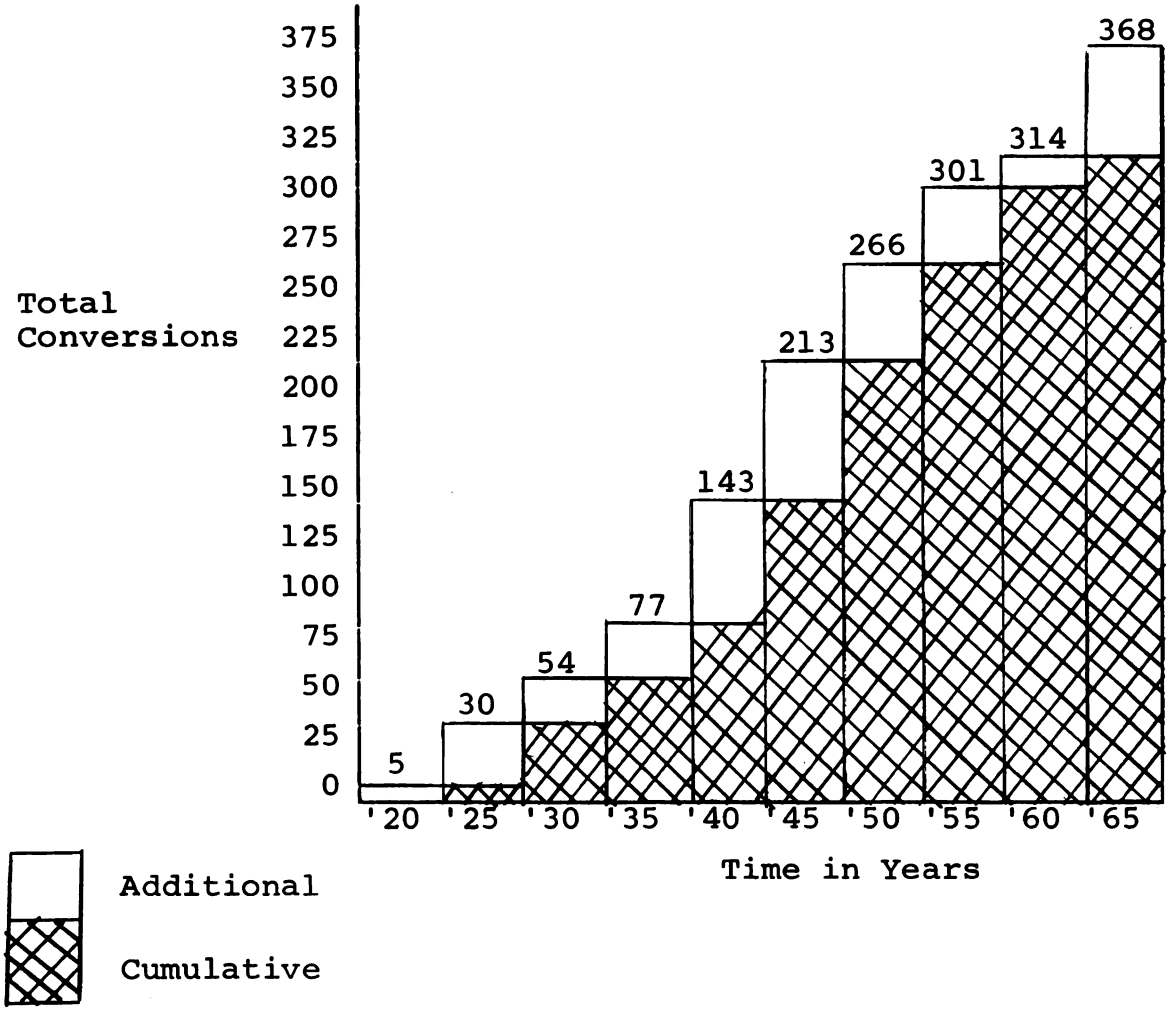
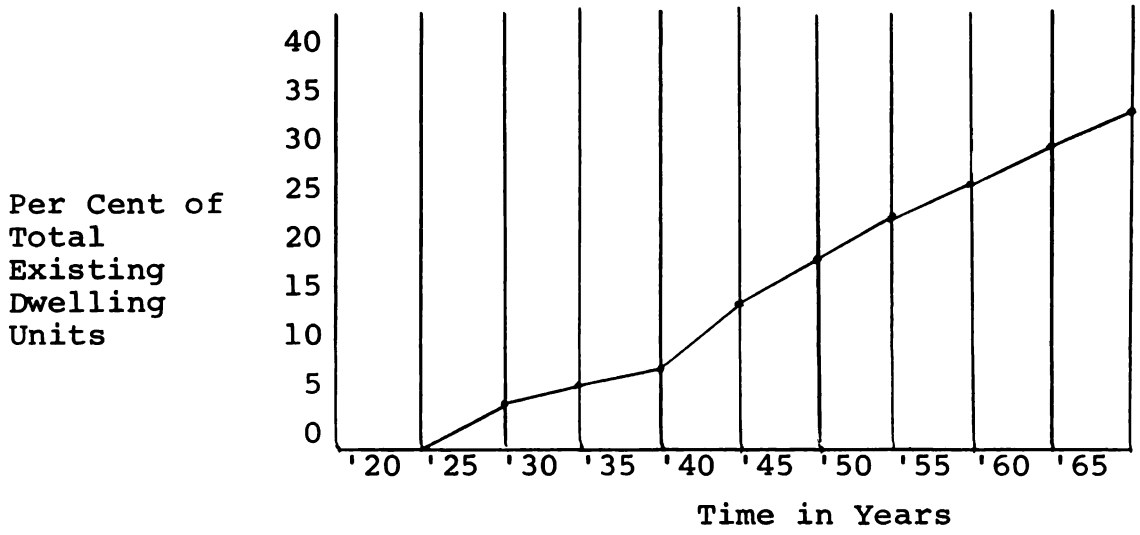


Figure 21. Housing Conversion Trend: Study Area



Summary

Tables 5 through 10 contain data for housing conversions by 5-year intervals and housing conversion percentages by 5-year increments at three levels of aggregation: block, Sub-Area and Study Area, respectively. Figures 6 through 21 illustrate this data in two forms of conversion profiles: histograms and trend lines.

The findings demonstrate the rate of changes in housing patterns of a block or larger unit through the application of a time-series analysis technique.

CHAPTER VI

AN EXAMINATION OF THE FINDINGS

Introduction

The most important part of any study is that portion of it which discusses and interprets the findings in relation to the researcher's original objectives.

Preliminary readings and examinations of housing survey techniques, in conjunction with the actual use of assessor's records, led to the conclusion that traditional approaches were inadequate in several ways. For example, housing studies dependent upon building permit records as indicators of housing change were inaccurate due to large numbers of changes occurring without such permits. Studies reliant upon U. S. Census statistics were limited by enumerator biases and the periodic nature of such housing data (e.g., 10-year intervals). Finally, the widespread use of the APHA Technique for Measuring the Quality of Housing (except in procedures for Urban Renewal based on some modification of this technique), is fairly prohibitive due to the cost of such a comprehensive endeavor.[1]

Reconnaissance surveys, however, are important as preliminary techniques used in conjunction with screening or intensive types of housing studies.

The experience of working with assessor's records, led to some additional conclusions concerning their use and general suitability for housing studies. The advantages described in Chapter II, namely accuracy, recency, accessibility, level of aggregation and continuity, prompted further investigations.

It became evident that although assessment data was available for public examination, it was not widely used for urban planning purposes. The research problem became a dual one, of determining which items on the property records were pertinent for particular housing studies and secondly, of developing a method in which these items could be utilized, (See Figure 1).

Therefore, this research endeavor focused on collecting a large amount of data and sifting out items related to specific planning problems in urban residential areas. As examples, highway route location and urban renewal projects are dependent upon total numbers of households in order to estimate the extent of relocation needs. Secondly, planning decisions concerning public facilities (schools, parks, etc.), social services (clinics, nurseries, etc.) and public utilities (water, power, etc.), are based on needs created by household units. And finally, decisions concerning related

land uses in single-family residential neighborhoods, such as the presence of gas service stations and corner grocery stores, are based on the services provided to households.

Based on the above mentioned needs to determine current changes in housing practices and the formation of household units, plus the need to predict possible future housing policies, it became apparent that assessment data offered potentials for both situations. Housing data could be collected and analyzed by both an overview approach and time-series analysis, or trend line examination. This second method provides an historical perspective, indicating the rate of change of housing patterns.

The first part of the research problem, that of determining which items on the property records were appropriate in measuring housing change, was solved by a process of elimination as the technique was being developed. Much of the data collected was deleted in favor of focusing upon building permit notations and appraiser's field observations to determine housing conversions.[2] (See "The Method" section of the Introduction).

The second part of the problem, that of developing a method to use assessment data for housing studies, is described in detail in Chapter III, A Technique for Determining Residential Land Use Changes.

The practical application of this technique to Lansing, Michigan and a description of the study area and sub-areas within that city are contained in Chapter IV.

A General Discussion

Statistics from Table 2 indicate a wide range in size, measured by total dwellings and housing conversions among the 32 blocks. Blocks 20 and 21 are the largest in size, with comparable numbers of conversions. Block 6 is the smallest and most atypical block of the study area. The small physical size with only 13 original properties, plus its location in relation to the Interstate Highway, I-496, meant that of the 4 properties facing on St. Joseph Street, 3 were razed on October 18, 1966 and the other was converted to a barber shop (See Map 3). Of the remaining 9 properties all but 1 have been converted at least one or more times. Thus, the unique 122 per cent change is based on a few properties with many conversions and is not representative of the average block.[3] The nearest comparison is Block 12, with only an 81 per cent change. Also, Blocks 22, 23, 27, 28, 30 and 31 have less than 10 per cent of their total dwellings converted to multiple family use. This situation indicates pockets of conversion activity, with adjoining blocks acting in like manner.

The distribution of total housing conversions (shown as per cent changes based on total dwellings), indicates a

pattern of decreasing conversion activity as one moves outward from the center city (See Map 4). It is believed that this situation results from the relative age of single-family houses in these areas.[4] This situation may also be related to differences in lot sizes, assuming that larger lots permitted larger houses which provided more potential for housing conversions to multiple use.[5]

Comparisons of total housing conversions at the block level are important to distinguish patterns of such activity within the study area. These patterns act as indicators of increased numbers of household units.

Table 3 and Map 5, based on Sub-Areas, more definitely confirm these patterns. Summarizing the basic block statistics from Table 2 into larger units or Sub-Areas, clearly presents decreasing levels of conversions from the center city outward, as suspected from the patterns in Map 4.

Figures in Table 4 indicate that approximately one-third of all single-family dwelling units in the Study Area were at some time converted to multiple-family use.

These first findings (See Chapter V, Overview of the Study Area) are reported as total housing conversions and shown as per cent change based on total dwellings, for the purpose of comparing different sized blocks. They have pointed out certain portions of the study area in need of further consideration. More specifically, the total character of certain blocks has changed as the result of increased

household units. Some action has already occurred with the partial clearance of 6 blocks (1, 2, 3, 10, 11, 12), all of which indicated high per cent changes. In addition, Block 5 had a property razed in 1965 and Block 6 has reduced its residential land uses by 25 per cent.

A second group of findings are related to measuring rates with which housing changes occur. All tables and figures found in Chapter V, Rates of Change in Housing Patterns, are based on data collected for 5-year periods, ending with and including the year shown.[6]

At the first level, 4 blocks from various parts of the study area were chosen as samples to analyze. Data from Tables 5 and 6 reveal only 1 housing conversion prior to 1920, an indication that this type of housing change was practically unknown during the first two decades of this century.[7] Of course, many of the properties in blocks 19 through 32 were yet to be platted in 1920, when this half of the study area contained only scattered residential development.

A histogram of Block 3 (Figure 6), indicates that the decade of the 20's, with pressures for land speculation, resulted in the greatest housing change. Between 1935 and 1955, conversions were equally distributed with none occurring since 1960.[8] Figure 7 confirms this change, noting that during these 10 years (1920-30) housing conversions had increased from zero to 27 per cent of the total dwellings.

Block 14 indicates a different situation in that most of its conversions occurred between 1930 and 1945 (See Figures 8 and 9), with only 1 out of a possible 41 dwellings converted prior to 1930. The average house was built in 1904 and the block was platted in 1909 so the period of development is believed to account for a later boom in conversions than that experienced by Block 3.

Block 20 had one spurt of conversion activity between 1935 and 1940, when total dwellings converted increased from 5 to 10 per cent. There were no notable housing changes between 1955 and 1960 (See Figure 10). The trend for this block indicates a relatively low level of activity with gradual increments over a 45-year period (See Figure 11).

Block 26 contains a mixture of houses built as early as 1878 and as recently as 1939, with the average house built in 1905. Approximately one-quarter of the block was platted in 1909 (Cahill's Addition) and, the other three-quarters was platted in 1928 (Assessor's Plat #8). Thus, this block of 58 properties with lot widths averaging 42 feet but containing many with 33 and 37 foot widths, represents a composite of many vintages of single-family dwellings.

The increase in conversions during the 1940-45 period is probably a reflection of the housing shortage during the war years. The 14 per cent increase which occurred between 1960-65 is a unique situation among the 4 sample blocks (See Table 6).[9]

In general, the validity of housing conversion rates compared at the level of individual blocks may be of limited use. The histograms and trend lines appear to reflect minor changes as major consequences, particularly for blocks containing few properties where the impact of each conversion is reflected out of proportion. A discussion of conversion rates at the Sub-Area level may reveal more realistic housing changes.

Table 7 indicates that the largest number of conversions for Sub-Area 1 occurred between 1945 and 1950.[10] The largest single number of conversions in Sub-Area 2 and 3 occurred between 1940 and 1945. Thus, the decade of the 1940's and World War II marked a concentration of conversion activity in all three parts of the Study Area. These results reflect the housing shortage, aggravated by the war.

By 1950, more than half of the dwellings in Sub-Area 1 (54 per cent) and almost one-third of those in Sub-Area 2 (30 per cent) had been converted for multiple-family use (See Table 8). Of the 14 blocks in Sub-Area 3 (See Table 1) only 12 per cent of the dwellings had been converted by 1950 and 17 per cent by 1965. Even the war years had not greatly influenced the overall percentage of such housing activities in Sub-Area 3 when compared to the other two areas.

Figures 14 and 15 for Sub-Area 1 indicate the highest percentage of cumulative conversions (66 per cent) within the

study area and a general leveling off in such activities since 1960 (See Footnote 8 for an explanation).

Sub-Area 2 had the largest total number of conversions (196) of the three Sub-Areas (See Table 3). While there were only 7 conversions between 1955 and 1960, there were 26 recorded between 1960 and 1965.[11] Figures 16 and 17 indicate that the bulk of housing change occurred in the 15 years between 1936 and 1950.

Sub-Area 3 provided the largest potential for conversions (544 dwellings) but had the lowest percentage (17 per cent) of such activity. This relatively low level of housing change is believed to be attributable to those factors described in Footnote 5. Specifically, the period of development (plat date) is related to lot size, which influences house size related to a potential for converting the residential use from one-family to multiple-family.[12]

Data summaries for the Study Area are shown in Tables 9 and 10, with the largest single amount of conversions occurring in the 1941-45 period. Collectively, the 15 years between 1936 and 1950 represent a concentration of housing change in this part of Lansing. This situation was accurately represented by the statistics for Sub-Area 2.

Thirty-two per cent or approximately one-third of all dwellings in the 32-block study area had been converted by 1965. This average is considerably lower than an average of the 3 Sub-Area figures (which would yield 41 per cent).

However, 32 per cent more accurately represents all blocks in the area and half of them (19 through 32) had only a 17 per cent conversion rate.

The Study Area histogram (Figure 20) indicates an extremely small number of conversions during the 1955-1960 period and an upswing in the last time period (54 conversions).[13]

The general trend (Figure 21) is indicative of a continuous increase in housing conversions since 1925, with a sharp increase in the final 5-year period. It is believed that the removal of several blocks from residential use will tend to increase pressures for housing in the immediate area. This situation will probably result in some continued conversions although Sub-Area 1 appears to have reached a saturation point.[14]

In conclusion, the second group of findings, measuring rates of housing change, become much more meaningful when related to housing conversion totals discussed earlier in this chapter. The two sets of data not only identify problem areas, but reveal the evolution of these areas.

Three levels of analysis were used throughout Chapter IV and discussed separately in this chapter (blocks, Sub-Areas and the Study Area). It appears that block-level analysis is of very limited use, except perhaps in identifying blocks in need of further study. However, the Sub-Areas were valuable study units and in most instances the

situations which prevailed in Sub-Area 2 (See Map 5), were reliable predictors for the Study Area as a whole.

Socio-Economic Aspects of the Study Area

The Lansing Community Renewal Program (CRP), identifies this study area as "an area of social blight". Several of the contributing factors are believed to be concentrations of low income families, female headed households, welfare cases and high labor mobility with 6.7 per cent of the labor force unemployed.[15]

The illegitimate birth ratio is another type of social indicator. The study area had less than 1 illegitimate birth per 1,000 live births in 1940. This ratio increased to 66.2 per 1,000 in 1950, 114.3 in 1960 and 424.5 in 1968. By way of comparison, the 1968 illegitimate ratio for the rest of the City of Lansing (excluding the study area), was 82.8 per 1,000 live births. These statistics point out that more than five times as many illegitimate births occurred within the study area as in the rest of the city.[16]

Housing-health relationships are aspects of both the social and physical environments. In an effort to determine possible environmental influences which might be related to disease and health problems, the Michigan Department of Public Health began the ECHO (Evidence for Community Health Organization) Project in 1968. The survey collects block data for housing classifications (utilizing the APHA tech-

nique), improper refuse storage, rubble and trash-burners, vacant lots and buildings, and evidence of areas which might act as harborages for disease-carrying rodents and insects. An August 8, 1969 report for Lansing indicated that the 32 study area blocks contained 3.1 per cent of the city's total houses, but almost 8 per cent of the city's houses which were classified as "fair" or "deteriorating". Incidences of improper refuse storage, rubble and trash-burners, average about 3.6 per cent of the city totals in each category. These figures indicate that incidences of adverse environmental influences related to health problems are above average in the study area as compared with other parts of Lansing.[17]

Population characteristics and racial composition of the study area residents have changed rapidly since the 1960 Census of Population. For example, the approximate population in 1960 consisted of (white) 2,572, (Negro) 1,758, and (others) 31. This ratio amounted to 3 whites for every 2 Negroes in the study area.[18] The more recent Lansing CRP indicates the following population changes:

> There has been no substantial loss in population since 1960. Non-whites who have moved into this area almost equal the white population that have moved out, and this is now a predominantly Negro district.[19]

Thus, in less than a decade, the ratio of white/non-white population has completely reversed and approximately half of the City's non-white population is currently concentrated in this area.[20]

Turning once again to the Lansing assessor's records for economic indicators, some definite trends are available for the study area. Average appraised property values (based on both land and building values), have gradually increased from $4,355.00 in 1934 to $4,906.00 in 1969. While average land values have slowly decreased over the 35-year period, building values have tended to increase rapidly since 1950. In 1969, of the 1,142 dwellings in the study area, the average land was appraised at $748.00 and the average appraised buildings value was $4,158.00.[21]

These general trends in appraised values of land and buildings are also true for the three Sub-Areas, except for Sub-Area 1 (closest to the central city) in which the building values have continually decreased since 1960. The Capitol Expansion Project has undoubtedly influenced these appraised valuations.

Several other factors are helpful in understanding the nature of the study area and the high incidence of housing conversions. Grid street layout induces heavy traffic and the lack of off-street parking contributes to a high degree of traffic congestion. This situation can be related to the older subdivision practices during the early part of this century when cars were not readily available to each family. Thus, many properties, though large in size, did not provide for a garage facility. Paradoxically, statistics point out that 70 per cent of the individual

properties in Sub-Area 1, 75 per cent in Sub-Area 2 and 77 per cent in Sub-Area 3 had garages as of 1969.[22] Thus, the more recent the subdivision development, the smaller the lot and the greater possibility that a garage was included on the property. During those years when cars were becoming more common and garages were being provided for them, the city lots in this part of Lansing were platted smaller and were less able to accommodate such an added facility. This is one explanation for the traffic congestion and lack of off-street parking in the study area today.

In summary, this 216-acre area is believed to be one of the most deficient residential environments within the City of Lansing. Extensive housing conversions have resulted in excessive densities with parks and open spaces almost completely lacking. "The older white families are being replaced largely by Negro families."[23] Some of the lowest property values in the city are found in this area. The close proximity to Oldsmobile Motor Works and Fisher Body Corporation, coupled with the large concentration of low income families, makes it both possible and necessary for employees to walk to work. This appears to be one possible explanation for the high number of housing conversions in the area. Secondly, the tenancy situation seems to encourage housing conversions. The 1960 Census of Housing and the Lansing CRP both indicate that over half of the dwelling units are

renter-occupied.[24] All of these aspects combine to indicate problems which relate to the high rate of housing conversions in the study area.

Relevance to Urban Planning

This study deals with the development of a technique to indicate changes in residential land uses, a basic type of land-use planning. As such, it offers an approach to the study of housing which lends itself to a description of current overviews and historical trends indicating the sequence and rate of housing changes. Some specific contributions of the study to urban planning follow:

1. It provides a technique for determining problem areas of housing by revealing housing conversions and thus, increased numbers of household units requiring additional public and social services. The detection of total household numbers is also important for planning relocation needs in neighborhoods affected by highway route locations and urban renewal projects.

2. It utilizes a body of accurate data available to planning departments in a usable form. The nature of such data permits collection and organization in aggregates comparable to other planning studies such as market area analysis, school enrollments

and others based on service area determinations which do not coincide with census or political boundaries.

3. It illustrates a screening method which can be completed rapidly and inexpensively and which requires no special training for survey personnel. Urban planners are constantly under pressure to issue zoning decisions concerning special permit requests for a variety of land uses in residential neighborhoods. The utilization of this shortcut method yields a historical background of the local area as a basis for decisions concerning its future development.
4. It proposes interdepartmental cooperation in data collection procedures and shared use of the study findings. Such an approach minimizes wastes of time and money in conducting separate studies and duplicating efforts. Of equal importance are the benefits which accrue to the departments involved in such an endeavor. The urban planning department in particular, can gain from increased communications and contacts with housing, assessing, building and health department personnel. The satisfaction which comes with joint attempts to strive toward the same or complimentary goals for a city, can improve the efficiency with which planning decisions are made.

FOOTNOTES

[1]Although this intensive approach is the most adequate technique available in terms of measuring both housing quantity and quality, it's use is limited by time and budget considerations. Stuart Chapin points out, "For land use planning purposes, the first screening survey is usually the only coverage necessary." (Chapin, Urban Land Use Planning, p. 314.) Thus, most cities appear to use screening rather than intensive survey techniques.

[2]Appraised values for land and buildings, collected for seven time periods between 1934 and 1969 were not utilized in the evolution of this technique. Also deleted was information indicating the presence of garages. Two items, the plat date and average lot width, for each property were used only indirectly in the delineation of Sub-Area boundaries (See Footnote 3, Chapter IV). One other item, year in which the structure was built, was retained (in addition to the housing conversion data), as an indicator of the average age of structures within a block (See Figure 2).

[3]It should be pointed out that blocks 7, 18, 19 and 32 also face on I-496 and have experienced some property changes as a result of this highway location, however, their larger sizes have resulted in average percentages of change due to housing conversions.

[4]For example, the average house in Block 12, where the per cent change is high (81 per cent), was built in 1901 and, the average house in Block 32, where the per cent change is low (10 per cent), was built in 1916.

[5]For example, the average lot width in Block 5 (part of the original city plat in 1847), is 44 feet with 64 per cent of the dwellings converted (See Table 2) while the average lot width in Block 14 (platted in 1909) is 40 feet with 43 per cent of the dwellings converted, and the average lot width in Block 19 (platted in 1930), is 37 feet with 13 per cent of the dwellings converted.

[6]All tables and figures are shown as 1920, 1925, 1930, et., to 1965. The data shown for 1930 is for the 5-year period 1926-27-28-29-30, inclusive. This method was chosen due to the relatively long period of time (45 years), for the study. In other instances, a 2 or 3 year interval for data collection may serve equally well or better.

[7]Of the 4-block sample, there was a potential for conversions based on 188 dwellings (refer to Table 2 for block totals). However, the one conversion which occurred in Block 26 was a house built in 1878, converted to 2 dwelling units in 1900, reconverted to 4 units in 1935 and converted again to contain 5 dwelling units in 1953. The property was built on 1½ lots (60 feet wide) in a block where most properties had 37-40 foot widths. Obviously, this property was an exception to the general situation.

[8]An important reason for the cessation of conversions in this block as well as the other 5 involved in the Capitol Expansion Project, is that all properties in blocks 1, 2 and 3 were razed during or prior to 1965. Properties in blocks 10, 11 and 12 were gradually being purchased by the state, with some scattered razings and some temporary rentals. However, during the 1961-65 period, there was little or no pressure for housing change in these 6 blocks.

[9]This increase in conversion activity between 1960-65 does not necessarily mean that the conversions were completed during those years, although some were. In block 26 for example, of the 8 conversions during this 5-year period, 1 was completed in 1962 and the other 7 were recorded in 1963 during Lansing's large-scale appraisals (for an explanation, refer to Footnote 2, Chapter IV).

[10]This is in contrast to the Sample Block (#3) in this Sub-Area which indicated the 1920's as the period of most housing conversions (See Table 5).

[11]See Footnote 9 of this chapter and Footnote 2, Chapter IV for an explanation.

[12]For example, the average house in Blocks 30 and 31 (where conversion amounted to less than 10 per cent), was built in 1925 and 1920, respectively, on lots averaging 37-41 feet in width. Many were of the small bungalow style, which provided little possibility for a second-floor apartment or two.

[13]This situation generally prevails in all blocks of the study area. (See Footnote 9 of this chapter and Footnote 2, Chapter IV.) Of the 368 study area conversions, 41 were recorded in 1963.

[14]There are only 19 properties (11 in Block 4, 7 in Block 5 and 1 in Block 6), which offer a potential for conversion in the three remaining blocks of Sub-Area 1. All other properties have been converted 1 or more times.

[15]Community Renewal Division of Lansing Planning Department, Community Needs---A Program for the Future, (Lansing, Michigan, 1969), p. 59.

[16]All illegitimate ratios are based on 1,000 live births. The 1968 ratio for the entire city of Lansing (including the study area), was 95.0 per thousand. This data was collected from the Michigan Department of Public Health, Vital Statistics, as part of the 1969 summer studies program described earlier (See Chapter IV).

[17]This data was taken from an ECHO report, Lansing Environmental Appraisal, published August 8, 1969. The ECHO (Evidence for Community Health Organization) Project's specific objective is to obtain current information about the state of health of people in Michigan, based on the factors of living which tend to influence health. Thus, the project emphasizes the physical and social environmental factors pertaining to dwelling units (dwelling unit appraisal record) and health problems (health appraisal record). This survey utilizes an intensive approach to the study of health and related environmental influences.

[18]The 1960 Census of Population statistics are based on Census Tract 15, which includes 27 blocks (23 of which are within the study area).

[19]Op. cit., Community Renewal Division of Lansing Planning Department, p. 57.

[20]This assumption is based on a Lansing CRP statement which maintains that more than half of the City's non-white population is concentrated in CRP Study Area 15, which encompasses, but is larger than, the research study area.

[21]The actual 1969 property value average was approximately $10,000.00. The 1969 assessor's figures (based on market value) were converted to pre-1963 values (based on replacement costs) in order to compare values across the 35-year study period. Thus, the average land

was appraised at approximately $1,500.00 and the average appraised buildings value was approximately $8,500.00 for all properties in the study area.

[22]Average lot widths tended to get smaller as residential subdivisions developed in more recent years (See Table 1).

[23]Op. cit., Community Renewal Division of Lansing Planning Department, p. 57.

[24]The 1960 Census of Housing statistics are based on Census Tract 15, which includes 27 blocks, 23 of which are within the study area.

CHAPTER VII

CONCLUSIONS

The primary concern of this thesis was to develop and demonstrate the utility of assessment data in the study of housing.

"Housing may be viewed as a situation and a process." Housing is more than a building, it is the living environment. The total concept includes the physical parcel of land--focussed on the occupant group--resulting in social, spacial and ecological relationships with material, human and cultural components of the community.[1]

The multiple aspects of housing invite studies from approaches including concerns of environmental setting, physical design, social patterns, personality development, health influences, psychological effects and a diverse number of housing-ecological relationships. Thus, the field of housing umbrellas the interests of physical and social scientists, humanities scholars and design professionals.

The research task became one of parsing out one small aspect of this multi-discipline, for study. It became clear early in the project that an objective approach was a necessity. Along with a paucity of meaningful social

data, sociologist, Robert K. Merton points out several "hazards of research in Housing." He advocates the view that social scientists must abandon the implicit correlations between "bad housing" and "social morbidities" such as illiteracy, crime, juvenile delinquency, high mortality rates, poverty, illegitimacy and veneral disease.[2]

Stuart Chapin's confirmation that, "Our knowledge of the psychology of housing is empirical rather than scientific," stirred interests in the investigation of social aspects of housing, particularly the effects upon individuals of crowded living environments.[3]

However, returning to an idea espoused by psychologist, Leon Festinger:

> Wherever the physical interrelationships among people are subject to change, either by planning or by accident, we may expect changes in social patterns of interaction to occur,[4]

the research evolved as an approach to physical land use planning. The rationale for such an approach was that the accurate detection of housing conversions over time would reveal the changed character of a neighborhood in such a way as to permit adequate planning for services or prevent future development which might be disruptive to the local residents.

There are some possible limitations to a study of this type. First of all, since the assessor's records remain virtually untapped as a potential source of housing data, there are few comparative studies with which to measure

the validity of this technique.[5] Secondly, the practices of the Lansing, Michigan Assessor's office have been generalized and assumed to be representative of assessing practices as a whole. Undoubtedly, there are wide variations from city to city.[6] Thirdly, the practical application or testing of the technique was based on one small section of Lansing in order that the study would be of manageable size. These particular findings identified problem areas where total housing conversions had reached a saturation point and, indicated trends coinciding with World War II housing shortages. However, the general application of the technique in other parts of Lansing or other cities, certainly remains to be tested. Finally, since this technique is primarily concerned with housing problem identification measured in quantative terms, there may be some instances where additional indication of housing quality is required.[7] It is therefore felt that this method may prove most efficient when used in combination with the APHA technique for measuring housing quality.[8]

The merits of this research effort may be evaluated in terms of guidelines provided by Allan A. Twichell, principle author of the APHA technique. Mr. Twichell suggests that simple tests for the usefulness of housing surveys are based on four considerations. Specifically:

1. Does the survey answer the questions on which housing policy must be based--the questions that decide where money and manpower will be spent?

2. Do the answers make sense (are the statistics satisfactory to those who know the community)?

3. Is the cost commensurate with the information produced?

4. Is the resulting information of a kind which tends to stimulate action?

The technique proposed in this study appears to provide a screening method preliminary to decisions concerning money and manpower. Questions related to public services and utilities based on numbers of household units could be decided on the basis of this method of analysis. However, questions related to housing quality as a basis for eligibility for Federal funds would require a more intensive survey conducted independently of or in addition to this method.

Secondly, tax assessment statistics must meet the test of satisfaction to those in the community or taxes would be disputed. Further, tax assessment records must be available for public inspection so questions of data reliability can be empirically verified.

Third, the low costs believed to be associated with the use of this technique are an important asset, second only to the specific qualities of the date (See Chapter II). The utilization of data already collected and recorded by the assessing department, eliminates house-to-house survey procedures, already completed by the field appraiser.

Finally, it is believed that most cities possess, among their local government departments, the resources to conduct housing studies under this technique. The findings and suggested methods of analyzation and presentation for use do not require sophisticated interpretations. Lay citizens can grasp the basic concept of neighborhood change by viewing a block map of total housing conversions or a simple trend line, tracing occurrances of this activity. Based on the simplicity of the study findings, the potential for stimulating action is high.

On the basis of Mr. Twichell's pragmatic judgments for housing studies, this technique appears to qualify at least partially, on all four counts.

If this study has succeeded in exposing the positive qualities of assessment data and encouraging its use for housing studies, it will have been worth the difficult task of attempting to develop a practical planning tool.

FOOTNOTES

[1]Ratcliff, Richard U., "How Can Housing Research Serve City Planning?", Journal of the American Institute of Planners, Vol. 8, (July-September, 1942), p. 103.

[2]Merton, Robert K., "The Social Psychology of Housing," in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 20.

[3]Chapin, F. Stuart, Jr., "The Psychology of Housing", Social Forces, Vol. 30, (October, 1951), p. 11.

[4]Festinger, Leon, Stanley Schachter and Kurt Back, Social Pressures in Informal Groups, (New York: Stanford University Press, 1950), p. 178.

[5]The Lansing Community Renewal Program was authorized in 1965 and findings were published in two parts; Community Description and Neighborhood Analysis, and Community Needs---A Program for the Future, in 1969. This study did utilize assessment records. However, as is the case in most housing reports for other cities, the Lansing CRP publications did not include study methods used or acknowledge sources of data input.

[6]The personal experiences of the researcher are based on six weeks of observations and consultations in the Lansing office, including discussions with the city assessor and chief residential appraiser. Property record computations and field appraisal techniques were explained in detail and it appeared that assessment practices were completed on the basis of sound appraisal techniques. Each record was regularly re-examined and there was little time lag in recording adjustments for building improvements or depreciation.

[7]For example, urban renewal decisions concerning clearance or rehabilitation actions would require information about housing quality in the area under examination. Statistical proof that 20 per cent of the buildings in such an area contained 1 or more building deficiencies and 2 or more environmental deficiencies, is required for Federal funds eligibility.

[8]However, it was beyond the scope of this study to confirm this hypothesis by submitting blocks with high housing conversion rates to a second technique measuring housing quality.

[9]Twichell, Allan A., "An Appraisal Method for Measuring the Quality of Housing", in Urban Housing, edited by William L. C. Wheaton, Grace Milgrim and Margy Ellin Meyerson, (New York: Free Press, 1966), p. 401.

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