In presenting the dissertation as a partial fulfillment of the requirements for an advanced degree from the Georgia Institute of Technology, I agree that the Library of the Institution shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to copy from, or to publish from, this dissertation may be granted by the professor under whose direction it was written, or such copying or publication is solely for scholarly purposes and does not involve potential gain. It is understood that any copying from, or publication of, this dissertation which involves potential financial gain will not be allowed without written permission.

May 24, 1956 _____

A STUDY OF THE RELATIONSHIPS OF LAND VALUE AND LAND USE IN A CENTRAL BUSINESS DISTRICT

A THESIS

Presented to

the Faculty of the Graduate Division

Georgia Institute of Technology

In Partial Fulfillment

of the Requirements for the Degree

Master of City Planning

By

Gerald Kirkbride Taylor, Jr.

June 1956

A STUDY OF THE RELATIONSHIPS

OF LAND VALUE AND LAND USE

IN A CENTRAL BUSINESS DISTRICT

Approved:

Date Approved by Chairman May 24, 1956

ACKNOWLEDGMENTS

The author wishes to sincerely thank the J. C. Nichols Foundation of the Urban Land Institute for the opportunity to conduct this research and for the financial aid in completing his city planning training at the Georgia Institute of Technology.

The author gratefully acknowledges the help he has received from his thesis advisor, Professor Howard K. Menhinick and from his reading committee, Professors Malcolm G. Little, Jr. and Maurice R. Brewster. This study could not have been completed without their criticisms, suggestions, and encouragement.

The author also wishes to thank Miss Natelle Isley and Miss Martha Rand, of the Architecture Library, Georgia Institute of Technology, for their aid in obtaining books and other materials used in preparing this study.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS ii

LIST OF TABLES v

LIST OF ILLUSTRATIONS vi

ABSTRACT vii

CHAPTER

I. INTRODUCTION 1

Purpose, Need, and Objectives
Reasons for the Selection of the Atlanta Central Business District
Limitations

II. PROCEDURE, DEFINITIONS, AND TECHNIQUES 6

Procedure

Selecting the Test Area
Determining the Land Values and Land Uses to be Studied
Collecting Land-Value and Land-Use Data
Land Value Determination
Mapping the Test Area
Preparation for Data Analysis

Definitions

Land Use
Land Value
Land Rent
Front-Foot Value
Corner Front-Foot Value

Techniques

Value Ratio
Relative Value Change

CHAPTER Page

III. THE STUDY AREA 17

The General Area

Historical Aspects
Geographical Aspects
Competitive Position

The Defined Test Area

Site Characteristics
Land-Value Characteristics
Land-Use Characteristics

IV. FINDINGS AND CONCLUSIONS 30

Findings

Value Ratio, 1923 and 1953
Relative Value Change, 1923 to 1953
Corner Land-Uses in terms of Relative Value Change in 1953

Conclusions

Significance of Value Ratio Findings
Significance of the Relative Value Change

V. APPLICATION AND RECOMMENDATIONS 60

APPENDIX 62

BIBLIOGRAPHY 68

LIST OF TABLES

Table		Page
1.	Average Purchasing Power Differential Index 1923-1953	15
2.	Factors Affecting Business Land Values	24
3.	1923 and 1953 Land Values and Land Uses and the Value Ratios for Each Corner Site Number	31
4.	The Average Value Ratio Change in 14 Predominate Corner Land-Uses Present in the Test Area in 1923 and 1953	38
5.	1923 and 1953 Corner Land-Uses Grouped According to their Relative Value Change and Value Ratio for Each Corner Site Number	40
6.	1923 Corner Land-Uses Expressed in Terms of the Relative Value Change and Grouped from the Maximum Positive Change to the Maximum Negative Change for Each Corner Site Number	48

LIST OF ILLUSTRATIONS

Figure		Page
1.	Drainage Pattern of Atlanta and Vicinity	20
2.	Topographic Map	63
3.	Relative Value Change	64
4.	The Test Area; Atlanta, Georgia	65
5.	Pedestrian Traffic Map	66
6.	Transit Volume Map	67

ABSTRACT

PURPOSE

The purpose of this thesis is to analyze the relationships between land-value and land-use in the Central Business District of Atlanta, Georgia, for the years 1923 and 1953, to determine whether any significant relationships exist which would be of value to business district property owners and managers, realtors, and city planners who are concerned with the maximum utilization of central business district properties.

METHOD

The study utilized 80 corner sites found at the intersection of all major and minor streets within a defined test area boundary and their corresponding ground and multi-floor land-uses occurring in 1923 and 1953. The relationship of these sites and their uses was analyzed in terms of the corner front-foot land values occurring at the sites in 1923 and 1953. Two techniques developed for the analysis of these relationships were the "value ratio" and the "relative value change."

The "value ratio" is the ratio of the front-foot land value to the peak front-foot land value occurring in the test area for a given year.

The "relative value change" is the change in front-foot land values which occurred at the given corner sites between 1923 and 1953 after adjusting the 1953 front-foot land values for the purchasing power differential between 1923 and 1953.

Land-value data were obtained from a study conducted by Mr. Richard M. Hurd in 1923 and from the 1953 City of Atlanta-Fulton County property tax assessment records. Land-use data were obtained from the 1923 Atlanta City Directory and the 1953 City of Atlanta-Fulton County property tax assessment records.

The findings are presented in table and map form accompanied by written explanation.

RESULTS

A significant relationship between land-value and land-use was determined using the value ratio and relative value change techniques.

By utilizing the value ratio technique, the value generating ability of 14 comparable land-use types was determined. Changes in peak land-value location according to types of corner land-uses are described.

By utilizing the relative value change technique, the degree of land-value generation attributable to 80 specific corner sites and their corresponding land-uses was found. Description of the factors responsible for this degree of value change are discussed in detail.

CONCLUSIONS

There is a significant relationship between corner land-uses and their contribution to central business district land-values.

The degree of relative value change for given land-uses correlates significantly with the degree of site accessibility as measured by pedestrian traffic and vehicular transit volume in the central business district.

There is a significant relationship between declining land-values and the types of utilization of specific corner sites.

APPLICATION

The findings of this study will aid central business district property owners in determining the most productive uses of their properties, city planners in identifying measures that will conserve and enhance the usefulness of the central business district, and to real estate appraisers in understanding value trends as related to land uses in a central business district.

RECOMMENDATION

The techniques described herein should be applied to all central business district land sites and types of uses in order to increase the utility of such data for future study and application.

CHAPTER I

INTRODUCTION

"It has been hypothesized that competition for the use of land and the ability of some activities to pay higher land rents than others is the basic force underlying city structure. If this be the case, one way of viewing the structure of the city would be in terms of the patterns of land values."[1]

This thesis, made possible through the 1955 award by the J. C. Nichols Foundation of the Urban Land Institute, will analyze the relationships between land value and land use in the central business district of Atlanta, Georgia, for the years 1923 and 1953, to determine whether there is any significant relationship.

The selection of the years 1923 and 1953 for study was made for several reasons. The study required comparison of land values and land uses which would have current application, which would not be distorted by past extreme economic conditions, and for which data in usable form were available.

Purpose, Need, and Objectives

Purpose.--This study was undertaken to provide information which should be of value to central business district property owners, to city planners, and to others concerned with central business districts. For central

---

[1]Donald J. Bogue, Needed Urban and Metropolitan Research, Scripts Foundation Studies in Population Distribution, Miami University, Oxford, Ohio: 1953, p. 21.

business district property owners who are concerned with the maximum utility of their properties, the findings may serve as an indicator of the type of land-use activity that can best afford a given site in the central business district. If a definite correlation between land value and land use is found, the study should be of use to city planners as an aid in forecasting probable changes in either land use or land value in the central business district. It may also afford some guidance in developing more precise methods than are presently available for determining the desirable future allocation of land uses under zoning in a central business district.

Need.--The need for the proposed study was pointed out in the excellent pioneering report on the Regional Survey of New York and Its Environs. The report stated, "It would be a legitimate subject of inquiry as to what, under varied conditions, are the effects of land values on the forms of development of land and on the character of the uses to which it is put."[2] To the author's knowledge, no serious attempt has been made in the past to determine the nature and possible application of land-value and land-use relationships in the central business district of a city.

Objectives.--The primary objective of the study is to determine whether a significant relationship exists between land value and land use in a central business district. If significant relationships are discovered, they will give some clue to the potential uses of land possessing any

---

[2]Regional Plan of New York and Its Environs, Regional Survey of New York and Its Environs, Volume 2. Population, Land Values, and Government, New York: 1929, p. 134.

given ratio of value to peak value. If relationships are not significant, the reasons for this lack of significance will be sought as a guide to further analysis of land value and use relationships. It is possible that a significant relationship may be found in a form other than the ratio of value to peak value which will afford some clue to changes in land-use requirements that have occurred between 1923 and 1953 and to changes that are still going on.

The second objective is to demonstrate the usefulness of accurate and reliable property assessment data as a tool in the analysis of land-value and land-use relationships.

The third objective is to serve as a point of beginning for further research in the technique, analysis, and application of land-value and land-use relationships.

Reasons for the Selection of the Atlanta Central Business District

Availability of data.--The central business district of Atlanta was selected for this study because the required information on land values and land uses were readily available to the writer. He had recently participated in a two-year uniform property assessment study for the city of Atlanta and Fulton County and had access to and first-hand familiarity with the current data on land-values and land-uses in this central business district. This subject provided an opportunity to utilize the writer's previous training and experience in land assessment with his current training in City Planning.

Diversity of the area.--The central business district of Atlanta provided an excellent cross section of land-use activities, topographic

features, and street systems which are found in varying degrees in most American cities of like size. This diversity would make it possible to analyze land-value and land-use relationships on the broadest possible basis.

Economic representation.--The economy of the Atlanta central business district and the surrounding area compares favorably with the economy of other American cities of like size and basic activity. Economic representation was considered necessary if comparison of the findings in this study were to be made with the findings of future studies in other cities. Chapter Three presents a more detailed explanation of the Atlanta area in general and of the study area in particular.

Limitations

Application of findings.--The findings of this study pertain only to the test area of the Atlanta central business and are not necessarily applicable to other areas of the city or to any other city. The study utilizes only land uses which occur at the corners of the blocks and therefore, the findings pertain only to such uses in the central business district.

Comparability of land-use data.--The comparability of a 1923 land-use activity with the same 1953 land-use activity is limited by changes in the nomenclature which took place between the two periods. For example: A dry goods store in 1923 might be comparable in 1953 with a small department store. Comparability is also limited by basic differences that have occurred in the economic demand for land, i.e., the development of radio and television.

The purpose, objectives, and limitations of the analysis of land-value and land-use relationships have been stated. The following chapter defines and describes the procedure, tools, and techniques utilized in bringing to light these relationships.

CHAPTER II

PROCEDURE, DEFINITIONS, AND TECHNIQUES

The basic procedure, the definition of terms, and the techniques developed in the study are presented in order to aid the reader in understanding their purpose and application to the study of land-value and land-use relationships in the Atlanta central business district.

Procedure

The procedual steps taken in the study were as follows:

Selecting the test area.--Since the study is concerned with central business district land values and land uses, it was necessary to select an area which contained a representative range of such values and uses. In addition it was necessary, within the selected area, to include the predominate central business district functions present in 1923 and 1953. The area which met these requirements was identified by Mr. Arnall Connell as the "Atlanta Hard Core Area."[3] The "hard core" is represented by the highest pedestrian volume; the highest transit volume; and the highest floor space densities.[4] This area is shown in the Appendix, Figure 4, and is discussed in greater detail in Chapter III.

---

[3]Arnall T. Connell, "Land Uses that require a Central Business District Location," Unpublished Masters Thesis, Department of City Planning, Georgia Institute of Technology, Atlanta: 1955. p. 42.

[4]Loc. cit., p. 42

Determining the land values and land uses to be studied.--After defining the specific area of study within the central business district, it was necessary to determine whether the land values and land uses of all properties within the area would be studied. It is common knowledge that uses occupying corner sites in the central business district possess the highest income producing potential since they are exposed to pedestrian traffic from two directions. This fact is reflected in the rent the occupants are willing to pay in order to utilize such a site and, further, in the resulting peak land values found at the intersections of central business district streets. For this reason and also because of the additional limitations of time and of the availability of data, it was decided to confine the analysis to those sites found at the intersections of all major and minor streets located within the previously defined area. At the corner site not only the ground-floor uses but also the uses above the ground floor were included in the analysis.

Collecting land-value and land-use data.--Land-value and land-use data for the 1923 period were obtained from two separate sources. In obtaining the land-value data, it was hoped to be able to utilize the assessment records of the city of Atlanta. Investigation of this source proved to be fruitless as there appeared to be no accurate method by which the assessment of the land could be separated from the total assessment of land and improvements. If the assessment of land and improvements had been recorded separately, as they were in 1953, they could have been utilized in this study to determine the land value. The second source,

Mr. Richard M. Hurd's text, Principles of City Land Values,[5] provided the 1923 land-value data used in this study. In Chapter X he discussed the scale of average land values found in the central business district of ten cities in the United States, one of which was Atlanta. These 1923 central business district values were expressed as the value of corner lots for an average width and depth, in dollars per front foot. Following the verification of their accuracy with local real estate companies, these land values were accepted as valid for the purposes of this study. The 1923 land uses were obtained from the Atlanta City Directory. The 1953 land values and land uses were compiled from the Atlanta-Fulton County property assessment records.

Land value determination.--Explanation of the method utilized by the assessors for determining the 1953 corner front-foot land values in the test area is presented not only because it will aid in understanding the application of such values in the study but also because of its value to the future study, analysis, and application of land values in a central business district.

The author, as an associate member of Hunnicutt and Associates, Municipal Appraisal Consultants, worked with the Atlanta-Fulton County Assessors in the application of the following methods for determining land values in the City of Atlanta and Fulton County.[6]

---

[5]Richard M. Hurd, Principles of City Land Values, 4th ed., New York: The Record and Guide, 1924, p. 137.

[6]Acknowledgment to George W. Kennedy, M.A.I., Adams-Cates Realtors, for technical aid and guidance.

These two methods are: the market method and the income method. Both methods were utilized in determining the front-foot land values of all properties in the test area.

The market method involves the collection of recent sales transactions for both vacant and improved properties. This method indicates the value placed upon a given site by the market. It cannot be used exclusively to determine land value because special conditions of sale will bias the resultant calculation of value and because the proportion of such reliable current sales transactions to the total number of properties in the central business district is relatively small. Calculations are made of the replacement cost of the structure with allowances for depreciation and obsolescence. After the replacement cost of a structure has been determined, this cost is subtracted from the sale price of the property to determine the land value of the site.

The income method is used where rentals or lease arrangements can be determined. From the gross rent or income is subtracted the costs of operation to determine the annual net income. After the depreciated value of the improvement has been determined, the annual net return on the building is calculated. The annual net return on the building is equal to the interest on the investment plus provision for depreciation. The annual net return on the building is then deducted from the annual net income from the property and the remaining value is said to be attributable to the land and is capitalized to indicate the total land value in dollars.

The income method was used to determine the land values in the test area while the available market data were used to verify the values

produced by this method. In cases where the variance was great, an average was used. Once the total land value for each property in the central business district was computed, it was converted into a front-foot value, allowing for variations from the standard depth and for unusual site conditions. Front-foot values for corner properties were calculated by the above methods as were all other properties in the area. However, corner front-foot land values consistently produced higher total gross rents per front foot than their mid-block neighbors. The front-foot land value for each property was then posted or the assessor's land map which became the source for the 1953 values used in this study. The corner front-foot land values obtained from this source are shown in Table 3, Chapter IV. The rental data are not available for publication because they were obtained from the owners and tenants in strict confidence.

The above methods combined to determine the front-foot land values for all properties in the test area and in addition, the results constitute an excellent source for public information on both land and building values in the Atlanta Central Business District.

Pedestrian traffic counts were taken to determine the shopping generator areas but were difficult to analyze due to the irregular street pattern and through-street stores. Figure 5, in the Appendix, indicates the results of these counts. As will be seen later, they help to explain land-value differences.

Mapping the test area.--All maps prepared for this study are found in the Appendix. They include:

1. The Base Map, Figure 4. This map was prepared from the Property Assessment map of the City of Atlanta and Fulton County. It indicates the boundaries of the study area, the 80 corner sites and their corresponding site numbers, and the street system of the Atlanta Central Business District.

2. The Topographic Map, Figure 2. This map was prepared from the United States Coast and Geodetic Survey conducted in 1928. The city engineering division states there was very little topographic change in the area between 1923 and 1953.

3. The Pedestrian Traffic Map, Figure 5. This map was prepared from the results of a pedestrian traffic count taken by the City of Atlanta-Fulton County assessors office during the property revaluation program in 1953.

4. The Transit Volume Map, Figure 6. This map was prepared from records of the Atlanta Transit Company in 1953.

Preparation for data analysis.--The land-value and the land-use data for each of the 80 corner sites, were grouped into two periods, 1923 and 1953. As previously stated, these 80 sites represent the four corners at the intersections of all major and minor streets in the study area. The relationship between the corner land uses and their corresponding land values was analyzed by the use of two techniques, the "value ratio" and the "relative value change." These techniques are defined and described in a later section entitled "Techniques."

Definitions

Land use.--This term is used to denote the activity pursued upon a given site at a given time. In this study it is, more specifically, the predominate ground-floor use and predominant multi-story use which occur at any one of the given 80 corner sites in the study area in the years 1923 and 1953.

Land value.--This term is used to denote the usefulness of a site at a given time. Leonard C. Smith states, "It is the specific usefulness of land and not land itself that has value."[7] In this study, land value is the value remaining after the value of the improvement has been removed from the total value of the site. The remaining value, known as residual land value, is a reflector not only of the present but also the anticipated future usefulness of the land. The present and potential utility of land is reflected in the land-value data compiled for the Atlanta-Fulton County uniform assessment program of 1953 and used in this study.

Land rent.--There are two types of land rent: economic rent and contract rent. Economic rent is that income which the land produces if put to its highest and best use. Contract rent is the charge agreed upon by the owner and the tenant for the use of the land. Land rents in the central business district, subject to the law of supply and demand for usable space, do not necessarily reflect the highest and best use theory of economic rent but they do reflect an income from the site at least equal

---

[7]Leonard C. Smith, M. A. I., "Has Land A Value," The Appraisal Journal, 4 (October, 1939), p. 357.

to the cost of maintaining the site; otherwise the use would eventually cease to exist at that site. The costs of maintaining a site include charges for services such as heat, light, elevators, and janitors; taxes, insurance and repairs, and interest on the capital invested in the site.[8] In most cases, economic rent is greater than contract rent but, in some cases, they may be nearly equal. Where rent is referred to in this study, it is contract rent unless otherwise stated.

Front-foot value.--This is a standard term used in the study to indicate the values of a segment of land one foot in width and one hundred feet in depth. All front-foot land values compiled for this study were adjusted for depths greater or less than the standard to insure uniform comparisons.

Corner front-foot land value.--This term is used in the study to indicate the value of one front-foot of land located at the corner of two intersecting streets. Corner front-foot values have been adjusted for depth variances as described above.

Techniques

For the purpose of this study, two techniques were developed. They are the "value ratio" technique and the "relative value change" technique. The nature and development of these techniques are described as follows.

Value ratio.--This method was developed to indicate the relation between a given corner front-foot land value and the peak corner front-foot land

---

[8]Hurd, op. cit., p. 1.

value occurring in 1923 and 1953. The ratio was determined for the 80 corner sites in both years. For example: In 1923 the peak corner front-foot land value was $2000; a given site corner front-foot land value was $200; and the value ratio equaled $200 ÷ $2000 or expressed decimally, 0.10.

Relative value change.--This method was developed as an analysis tool separate and distinct from the value ratio technique. The only factor common to both techniques was the corner land-use data. The relative value change was used to indicate the change in the front-foot land values which had occurred at the given corner sites between 1923 and 1953 after adjusting the 1953 front-foot land values for the purchasing power differential which took place between the two years.

The purchasing power differential occurring between 1923 and 1953 was calculated in order to produce the relative value change between 1923 and 1953 for the 80 corner sites and their corresponding uses. It was reasoned that if price is value expressed in terms of money,[9] it follows that by adjusting for the purchasing power differential between two given years, the true difference in value will be obtained. From the excellent list compiled by Mr. Cuthbert Reeves in the Appraisal Journal, four major economic factors were selected for use in determining the purchasing power differential in Atlanta.[10] These factors are (1) The

---

[9]Frederick M. Babcock, The Valuation of Real Estate, 1st. ed., New York: McGraw Hill, 1932, p. 16.

[10]Cuthbert E. Reeves, "Real Estate Value Index," The Appraisal Journal, 12 (July, 1944), p. 232.

Building Construction Cost Index, (2) the Consumer Price Index, (3) Department Store Sales Index, and (4) the Income of Families and Unrelated Individuals. Since the 100 index or base period for these indices varied, it was necessary to adjust each to a common base year. The year 1923 was selected for the base year (100 index) and all four indices were adjusted to this base by moving each index up to 100 or down to 100, whichever case applied. When all indices had been re-aligned to the 1923 base of 100, corresponding new index numbers were obtained for the year 1953. They are shown as follows:

Table No. 1. Average Purchasing Power Differential Index 1923-1953

Index	Year (1923 = 100) 1923	1953
Building Construction Cost Index[11]	100	225
Consumer Price Index[12]	100	138
Department Store Sales[13]	100	202
Family and Unrelated Individual Income[14]	100	350
Index Number Totals	400	915
Average Purchasing Power Differential (Expressed as an index number		2.28

[11]E. H. Boeckh, Boeckh's Manual of Appraisal, 4th ed., Indiana: Roughnotes Co., 1945, and Building Cost Supplements, unpaged.

[12]United States Department of Commerce, Statistical Abstract of the United States, 76th Edition, U. S. Government Printing Office, Washington: 1955. p. 317.

[13]Ibid, p. 865

[14]Ibid, p. 294

Equal weight was allowed for each index number and the resulting average purchasing power differential expressed as an index number, was 2.28. This index number was used in reducing the 1953 corner front-foot land values for each corner site use in order to determine the relative value change which had occurred at the site between 1923 and 1953.

An example of relative value change computation is shows as follows:

Site (x) had a land value of $500. per front foot in 1923. In 1953, the same site had a land value of $5000. per front foot.

The purchasing power differential index between 1923 and 1953 was (2.28).

Therefore: The Relative Value Changes for site (x) or

$$\text{R.V.C. (site x)} = \frac{\$5000}{2.28} \div 500 = 4.4$$

The figure 4.4 represents a positive relative value change between 1923 and 1953 of 4.4 times for the given site (x).

Expressed as an equation:

$$\text{R.V.C. (Site x)} = \begin{matrix}\text{Reciprocal of the} \\ \text{1923 Land Value (\$/FF)}\end{matrix} \times \frac{\text{1953 Land Value (\$/FF)}}{\begin{matrix}\text{Purchasing Power Index} \\ \text{between 1923 and 1953}\end{matrix}}$$

The application of the value ratio and relative value change techniques in the analysis of land-value and land-use relationships is discussed in Chapter IV.

CHAPTER III

THE STUDY AREA

This section is concerned with the general area of study and the specific test area defined in Chapter II. A knowledge of the economic and physical characteristics of the study area is essential to an understanding of the land-value and land-use relationships to be examined in this study.

The General Area

Historical aspects.--The Central Business District of Atlanta, Georgia, is the center of a great metropolitan area that has developed around a site which, in 1836, was selected as the terminus of a proposed rail route between the Tennessee River and the Chattahoochee River. From that point of beginning, Atlanta has developed as the hub of the Southeast not only for rail services and facilities but also for motor freight and passenger travel as well as air travel. It continues to be a city whose economic life is dependent upon its position as a center for the distribution of goods and services for the entire Southeast. Atlanta is classified as a city of diversified activity. It has in recent years become a regional center for the assembly and distribution of goods manufactured in other parts of the country.

There are two primary reasons for the outstanding growth and development that occurred between 1836 and 1953. One is the high quality

of local leadership throughout the years and the other is the strategic location of Atlanta in relation to the major physiographic features of the Southeast.[15] Atlanta remained relatively small until 1900 because the development of industries, which had taken place in other sections of the nation, had not taken place in the Atlanta area. The economic depression following the Civil War and the dependency of the population upon agriculture were responsible for this lag. Following 1900, the dependency upon cotton began to decrease and manufacturing began to increase. The delay in the expansion of manufacturing in Atlanta, as compared with other sections of the country, has saved Atlanta from many of the costly problems of other cities who were caught in the earlier industrial expansion. Thus today Atlanta is growing at a greater rate than the cities whose most rapid growth occurred earlier. Atlanta has thus far escaped some of the problems that accompanied rapid urban growth in other parts of the United States. The physical reasons for this are discussed in the following section.

Geographical aspects.--The City of Atlanta occupies a focal position near the southern end of the Piedmont Plateau. The Blue Ridge, which flanks the Piedmont on the northwest and ends abruptly in north Central Georgia, constitutes a large unbroken barrier to travel except along routes which run parallel to its northeast-southwest axis.

Travel routes from the northeast and the midwest into the Piedmont area run around the southeastern tip of the Blue Ridge and center on the

---

[15]Atlanta Metropolitan Planning Commission, Economic Supplement to the Regional Land Use Plan, Atlanta: The Commission, July, 1952, p. 11.

Atlanta area, the natural junction of lines of communication.

The spot chosen by the surveyors, which is now Atlanta, lies directly atop the drainage divide between two major rivers systems. (See following Figure 1.) In a southwesterly direction toward the Gulf of Mexico flows the main course of the Chattahoochee River, a part of the Apalacheecola system. Toward the southeast and the Atlantic Ocean flows the Altamaha River. Atlanta occupies the ridge between at an elevation of 1000 feet. There is no city of comparable size in the Eastern United States that lies at so high an elevation. Several significant characteristics of the Atlanta area result from its altitude and its unique drainage pattern.

The many drainage divides and creek valleys which form the Atlanta pattern serve as ideal level routes for railroads and highways to follow into the area.

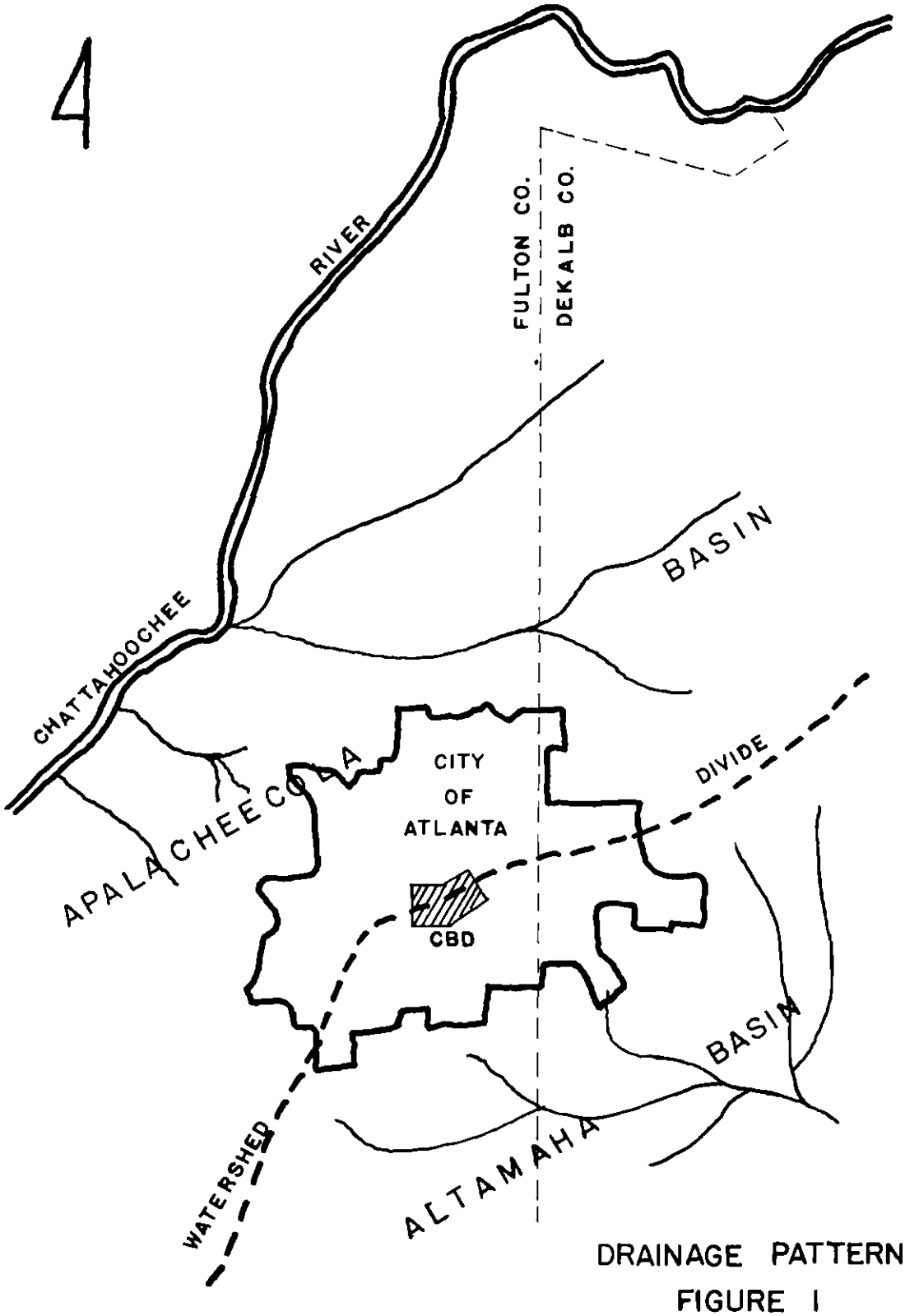
Population has centered in crest positions which presented a minimum of surface drainage problems. The development of separate sewage disposal lines operating on a gravity basis have been possible.

The Chattahoochee provides the area with a source of good water and an outlet for sewage not to mention its potential as a power source and navigation channel.

Competitive position.--[16]Atlanta has made use of its natural advantages as the geographic center of the fact growing Southeast and the city is recognized today as the region's commercial and financial capital.

---

[16]Ibid., p. 18-29.



DRAINAGE PATTERN
FIGURE I

Being a distribution center, Atlanta leads the south in transportation facilities and services, in rail, truck, and air.

Atlanta is the governmental center of the Southeast for Federal regional offices. It is also the capital of the state.

Atlanta is an educational center with many institutions of higher learning.

In summary, Atlanta ranks first in the region in almost all the factors which measure a city's competitive and economic position.

The Defined Test Area

As stated previously, the defined test area is that area of the central business district represented by the highest pedestrian volume; the highest transit volume; and the highest floor-space densities. The boundary lines of this area are shown in the Appendix, Figure 4. The analysis of land-value and land-use relationships in this test area is necessarily predicated on a thorough knowledge of site and land-value characteristics and the specific conditions under which these relationships exist. The remainder of this chapter presents these characteristics and conditions of the test area in order to facilitate the understanding of the findings and conclusions.

Site characteristics.--Land values and land uses are greatly affected by such site characteristics as topography, intensity of utilization, street system, and vehicular volume. In the test area, as shown in the Appendix, Figure 4, there are two elevation peaks; one in the northern sector and one in the southern sector. The maximum elevation differential is

approximately 50 feet. The soil is clay with a sub-surface of broken granite. The degree of gradient and the sub-surface conditions create additional problems and costs in the location and erection of new structures in the area and also in providing underground utilities.

There was no vacant land within the test area in 1953. In 1923, vacant land and residential structures were present at the periphery of the area. By 1953, all land was being utilized for commercial purposes. Many commercial structures present in 1923 were present in 1953; however, most of the structures had been modernized in some manner. The average age of commercial structures was in 1953, within a 30-to 40-year range. Building heights in 1953 range from the ground level asphalt parking lot to the 21-story Rhodes-Haverty Building.

The street system is basicly a modified grid pattern superimposed on ridged terrain. Street grades in the east-west direction are extreme whereas, in the north-south direction, grades are moderate. Grade conditions are shown on Figure 2 of the Appendix. Street rights-of-way range from 120 feet on Marietta Street to 10 feet in the alleys, with a predominance of rights-of-way 60 feet wide. There are many blocks that are irregular, both in length and shape. These irregular blocks complicate site improvement and utilization and have an adverse effect on traffic flow.

Vehicular volume is greater than the rated street capacity during peak hours despite the prohibition of on-street parking during these periods. During the daylight hours, parking lots and garages are filled to capacity because on-street parking facilities are extremely limited.

In 1923, the street system was adequate and was not considered a major factor in land value and land use. Municipal transit service has operated in the test area from 1923 to 1953. The rubber-tired, trackless trolley and the conventional motor shuttle bus have replaced the trolley car with fixed rails. An interview with local transit company officials[17] disclosed that there had been little locational change in the major stops between the two periods. However, the number of stops has increased as the intensity of land use has increased. Corner stops rather than mid-block stops predominate during both periods. Figure 6 in the Appendix presents the number of transit vehicles passing given locations in the test area during a peak period in 1953.

Land-value characteristics.--The significance of land value, as used in this study, points up the need of a clear understanding of its characteristics and application. The value of commercial land results from a complex mixture of factors and the weight given to each factor is determined by the nature of the use occupying the land. Table 2, on the following page, a listing of factors which affect business land values compiled by Mr. E. H. Boeckh,[18] demonstrates this complexity. Since these factors vary with time, the resulting land value will also vary with time. In this study, the relation to time has been defined; consequently, the land values are valid for only the years 1923 and 1953.

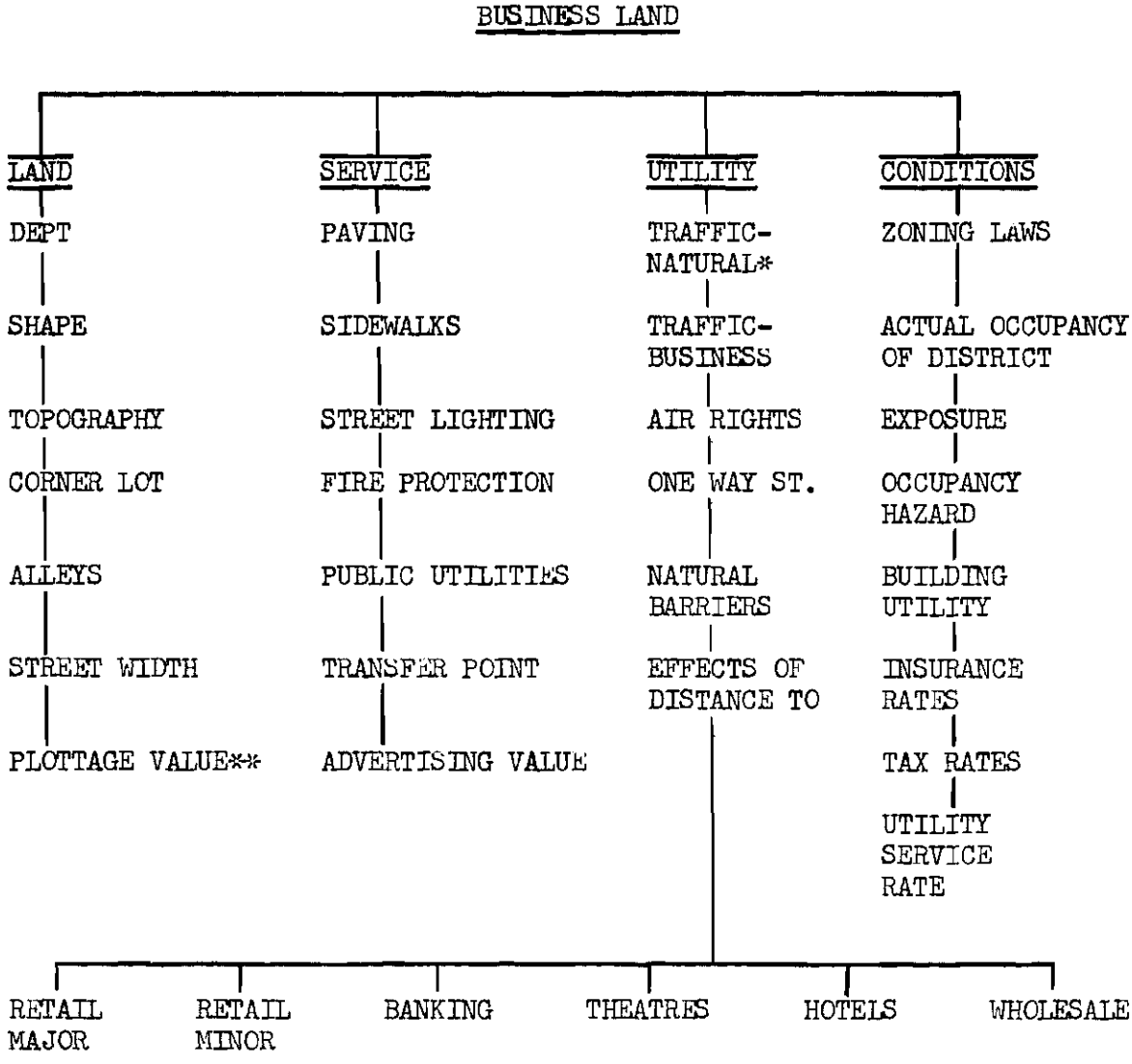
Another characteristic of land value is its dependency on the purpose and desire of man. Land value is dependent upon man's point of

---

[17]Atlanta Transit Company, Atlanta, Georgia, 1955.

[18]Boeckh, op. cit., p. 340.

Table 2. Factors Affecting Business Land Values



* Traffic-Natural includes all traffic other than that bound for the central business district.

** Plottage Value represents the increment in total land value produced by combining smaller ownerships into larger single ownerships.

view in its determination. For example, the home owner will place a high value on his property when applying for a loan; however, when payment of the property tax is involved, he will invariably discount the value of the same property. The land values used in the test area were compiled for tax purposes and reflect the standards of uniformity, equality, and relation to market value necessary for such purposes.

A third characteristic of land value is its dependency upon the scarcity of usable land. Maximum land values are found in the test area where usable land scarcity is the greatest. Moving away from the test area into areas of less scarcity, the land values decrease. An indication of the decrease in the availability of land in the test area between 1923 and 1953 is the range of land values found in the two years. In 1923, the land-value range in the test area was from $100 per corner front-foot to $2000 per corner front-foot. In 1953, the value range was from $1500 per corner front-foot to $7500 per corner front-foot.

A final characteristic of land value is its dependency upon purchasing power. When purchasing power is low, as was the case in Atlanta in the thirties, the ability and desire to purchase land was low and the value of land decreased sharply. Conversely, when the purchasing power was high, as in 1953, the ability and desire to purchase were increasing and the value of land was increasing. The following paragraphs present the method used to identify these characteristics in determining the 1953 land values in the test area.

Land-use characteristics.--For the purpose of this study, there would be little value in orienting the reader to the characteristics of land-value

in the test area without correspondingly orienting him to the general characteristics of land-use which are also applicable to this area. Since the use to which land is put ultimately determines the value of the property,[19] it is necessary to determine and analyze the factors which influence land use. There are four major factors which contribute to the determination of the use to which a commercial site may be put. They are competitive position, marketing influence, stability of use, and relation to surroundings. These factors will vary with the type of activity involved and with changes in the social, political, and economic structure of the area in which the land is located.

Competitive position results from the economic pressures of supply and demand. The element of competition is one of the determinants of the moment in time when one land use is replaced by another land use.[20] When usable land is scarce, competition for its use is greatest and only those activities can survive on a given site which can utilize land, labor, and capital to a maximum. This condition existed in the test area in 1953. When usable land is plentiful, an activity can survive on a given site despite the fact that the operation may be marginal or at most, less than maximum utility. This condition was prevalent in the test area in 1923. A misplaced activity could remain at a given site for a greater period of time in 1923 than was possible in 1953 since the ratio of operational costs to income has steadily increased from 1923 to 1953. Declining

---

[19]Herbert S. Swan, "Land Values and City Growth," The Journal of Land and Public Utility Economics, 10 (1934), p. 201.

[20]Morris B. Ashton, "Highest-Best Use," The Appraisal Journal, 7 (January, 1939), p. 59.

profit margin has brought about the increased emphasis upon "volume" retail business, a marketing function directly related to competitive position. In cases where land is suitable for more than one purpose, one use competes against another and the land goes to the highest bidder.[21]

Marketing influence is the relationship of the central business district land use to the potential customer. It is measured in terms of accessibility to the land use by public transit, private automobile, or walking distance and in terms of the methods employed in the buying and selling of goods and services. The importance of the marketing influence of central business land use is demonstrated in the excellent study of the factors which determine women shopping habits in the Greater Boston Area.[22] It was found that where transit service was quick, direct, and cheap, 66 to 95 per cent of the women shoppers purchased in the central business district stores. The largest single reason for not shopping in the central business district was the lack of accessibility in terms of automobile parking and transit bus service. Where central business district retail stores extended credit service, 62 to 64 per cent of the city and suburban women shoppers had charge accounts with these stores and 58 to 62 per cent made more than one-half of their purchases with these retailers in the central business district. Where mail-order and telephone service was offered by central business district retailers, 30 to 40 per cent of the city and suburban women shoppers used this service.

---

[21]Hurd, op. cit., p. 145

[22]John P. Alevizos and Allen E. Beckwith, "What Every Retailer Should Know about . . . Downtown Dilemma," Harvard Business Review, 32 (January, 1954), pp. 109, 119.

The third determining characteristic of a commercial land use is the stability of use. In the Regional Survey of New York it was stated, "the transition that takes place from one building use to another may lead to deterioration of the values of the land as well as of the buildings in one place and to the increase of both in another place."[23] An unstable site is the resultant of a combination of influences such as economic loss, physical depreciation, change in buying habits, functional obsolescence, and changes in traffic and parking patterns. Sites are improved on the basis of future return, i.e., a coming use, and if that use does not produce the anticipated return, it is replaced by a more economic use. The findings of a study conducted by Mr. Malcolm J. Proudfoot indicate that the dominant factor necessary for retail business site selection and stability is accessibility to the greatest number of potential customers.[24] From the property owners point of view, an alternative use is considered only when the net revenue of the existing use has declined to a point below the site rent that can be produced by the alternative use. This fact accounts for the observed lag in land use growth and change in the test area as related to consumer demand and need for an alternative use.

The fourth factor, the relationship of the site and its improvement to the surroundings, is important because of the lack of developable land in most large business district. The test area has experienced relatively

---

[23]Regional Plan of New York and Its Environs, op. cit., p. 133.

[24]Malcolm J. Proudfoot, "The Selection of a Business Site," The Journal of Land and Public Utility Economics, 14 (November, 1938), p. 371.

little vertical expansion in the last thirty years but air space has been utilized for such functions as parking decks and parks over railroad tracks, and office structures over alleys. The test area may, in future years, see the utilization of roof tops for helio-ports. The effects of such utilization of space on surrounding uses have not yet been fully explored but will definitely be reflected in the land value. Corner sites with a maximum ground-floor display and natural-light source area utilize this site-space relationship to increase revenues. There is also a relationship between street and sidewalk width and business activity. Here the relationship of width to traffic movement of potential purchasers acts as either an inhibiting or a promoting force which influences the volume of business transacted. In addition, the walking distance required in order to purchase is directly affected by the street and sidewalk systems. Parking studies and shopping-habit surveys indicate that, for certain types of activities, there are walking distance maximums beyond which the potential consumer ceases to be a buying customer. Gradient and natural barriers further influence this relationship and in many cases, restrict the choice and degree of land use.

The following chapter deals with the relationships between land uses, as discussed above and land values expressed in terms of the previously defined corner front-foot value, value ratio, and the relative value change.

CHAPTER IV

FINDINGS AND CONCLUSIONS

Findings

The relationships of land-value and land-use are analyzed by utilizing the two basic techniques described previously. They are the value ratio and the relative value change techniques. Because the analysis involves the use of these techniques as separate and distinct methods, they are discussed separately as follows:

Value ratio-1923 and 1953.--The 1923 and 1953 value ratios were calculated by comparing the front-foot land values for the 80 corner sites with the peak corner front-foot land values found in the test area during these years. The results, arranged according to the corner site numbers, are shown in Table 3 which follows. In seeking a significant relationship between the land values and the land uses presented in the above table, two methods of grouping were employed.

In the first method, the value ratios were grouped for both years from the maximum ratio to the minimum ratio and compared with the corresponding land uses. No significant relationship was observed when the data were compiled in this form. This grouping is therefore not presented in this report.

In the second method, like corner uses were grouped for both years and compared with the value ratios which corresponded with these like land uses. Of the many corner uses existing in the study area, 14 classes

Table 3. 1923 and 1953 Land Values and Land Uses and Value Ratios for Each Corner Site Number

Corner No.	1923 Land Use		1923 Value Land/ FF $	1923 Value Ratio to Peak	1953 Land Use		1953 Value Land/ FF $	1953 Value Ratio to Peak
1	Steam Specialty Company		300	.15	Cafe		2000	.27
2	Drug Store		500	.25	Restaurant		2000	.27
3	5 & 10¢ Store		500	.25	Department Store	(M)	2000	.27
4	Department Store	(L)	1000	.50	Department Store	(S)	2330	.31
5	Department Store	(L)	1000	.50	Department Store	(S)	2330	.31
6	Department Store	(S)	1000	.50	Department Store	(S)	3330	.44
7	Shoe Store (m & w)	(L)	1000	.50	Shoe Store (w)	(L)	3188	.43
8	Department Store	(L)	500	.25	Department Store	(M)	3000	.40
9	Furniture Store	(M)	500	.25	Department Store	(L)	3000	.40

KEY

(S) Small business operation
(M) Medium business operation
(L) Large business operation
(m) Cater to men
(w) Cater to women
* Activity above first floor

Table 3.

Corner No.	1923 Land Use		Value Land/ FF $	Value Ratio to Peak	1953 Land Use		Value Land/ FF $	Value Ratio to Peak
10	Furniture Store	(M)	300	.15	Department Store	(L)	2000	.27
11	Vacant Building		300	.15	Department Store	(L)	2000	.27
12	Drug Store		400	.20	Cafe & Liquor Store		2500	.33
13	Newspaper Company	(L)	400	.20	Department Store	(L)	2500	.33
14	Department Store	(L)	750	.37	Department Store	(L)	4000	.53
15	Drug Store		750	.37	Drug Store (being removed)		4000	.53
16	Shoe & Hose Shop (w)		1500	.75	Shoe & Hose Shop (w)		6000	.80
17	Drug Store-Offices*		1500	.75	Clothing Store(w)-Off.*		6000	.80
18	Bank-Offices*		1500	.75	Cafe		5300	.70
19	Drug Store		1500	.75	Shoe Store (m & w)		5300	.70
20	Dry Goods Store	(S)	750	.37	Clothing Store (w)-Off.*		4000	.53
21	Hat Shop (m)		750	.37	Drug Store		4000	.53
22	Shoe Shop		400	.20	Liquor Store		2500	.33
23	Seed & Meal Store		400	.20	Power (Utility) Co.-Off.*		2500	.33

Table 3.

Corner No.	1923 Land Use	1923 Value Land/ FF $	1923 Value Ratio to Peak	1953 Land Use	1953 Value Land/ FF $	1953 Value Ratio to Peak
24	State & Fed. Tariff-Off.*	1000	.50	Western Union-Offices*	3000	.40
25	Drug Store	1000	.50	Cafe-Offices*	4000	.53
26	Drug Store-Rooms*	1800	.90	Drug Store	4000	.53
27	Bank-Offices*	1800	.90	Bank-Offices*	4500	.60
28	Bank-Offices*	2000	1.00	Bank-Offices*	5000	.67
29	Tobacco Shop	2000	1.00	Shoe Store (m&w)	5000	.67
30	Tobacco Shop	2000	1.00	Shoe & Hat Shop (w)	4500	.60
31	Shoe Shop (m) (L)	2000	1.00	Clothing Store (m) (L)	5500	.73
32	Drug Store-Offices*	2000	1.00	Investment Broker-Off.*	3500	.47
33	Offices*	1800	.70	Offices*	3500	.47
34	Shoe Shine, Cigar Store-Offices*	1800	.90	Newstand, Liquor Store-Offices*	3500	.47
35	Drug Store, Jewelers	1000	.50	Liquor Store-Jewelers	3500	.47
36	City Hall	1000	.50	Cigar, Liquor Store-Off.*	3000	.40
37	Candy Shop	400	.20	Real Estate Agency-Off.*	3000	.40

Table 3.

Corner No.	1923 Land Use	1923 Value Land/ FF $	1923 Value Ratio to Peak	1953 Land Use	1953 Value Land/ FF $	1953 Value Ratio to Peak
38	Real Estate Agency	400	.20	Real Est. Agency-Offices*	3000	.40
39	So.R.R. Ticket Office-Off.*	750	.37	Real Est. Agency-Offices*	3500	.47
40	Loan & Real Estate Offices	750	.37	Loan & Real Estate Offices	3500	.47
41	Tailor & Show Shop (m)	1000	.50	Shoe Shop & Liquor Store	3500	.47
42	Clothing & Jewelers Str.(m)	900	.45	Clothing Store (m)	5500	.73
43	Clothing Store (m & w) (L)	1000	.50	Clothing Store (m & w) (L)	3500	.47
44	Clothing Store (m & w) (L)	750	.37	Clothing Store (m & w) (L)	3500	.47
45	Drug Store-Offices*	750	.37	Sporting Goods & Book Str.-Offices*	3500	.47
46	Drug Store & Realty Co.-Off.*	400	.20	Realty Co.-Offices*	3000	.40
47	U. S. Post Office	400	.20	U. S. Post Office	3000	.40
48	U. S. Post Office	300	.15	U. S. Post Office	3000	.40
49	Travel Agency	300	.15	Realty Co.-Offices*	3000	.40
50	Investment Company	700	.35	Barber & Photo Shops-Off.*	3500	.47
51	Clothing Str.(m)-Printers*	700	.35	Clothing Str.(m)-Offices*	3500	.47

Table 3.

1923				1953		
Corner No.	Land Use	Land/ FF $	Ratio to Peak	Land Use	Land/ FF $	Ratio to Peak
52	Clothing Store(m)-Printer*	900	.45	Clothing Store (m)-Offices*	3500	.47
53	Cigar Store	900	.45	Clothing Str.(m)-Loan Co.	5500	.73
54	Bank-Offices*	800	.40	Bank-Offices*	5000	.67
55	Book Store	700	.35	Paint Store	3500	.47
56	Vacant lot	300	.15	Grill	3000	.40
57	Drug Store	300	.15	Drug Store	3000	.40
58	Restaurant & Theater	250	.12	Theater	3000	.40
59	Cigar Store	250	.12	Restaurant-Offices*	3000	.40
60	Cigar Store	800	.40	Liquor Store	5000	.67
61	Hotel, Branch Bank	800	.40	Hotel, Drug Store	5000	.67
62	Branch Bank-Offices*	800	.40	Bank-Offices*	5500	.73
63	Restaurant	300	.15	Cafeteria-Hotel*	1750	.23
64	Meat Mkt. & Delicatessen	500	.25	Drug Store-Offices*	5000	.67
65	Drug Store & Western Union	800	.40	Candy Shop, Jewelers	6000	.80

Table 3.

1923				1953		
Corner No.	Land Use	Value Land/ FF $	Value Ratio to Peak	Land Use	Value Land/ FF $	Value Ratio to Peak
66	Hat Cleaners-Offices*	600	.30	Candy, Jewelry Shop-Off.*	5500	.73
67	Bank & Restaurant-Offices*	800	.40	Milk Bar & Grill-Offices*	5000	.67
68	Cigar Store-Offices*	250	.12	Drug Store-Offices*	3000	.40
69	Drug Store-Hotel*	350	.17	Restaurant, Liquor Store-Hotel*	3000	.40
70	Undertakers	500	.25	Public Library	5500	.73
71	Novelty Shop, bal. vacant	500	.25	Liquor & Novelty Store-Nite Club*	7000	.93
72	Cafe	100	.05	Real Estate Agency	1500	.20
73	Hotel	300	.15	Hotel, Shoe Store (w)*	7000	.93
74	Hotel, Fruit Stand	300	.15	Drug Store-Restaurant*	7000	.93
75	Piano Co., Music Store	300	.15	Drug Store-Publishing Co.*	7500	1.00
76	Music Store-School*	300	.15	Department Store(m & w)(L)	7500	1.00
77	First Baptist Church	100	.05	Apparel Store (w) (L)	7500	1.00
78	Laundry & Dry Cleaners	100	.05	Apparel Store (w) (L)	5890	.79
79	Masonic Temple	100	.05	Apparel Store (w) (L)	6000	.80
80	Vacant Building	100	.05	Dept. Str. Branch-Hotel	7500	1.00

of corner uses were found in both 1923 and 1953. The value ratios for all of the uses in each category were averaged to obtain a single ratio for each class of use, both for 1923 and 1953. Table 4 shows the 14 comparable corner uses found in the test area in 1923 and 1953 and their corresponding average value ratios arranged in order from the maximum positive value ratio change to the minimum negative value ratio change. The positive, static, or negative change and the amplitude of the change demonstrates what has happened to the land values which resulted from the utilization of corner sites by land uses which were present in the test area in both 1923 and 1953. Land uses one through eleven, in general, have contributed the most to land value generation. Uses twelve through fourteen, in general, have not contributed to land value generation. These findings pertain only to the predominate corner use for each of the 14 corner land use types and therefore, exceptions to the rule may be found. For example; when non-contributable value generators are combined with contributable value generators at a given site, the combinations may produce positive land value changes. For example, in 1923 there was present at corner number 34 a cigar store and shoe shine shop with offices above the first floor. Table 4 shows that the cigar store by itself would be a non-contributor of land value but when classified as a multi-story office type, the combination would become a positive land-value contributor.

This second method of grouping has produced a technique for determining corner land-uses that contribute to the generation of land value between two given years. However, it is applicable only to the corner land-uses grouped according to type and their corresponding value

Table 4. The Average Value Ratio Change in 14 Predominate Corner Uses Present in the Test Area in 1923 and 1953

Corner Land Use	Avg. Value Ratio 1923	Avg. Value Ratio 1953	Ratio Change 1923-1953
1. Hotels (8)*	.17	.56	+.39
2. Apparel Stores for Men (8)	.42	.62	+.20
3. Large Department Stores (11)	.42	.61	+.19
4. Restaurants and Cafes (14)	.25	.42	+.17
5. Drug Stores with Offices, Hotels or Restaurants above (11)	.57	.73	+.16
6. Shoe Stores (Men & Women) (5)	.57	.69	+.12
7. Banks with Offices Above (10)	.58	.69	+.11
8. Drug Stores (12)	.39	.50	+.11
9. Offices - All floors (24)	.41	.46	+.05
10. Apparel Stores (Women) (8)	.73	.78	+.05
11. Apparel Stores (Men & Women) (4)	.44	.47	+.03
12. Shoe Stores (Women) (5)	.75	.70	-.05
13. Cigar and Liquor Stores (19)	.65	.56	-.09
14. Dept. Stores (Medium and Small) (6)	.50	.38	-.12

* Total number of corner land uses averaged for 1923 and 1953.

ratios in the test area and is not indicative of land-value and land-use relationship for specific site locations. The relative value change technique, described in Chapter II, was developed in order to analyze 80 actual corner sites for the years 1923 and 1953 in terms of land-value changes that have taken place between the two periods.

Relative value change-1923 to 1953.--Table 5, which follows, shows the grouping of corner sites and uses, according to the amount of value change between 1923 and 1953. They are presented in four groups ranging from the maximum positive change to the maximum negative change occurring between 1923 and 1953. (The term "negative" is here used to indicate a change less than 1.0). The value ratios are included to indicate the relation of each corner site land-value to the peak corner site land-value during the two periods. The corner site numbers correspond with the circled numbers shown on Figure 4 in the Appendix and the attached overlay, Figure 3, indicates the relative value change corresponding to each corner site number. The analysis and implications of the relative value change grouping follow.

The maximum relative value change between 1923 and 1953 occurred at sites 73 through 80. In general these sites represented, in 1923, the lowest value ratio sites and in 1953, the highest value ratio sites. Large department stores, fashionable women's apparel stores, and large drug stores have replaced such corner uses as music stores, a laundry and dry cleaning establishment, a church, and a Masonic Temple. Hotels have been present in this relative value change range in 1923 and 1953, confirming the previous finding that they contribute a great deal to land value generation and can still compete favorably with the large

Table 5. 1923 and 1953 Corner Land-Uses Grouped According to their Relative Value Change and Value Ratio for Each Corner Site Number

Corner No.	Relative Value Change 1923-1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use	Year 1953 Value Ratio	Land Use	
73	10				.15	Hotel	.93	Hotel & Shoe Str.(w)	(L)
74	10				.15	Hotel	.93	Drug Store-Restaurant*	(L)
75	10				.15	Piano & Music Store	1.00	Drug Store	(L)
76	11				.15	Music Store	1.00	Dept. Store (m & w)	(L)
77	33				.05	Church	1.00	Apparel Store (w)	(L)
78	26				.05	Laundry & Dry Cleaners	.79	Apparel Store (w)	(L)
79	26				.05	Masonic Temple	.80	Apparel Store (w)	(L)
80	33				.05	Vacant Building	1.00	Dept. Str. Branch and Hotel	(L)

Key

(S) Small business operation
(M) Medium business operation
(L) Large business operation
(m) Cater to men
(w) Cater to women
(*) Activity above first floor

Table 5.

Corner No.	Relative Value Change 1923-1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use		Year 1953 Value Ratio	Land Use	
1		3			.15	Steam Specialty Co.		.27	Cafe	
2		2			.25	Drug Store		.27	Restaurant	
3		2			.25	5 & 10¢ Store		.27	Department Store	(M)
6		1.5			.50	Department Store	(S)	.44	Department Store	(S)
7		1.5			.50	Shoe Store (m & w)	(L)	.43	Shoe Store (w)	(L)
8		2.5			.25	Department Store	(L)	.40	Department Store	(M)
9		2.5			.25	Furniture Store	(M)	.40	Department Store	(L)
10		3			.15	Furniture Store	(M)	.27	Department Store	(L)
11		3			.15	Vacant Building		.27	Department Store	(L)
12		3			.20	Drug Store		.33	Cafe & Liquor Store	
13		3			.20	Newspaper Prtg. Co.	(L)	.33	Department Store	(L)
14		2.5			.37	Department Store	(L)	.53	Department Store	(L)
15		2.5			.37	Drug Store		.53	Drug Store-Office* (being razed)	
16		2			.75	Shoe & Hose Shop (w)		.80	Shoe & Hose Shop (w)	
17		2			.75	Drug Store-Offices*		.80	Apparel Store(w)-Offices*	

Table 5.

Corner No.	Relative Value Change 1923–1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use	Year 1953 Value Ratio	Land Use
18		1.5			.75	Bank-Offices*	.70	Cafe
19		1.5			.75	Drug Store	.70	Shoe Store (m & w)
20		2.5			.37	Dry Goods Store	.53	Apparel Store(w)-Offices*
21		2.5			.37	Hat Shop (m)	.53	Drug Store
22		3			.20	Shoe Shop	.33	Liquor Store
23		3			.20	Seed & Meal Store	.33	Power (utility) Co.-Off.*
24		1.5			.50	State & Federal Tar.-Off.*	.40	Western Union-Offices*
25		2			.50	Drug Store	.53	Cafe-Offices*
35		1.5			.50	Drug Store	.47	Liquor Store
36		1.5			.50	City Hall	.40	Liquor Store-Offices*
37		3			.20	Candy Shop	.40	Real Estate Off.-Offices*
38		3			.20	Real Estate Office	.40	Real Estate Off.-Offices*
39		2			.37	R.R. Ticket Off.-Offices*	.47	Real Estate Off.-Offices*
40		2			.37	Loan & Real Estate Off.	.47	Loan & Real Estate Off.
41		1.5			.50	Tailor & Shoe Shop (m)	.47	Shoe Shop & Liquor Store
42		2.5			.45	Apparel (m) & Jewelers	.73	Apparel (m)

Table 5.

Corner No.	Relative Value Change 1923-1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use		Year 1953 Value Ratio	Land Use	
43		1.5			.50	Apparel (m & w)	(L)	.47	Apparel (m & w)	(L)
44		2			.37	Apparel (m & w)	(L)	.47	Apparel (m & w)	(L)
45		2			.37	Drug Store-Offices*		.47	Sporting Goods-Offices*	
46		3			.20	Drug Store-Offices*		.40	Real Estate Office-Offices*	
47		3			.20	Post Office		.40	Post Office	
48		4			.15	Post Office		.40	Post Office	
49		4			.15	Travel Agency		.40	Real Estate Office-Offices*	
50		2			.35	Investment Broker		.47	Barber Shop-Offices*	
51		2			.35	Apparel (m)-Printing*		.47	Apparel (m)-Offices*	
52		2			.45	Apparel (m)-Printing*		.47	Apparel (m)-Offices*	
53		2.5			.45	Cigar Store		.73	Apparel (m), Loan Company	
54		3			.40	Bank-Offices*		.67	Bank-Offices*	
55		2			.35	Book Store		.47	Paint Store	
56		4.5			.15	Vacant Lot		.40	Grill	
57		4.5			.15	Drug Store		.40	Drug Store	
58		5			.12	Restaurant & Theater		.40	Theater	

Table 5.

Corner No.	Relative Value Change 1923-1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use	Year 1953 Value Ratio	Land Use
59		5			.12	Cigar Store	.40	Restaurant-Offices*
60		3			.40	Cigar Store	.67	Liquor Store
61		3			.40	Branch Bank-Hotel*	.67	Drug Store-Hotel*
62		3			.40	Branch Bank-Offices	.73	Bank-Offices*
63		2.5			.15	Restaurant	.23	Cafeteria-Hotel*
64		4			.25	Meat Market & Delicatessen	.67	Drug Store-Offices*
65		3			.40	Drug Store & Western Union	.80	Candy Shop
66		4			.30	Hat Cleaners-Offices*	.73	Candy & Jewelry Shop-Offices*
67		3			.40	Bank & Restaurant-Offices*	.67	Milk Bar & Grill-Offices*
68		5			.12	Cigar Store-Offices*	.40	Drug Store-Offices*
69		4			.17	Drug Store-Hotel*	.40	Restaurant, Liquor Store
70		5			.25	Funeral Home	.73	Public Library
71		6			.25	Novelty Shop-Bal. vacant	.93	Liquor Store, Novelty Shop-Nite Club*
72		6.5			.05	Cafe	.20	Real Estate Office-Offices*

Table 5.

Corner No.	Relative Value Change 1923-1953 Max.	Med.	Min.	Neg.	Year 1923 Value Ratio	Land Use		Year 1953 Value Ratio	Land Use	
4			1.0		.50	Department Store	(S)	.31	Department Store	(S)
5			1.0		.50	Department Store	(S)	.31	Department Store	(S)
26			1.0		.90	Drug Store-Rooms*		.53	Drug Store-Vacant*	
27			1.0		.90	Bank-Offices*		.60	Bank-Offices*	
28			1.0		1.00	Bank-Offices*		.67	Bank-Offices*	
29			1.0		1.00	Tobacco Shop		.67	Shoe Store (w)	(S)
30			1.0		1.00	Tobacco Shop		.60	Shoe & Hat Shop (w)	(S)
31			1.0		1.00	Shoe Shop (m)		.73	Apparel (w)	(M)
32				.76	1.00	Drug Store-Offices*		.47	Investment Broker-Offices*	
33				.85	.90	Offices-Offices*		.47	Investment Broker-Offices*	
34				.85	.90	Cigar Store-Offices*		.47	Liquor Store-Offices*	

department store, the fashionable women's apparel store, and the large drug store for accessible corner sites.

It was found that a great majority of corner land-uses in the test area in 1923 and 1953 fall into the medium relative value change range. In terms of the value ratios, this range has not experienced much change from 1923 to 1953. The predominate changes in corner land-use indicated by the relative value change are changes from novelty shops, cafes, cigar stores, meat markets, funeral homes, feed stores, furniture stores, and newspaper printing to multi-story office buildings with such ground-floor uses as liquor stores, drug stores, department stores, large restaurants, and candy shops. The presence of these uses in 1953 coupled with the positive relative value change, indicates that they are land-value generators but in degree, less than the first group.

The minimal relative value change in 1953 occurred at corner site numbers 26 through 31, and 4 and 5. In 1923, as indicated by the value ratios, sites 26 through 31 were in the area of peak corner land-values. The predominate corner uses, banks with offices above and shoe stores for women, have been present in similar form from 1923 to 1953. The minimal relative value change which occurs for these corner sites appears to indicate that these sites are decreasing in their competitive position. It also appears that the reasons for this may be the lack of parking facilities on or near the sites, the physical age of the structures and the nature of the use. In any event, the minimal relative value change indicates that the predominate corner uses are barely maintaining their competitive position in 1953 but they could improve their position by taking appropriate steps, assuming that the previous value ratio findings

are valid. Corner sites, numbers 4 and 5, contain small, cut-rate department stores in a sub-shopping area south of the railroad. The previous value ratio findings coupled with the minimal relative value change indicate that these corner site uses have declined in their competitive position and will probably be replaced by more competitive uses.

Three corner sites, numbers 32, 33, and 34, were found to have a definite negative relative value change. These three corner sites were, in both 1923 and 1953, predominately multi-story office structure of ancient vintage. As indicated by the land-value ratios, these three office structures were part of the peak corner land-value area in 1923 but by 1953, the ratio was about one half of the peak ratio. Again, it appears that the reason for this decided decline in relative value between 1923 and 1953 is due to the lack of parking on or near the sites and to the physical age of the structure. It is concluded that office structures cannot compete without accessibility and proper physical improvements and the lack of these competitive qualities adversely affects its land value for that use.

Appendix Figures 5 and 6 are referred to for the analysis of accessibility in terms of pedestrian traffic and transit vehicular volume during peak hours in 1953.

Corner land-uses in terms of relative value change in 1953.--Table 6 which follows, is a compilation of the 1923-53 relative value changes in decreasing order and their corresponding 1953 corner land-uses. The purpose of Table 6 is to show the grouping of the relative value changes and their corresponding predominate 1953 corner land-uses. This refinement of relative value change groupings will aid in the further analysis of the

Table 6. 1953 Corner Land-Uses Expressed in Terms of the Relative Value Change and Grouped from the Maximum Positive Change to the Maximum Negative Change for Each Corner Site Number

Corner No.	Relative Value Change 1923-1953	Corner Land Use 1953		Relative Value Change Grouping	Predominant Corner Land Uses Grouping 1953
77	33	Apparel Store (w)	(L)		
80	33	Dept. Store Branch & Hotel	(L)		
78	26	Apparel Store (w)	(L)		Large Apparel Store for Women Large Department Store (m & w) Hotels Drug Stores
79	26	Apparel Store (w)	(L)		
76	11	Department Store (m & w)	(L)		
73	10	Hotel & Shoe Store (w)	(L)		
74	10	Drug Store-Restaurant*	(L)		
75	10	Drug Store	(L)	10-33	

Key

(S) Small business operation
(M) Medium business operation
(L) Large business operation
(m) Cater to men
(w) Cater to women
* Activity above first floor

Table 6.

Corner No.	Relative Value Change 1923-1953	Corner Land Uses 1953	Relative Value Change Grouping	Predominant Corner Land Uses Grouping 1953
72	6.5	Real Estate Office-Offices*		
71	6	Liquor Store, Novelty Shop-Nite Club*		
58	5	Theater		
59	5	Restaurant-Offices*		
68	5	Drug Store-Offices*		Drug Stores - with off. above
70	5	Public Library		Liquor Stores - with off. above
56	4.5	Grill		Restaurant & Grills - with off. above
57	4.5	Drug Store (M)		Theater - with off. above
48	4	Post Office		
49	4	Real Estate Office-Offices*		
64	4	Drug Store-Offices*		
66	4	Candy & Jewelry Shop-Offices*		
69	4	Restaurant, Liquor Store	4-6.5	

Table 6.

Corner No.	Relative Value Change 1923-1953	Corner Land Uses 1953	Relative Value Change Grouping	Predominant Corner Land Uses Grouping 1953
1	3	Cafe		
10	3	Department Store (L)		
11	3	Department Store (L)		
12	3	Cafe & Liquor Store		
13	3	Department Store (L)		
22	3	Liquor Store		
23	3	Private Utility Co.-Offices*		
37	3	Real Estate Office-Offices*		
38	3	Real Estate Office-Offices*		
46	3	Real Estate Office-Offices*		
47	3	Post Office		
54	3	Bank-Offices*		
60	3	Liquor Store		
61	3	Drug Store-Hotel*		
62	3	Bank-Offices*		

Table 6.

Corner No.	Relative Value Change 1923-1953	Corner Land Uses 1953	Relative Value Changes Grouping	Predominant Corner Land Uses Grouping 1953
65	3	Candy Shop		
67	3	Milk Bar & Grill-Offices*		
8	2.5	Department Store (M)		
9	2.5	Department Store (L)		Real Estate Offices - with off.*
14	2.5	Department Store (L)		Banks - with offices* Hotels Liquor Stores
15	2.5	Drug Store (being moved for department store)		Department Stores (Medium to Lg.) Drug Stores (Medium Size) Cafes
20	2.5	Apparel Store (w)-Offices*		
21	2.5	Drug Store		
53	2.5	Apparel (m), Loan Company		
63	2.5	Cafeteria-Hotel*	2.5-3	
2	2	Restaurant		
3	2	Department Store (M)		
16	2	Shoe & Hose Shop (w)		
17	2	Apparel Store (w)-Offices*		
25	2	Cafe-Offices*		

Table 6.

Corner No.	Relative Value Change 1923-1953	Corner Land Uses 1953		Relative Value Change Grouping	Predominant Corner Land Uses Grouping 1953
39	2	Real Estate Office-Offices*			
40	2	Loan & Real Estate Offices			
43	2	Apparel (m & w)	(L)		
44	2	Apparel (m & w)	(L)		Apparel Stores (m) (w)-with off.*
					Loan Company -with off.*
45	2	Sporting Goods-Offices*			Sporting Goods -with off.*
					Barber Shop -with off.*
50	2	Barber Shop-Offices*			
51	2	Apparel (m)-Offices*			
52	2	Apparel (m)-Offices*			
55	2	Paint Store		2	
6	1.5	Department Store	(S)		
7	1.5	Shoe Store (w)	(L)		
18	1.5	Cafe			
19	1.5	Shoe Store (m & w)			
24	1.5	Western Union -Offices*			
35	1.5	Liquor Store			

Table 6.

Corner No.	Relative Value Change 1923-1953	Corner Land Uses 1953		Relative Value Change Grouping	Predominant Corner Land Uses Grouping 1953	
36	1.5	Liquor Store-Offices*			Liquor Stores	
					Shoe Stores (m) (w)	
41	1.5	Liquor Store		1.5		
4	1	Department Store	(S)			
5	1	Department Store	(S)			
26	1	Drug Store-Vacant*	(S)			
					Banks-Offices*	
30	1	Shoe & Hat Shop (w)	(S)		Shoe Shops (m) (w)	
					Drug Store	(S)
31	1	Apparel (w)	(M)		Department Stores	(S)
27	1	Bank-Offices*				
28	1	Bank-Offices				
29	1	Shoe Store (m & w)		1.0		
33	.85	Investment Broker-Offices*				
34	.85	Liquor Store-Offices*			Brokers - Offices*	
					Liquor Store - Offices*	
32	.76	Investment Broker-Offices*		.76-.85		

1953 land uses as they relate to the value change for each corner site. Reference should be made to Appendix Figure 3, which indicates the exact location of the relative value changes.

Examination of Table 6 indicates that corner sites with a relative value change of (10-33) are occupied by large department stores, large apparel stores for women, hotels, and drug stores. It will be noted in Figure 3 that they are found in cluster form. It would appear that peak value formation depends upon a number of land-use activities rather than upon any one activity. Reference to Figures 5 and 6 indicates the importance of accessibility in terms of pedestrian traffic and vehicular transit volume. Both indicators of accessibility are high in volume in this relative value range.

The relative value range of (4-6.5) represents a ribbon of corner sites of a predominate service nature within multi-story office buildings. Figures 5 and 6 indicate that this area of relative value change has less accessibility as measured by pedestrian traffic and vehicular transit volume. Since this area is an office function area, it appears that pedestrian traffic volume is not as accurate a reflector of accessibility as would be the availability of parking facilities for such a function. The availability of adequate transit service and parking facilities is of the utmost importance to the office district of a central business district in order to meet business competition in other areas of the city.

Relative value changes (2-3) appear to contain corner sites of all types. However, there appears to be a clustering of these corner uses in two predominate areas. As shown on Figure 3, one area is south of Alabama Street and the other is along Walton Street and north on Broad and

Peachtree Streets. In these areas there appears to be a clustering of many auxiliary functions about medium to large department stores and popular price apparel stores. Corner site numbers 9 through 14 represent a large department store which has contributed greatly to its relative value change position in relation to the lesser changes a few blocks away. The enhancement of land values due to this large department store have resulted because it maintains accessibility in terms of transit service and nearby parking facilities. The relative value change serves to indicate the great holding power of a large department store on the land values near its site.

The relative value change of (1.5) represents the corner sites occupied by liquor stores and shoe stores, these sites being peripheral to the minimal or negative relative value change sites. Figure 5 indicates these functions depend upon pedestrian traffic volume for their survival and as was expected, they are present in relatively high volume areas.

The relative value change of (1.0) includes two clusters of corner site uses. These are found at the intersection of Marietta and Peachtree Streets and the intersection of Whitehall and Hunter Streets. The first cluster contains two banks with offices above, one small cut rate drug store, and two small cut rate women's shoe stores. Figure 5 indicates that the pedestrian traffic volume is high in this cluster area but despite this fact, the relative value change is minimal. Figure 6 indicates that transit facilities are adequate for the area. It appears that the services offered by the retail functions are not appealing to the pedestrian consumer due to more competitive facilities elsewhere. It

appears that the banks with offices which create a portion of this pedestrian traffic volume reflect a static relative value change because of the parking factor. From personal inspection of these properties and interview with the occupants, this fact was verified. Therefore, if office and banking functions are to continue to compete for these sites, this condition must be corrected. The second cluster of static relative change is occupied by small, cut rate department stores which generate a small amount of pedestrian traffic. (See Figure 5.) Accessibility in terms of vehicular transit volume appears to be adequate but parking facilities are inadequate here also. This static relative value change may indicate a partial lack of accessibility in terms of the automobile and in turn, a gradual decline in competitive position of such functions in the central business district.

The negative relative value change, (.85-.76), includes three corner sites along Marietta Street from Peachtree Street to Broad Street. Figure 6 indicates that transit accessibility is only fair. Parking facilities are definitely lacking in or near these functions. The office district with a relative value change (4-6.5), suffers from the same lack of facilities as these three multi-story office sites but not to the same degree. Therefore, the relative value change appears to be indicative of the degree of loss of competitive position and serves as a method for directing attention to the reasons for this loss and consequently, the formulation of a program for correction.

Conclusions

Significance of value ratio findings.--The significance of land-value and land-use relationships is dependent upon the method utilized in grouping

the data. When the value ratios were grouped from the maximum ratio to the minimum ratio and compared with the corner uses corresponding to the grouped ratios for 1923 and 1953, no significant relationship was found.

When like corner land-uses for both years were grouped together and their corresponding value ratios were averaged to determine a single ratio which would be representative of each use type, a significant relationship was observed. This relationship, determined in the form of an average value ratio for all of the uses in each of 14 predominate central business district types of corner land uses occurring in 1923 and 1953, can be used to indicate the degree of land value generated by such uses in the central business district between 1923 and 1953. Hotels lead the list with apparel stores for men, large department stores, restaurants, and drug stores with offices, hotels or restaurants above in the second highest grouping. Shoe stores for men and women, banks with offices above, and drug stores are third highest contributors. Multi-story offices, apparel stores for women, and apparel stores for both men and women have contributed very little, and shoe stores for women, cigar and liquor stores, and small to medium department stores have not contributed to land value generation at all. These findings are not necessarily applicable to a specific site but they do signify the contribution of 14 corner land use types to land value generation in the test area of the Atlanta Central Business District.

Significance of the relative value change.--Using the relative value change technique, i.e., change between 1923 and 1953, a significant relationship between land-value and land-use was found. The relationship was useful in determining the affect of specific corner land-uses on land

value generation between 1923 and 1953 and is true if the hypothesis that land, of itself, has no value but the specific usefulness of land creates this value, is valid.

The findings, using the relative value change technique, indicate the specific corner sites of maximum, median, minimal, and negative relative value change and serve as a point of beginning for determining the conditions which enhance or retard the generation of land value in the central business district.

The findings indicate that there may be a correlation between declining relative land value in the test area and the degree of utilization of a given corner site. It appears that functions found in declining relative value areas may not be as competitive as like functions in other areas due to the lack of accessibility, lack of up to date facilities meeting modern standards, and lack of parking space in or near the site. Of course, the degree of importance of these factors will vary with the function.

The findings indicate that large department stores, women's fashionable apparel stores, and large drug stores command the peak relative value change location in 1953 as opposed to the multi-story bank and office structure of 1923. The large drug store was found in the peak relative value change area in both years. Static relative value change corner sites contain banks with offices above, shoe shops for men and women, and small drug and department stores. Declining relative value change corner sites are predominately multi-story office structures.

These studies demonstrate the shifting of land values and related land uses between two given years and indicate that significant changes are taking place in the central business district.

Land values do not "just happen." Land values result from the use to which land is put in terms of economic supply and demand. Land values will continue to advance as the uses cluster together at points of accessibility in order to command maximum revenues from the purchaser. Land values, relatively speaking, will continue to be static or to decline in central business district areas unless the uses so affected readjust to the competitive forces created by like uses in other areas. It appears that only through group effort rather than individual effort on the part of those involved, can this be accomplished.

Throughout the development of this study, the writer has observed that the areas of greatest relative value change in the Atlanta Central Business District in 1953 contain corner functions that are primarily supported by the woman shopper. This is also true in terms of the maximum value ratio area in 1953. In 1923, the maximum value ratio area contained corner functions primarily supported by the man. The shopping and working habits of the woman may be of increasing significance not only in terms of income to business but also in terms of the generation of sound retail land values in the central business district.

CHAPTER V

APPLICATION AND RECOMMENDATIONS

Application.--It is hoped that the value ratio and relative value change techniques developed for this study will prove of value to the realtor and the appraiser as a tool for determining the most efficient and profitable use to which central business district corner sites may be put.

The techniques should also be of value to building owners and managers in better understanding the competitive forces that so greatly influence the utility of their property and neighboring properties and are reflected in the relative value change. In this respect, the findings resulting from the application of these techniques indicate the need for group effort on the part of owners and managers to enhance their competitive position in the central business district.

The method for determining standard average value ratios for land use activities, if further refined and developed, may be of value to the city planner in the development of a refined type of land use zoning for the central business district since the method lends itself to land-use grouping in terms of value ratios.

The relative value change, as an indicator of the direction and magnitude of central business district change, should be of value to planners and realtors alike in the determination of future land use policy related to the central business district. The trend of land-value and

land-use relationships over the past thirty years provides a reasonable basis for predicting future land use patterns.

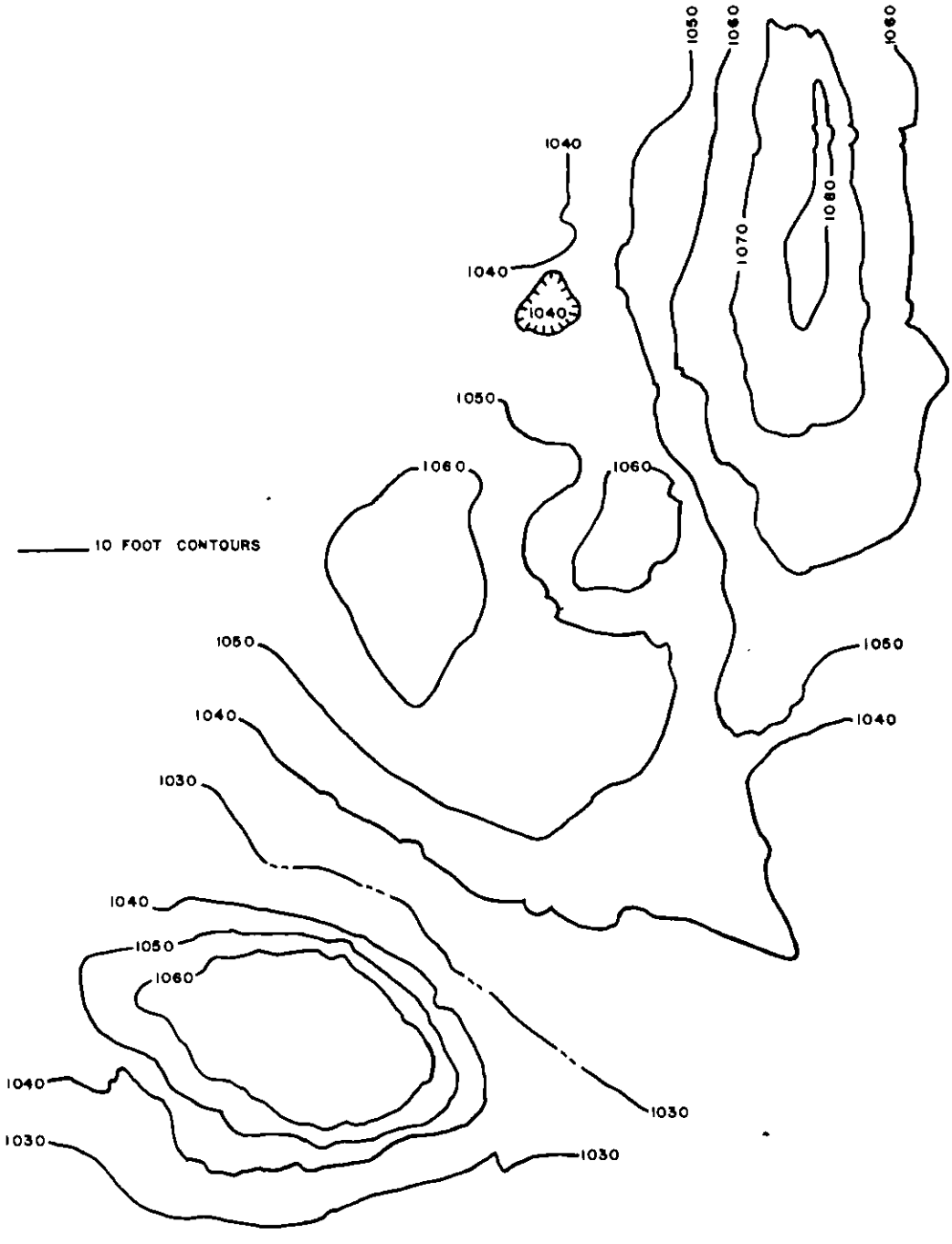
Recommendations.--Land-value and land-use relationships, in terms of the techniques described herein, should be determined for all central business district sites and types of uses in order to increase the utility of such data for future study and application. The data could then be analyzed by grouping the parcels based upon proximity to each other which would reflect the effects on values of near-by changes in land uses and land values.

It would be a legitimate subject of inquiry to determine the applicability of the techniques described herein to other central business districts of similar economic base and population and also to areas other than the central business district of a city.

It is recommended that a more concise method of land-use classification be sought since, due to changes in the terminology and scope of certain land uses occurring between 1923 and 1953, it was very difficult to determine the land-use category into which they should be grouped.

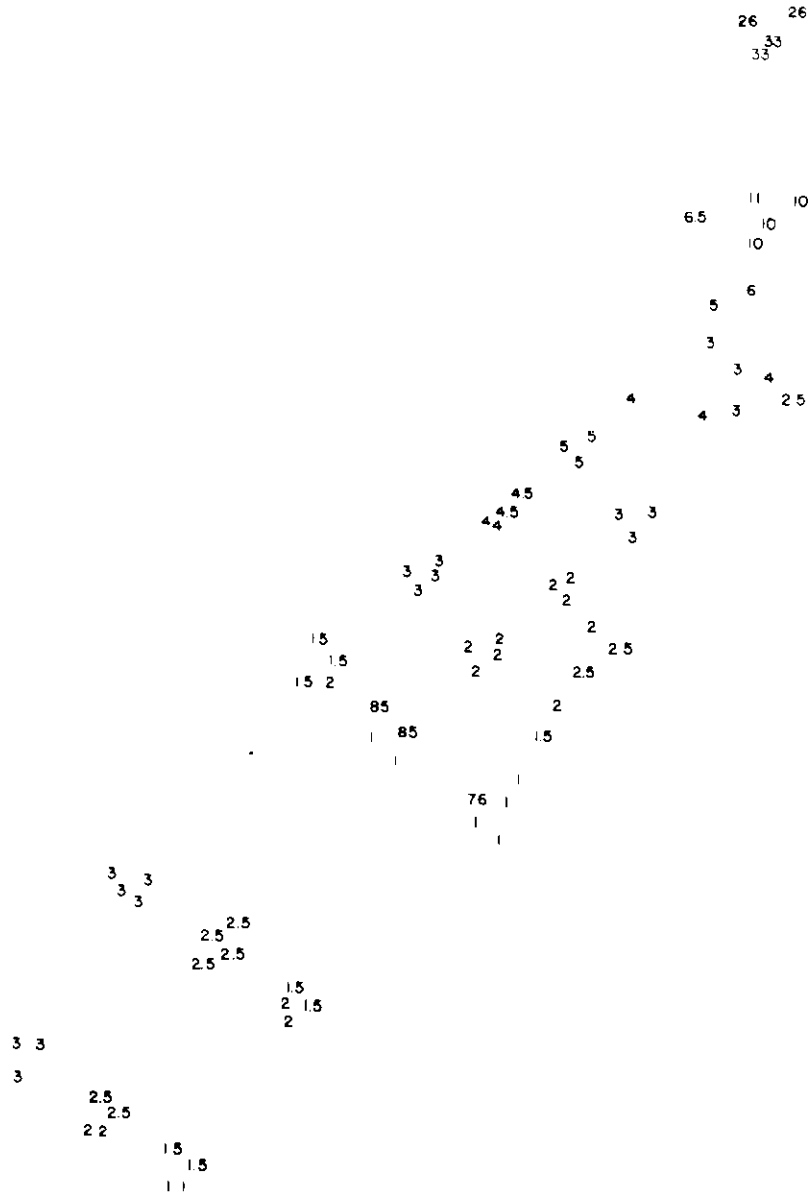
In the interest of scientific assessment practice and further analysis of land-value and land-use relationships, it is recommended that separate assessments of land and improvements be maintained by all cities as is the case in the Atlanta-Fulton County Assessment Division. The Division also maintains all assessment records at a recorded percentage of market value an essential in utilizing such data in land value studies. Their records should in future years, provide a valid historical source for such data.

APPENDIX



TOPOGRAPHY

FIGURE 2



RELATIVE VALUE
CHANGE, 1923-1953

FIGURE 3

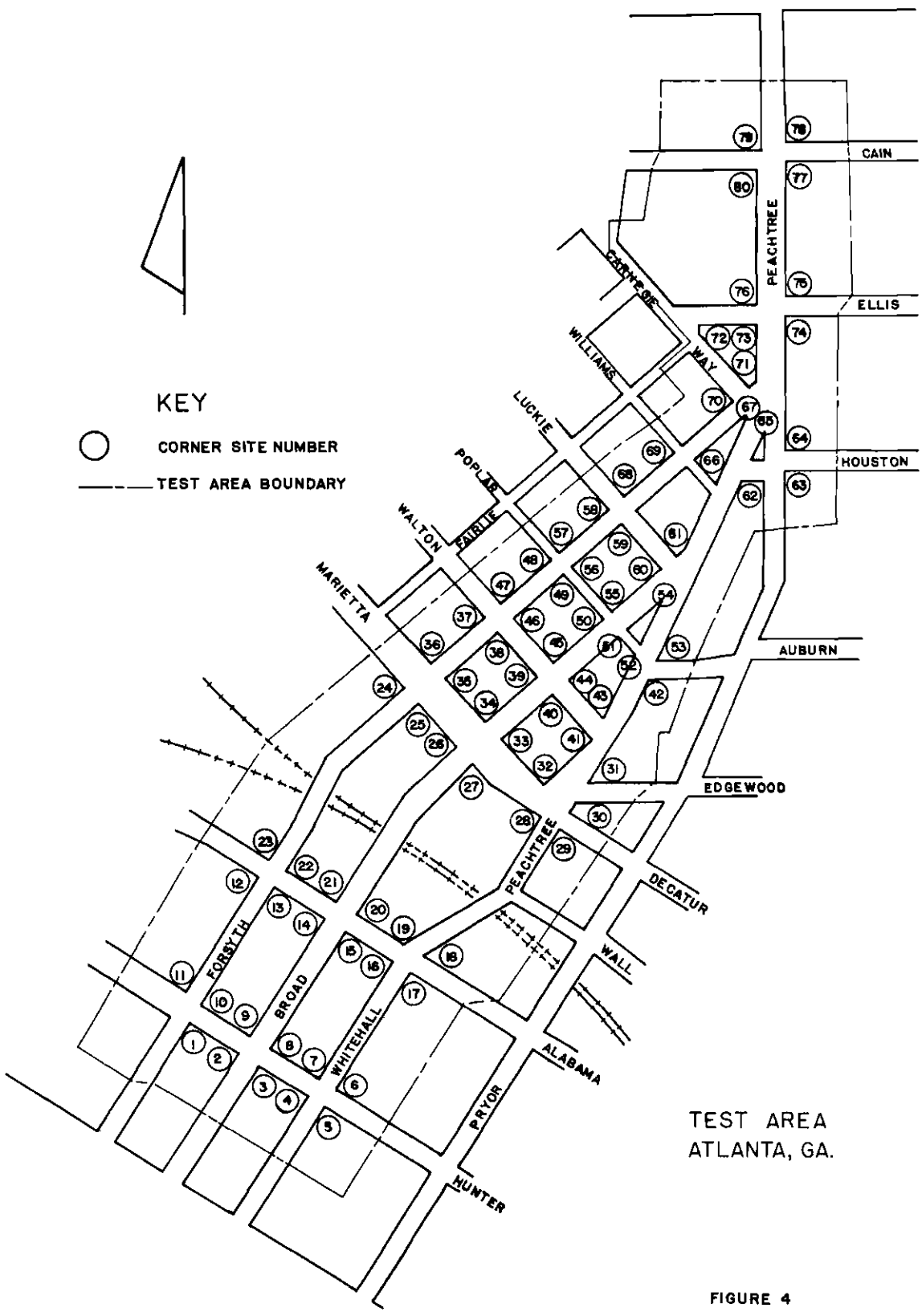

KEY
CORNER SITE NUMBER
TEST AREA BOUNDARY
CAIN
PEACHTREE
ELLIS
CENTRE ST.
WILLIAMS
WAY
LUCKIE
POPLAR
HOUSTON
WALTON
FAIRLIE
MARIETTA
AUBURN
EDGEWOOD
PEACHTREE
DECATUR
WALL
FORSYTH
BROAD
WHITEHALL
ALABAMA
PRYOR
HUNTER
TEST AREA
ATLANTA, GA.

FIGURE 4

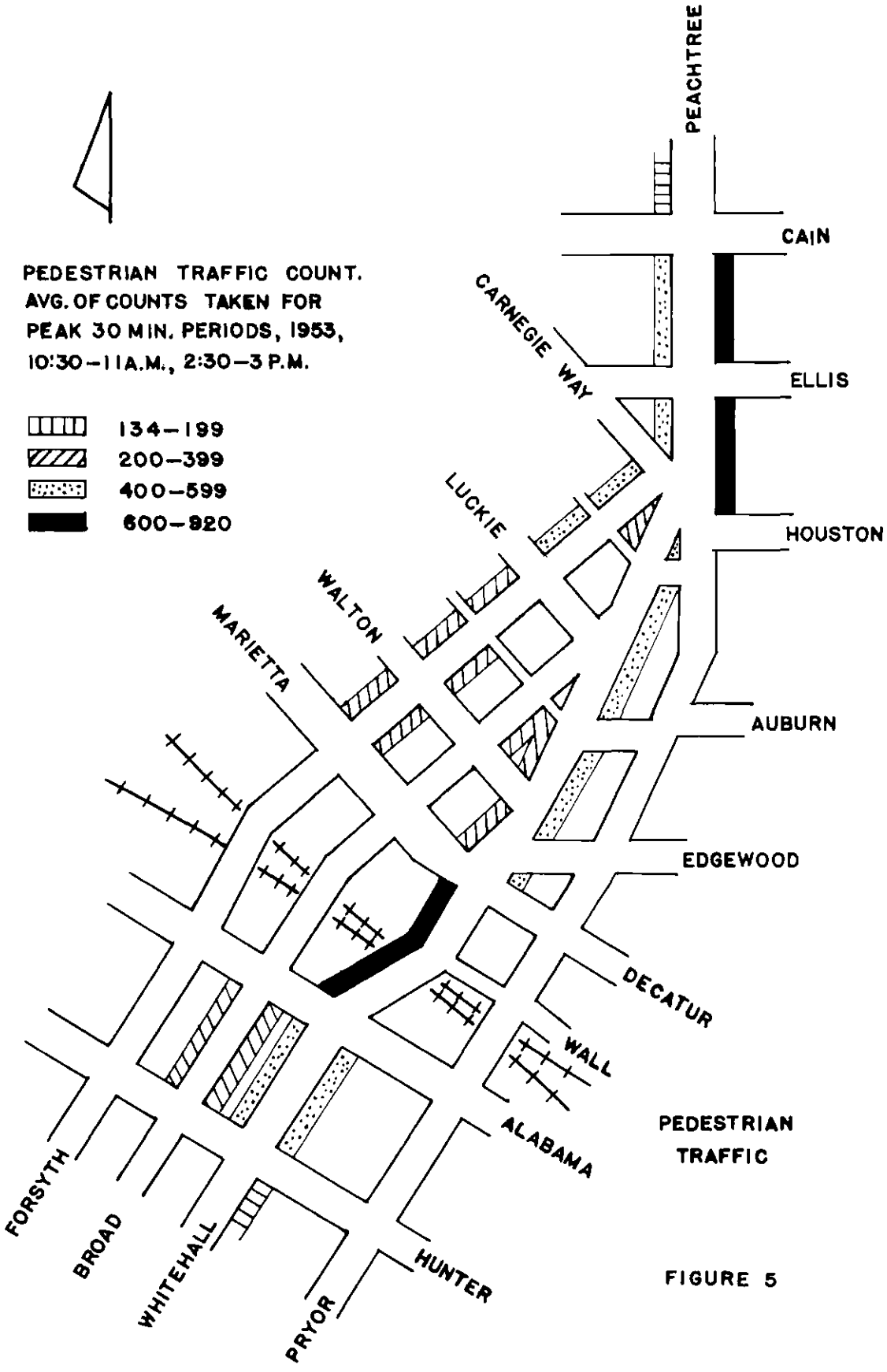
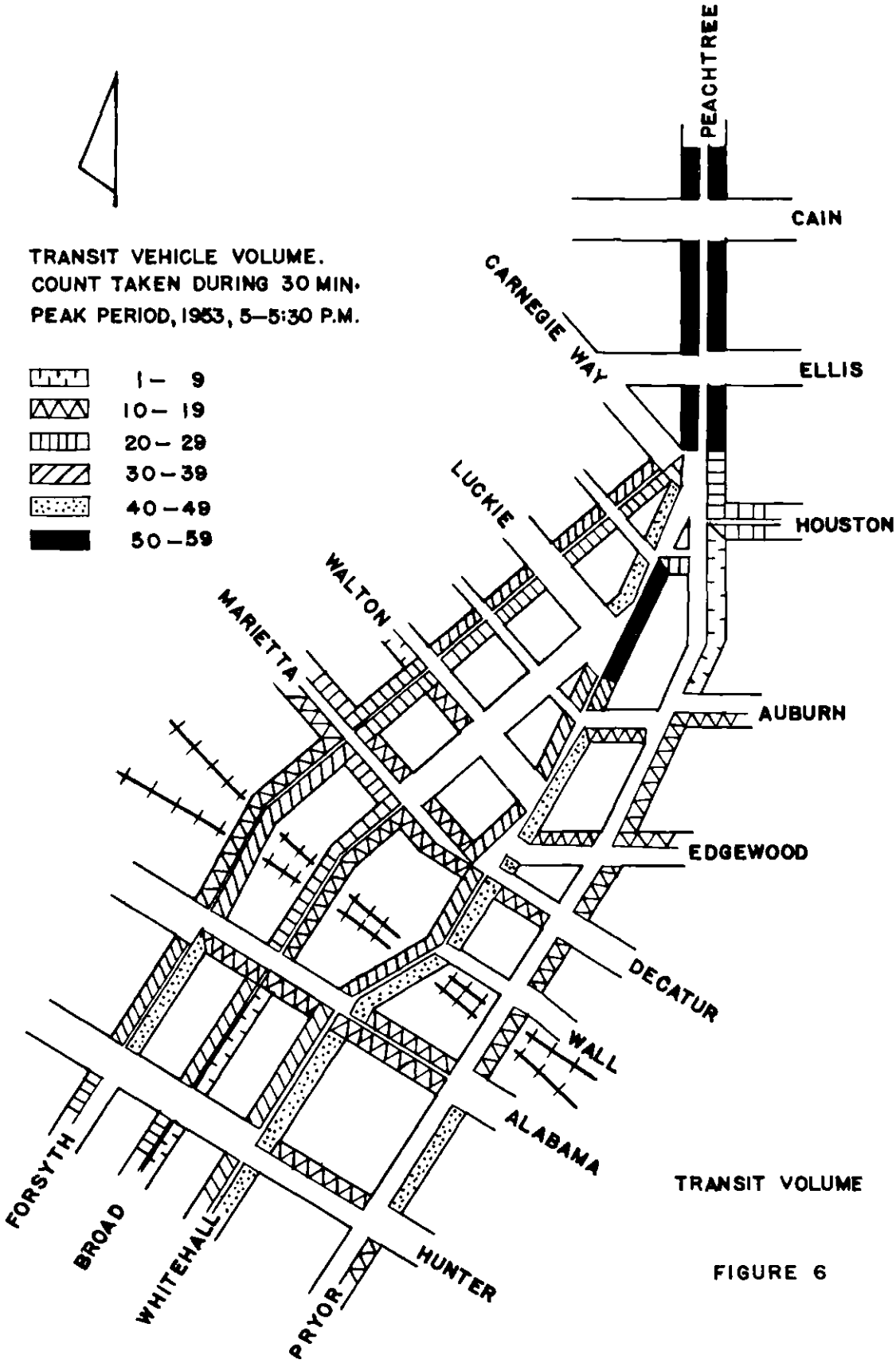

PEDESTRIAN TRAFFIC COUNT.
AVG. OF COUNTS TAKEN FOR
PEAK 30 MIN. PERIODS, 1953,
10:30–11 A.M., 2:30–3 P.M.
134–199
200–399
400–599
600–920
PEACHTREE
CAIN
CARNEGIE WAY
ELLIS
LUCKIE
HOUSTON
WALTON
MARIETTA
AUBURN
EDGEWOOD
DECATUR
WALL
ALABAMA
FORSYTH
BROAD
WHITEHALL
PRYOR
HUNTER
PEDESTRIAN
TRAFFIC

FIGURE 5



TRANSIT VOLUME

FIGURE 6

BIBLIOGRAPHY

ANNOTATED BIBLIOGRAPHY

Alderson and Sessions, Philadelphia Central District Study, Philadelphia: Philadelphia Planning Commission, 1951, 80 pp.

A thorough analysis of central business district land uses and their functions which includes a method for the classification of land uses by function.

Alevizos, John P. and Allen E. Beckwith, "What Every Retailer Should Know About the ... Downtown Dilemma," Harvard Business Review, 32 (January, 1954), pp. 109, 119.

A study of women shopping habits in the Greater Boston area and their relation to the central business district and shopping center retail growth patterns.

Armstrong, Robert H., M.A.I., "Future Urban Land Valuation," The Appraisal Journal, 13 (January, 1954), pp. 24-36.

Presents and discusses the factors which determine the basis of value.

Ashton, Morris B., "Highest-Best Use," The Appraisal Journal, 17 (January, 1939), pp. 54-60.

Describes the fundamental principles of land utilization that have a direct bearing on value.

Atlanta Metropolitan Planning Commission, Economic Supplement to the Regional Land Use Plan, Atlanta: The Commission, July, 1952, 190 pp.

The economic basis for Atlanta's past and future growth presented with charts and tables.

_____, Metropolitan Atlanta, a Factual Inventory, Atlanta: The Commission, November, 1950, 40 pp.

A statistical treatment of Atlanta's economic, social, and political makeup with excellent maps and charts.

Babcock, Frederick M., The Valuation of Real Estate, 1st ed., New York: McGraw-Hill, 1932, 593 pp.

A text of basic theories and methods of real estate valuation.

Bodfish, H. Morton, "Population and Peak Land Values in Business Districts," The Journal of Land and Public Utility Economics, 6 (1930), pp. 270-277.

A study of the relationship of peak land values and population for various business districts.

Boeckh, E. H., Boeckh's Manual of Appraisal, 4th ed., Roughnotes Co., Indiana: 1945, 395 pp.

A concise presentation of mass appraisal procedures and techniques of real property for tax purposes. Complete with examples, charts, graphs, and tables.

Bogue, Donald J., Needed Urban and Metropolitan Research, Scripts Foundation Studies in Population Distribution, Miami University, Oxford, Ohio: 1953, 88 pp.

Excellent source for current research problems of a social and economic nature.

Bowen, Percival V., "Role of Operating Costs in Future Valuations," The Appraisal Journal (July, 1950), pp. 370-373.

The relationship of business operating costs to land values from the investors point of view.

Canoyer, Helen G., "Selecting a Store Location," Department of Commerce Economic Series, No. 56 (1946), unpaged.

Discusses nine factors of importance to retail site selection with charts of occupancy expenses for 33 trades by size of city and distribution of retail in their central business districts.

Capt, J. C., "Appraisal Significance of Census Statistics," The Appraisal Journal, 14 (April, 1946), pp. 125-135.

The use of U. S. Census data of local application and the local sources for such data of value in the study of land values.

Central Business District Association of Los Angeles, To Property Owners in the Central Business District, Los Angeles: December 4, 1951, 4 pp.

A current report on the relationship of land use to the traffic and parking problem in the Los Angeles Central Business District.

"City Realty Values Seen Sliding, Despite Price Rise," Architecture Forum, 102 (March, 1955), p. 17.

An excellent discussion of the effect of changes in need and demand on the intensity of land use in the central business district and the resultant effect on land values.

Colean, Miles L., "Four Steps to Save Your City," Nations Business, 42 (October, 1954), pp. 36, 81.

The affect of slum conditions on land values in the central business district.

Connell, Arnall Turner, "Land Uses That Require a Central Business District Location," unpublished Master's thesis, Department of City Planning, Georgia Institute of Technology, Atlanta: 1955, 101 pp.

A study of locational movements of land uses in the Atlanta Central Business District.

Cornick, Philip H., "Land Prices in a Commodity Price System," The Journal of Land and Public Utility Economics, 10 (August, 1934), pp. 217-231.

A demonstration of two theories of price and value relationship.

De Vries, Wade, "Correlation of Physical and Economic Factors As Shown by Michigan Land Economic Survey Data," The Journal of Land and Public Utility Economics, 4 (August, 1928), pp. 295-300.

Discusses the relationship of physical and economic factors on land use and demonstrates a method for ranking the uses.

Dorau, Herbert B., "Urbanism and the Future of Land Values," The Appraisal Journal (January, 1949), pp. 15-24.

An excellent discussion of city growth trends and their relationship to land values.

Du Bois, Ayers J., M.A.I., "Site Analysis," Selected Readings in Real Estate Appraisal, Chicago: R. R. Donnelly and Sons Co., 1953, pp. 409-423.

A study of the relationship of commercial site utilization to the width and depth of lot, fronting street, and adjacent sites.

Eberle, George J., "The Retail Merchant's Interest in the Traffic Problem," Traffic Quarterly, 5 (April, 1951), pp. 115-130.

Presents standards of retail sales volume related to pedestrian traffic generation and standards of parking distance preferences of retail customers.

Erskine, R. C., "Shifts in Value," The Appraisal Journal, 15 (July, 1947), pp. 387-388.

A concise treatment of the effects of physical structural life on the land value of the site and surrounding sites and the competitive position change experienced.

Farren, John R., "Highest and Best Use," The Appraisal Journal, 21 (October, 1953), pp. 577-580.

A study of the factors which determine the highest and best use of a given site.

Fisher, Ernest M., and Robert Moore Fisher, Urban Real Estate, New York: Henry Holt and Co., 1954, 502 pp.

A study of the behavior of real estate markets in relation to the physical, legal, social, and economic forces affecting them.

Fisher, Ernest M., "Research and Real Estate Appraisals," The Appraisal Journal, 18 (April, 1950), pp. 205-208.

The utilization of real estate appraisal data in research and a four step method for the development of such research.

Froman, Lewis A., Principles of Economics, Revised ed., Chicago: Richard D. Irwin, Inc., 1947, 1009 pp.

An excellent basic text which presents the fundamental theory and application of our economic system. Graphs, charts, and examples.

Glover, Charles P., M.A.I., "A New Thesis for Tax Appraisal," The Appraisal Journal, 9 (July, 1941), pp. 266-275.

A discussion of land use standards and the relation to income as an approach to equitable assessment for tax purposes.

Haig, Robert M., Major Economic Factors in Metropolitan Growth and Arrangement, Regional Survey of New York and Its Environs, Volume 1, New York: 1928, 111 pp.

An outstanding presentation of the major economic factors which affect metropolitan growth and arrangement as experienced in Metropolitan New York in 1928.

Hartman, George W., "The Central Business District- a Study in Urban Geography," Economic Geography, 26 (October, 1950), pp. 237-244.

A discussion of the geometric arrangement of land use activities in a metropolitan central business district as determined by competition for strategic space and the ability to pay for such space.

Hertzman, Irving L., "Construction Cost Indexes," The Appraisal Journal, 18 (January, 1950), pp. 109-114.

An excellent presentation of the comparison and use of contruction cost indexes with examples.

"How to Rebuild Our Cities Downtown," Architecture Forum, Special Reprint of a Roundtable Report, Time, Inc., (June, 1955), n.p.

A roundtable discussion by real estate authorities who define the basic problems of the central business district and present group solutions to these problems.

Hoyt, Homer, One Hundred Years of Land Values in Chicago, Chicago: University of Chicago Press, 1953, 519 pp.

A study of historical land values in Chicago with an analysis of land value trends.

_____, "Economic Background of Cities," The Journal of Land and Public Utility Economics, 17 (May, 1941, pp. 188-195.

The importance of the basic sources of employment to the city economy in general and to land values in particular.

Hurd, Richard M., Principles of City Land Values, 4th ed., New York: The Record and Guide, 1924, 159 pp.

An excellent text on the growth and structure of a city in terms of land values and the principles involved in land value determination.

Hyder, K. Lee, M.A.I., "Site Valuation," Selected Readings in Real Estate Appraisal, Chicago: R. R. Donnelly and Sons Co., 1953, pp. 424-434.

An analysis of the relationship of front foot land value to business properties of like use but different lot sizes.

Jackson, F. W., "The Economics of Obsolescence and Inutility," The Appraisal Journal, 15 (July, 1947), pp. 361-366.

An analysis of value under varying conditions of usage.

Kissack, A. B., "Selling Prices As Indices of Value," The Appraisal Journal, 6 (April, 1938), pp. 220-226.

The relationship of value and selling price in terms of economic forces, future benefits, real estate markets, and replacement cost.

Marx, Leonard, "Real Estate Economic Outlook," The Appraisal Journal, 18 (July, 1950), pp. 363-369.

The development of a hypothesis which states that the long range economic outlook for real estate rests in the underlying relationship between land value and the price of labor.

Mertzke, Arthur J., "Land Valuation and Population," The Journal of Land and Public Utility Economics, (July, 1926), pp. 343-354.

A comparison of the relationship between relative land value changes over a period of years and changes in the total population for cities in Wisconsin.

Moore, Victor P., "The Economic Position of Real Estate," The Appraisal Journal, 7 (July, 1939), pp. 258-262.

An analysis of four major factors which affect the economic position of real estate.

Moses, Robert, "The Influence of Public Improvements on Property Values," The American City, 68 (October, 1953), pp. 110, 117.

A summary of the affects of recent public improvements on land values in New York State.

Murphy, Raymond E., J. E. Vance, Jr., and Bart J. Epstein, Central Business District Studies, Reprints from Economic Geography with additions, Clark University, Worchester, Mass., January, 1955, pp. 21-46, 189-222, 301-336.

An excellent study of spatial relationships in central business districts and the development of a method for delimiting the central business district.

Nichols, Charles G., "Reviving the Central Business District," The American City, 70 (July, 1955), p. 108.

A discussion of five important factors necessary in maintaining economic balance in the central business district.

Philadelphia Planning Commission, "Relationship of Price and Assessed Value of Real Estate Sold in Philadelphia, 1943-1953," Public Information Bulletin No. 3-E, Philadelphia: (October, 1954), 16 pp.

A thorough analysis of the relationship between sale price and assessed value of real estate using a practical methodology.

Proudfoot, Malcolm J., "City Retail Structure," Economic Geography, 13 (October, 1937), pp. 425-428.

A study of the relationship of central business district growth and importance to the growth and purchasing power of the city's population.

_____, "The Selection of A Business Site," The Appraisal Journal, 7 (January, 1939), pp. 61-72.

A study of the Chicago retail land uses by locational types and the relationship of retail sites to potential customers.

Ratcliff, Richard U., Urban Land Economics, New York: McGraw-Hill, 1949, Chapters 12-14, 167 pp.

An excellent section on the analysis of land income and value, basic theory of land use structure, and social controls.

_____, "The Problem of Retail Site Selection," University of Michigan School of Business Administration, Ann Arbor: Michigan Business Studies, 9 (1939), 96 pp.

An analysis of spatial relationships in the central business district in terms of location characteristics, consumer buying habits, etc.

Reeves, Cuthbert E., M.A.I., "Real Estate Value Index," The Appraisal Journal, 12 (July, 1944), p. 232.

The demonstration of a method for building a value index for any city based upon available national and local economic indicators.

Regional Plan of New York and Its Environs, Regional Survey of New York and Its Environs, Volume 2, Population, Land Values, and Government, New York: 1929, pp. 132-192.

An analysis of the effect of changes in land use from one location to another on land values and the factors that influence land values in general.

Renne, Roland Roger, Land Economics, New York: Harper and Brother, 1947, 736 pp.

An excellent current text concerned with the principles of land economics and their application. (Charts and graphs)

Schmutz, George L., The Appraisal Process, 1st ed., Los Angeles: published by author, 1941, 229 pp.

A concise and basic text which presents the current trends in real estate appraisal theory and practice.

Shannon, Howard L. and H. Morton Bodfish, "Increments in Subdivided Land Values in Twenty Chicago Properties," The Journal of Land and Public Utility Economics, 5 (February, 1929), pp. 29-47.

A study of changes in land values in Chicago subdivisions utilizing a practical analytical procedure.

Smith, Leonard C., M.A.I., "Has Land A Value," The Appraisal Journal, 4 (October, 1939), p. 357.

The relationship of the use to which land is put and its value.

Swan, Herbert S., "Land Values and City Growth," The Journal of Land and Public Utility Economics, 10 (1934), pp. 188-201.

A discussion of the factors that influence city growth as conditioned by land values and their determination.

United States Department of Commerce, Statistical Abstract of the United States, 76th ed., U. S. Government Printing Office, Washington: 1955, 1048 pp.

An excellent source for standardized statistics compiled by region and by certain major cities and useful in the construction of a land value index.

Van Cleef, Eugene, "Maps for Appraisals," The Appraisal Journal, 2 (April, 1949), pp. 219-231.

A discussion with examples of eight types of map presentation for appraisal purposes but also excellent methods of value to related fields.

Wehrly, Max S. and J. Ross McKeever, "Urban Land Use and Property Taxation," Urban Land Institute, Technical Bulletin No. 18, 1952, p. 28.

An excellent study of the cost of providing services for various types of urban land use groups and the general property tax revenue received from each type.

Weimer, A. M. and Homer Hoyt, Principles of Urban Real Estate, Revised ed., New York: Ronald Press, 1948, 512 pp.

A thorough text dealing with value characteristics of property rights, land and buildings, location, etc., and the application of value principles.

Wendt, Paul F., "Central City Property Values in San Francisco and Oakland," Research Report No. 5, Berkeley: Real Estate Research Program of the University of California, Bureau of Business and Economic Research, 1953; also in National Research Council, Highway Research Board, Special Report No. 11, "Parking as A Factor In Business," Part 4, pp. 115-158.