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LAND USES THAT REQUIRE A CENTRAL BUSINESS DISTRICT LOCATION

A THESIS

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By

Arnall Turner Connell

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CENTRAL BUSINESS DISTRICT LOCATION

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ABSTRACT

LAND USES THAT REQUIRE A CENTRAL BUSINESS DISTRICT LOCATION

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Arnall Turner Connell, Author

Malcolm G. Little, Thesis Advisor

The purpose of this thesis is to establish criteria for the selection of those land use-types which are appropriate or may require a central business district location.

The initial investigation toward developing the criteria was to review the theories and hypotheses that have been advanced to explain the locational characteristics of urban land use structure as a whole and as it may be found in the central area. An analysis of all the pertinent central area economic and planning studies was made to determine the functions and characteristics that may have been observed by the various researchers. The theory and observations are presented in the first chapter.

An objective study was made of the historical migration of land use-types across a cordon line around Atlanta's central business district. The cordon line was established by a functional indication technique and the limits recorded by street addresses. The Atlanta

City Directories were used to tabulate the number of establishments for each kind of business within the defined area for years 1910, 1927, and 1952. The findings are presented in terms of those use-types which are decreasing numerically and those which are increasing numerically. The basic assumption is that the numerical increase in the number of establishments of a use-type within the central business district is an indication that it is appropriately and efficiently located, and conversely, a numerical decrease indicates that the use-type would be more efficient if located elsewhere.

The findings show that the land use functions that predominate within Atlanta's central business district today are retail trade, business services, and consumer services. The manufacturing and wholesaling funtions have been forced out by the nature of their productive operation and the space demands of the more intensive land uses.

The recommendations have been based solely on the findings and conclusions of the study. They are made with the realization that not all the myriad of use-type location problems have been solved by one migration study. Rather, the recommendations are that a similar analytical study become a part of the administrative agenda of the local planning commission. Also, that the methodological approach used for this theses be expanded by central commercial core "contour lines" to measure the migrational tendencies of near-commercial core use-types. A third recommendation is that an intra-central business district migration study be made to determine the patterns formed and site characteristics of coalescing use-types. Finally, the findings and conclusions are recommended to

institutions, property owners, property managers, and tenants as a guide in the solution of certain land use locational problems.

Approved by: Malcolm G. Little, Advisor

Date Approved: June 3, 1953

CHAPTER I

THE CENTRAL BUSINESS DISTRICT

The Industrial Revolution, touched off by Watt's Steam Engine in 1765, marked the beginning of an epoch in industry, agriculture, transportation and communication, social control, and urbanization. It didn't happen suddenly but developed as a complex series of events, starting in the English textile industry. England had a good climate for textile manufacturers, farm lands were being enclosed to provide more wool for the spinners, British imperialism had opened the way for widespread markets for the finished products. Presently under considerable impetus, improvements were perfected here and there in the manufacture of woolen and cotton cloth. One invention followed another until the output was enormously increased and the number of employed workers multiplied many times.

Something of the same sort happened in the metal trades. Probably the reduced availability of charcoal necessitated the use of coal and therefore forced a change in the manufacturing processes of iron and steel. However, another series of inventions took place which considerably changed the character of metalworking and brought about the rapid displacement of manpower by water and steam. The new-found mechanical power began to be utilized by large machines and groups of machines, and shortly after, came the development of mass production techniques. These developments required large numbers of workers to operate the machines, so the cities began to grow and factory towns were built-up to house the new employees.

The changes that took place during the same period in agriculture helped the growth of cities in two ways. As new methods of cultivation and new implements were introduced, and as lands were enclosed for the raising of sheep, there was a surplus labor supply crowded off the rural estates and available for employment in the factories. As agricultural production increased, there was a surplus of foods and raw materials with which urban populations could be supported.

Still a third revolution accompanied the industrial and agricultural revolutions. There was a tremendous change in means of transportation and communication. The earlier roads and vehicles and ships could not possibly have carried from the farms to the cities sufficient food at a price and within a length of time that would have permitted large industrial communities to develop. But with the application of steam to both water and rail, this new urban growth was greatly facilitated. No less important has been the later development of canning, refrigeration, and cold storage. Since the conduct of business was no longer limited to local or even national markets, it required much better communications. The steamboat and railroad carried people to and fro faster than ever before. The regular mails sped up the transmission of messages, the newspaper printed on a steam press disseminated general information to those concerned with the market. Long after these developments came the telegraph, telephone, radio, electric railway, automobile, and airway, all of which have made possible the transacting of business over large areas, economically uniting groups of great cities.

The technological developments that have grown out of the Industrial Revolution have brought many social and economic problems along with them. Most of these problems are concentrated within urbanized areas since

the greatest number of people and the most wealth are concentrated there. Of the multitude of city problems, a whole series are concerned with the location of the activities for which reason the urban area exists.

The city's central business district, the point where ideas are conceived and things happen with the greatest rapidity and repercussion, must function efficiently and its physical and land use resources be preserved if its urban hinterland is to prosper. Many people representing various disciplines have directed their attentions to the areal arrangements of land uses and the importance of site location on their functional efficiency. The results of these attentions have been in the form of theories, classifications of functions, and the characteristics of certain areas. Since the thesis concerns the central business district, the discussion of these findings, presented in this chapter, will be oriented toward the central area.

Land Use Locational Theories

Any thesis involving the location of urban land use must present a summary of the theory relating to the subject. The theories have been advanced by city planners, geographers, sociologists, social ecologists, economic geographers, and others interested in the foundations of urban land use structure. Little attempt will be made to construct the various propositions into a freely flowing narrative, since the objective is to assimulate a body of knowledge into a concise, workable reference unit both for the author and the reader. Not all the myriad of theories are presented, but an attempt has been made to include the more recent and popularly accepted. The theories are cited in no particular sequence of acceptability or chronology, but are discussed in related methodological groups.

The groups have been labeled to represent the basic methodological approach used by the theorists. The group labeled "subjectively observed theories" are those for which the methodological approach was to determine the factors that influence site location by observing the historical movements of land uses and then explain their behavior by subjective reasoning. The methodology used to derive the group labeled "subjectively experimental theories" was to establish a set of variables which could influence site selection and then apply subjective experimental techniques. In the experimental analysis, the places where goods are consumed were held constant and the costs of transportation and the costs of labor were allowed to vary. The technique resulted in a group of hypotheses relating to the factors affecting location.

Urban Growth Pattern Theories.--Before presenting the theories pertinent to land use locational analysis, those theories describing the physical growth pattern of the city should be mentioned. The Burgess concentric zone theory, which limits itself to large American cities, lays down as a logical principle a typical patterning of use-types which appear as a series of five concentric circles surrounding a central point. The first zone, surrounding the intersection of communicative routes, is occupied by the central business district of the city. Within the other zones, and the total arrangement of zones, "a process of distribution takes place which sifts and sorts and relocates individuals and groups by residence and occupation."[1]

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[1]Ernest W. Burgess, "The Growth of the City", The City, edited by Robert E. Park, Ernest W. Burgess, and Roderick D. McKenzie, Chicago: Univ. of Chicago Press, 1925, (pp. 47 - 62), p. 54.

Another of the descriptive theories was developed by Hoyt in response to the often demonstrated inconsistencies of the concentric zone theory. The sector theory proposes that the city is situated in a circular spatial area at the center of which is the business district. Extending outward from the center in the form of sectors are the residential districts of the city. The growth advances by sectors along the thoroughfares, or axes, which offer the best travel facilities.[2]

Although these theories are interesting descriptions of how the physical manifestations of urban growth occur, they contain little explanation of what the forces and conditions are that produce the "sifting", "sorting", and "extending". The groups of theories which follow are efforts to explain these forces and conditions.

Subjectively Observed Theories.--Subjectively observed theories begin by stating as fact that there is a central point at which communicative routes intersect, and that it is the place of highest accessibility and where the largest number of individuals interact for the satisfaction of needs. The theories further propose that the automatic process of competition and selection for the point of highest accessibility results in a natural distribution over space of the component functions of a community, so arranged that the available space is being most efficiently utilized.[3] The theorists have developed two major premises to support their reasoning. The first

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[2]Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities, Washington: Federal Housing Administration, 1939, p. 74 - 77, 112 - 122.

[3]For fuller description see: Calvin F. Schmid, "Land Values as an Ecological Index", Research Studies of the State College of Washington, Vol. 9, March, 1941, pp. 16 - 36; A. B. Hollingshead, "Human Ecology", An Outline of the Principles of Sociology, edited by Robert E. Park, New York: Harper & Brothers, 1939, p. 104.

premise is that the motivating force in the selection of a location is the efforts toward minimizing costs. The costs take many forms and are defined differently by each theorist. Haig combines three of the costs into the "costs of friction."

> In choosing a residence purely as a consumption proposition, one buys accessibility precisely as one buys clothes or food. He considers how much he wants the contacts furnished by the central location, weighing the "costs of friction" involved -- the various possible combinations of site rent, time value, and transportation costs; he compares this want with his other desires and his resources and he fits it into his scale of consumption, and buys.[4]

Other costs appear as income and rent in the principle of minimizing costs.

The second major premise is that the basic property of physical space is its cost-imposing quality, i.e., there are costs involved in overcoming space, and there are costs induced in the competitive bidding process because of the limited availability of locations at the point of maximum accessibility. The outcome of this competitive bidding is a natural process of selection which distributes land use activities over space according to their economic strength. Retail business, able to turn accessibility to the greatest profit, preempts the most accessible central locations. Other commercial functions, in proportion to their economic ability, distribute themselves around the central business district periphery and at other transportation junctions. The result is a maximum efficient pattern of land use. In the words of Ratcliff:

> Thus, in the central business district of a large city the structural arrangement of land uses might be represented as constituting an economic machine whose parts have been arranged and rearranged until there is approached the maximum of efficiency in the performance of its com-

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[4]Robert M. Haig, "Towards an Understanding of the Metropolis -- The Assignment of Activities to Areas in Urban Regions," Quarterly Journal of Economics, Vol. 40, May, 1926, p. 423.

mercial functions.[5]

The efficiency of the land use structure of the city is regarded by this group of theorists as an inevitable result of the free play of economic competition.

There is an element of uncertainty underlying the several theories. That element manifests itself when one attempts to reason how social value systems and ideals may be integrated into the purely economic considerations of land use structure. Generally, the descriptive material revolving around the theories recognizes that values and ideals are present in the competitive process, but they are used to explain the factual departures from the kind of spatial order called for by the theory rather than attempting to alter the theoretical constructs to include them.

Subjectively Experimental Theory.--This theory group differs little from the subjectively observed theories since each treat land use structure as the product of economic action, and they both consider the cost-imposing characteristics of space. The difference occurs in the methodological approach, described earlier, for establishing the theoretical criteria. Another point of difference occurs in that the observed theories recognize that social values are inherent in the location of land use-types while the experimental group purposely excludes them from consideration.

Weber's theory represents the major work in the subjectively experimental group. He is concerned primarily with the locational processes, or factors, of industrial production and builds his thesis around the following hypothesis:

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[5]Richard U. Ratcliff, "The Problem of Retail Site Selection", Michigan Business Studies, Ann Arbor: Univ. of Michigan, Vol. 9, no. 1, 1939, p. 60.

> By "locational factor" we mean an advantage which is gained when an economic activity takes place at a particular point or at several such points rather than elsewhere. An advantage is a saving of cost, i.e., a possibility for the industry to produce at this point a certain product at less cost than elsewhere, to accomplish the entire productive and distributive process of a certain industrial product cheaper at one place than another.[6]

Although he is concerned with industrial location, Weber's locational concepts have meaning for other use-types. The locational factors mentioned in the quote which have a bearing, in a broad sense, on central area locations are: (a) the places where goods are consumed; (b) transportation costs, which in turn are determined by: (1) the total weight of raw material and finished goods which must be moved if an industry is to operate; and (2) the total distance the materials of production must move; and finally (c) the labor costs at different places. The experimental analysis, which Weber uses, is conducted by holding the place of consumption constant and then deducing from his premises how industry would locate in terms of the other two variable factors. As a result of the operation of the three locational factors there are two forces which are set into motion, the centripetal and the centrifugal. The first of these forces is the tendency for industries, or other land use-types, to locate together for the advantages of better market connections and lower overhead costs. The continued grouping of the use-types will reduce the aggregate operating costs and maintain the advantages up to a certain point. However, beyond this point the added rent which the area can command as a result of the grouping outweighs the gain of the convenient location and the centrifugal forces begin to operate. When they exceed the centripetal forces, there

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[6]Alfred Weber, Theory of the Location of Industries, translated by Carl J. Friedrich, Chicago: Univ. of Chicago Press, 1929, p. 18.

is a tendency for a use-type to move out of the concentrated area.[7]

The centripetal and centrifugal forces are continuously influencing the arrangement of land uses. This is particularly true in the central business district where, generally, space is limited. The decentralization of certain manufacturing and wholesaling functions may be explained by using Weber's analysis and hypotheses.

The discussion of these land use locational theories leads into a question: what are the specific functions with which they are concerned, and more specifically, what are the functions of the central business district to which these theories may be applied to explain why they locate as they do?

Although not in answer to this exact question, various researchers have developed classifications of functions which may help determine the answer. Some of the classifications are denoted as "typical central business district land uses" while others, although oriented to the central area, are broader in scope and could be located throughout the city. However, any effort to classify land use activity is of potential value for this thesis, and the objectives, methods, and classifications of the more recent studies will be presented in the following section.

The Classifications of Central Business District Land Use Functions

Several authors have published studies in which the primary step was to classify the functions of the central area. Different approaches were used in the analysis of functions, and some methods of classification involve a variety of assumptions that are not entirely applicable to experi-

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[7] Ibid., Chapter V.

mental testing. In presenting this material the primary objective is to observe how the authors made their observations and with what results. Some of the conclusions may be applied in a later discussion of a study designed to measure and to classify those land uses that require a central business district location.

Basically all functions revolve around human needs, but when a classification is based on the various human needs, the complexity of the interrelationships of functions confuses rather than simplifies the analysis. For example, clothing is a universal human need, but it involves the assembly of raw materials, their processing into the goods used, the manufacture of the articles of clothing, wholesale distribution, and retail distribution. All of these are distinct functions, but a classification based on needs would lead into a statistical jungle with little gained but mental exercise.

Hallenbeck Classification.--A subjective classification has been developed by one author based on broad categories of functions in terms of their similarity of purpose and operation. Broadly these categories are:[8] (1) control: the basic functions of government, involving the processes by which the urban area is held together and operated; (2) administration: the functions which provide the services which are essential to the operation, maintenance, and protection of the city -- these are also a part of government; (3) economic functions: industry, business, and the many services which form the productive base of the city, and the means of distributing goods and services to people. These are almost entirely the creatures of private enterprise; (4) social utilities: the great variety of social ser-

[8]Wilbur C. Hallenbeck, American Urban Communities, New York: Harper & Brothers, 1951, p. 267 - 270.

vices, health, recreation, education, and religion. The categories are intended to be representative of urban functions rather than those indigenous to the central business district. However, many of the items in the detailed lists under each main heading are found predominately in the central area.

Murphy and Vance Classification.--A different approach to the problem of classification of functions was used by Murphy and Vance in a recent study of the business districts of nine cities.[9] The authors' analysis of characteristic central area functions was based on a subjective observation of land use maps for the nine cities, and the listings were determined by the frequency with which a function appeared in all the cities.

> The really essential central business functions appeared to be the retailing of goods and services for a profit and the performing of various office functions. Stores of all sorts that retail merchandise, shops that offer services, and the whole miscellany of offices so often found near the center of a city -- all appear to represent characteristic central business uses. . . .[10]

The classification, presented in Table 1, is divided into three main categories with the functions listed in random order under each heading. In addition, Murphy and Vance determined a classification of functions which appeared to be non-central business in character. They are presented in Table 2.

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[9]Raymond E. Murphy and J. E. Vance, Jr., "Delimiting the CBD", Economic Geography, Vol. 30, July, 1954, pp. 189 - 222.

[10]Ibid., p. 203.

Table 1. A Classification of Land Uses in the Central Business District[11]

(by Murphy and Vance)

A. Present and apparently typical:

Restaurants
Women's clothing
Men's clothing
Furniture
Hardware and appliances
Department stores
"5 and 10" stores
Drug stores
Jewelry and gifts
Amusement establishments
Banks
Insurance and real estate
Personal service (barbers, beauticians, etc.)
Clothing service
General offices
Commercial parking
Hotels and other transient lodging

B. Rare enough to be absent or essentially so from one or more of the central areas:

Supermarkets
Automobile sales
Service Stations
Accessory, fire, and battery sales
Newspaper publishing
Headquarters offices
Railroad station
Bus station
Residences
Industrial
Wholesale

C. Occupying substantial space in all central business districts but not typically central business land use:

Public land and buildings
Organizational and charitable institutions
Vacant building or lot space

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[11] Raymond E. Murphy and J. E. Vance, Jr., "A Comparative Study of Nine Central Business Districts", Economic Geography, Vol. 30, October, 1954, p. 334.

Table 2. General Types of Land Occupancy Considered to be Non-Central Business in Character[12] (by Murphy and Vance)

Permanent residences (including apartment and rooming houses)
Governmental and public (including parks and public schools as well as establishments carrying out city, county, state, and federal governmental functions)
Organizational establishments (churches, fraternal orders, colleges, etc.)
Industrial establishments (except newspapers)
Wholesaling
Vacant buildings or stores
Vacant lots
Commercial storage

[12]Murphy and Vance, "Delimiting the CBD", op. cit., p. 204.

Alderson and Sessions Classification.--In a study of Philadelphia's Central Business District, Alderson and Sessions developed three methods of classification of functions based on who must have access to the site and for what purposes. The initial method divides all land use functions into six basic functional classes. The six classes with an indication of the functions contained in each are as follows:[13]

1. Retailing: Every type of establishment selling goods primarily to the consumer, including department stores and specialty shops with city-wide appeal, and convenience stores serving the resident, daytime population of the central business district.

2. Manufacturing: All establishments engaged in the production of fabricated goods, ranging all the way from loft manufacturing to large factories.

3. Wholesaling with stocks: All of the lines of wholesaling maintaining stocks on the premises and selling to the trade out of stock. Display rooms and warehouses are the facilities usually required.

4. Wholesaling without stocks: All intermediaries handling sales transactions without maintaining stocks on the premises. While this category includes brokers and commission men, it is much broader. In a number of lines of wholesaling, such as coal and lumber, it is customary for the wholesaler to take ownership but not physical possession of the merchandise. The usual requirement is for office space.

5. Business Services: This category covers many functions in which the customers are other establishments and in which services are sold

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[13]Alderson and Sessions, Philadelphia Central District Study, Philadelphia: City Planning Commission, 1951, p. 3.

rather than goods. Law firms, advertising agencies, architects, and engineering are among the functional subclasses. Business services account for a large percentage of the demand for office space.

6. Consumer Services: This is the broadest of all the six categories as to type of facility although it covers only establishments providing services to the consumer. It ranges from repair shops and barber shops to museums and churches, with a wide range of public, personal, and professional service in between.

The six basic classes of functions were then combined into three groups, each group containing the two basic classes which exhibited similar locational traits either of site requirements or consumer traffic. They are:

1. Manufacturing and Wholesaling with Stocks: Both of these classes of activity tend to repel other activities. Both require large amounts of space for the storage and handling of goods, characteristically in the form of factories and warehouses.

2. Business Services and Wholesaling without Stocks: Both activities can typically afford maximum convenience and prestige in location and primarily require office facilities. Both deal with business rather than with the consumer, and neither handles goods on the premises.

3. Retailing and Consumer Services: These two types of activity are held together primarily by consumer traffic. While they usually are found together, they are not usually in balanced proportions. Large retailing establishments, by drawing consumer traffic, create opportunity nearby for small service establishments. Large service establishments, such as public institutions, create opportunity in the immediate neighborhood for

small retail stores.

Finally, the six basic classes were arranged into two broad classifications that reflect whether goods move in or out of the site in significant proportion or whether the movement problem is one of persons only. The classes are the following:

1. Goods - handling establishments: Retailing, manufacturing, and wholesaling with stocks.

2. Non-goods - handling establishments: Consumer services, business services, and wholesaling without stocks.

Ratcliff Classification.--A classification of functions was developed by Ratcliff on the premise that the central business district is the place most convenient to the greatest number of employees and for many functions, the greatest number of customers. His classification of central businesses was determined on the basis of the geographical location of their clientele.[14] The classifications are:

1. No local clients: These are the businesses with contacts largely outside the city and where the city contacts are a small share of the total. An example is a mail order house with a regional or national market including the community where the home office is located. In this case, a central location is of no great importance from the standpoint of customers but may be important from the standpoint of employee convenience.

2. Community-wide clientele: The prime example is the downtown department store which serves the entire community and the hinterland for

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[14] Richard V. Ratcliff, "The Dynamics of Efficiency in the Locational Distribution of Urban Activities," unpublished paper presented at the Bicentennial Celebration, Columbia University, January 7 - 9, 1954, p. 40.

miles about. Convenience to both client and employee is an important aspect of a central area location.

3. Neighborhood clientele: The central area is located most conveniently to householders who live on the periphery in the central slums, in the "Gold Coast" apartment hotels, and in the adjacent modest homes of clerks and workingmen. Their focus is toward the center for many services and commodities which in outlying residential areas are typically provided in neighborhood and regional shopping centers. Grocery stores, drug stores, barbers, and dry cleaners situated on the fringe of the central area exist primarily to serve the residential districts which border the commercial core.

4. Central area clientele: This group of businesses might be termed "parasitic" except for the fact that they are essential to the productivity of the central business area. In a sense they feed off the center but in another sense they serve the center. Examples are the eating establishments which feed the daytime population, both customer and employee. Another group is the business service; the accountant or advertising firm which finds its clients among the businesses located in the central business area. Both examples show how a central location is inevitable in light of the nature of the contacts involved.

Analysis of the Several Functional Classifications.--By analyzing the several classifications of functions and the discussion presented along with each, the objectives by which the authors were motivated are revealed. The Hallenbeck classification of functions was developed by subjectively analyzing the various activities of the urban community. No objective was apparent other than to illustrate that the urban functions may be cate-

gorized by sociological explanations. The classifications are applicable to the central business district in several aspects, but for an experimental study of central land use migration, they are somewhat ambiguously defined.

The objective of the Murphy and Vance study wherein the land use functions were classified, was to develop a practicable method for delimiting the central business district. The classifications were used also for the comparison study and the final one of internal structure. Of the functional classification lists presented, they alone excluded government and public land uses from the commercial core. Ratcliff includes them by implication under the heading of "Community - wide clientele" and Alderson and Sessions under "Consumer Services."

Alderson and Sessions had as the objectives for their study the future requirements for land, building space, and street frontage in the central business district; the kinds and patterns of relationships of the establishments; and the geographical distribution of establishments by subareas within the central area. Their analysis of functions envolved the testing of several subjective classifications before evolving the final list. Unlike the Murphy-Vance study, the authors made no distinction between typical and non-typical central business functions. Rather, they defined the central area in broad terms in an effort to include the maximum number of those establishments oriented toward the metropolitan area.

The classification of functions developed by Ratcliff is hardly debatable, except for the "neighborhood clientele" class. By definition it removes itself from the central area in that the amenities of the neighborhood shopping center and social life are lost in the central business

district.

The lists of functional classifications developed by the several authors have several similarities of context and methodology. Each of the lists was developed subjectively, relying upon general and specific knowledge and experience for the arrangement. The classifications were chosen in terms of the general central area with no specific limits assigned. And, despite the fact that the several classification lists were developed to reflect a specific objective, collectively they express the analytical process whereby the functions of the central business district may be adequately defined. It may be said that any classification of central business functions may be determined by analyzing an activity in terms of its purpose; the geographical location of its clientele; who must have access to its site and for what reason; its site requirements; the volume of consumer traffic; and the type of traffic (whether predominately goods or people).

Madison Central Area Study.--A study of more than normal significance to the determination of appropriate central business district and one that differs in methodology and interpretation from the studies mentioned, is Ratcliff's work on the Madison Central Business area. The author established a classification of functions by measuring the net migration of land uses into and from the central city area.[15] Although no classification of the land uses most appropriate to the central area was developed, the study represents a methodological guide to the establishment of such a classification. The objective for the research was to determine whether or not

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[15]Richard V. Ratcliff, "The Madison Central Business Area," Wisconsin Commerce Papers, Vol. 1, no. 5, October, 1953.

the changes in the pattern of commercial uses in Madison were destroying values in the central area, consequently the study was limited to predominately retail functions. The functions were classified from city directory definitions and a historical analysis of site occupancies was made to measure the net migration for the various uses. The results of the investigation are listed under the following headings:

1. Declining groups: This group of land uses contains those functions which are declining because: they are neighborhood types and are moving closer to their clientele -- filling stations, grocery, shoe repair, hardware, etc.; changing merchandising methods and changing channels of distribution are continually rearranging the market for such use-types -- cigar stores, confectionery stores, leather goods, etc.; technological, social, and economic changes have eliminated the need for the blacksmith, dressmaking shop, harnessmaker, icehouse, etc.; relatively large amounts of ground area are required for the business operations - agricultural implements, auto repair, used auto sales, etc. Also within this class are those land uses which disappeared entirely from the central area; they include boat companies, builder's supplies, bowling, fixtures and scales, vending machines, and several others.

2. Increasing groups: The group of land uses that are increasing in the Madison central area are business services -- accountant, business machines, office supplies, etc.; the uses that generate the 100 per cent district -- department stores, women's apparel shops, variety stores, and the various specialty shops and services; social clubs and associations; and minor use-types such as bars, bars and restaurants, photographer, etc.

3. Static types: This classification relates to those functions

which have the common characteristic of stability. They include a few use-types from each functional class -- auto storage, banks, hotels, florist, loan companies, etc. Included within this class are the bulk of the public and semi-public functions found in practically all cities -- city hall, churches, library, utility companies, post office, etc.

The methodology and conclusions for this and the Alderson and Sessions study will be discussed more fully in Chapter II wherever they are applicable to a particular subject.

There are certain locational and physical characteristics that either limit or promote the functional activities within the central business district. These characteristics of the central area are presented by the urban economist, the planner, and the businessman in broad terms, and the human ecologists, in their lingo, have added to the supply of descriptive terms. The characteristics and functions are mutually dependent, and a presentation of one must be followed by a presentation of the other.

Characteristics of the Central Business District

Regardless of the reasons why and where cities were formed, the primary focus of its internal functions and the major contact with a tributary area is found in the central business district.[16] It is not only the principal location of certain types of economic and social activities, but it may be the political and economic headquarters of the urban area. The central business district is a point of dominance in that it is the area where intelligence is received and transmitted, where brains and ability concentrate and where the economic, and to a large degree, the social life

[16]George W. Hartman, "The Central Business District - A Study in Urban Geography," Economic Geography, Vol. 26, October, 1950, p. 237.

of the city reaches its maximum intensity. Not only are the retail, office, and service functions concentrated within the area, but also the managerial, policy-making, control, coordinating, and executive institutions which are integral components of the urban market and social structure.

The Ecological Center.--The central business district constitutes the ecological center of the city, since it is here that communication lines converge. It is not where the most people live but where most things happen, i.e., where the important decisions are made, where freight and passengers come together, where the most people cross a given point. Intensity of physical and ideational traffic is a key to the ecological center.[17] The central business district is the spot where decisions are made which reverberate throughout the region, where impersonal relations are the greatest, where there is the least moral responsibility to others, where representatives of all groups converge. The ecological center is further characterized by many contrasts in type, where there are few taboos and moral rules; yet it is where ideational traffic is most intense. Here the largest number of peoples converge, giving rise to anonymity, public discussion, mass behavior, boredom, excitement, and varying degrees of concerted action.

Accessibility and Availability.--The central business area is concentrated around the node of intraurban communication. It is not generally the geographic center of the city but actually nearer one edge. However, because internal and external transportation lines converge on the area, it is the point of most convenient access from all parts of the city. No other location of functional areas is so accessible to as many people

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[17] E. Gordon Ericksen, Urban Behavior, New York: The MacMillan Company, 1954, p. 242.

in terms of the ease of movement from point of origin as the central business district. Another unique characteristic of the district is the availability of a wide range of choice in products and services, unmatched variety of services and merchandise, and the direct and indirect relationships of most of the central district activities.

Availability gives the central area an unmatched advantage in convenience over any other spot in the city. To illustrate; compare two hypothetical areas A and B. Area A is the location of 10 different types of services and Area B the location for 5. Then in A there are 45 possible combinations of two services while in B there are ten. The possible combinations of errands which can be run within area A represents a substantial saving in the aggregate potential transportation costs.[18] These potential savings added to the efficiencies accruing from the proximity of related businesses and business services make it apparent that this meshing of interdependent functions and locational relationships provides the most convenient arrangement of urban activities for a maximum number of citizens.

Physical Characteristics.--As mentioned above, the central business district is not generally the geographic center of the city but is always the ecological center. The factors that force the distribution of urban land use-types into the various space arrangements are explained by social and economic theory. However, there are physical characteristics of significance which directly affect the central area and its perceived size, shape, outline, etc. Among the conclusions that Murphy and Vance have drawn from a comparative study of nine business districts, the following physical

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[18]Ratcliff, "The Dynamics of Efficiency in the Locational Distribution of Urban Activities," op. cit., p. 40.

characteristics seem to be apparent in each of the cities:[19]

1. Specific transportation features - port works, railroad stations, early road junctions - generally were responsible for the original location of the city. This initial development, in turn, formed the nucleus of the central business district.

2. District size is best measured by the total floor space at all levels devoted to appropriate central business uses. Since a uniform story height may be assumed, this total may be regarded as the volume of the central area.

3. Variations in business district size may be estimated by comparison with the number of employees in commercial activities as reported by the Census.

4. The theoretical outline of the central area seems best to approximate a quadrate cross; the theoretical shape a modified pyramid.

5. The nature and number of axes has a direct bearing on the outline of the central business district.

6. Railroads and rivers are important barriers to expansion. This barrier, in the modern city, is reflected in a belt of non-central business uses, so that the area rarely reaches a railroad or river.

7. Parks and public buildings which are extremely large or grouped may serve as barriers to expansion.

8. Slope is a powerful deterrent to areal expansion.

9. The land uses that are truly "central business district" in character are offices and retail outlets for goods and services.

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[19] Murphy and Vance, "A Comparative Study of Nine Central Business Districts," op. cit., p. 334.

10. Ordinarily, vacancy in the district reaches its greatest proportions in old cities, and within these cities, vacancy is greatest in old, multistory buildings.

11. The central area has ceased to be entirely a "walking zone". It has acquired outer sections that are, in part, automobile oriented.

Many of these same conclusions were published in earlier studies by Hartman[20], Hoyt[21], and Harris and Ullman[22]. Few of the physical characteristics are unique to a central business district location per se, but the influence of railroads, arterials, rivers, topography, etc. is a determinant of the area and limits its land use locational structure. In item two above, the volume was obtained by comparing the total floor space within the central district to its ground area minus streets and alleys. This procedure may be used to test for the direction of central business growth. As the ratio approaches one, the growth is lateral; as it approaches infinity, the growth is vertical; and presumably as the ratio approaches zero, the business area is shrinking. Three basic assumptions that are present in any computation of central district size are that the limits of the area are selected scientifically, that there is similar historical data available that may be used as a base, and that the district limits for the historical data are identical to the limits for the

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[20]Hartman, op. cit., p. 241, 243.

[21]Hoyt, Structure and Growth of Residential Areas in American Cities, op. cit., p. 96.

[22]Chauncy C. Harris and Edward L. Ullman, "The Nature of Cities," Annals of the Americal Academy of Political and Social Science, Vol. 242, 1945, pp. 12 - 17.

later period.

Item three in the list of conclusions from the Murphy and Vance study was obtained by graphing the Census statistics representing the trade and office activities against central district size (central business space within the area) for each of the nine cities. The line resulting from the number of retail and wholesale employees corresponded very closely with the line representing central district size. Each thousand retail trade employees in the incorporated city, for example, appears to mean some 12 to 13 acres of central business floor space. Size was obtained by first establishing a list of non-central district land uses and then substracting the amount of floor space occupied by those uses from the net total within the central area. The result was the amount of floor space occupied by typical land uses. The selection of the typical uses was subjective and there is a question as to whether the assumptions (item 9) could be entirely validated by experiment.

The remainder of the listed items have been thoroughly discussed in the works of Hartman, et al., and where differences occur concerning the theoretical outline of the commercial core (item 4) and the central sections that are automobile oriented (item 11), only further study will decide the merits of each opinion.

The functions and characteristics of the central business district have received substantial attention in the literature. They along with a presentation of land use locational theory form an impressive supply of knowledge with which to approach a determination of the land uses that require a commercial core location. Such determinations have been made subjectively and for reasons other than the problem itself. This thesis is

an attempt to classify those functions by experimentally measuring the migration of use-types into and from within the core area. The chapter which follows discusses the objective and methodological approaches to such a study.

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CHAPTER II

A STUDY OF CENTRAL BUSINESS DISTRICT LAND USE MIGRATION

The first phase of this chapter is concerned with establishing the specific central business district problem to which a determination of appropriate central area land uses is related. The second phase is a discussion of the value and needs for an experimental study of the migration of land use types into and from the central core area and the ways in which knowledge of the results of such a study might be useful. The third phase is a discussion of a study of Atlanta's central district; the objective, expected results, hypotheses, assumptions, and limitations. The final phase discusses the methodology envolved in the experiment.

The Central Business District Problem

In recent years, the rapid growth of urban areas has been accompanied by an equally spectacular rise in the intensity of various urban problems. Most of these problems would have existed to some degree even though the growth of cities had been less rapid. The congestion of traffic and the shortage of parking are the products of prosperity as well as size. The matter of political and fiscal integration of the city and its suburbs has received considerable attention for the past several years, and industrial decentralization has threatened and has been studied for decades. The central area has long been infested with blight, and businessmen's groups, planners, and city legislators have been alarmed over the competition of outlying retail centers since the first grocery store broke away

from the village square.

This thesis does not attempt to innumerate all the problems of the central area in detail, nor even to discuss them generally. However, if a study of appropriate land uses can be assigned to one problem, it probably fits most readily into the problem popularly called decentralization or more specifically, the decentralization of non-residential land uses.

Residential Decentralization.--Statistical confirmation is readily obtainable to support the fact that cities of all sizes are growing in population, in the number and complexity of activities, and in physical extent. Additions to the housing supply are being made on vacant land at the edge of the settled area, since there is no place for a built-up city to expand but on the periphery. With the private auto allowing the householder more freedom of choice in the location of his home, the patterns have been more scattered, irregular, and dispersed than in former years. However, there is little doubt that residential decentralization can and does take place where the geographical necessity for space is a factor.

Industrial Decentralization.--Woodbury, in a summary of the studies made about industrial decentralization, has made a distinction between "diffusion" and "dispersion". Diffusion is the redistribution of industrial plants from the major central area to a nearby or peripheral area. Dispersion connotes a wider distribution, as from a large city to a number of smaller localities throughout a major economic region. Woodbury concludes that over the past half century the chief characteristic of the pattern of industrial location is stability. Until World War II there was a "slow but rather persistent diffusion of industry within the major areas or districts of industrial concentration . . . indications of dispersion were less

strong and . . . varied considerably with general business and industrial conditions."[1] The diffusion, as well as the gradually expanding industrial base, is largely in response to the needs of the general economy. The site requirements of manufacturing industries are not suitable to a central business district location since there are no large sites, railroad spurs, or truck docking facilities available at the low cost that industry demands. The diffusion of industry from the central area, then, appears as an economically-induced process whereby the adjacent and peripheral locations offer the industry lower rents and increased accessibility.

Retail Decentralization.--The rate of growth of peripheral "one stop" regional shopping centers since the war has motivated a wide-spread fear of retail decentralization. The last time the central area owners and merchants became worried about decentralization was in the late thirties when the business depression had seriously deflated downtown property values. Assessed values and taxes failed to follow market values so the owners became apprehensive of their investments and pointed to the apparent decline of the business district as justification for a tax reduction.

The origins of the present problem of retail decentralization are presumed to be associated with traffic congestion and the parking problem. Since central area streets are used excessively beyond their theoretical capacity and there is no place to park, the result is outlying shopping centers. However, rather than accept retail decentralization ipso facto, some critiques have offered the hypothesis that the urban structure is undergoing some functional change which alters the significance of certain

[1]Coleman Woodbury, The Future of Cities and Urban Redevelopment, Chicago: Univ. of Chicago Press, 1953, p. 286.

space relationships and generates basic structural shifts in the arrangement of land uses. In terms of efficiency in the locational distribution of uses, the question is whether certain activities are not now more efficiently located outside the central area. The basic assumption of this thesis is that they are. The next question is: what are those uses within the central business district that would be more efficiently located elsewhere? The specific problem is to determine those uses which are most efficiently and appropriately located in the Atlanta central area and which of the uses would be more appropriately located elsewhere. In an attempt to develop a solution, a study will be made of the historical migration of land use types across a predetermined boundary around Atlanta's commercial core.

The Study - Needs, Value, and Use

Although the problem has been isolated for study, of what value is the solution and how may the results be used? Basically, the author assumes that there is an answer to the problem. Certainly, there are land uses within Atlanta's central business district that are efficiently located with respect to the entire urban land use structure. A few of these are readily apparent - stock exchanges; the main offices of banks; the parent department stores; most of the business service establishments; etc. There are many, rather the great majority, that are not as readily apparent. Some of these uses would be more efficiently located at places closer to their clientele or nearer rail transportation, i.e., in some area other than the central district.

Institutional Organizations.--An understanding of the most efficient location for each use-type would aid materially those institutions which in-

fluence the selection of sites. Not only would the efficiency of the commercial core be increased but the total efficiency of the urban land use structure.

These institutions may use the criteria in various ways. The urban economists, planners, and others interested in urban research would have an acceptable base with which to start their investigations. Knowing the suitable central area uses would reduce the margin of error. For example, had there been a classification of appropriate central business land use types previously established by some scientific procedure, the studies by Murphy and Vance, Alderson and Sessions, and others could have proceeded more rapidly, been established on a more scientific base, and the results obtained could have been more comparable. As it develops, the results, taken collectively, are hardly comparable since governmental and public, organizational, and wholesaling establishments were considered non-central business by Murphy and Vance and typical for the area by Alderson and Sessions.

Again, the planner, whose aim is toward allocating the most appropriate use to each parcel of land, would be able to provide more acceptable proposals in his land use plans, redevelopment studies, and zoning ordinances. The programs for traffic routing, parking, and the forecasts of future central business district space requirements all must consider land use analysis as an integral part of the study.

Central Area Property Owners and Managers.--Central area property owners and managers would find a classification of appropriate land uses an invaluable aid in the selection of tenants. Today these owners and managers take more proprietary interest in their properties; they write more per-

centage leases than at any time during the past decade, and as a protective measure, such leases are now required by many chain store tenants and an increasing number of independents.[2] Since a percentage of gross income is becoming the basis of rental charges, it is fundamental that a property owner or manager select that tenant which can maintain the highest profit. Knowledge of which use-types are appropriate to the central district will eliminate a portion of the guesswork from tenant selection. Central Area Tenant.--It also eliminates some of the guesswork for the tenant if his is not obviously a typical central core business, or if it is, his locational problem is simple. However, if the tenant were undecided about the appropriate location for his music store or sporting goods store, reference to some locational criteria would help him decide between the central business district or some site in an outlying area.

The Study - Objective, Expected Results, Hypotheses, Assumptions, and Limitations

It is not proposed by establishing a classification of land use types appropriate to the central business district that all the problems involved in the selection of a particular site will be solved. Location is only a part of the complex of forces that influence the operation of an economic activity. Market conditions, buying habits, ethnic groups, administrative ability, etc., each must be evaluated in terms of its influence on productivity. The summation of these influences and those accruing from the proximity of other land use types, together with the forces exerted by accessbility, determines the efficiency of the use. Location, however, is

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[2]"Main St., U.S.A.," Architectural Forum, Vol. 80, February, 1939, p. 79.

by far the greatest single determinant of efficiency for its costs are real and may be measured in terms of site rental and transportation charges. Assuming the factors of location to be in constant operation, there is a tendency for the various land uses to arrange themselves into the most efficient pattern. The evidences of this tendency have been more apparent recently because of the rate at which some land use types have migrated from the central business area.

Objective.--The objective of the study, around which the remainder of this thesis is oriented, is to measure experimentally the apparent trends in the migration of land use types into and from the Atlanta commercial core. The functional changes which may be revealed in the form of changes in use-type representation may then be analyzed to determine the cause and therefore the significance of these modifications in the pattern of services over the years.

Expected Results.--The results obtained from the experimental and analytical phases of the study should appear as: (1) a classification of land-use types, by business groups and kinds of business, that have immigrated or originated within the limits of the central business district; and (2) a classification of land use types by business groups and kinds of business that have emigrated from the limits of the area.

Hypotheses.--There are several assumptions that must be made and certain hypotheses stated as a prelude to actual procedure. Although the subjectively observed theories, presented in Chapter I, leave the non-economic factors of land use arrangement unexplained, the author believes that the locational distribution of uses is essentially an economic process. Site selection involves basically the same bargaining activity that takes place whenever

there is any exchange of commodities. However there is one qualification; if the freeplay of competitive forces operating within the limits set by governmental authority inevitably results in the maximum efficient pattern of land uses, how is it possible for man's use of land to deviate from the most economic arrangement? Many of the deviations are rationalized by attributing them to the permanency of construction, social resistance to technological change, ignorance, inertia, chance, etc.[3] Unfortunately these rationalizations are difficult to measure experimentally as evidenced by their absence from the literature.

Assumptions.--The basic assumption inherent in this presentation, as previously stated, is that as the urban land use structure has undergone functional changes, there have been certain locational redistributions of use-types that are now more efficiently located outside the central business district. A second assumption is that an historical analysis of land use migration across a selected commercial core limit will serve to indicate which use-types require a central location (increasing numerically) and which do not (decreasing numerically). Other less important assumptions will appear in later sections of this and the last chapters. They are omitted here to avoid unnecessary repetition.

Limitations.--Certain limitations cannot be eliminated from the student effort of objective experimentation and subjective analysis. Time and academic background have continually impinged on the demands of this study. A certain amount of bias was introduced because several kinds of business classifications were ambigously described in the Atlanta City Directory.

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[3]Robert M. Haig, Major Economic Factors in Metropolitan Growth and Arrangement, New York: Regional Plan of New York and its Environs, 1927, pp. 429, 430.

For example, establishments selling hats or shoes were listed as "hat store" or "shoe store" as opposed to classifying them as "Women's shoes" or "men's and boy's hats". Also the terms have not been entirely consistent from year to year. A cross-check against the classified section of the telephone directory was an aid at defining some types, but several listings remained ambigious as to specific functional characteristics. The following section outlines the methodology and procedure more thoroughly.

The Study - Methodology

Literature Search.--The initial undertaking for any academic or research project is naturally a thorough investigation of the literature related to the subject matter. The various bibliographical references on City Planning, Urban Land Economics, Decentralization, Business Districts, Human Ecology, and Land Use yielded 116 books, articles, papers, speeches, and studies that could have a possible connection with central business district land use analysis. The bulk of the literature was concerned directly with either decentralization or traffic conditions; the few that contained any pertinent contribution have been used and appropriately cited. Other references were obtained from the pertinent material until they became repetitious. In general, there has been little experimental analysis of appropriate central district functions; the only contributions being the studies by Ratcliff[4] and Alderson and Sessions[5].

Personal Interview.--To supplement the information provided by the literature,

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[4]Richard U. Ratcliff, "The Madison Central Business Area," Wisconsin Commerce Papers, Madison: Univ. of Wisconsin, Vol. 1, no. 5, October, 1953.

[5]Alderson and Sessions, Philadelphia Central District Study, Philadelphia: City Planning Commission, 1951.

an extensive series of personal interviews with planners, civic leaders, and business executives was included as part of the research technique. However, after eleven interviews, the points of view, experiences, criticisms, and suggestions offered became repetitious and too generalized to pursue the technique further. A consensus obtained from the interviews is that: the central area is largely dependent on mass transit; it is a retail center for the city; traffic and parking are the big problems that must be solved; specialized services and the department store have the strongest dependence on a central district location; those uses of which there are many units tend to decentralize, and those uses of which there are few units tend to remain in the commercial core; certain uses locate in the core area because of prestige, anonymity, and proximity to other uses; and, Atlanta's decentralization problem doesn't seem to be of the same magnitude as the problem in other large cities. The personal interview technique is more time consuming, more difficult to arrange, and returns less constructive information than a questionnaire survey.

Questionnaire Survey.--The type of information needed from the central district space user is best obtained from a questionnaire survey of central area property owners and managers and from the site occupants. Their attitudes and opinions are more sensitive to locational problems than the somewhat abstract opinions and judgments of civic leaders. Assuming that the technicalities of drafting a questionnaire are rationalized, unique information may be obtained about locational factors and the qualities of building space peculiar to a representative sample of central area establishments. A survey of this type was planned for this thesis, but time would not allow enough questionnaires to be returned to properly evaluate the

results. However, an outline of the proposed procedure is included. The steps are as follows: (1) delimit the study area by some scientific method (see later discussion); (2) record the addresses of each site occupant, upper floors included; (3) select a five per cent random sample using the American Public Health Association method of sample selection (or some similar mathematical method); (4) draft a questionnaire oriented toward property managers, owners, and occupants[6]; (5) test the questionnaire and adjust the inconsistencies; (6) circulate the questionnaire and explain its use and its importance to the study; (7) provide for the questionnaire to be returned by mail; and (8) record and analyze the results. The questionnaire technique was used by Alderson and Sessions for the Philadelphia study. Theirs was a five per cent random sample administered by personal interview with a prepared questionnaire. A brief interview with the return by mail would be less time consuming for all involved and less expensive to administer.

Classification of Land Use Functions.--The Alderson and Sessions study has provided a convenient means for arranging the various business groups into functional classes. The objective and methods of analysis used by the researchers were outlined in Chapter I. Basically the six functional classes differ from each other in terms of who must have access to the site and for what purposes. The functional classes are retailing, manufacturing, wholesaling with stocks, wholesaling without stocks, business services, and consumer services. These categories were selected as the primary breakdown of use-types since they represent a descriptive classification and

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[6]See, Ibid., Chapter III, p. 28.

imply certain kindred operating characteristics of the several business groups.

Within each of the six functional classes, a secondary break-down was made by business groups, and within each business group a further classification was made by kind of business. Other sub-groupings are possible but for the present purposes these will be omitted.

The business group and kind of business classifications were taken directly from the Standard Industrial Classification Manual.[7] The kind of business classification was compared with the listings in the Atlanta City Directory, the U. S. Census of Business, the Atlanta Telephone Directory and the classification occuring in Ratcliff's study of the Madison central area. Where discrepancies occurred in the specific definition of a use-type, it was taken as defined by the Standard Industrial Classification Manual. The Census of Business bulletins for retail and wholesale trade contain classifications based on the definitions and listings in the U. S. Summary Bulletin; the classification in the service trades bulletin is based on the Standard Industrial Classification Manual. Since the objective is to measure the migration of land use types into and from the Atlanta central business district, the final classification of use-types (found in the appendix) was designed without reference to any particular boundary; the use-types presumed to exist at any urban location.

Delimitation of the Central Business District.--The migration of land use types from or into the central area implies that they cross a "cordon line" located around the area. Such an implication is justified if the limits

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[7]Standard Industrial Classification Manual, Executive Office of the President, Bureau of the Budget, Washington: U. S. Government Printing Office, 1945 (1949), Vols. I, II, III.

are scientifically defined. There have been two recent attempts to develop a method for selecting the limits of the central business area. Murphy and Vance have proposed a Central Business Index Method.[8]

The Index Method is essentially based on a technique of land use mapping. It is a combination of the Central Business Height Index (CBHI) and the Central Business Intensity Index (CBII). These indices were developed after determining the typical central area land uses to be used for the study and mapping the plan and profile of those uses for each block within the study area. The CBHI is obtained by dividing the total floor area of central business uses by the total ground floor area of the block. The CBII is the percentage that the total floor area in central business uses is of the total floor space, at all floor levels, for the block. These two indices are then mapped, and those blocks for which the CBHI is one or more and the CBII is fifty per cent or more are considered a part of the central business district. The boundary line is drawn to include only those blocks meeting the criteria.

The second method developed recently uses a "functional indication" technique for delimiting the district boundary.[9] The technique is to define and map the central business district land uses, building density, pedestrian and transit routes and volumes, and off-street parking facilities as a group of indicators and then field-check the results to establish the final boundary. A study was made and the boundary line drawn for Atlanta.

In each of the two methods, assumptions were made concerning appro-

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[8]Raymond E. Murphy and J. E. Vance, Jr., "Delimiting the CBD", Economic Geography, Vol. 30, July, 1954, p. 189 - 222.

[9]William H. Qualls, The Problems and Delimitation of the Central Business District, unpublished Master's thesis, Department of City Planning, Georgia Institute of Technology, 1954.

priate central district land use types before applying the technique. Since the proposition of this thesis is to measure experimentally these uses by recording their historical migration across a central district cordon line, the location of the boundary is a limitation on the results. The second method for delimiting the district will be assumed as correct for Atlanta, and the area defined as the central business district will be used in a modified form for the purposes of this thesis.

Delimitation of the Study Area.--Within Atlanta's downtown area, Figure 1, as in most cities, there is a "hard core" that is the location of the highest land values and where the intensity of use and activity is a maximum for the city. Characteristically the hard core is represented by the highest pedestrian volume, Figure 2[10]; the highest transit volume, Figure 3[11]; and the highest values of floor space densities, Figure 4[12]. Within Atlanta's hard core area the average land value is in excess of $33 per square foot, considerably higher than for any other area in the city.[13] The procedures outlined by Qualls for delimiting the central business district were used for delimiting the hard core as the study area for this thesis. The limits of the area are shown in Figure 5. The selection of the hard core area for an experimental determination of appropriate use-

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[10]Based on information obtained from the office of Fulton County Tax Assessor, Courthouse, Atlanta, Georgia.

[11]Based on statistics obtained from the Atlanta Transit Company.

[12]Based on information compiled by the Metropolitan Planning Commission, Atlanta, Georgia.

[13]Based on information compiled by the Metropolitan Planning Commission, Atlanta, Georgia.

types rather than the entire central area is based on the hypothesis that the hard core is the area of maximum intensity of physical and ideational traffic, and consequently, the most suitable central district land uses will more likely be present here than nearer its fringe.

Mapping and Tabulating Procedures.--Having determined a classification of land use types and delimited the area for study, the next step was to record the street addresses; building heights, names, and dates and materials of construction; and the general topographical features on a work map of the area. Source for this data was obtained from the Sanborn Atlas. The remaining phase of the study was an historical tabulation of the number of use-types and occupancies by kind of business within the limits of the hard core for the years 1952, 1927, and 1910. The Atlanta City Directory for those years was the source for the recorded data. The specific years were chosen to reflect normal periods of economic activity, the years having been used as statistical base years by the Bureau of Labor Statistics or falling substantially within that time period.

The findings of the study and the conclusions and recommendations are incorporated in the final chapter.

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2. Qualls, William H., The Problems and Delimitation of the Central Business District, unpublished Master's thesis, Department of City Planning, Georgia Institute of Technology, 1954. Discusses the city and the central business district; develops a technique for delimiting the central business district; applies the technique to Atlanta's central area. (maps, tables)

3. Standard Industrial Classification Manual, Executive Office of the President, Bureau of the Budget, Washington: U. S. Government Printing Office, 1945 (1949), Vols, I, II, III. A definition and classification of manufacturing and non-manufacturing industries by divisions, major groups, business groups, and kinds of business. The work was developed to establish uniform definitions for the many units of government which compile and publish statistical data.

4. Woodbury, Coleman, The Future of Cities and Urban Redevelopment, Chicago: University of Chicago Press, 1953. Writings, discussions, and reports by various contributors toward investigations and analysis of the problems of urban redevelopment; major operating problems and practices in local government programs; the causes that have produced the problems with which urban redevelopment is concerned; the objectives and values that underlie many of the actual program and policy issues. (tables, charts, bibliography)

CHAPTER III

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter will be concerned with the results obtained and conclusions drawn from measurements of the migration of land-use types across a selected cordon line around Atlanta's central business district. Tables exhibiting the data comprise the major bulk of the chapter. The conclusions will be oriented around a classification of the land uses that are appropriately located within Atlanta's central business district. The recommendations and conclusions are based solely on the experimental results, and while probably relevant to other cities' central areas, the results are most applicable for Atlanta.

Findings and Conclusions - General Aspects of the Area

Wholesale and Manufacturing Functions are Declining.--Atlanta's central business district has experienced and exhibited the typical response to concentrated urban growth. It has grown from a series of railroad sheds, general stores, and wagon shops into the South's leading financial, commercial, and distribution center. The broad functions of retail and wholesale trade, business and consumer services, and manufacturing were simple and easily recognized in 1850. The central area was concentrated at grade around the junction of several railroads in the Kimball House, Whitehall Streat area, and land-use structure, traffic and pedestrian access were not considered as problems. With the exception of the consumer service category, the functions were about evenly distributed within

the area. However, industrialization and mechanization of the rural city have modified the functions of the central area to the point where they now must be classified by scientific analysis. The functions that predominate within Atlanta's central business district today are retail trade, business services, and consumer services. The merchant wholesaler with and without stock maintained on the premises and the manufacturer have been forced out of the "high rent" district. Their demands for large building sites at low cost and with maximum accessibility to rail and multi-axel truck transport cannot be satisfied within the commercial core. Land is not only very expensive; it isn't available. Table 3 presents an indication of just how rapid and complete the two functional categories have migrated from within Atlanta's central business district. The listings of wholesale establishments in the City Directory were implicit as to whether stocks were or were not maintained on the premise. In some cases the address for a particular firm was a room in an office building, but rather than assume that stock was not maintained at the address, all establishments were included in the same functional class. The firms listed under the "Agents and Brokers" heading in the Directory were also included, although it is doubtful that stock is maintained for sale to the trade. These firms are also emigrating from the central core area. It also may be pointed out that although Table 3 shows a net gain of only 7 retail establishments since 1910, department stores, women's and men's apparel shops, restaurants, and most of the other retail outlets have expanded greatly in the amount of land used.

Table 3. Number of Establishments Migrating into and from Atlanta's Central Business District by Functional Class

FUNCTIONAL CLASS	CBD 1910	CBD 1927	CBD 1952	NET GAIN	NET LOSS
Retail trade	362	413	369	7	-
Manufacturing industries	258	268	102	-	156
Wholesaling with & without stocks	231	212	87	-	144
Business services	283	379	677	394	-
Consumer services	925	1154	1114	189	-

Very Little Change in Area.--Atlanta's central business district, as defined for this thesis, has changed little in area during the past forty years. This is due, in part, to the physical site characteristics. The multi-ridge structure of the topography and the resulting railroad and street construction lying upon and parallel to them has forced the development into a linear pattern. The northern end of the pattern was sprinkled with residential structures and apartment dwellings in 1910. The Governor's Mansion was located at 208 Peachtree Street, just within the present commercial core. However, by 1927 all the residential structures along the Peachtree Street ridge-crest had been replaced by retail and service establishments. The only dwellings still within the area were located on James (now Williams Street), Ellis, and Carnegie Way. These have long since disappeared.

Vacancies are Decreasing.--Vacancies within the central district have been

few, scattered, and steadily decreasing from 27 premises vacant in 1910 to 1 in 1952. The three largest vacant areas at street level, and the only one remaining, have been the open spaces between railroad viaducts located in the oldest part of the area. The last of these areas will soon be occupied as part of an urban renewal program.

Structures within the Area.--Within the "hard core" area are 40 of Atlanta's office buildings, and at present two new structures with a total of 31 floors are under construction. The existing office structures range in age from 25 to 57 years, a young to median age for fireproof construction but obsolete when compared with today's air conditioned, better lighted office buildings offering faster vertical transportation, parking facilities, and more complete service. The remaining structures, the one to four-story structures, are generally 40 to 60 years old, and they are almost entirely of timber and brick or stone bearing wall construction.[1] As this form of construction has a maximum two-hour fire rating by the National Board of Fire Underwriters, and since the one- to four-story buildings predominate in the area, one may conclude that Atlanta's central business district is in a fortunate position to avail itself of the urban renewal legislation that has recently been passed by the State General Assembly. The findings and conclusions of the study which follow may aid materially the selection of the kinds of business which should be included within any central district redevelopment or rehabilitation project.

Findings and Conclusions - Declining Uses

Emigrations Due to Site Demands.--As mentioned earlier, the functional

[1]Based on information contained in the Sanborn Atlas, Sanborn Map Co.

classes which are declining in numbers within the commercial core area are wholesale establishments and manufacturing industries. They have diffused into sites along the various rail lines and within the deteriorating residential areas adjacent to the central area. They are functions which are not appropriate to a central business district location, not only from the standpoint of their own site demands, but also from those of the retail and service trades. The latter functions depend heavily upon the volume of pedestrian traffic and the shoppers collective attitudes and desires. Heavy trucking movements, cluttered shipping docks, and the presence of even a small ground level factory are not conducive to shopper comfort or employee morale. Some few manufacturing use-types are included within the list of appropriate uses, but as a functional class, it is neither appropriate to a central location nor does it require one for maximum operating efficiency.

Table 4, which follows, contains a classification of emigrating land use types by kind of business for the wholesale and manufacturing functions and for the three other functions.

Table 4. Number of Establishments for Selected Years by Functional Class, Business Group, and Kind of Business Emigrating from the Atlanta Central Business District

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948
RETAIL TRADE						
Food Group						
Grocery stores	13	783	3	979	-	1411
Meat, fish and poultry market	10	226	8	146	1	81
Fruit and vegetable stands and stores	5	21	6	27	3	98
Candy, nut, and confectionery stores	7	24	21	47	3	37
Delicatessen	-	-	5	15	1	10
General Merchandise Group						
Dry goods and general merchandise stores	2	69	1	43	-	54
Furniture, Furnishings, and Appliance Group						
Furniture stores	7	53	6	71	5	116
Floor covering stores	-	-	2	3	-	9
Drapery, curtain and upholstery stores	1	8	-	1	-	8
China, glassware, and metalware stores	2	4	1	5	-	6
Antique shops	-	-	-	3	-	22
Household appliance stores	5	8	4	14	2	77
Automotive Group						
Motor vehicle (new)	8	31	1	32	-	62
Tire, battery, and accessory stores	-	14	3	32	-	62
Gasoline service stations	-	11	1	199	-	679

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948
RETAIL TRADE (continued)						
Lumber, Building, Hardware Group						
Building materials dealers	3	15	1	10	-	13
Paint, glass, and wallpaper stores	10	14	10	20	4	29
Hardware stores	4	13	4	29	1	92
Agricultural equipment and implement dealers	4	8	-	2	-	11
Other Retail Stores						
Fuel dealers	-	76	-	-	-	58
Ice dealers	-	7	-	-	-	17
Bicycle dealers	2	11	-	-	-	16
Cigar stores	45	102	22	41	2	20
Music stores	2	2	6	10	-	25
Luggage and leather goods stores	2	2	2	1	-	3
Office machine and equipment dealers	8	12	16	17	3	9
Art materials and supply	2	2	1	-	-	2
Fertilizer, hay, grain, and feed stores	4	15	2	20	1	43
Roofing materials and supply	2	11	1	7	-	5
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION						
Food and Kindred Products						
Meat products	1	*	-	*	-	*
Dairy products	-		-		-	
Canned foods	-		-		-	
Bakery products	2		1		-	
Confectionery	2		1		1	

*Statistics for 1910, 1929, and 1948 were not obtainable for this functional class. These columns will be omitted on succeeding pages of this table.

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION (continued)			
Printing, Publishing, and Allied Industries			
Commercial printing	18	25	2
Bookbinding	5	4	-
Typesetting, photoengraving, electrotyping and stereotyping	4	10	1
Leather and Leather Products	2	-	-
Miscellaneous Manufacturing Industries			
Musical instruments, parts and materials (except for pianos and organs)	2	2	-
Hand stamps, stencils, brands, badges	5	1	-
Cigars	3	-	-
Chemical products	4	21	2
Clothing and Apparel	9	5	3
Manufacturer's Agents	116	106	56
Contract Construction			
General building contractors, offices only	18	52	12
Plumbing, heating and air conditioning shops	11	6	-
Electrical	3	-	-
Roofing and sheet metal	3	1	-
Decorating, interior	4	-	1
Miscellaneous special trade contractors	24	19	5

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
WHOLESALE TRADE, MERCHANTS WITH AND WITHOUT STOCK			
Automotive Group			
Automotive equipment	-	-	1
Drugs and Chemicals			
Drugs, general line	3	1	-
Druggist sundries	-	3	-
Industrial chemicals	4	2	-
Paints and varnish	-	6	2
Dry Goods and Apparel			
Dry goods, general line	4	2	-
Notions and other dry goods	2	1	-
Clothing, furnishings, footwear	5	6	2
Groceries and Foodstuffs			
Groceries, general line	11	3	1
Confectionery	1	-	-
Fish - seafood	-	-	-
Meats, meat products	2	2	-
Other grocery and food specialty	16	3	3
Farm Products for Immediate Consumption			
Dairy and poultry products	2	1	-
Fruits and vegetables	8	4	4
Electrical Goods			
Electrical goods, general line	10	8	-
Electrical appliances	3	-	-
Hardware, Plumbing, Heating Supplies	20	6	2

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
WHOLESALE TRADE, MERCHANTS WITH AND WITHOUT STOCK (continued)			
Machinery, Equipment and Supplies	32	30	8
Miscellaneous Merchant Wholesalers			
Coal and its products	12	11	5
Tobacco and its products	1	1	-
Furniture and home furnishings	-	5	-
Paper and its products	5	6	14
Lumber and construction materials	24	26	3
Sporting goods	-	-	-
Beer, wine, distilled alcoholic beverages	-	-	1
Agents and Brokers	59	37	16
BUSINESS SERVICES			
Business Group			
Duplicating, addressing, mailing, blueprinting, photostating, and stenographic services	5	4	1
Vending machine rental	-	1	-
Sign painting shops	5	6	1
CONSUMER SERVICES			
Personal Services			
Barber shops	21	32	19
Laundry, hand	3	2	-
Laundry, steam	2	-	-
Funeral service establishments	2	2	1
Cleaning, pressing, alteration and garment repair establishments	4	-	-

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
CONSUMER SERVICES (continued)			
Hotels and Lodging Places			
Apartment and lodging places other than commercial hotels	26	5	-
Hotels	16	16	4
Automobile Repair Services and Garages			
Automobile rental (without driver)	-	3	1
Auto body repair	-	-	-
Auto repair other than body	3	-	-
Miscellaneous Repair Service			
Blacksmith shops	1	-	-
Electrical repair	3	-	-
Upholstery and furniture repair	1	-	-
Machine shops	1	1	-
Amusement and Recreation Services			
Motion picture theaters	12	8	5
Bowling alleys, billiard and pool parlors	11	10	1
Motion picture distribution	3	-	-
Theaters and theatrical producers (legitimate)	3	5	-
Medical and Other Health Services			
Physicians and surgeons offices	155	139	65
Medical and dental laboratories	4	11	-

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
CONSUMER SERVICES (continued)			
Educational Services			
Music schools	1	1	-
Trade schools	2	3	1
Government			
City Hall	-	1	-
Local government offices	-	19	-
Post Office, sub-station	1	5	1
Transportation, Communication, and Other Public Utilities Group			
Travel arrangements	5	16	4
Taxicab, storage and repair	2	3	-
Telephone companies	-	-	-
Trucking and Warehousing Group			
Transfer and storage companies	4	3	1
Delivery and messenger service	6	1	-
Warehousing companies	-	-	-
Finance, Insurance, and Real Estate Group			
Building and loan associations	35	16	3
Savings banks, National and State	12	25	10
Church Buildings	3	2	-
VACANT PREMISES (ground level only)	27	12	1

Neighborhood - Types.--One of the expected changes in the composition of central business district land use is the decline of the neighborhood-type outlet. Grocery, hardware, meat and fish stores, the declicatessen, and fruit and vegetable stands and stores have moved closer to the housewife and home owners or have been affected by changing merchandising methods. The latter phenomenon is most evident when a comparison is made between the grocery and meat market of the 1930's and the supermarket of the 1950's. The central district employee no longer is required to shop at the exclusive downtown fish market for a lobster or bucket of chitterlings; these items are now packaged frozen and are obtainable at the supermarket near his home. Similar examples are plentiful, but they may all be attributed to the fact that whatever advantages were unique about the central area grocery, meat and fish market, and delicatessen have been dissipated by the convenience of the supermarket. Hardware stores have moved closer to the home owner since he is the most prolific purchaser of "do-it-yourself" equipment and materials. The five-day work week has also had its effect. The average person abhors a Saturday trip downtown for a small purchase, but the fifteen minute auto trip to and from the local shopping center meets with little resistance.

Emigrations Due to Technological Change.--The disappearance from the central business district of bicycle and blacksmith shops, the harness maker, livery stable, ice house, retail fuel dealer, and commercial printing establishments is explained by technological change. The printing establishment has suffered because so many cheap and simple methods and machines of reproduction are now available that the job printer cannot compete as well now as formerly for a central business district location.

Furthermore, fast truck delivery has neutralized the advantages of a commercial core location. The automobile, electric refrigerator, and for Atlanta, the use of natural gas for heating and cooking account for the decline of the other kinds of business.

Emigrations Due to Floor Area Requirements and Shopping Habits.--Certain use-types have migrated from the central district because they require a large floor area for the display or storage of merchandise and because the purchaser is not specifically engaged in comparison shopping. The purchase of agricultural implements, furniture, office equipment and supplies, and automobiles require large money expenditures; therefore the customer generally shops with some informed opinions as to his needs and desires. This type of shopping habit does not require the proximity of similar use-types, and the kinds of business are not dependent on high pedestrian traffic volume. Therefore, the above retail establishments and certain consumer service use-types requiring very large floor areas - transfer and storage companies, delivery service firms, and warehouse facilities, are more appropriately located at sites outside the central business district.

Emigrations Due to Changing Merchandising Methods.--The increase in the variety and depth of merchandise offered by the department store has accounted for the disappearance from the central business district of several kinds of business. The department store in 1910 was little more than a huge dry goods store with small amounts of clothing accessories and footwear added for sales appeal and profit. The continual additions of furniture, glassware, china, ready-made clothes, curtains, drapery and upholstery fabrics, household appliances and the many other merchandising

departments found in them today, has driven out the specialty stores that formerly sold those items. The hardware store has also expanded its range and depth of merchandise. Stores that formerly sold paint, glass, wallpaper, and building materials exclusively have not only migrated from the central business district but have either been absorbed by the hardware store or combined into larger, more complete specialty outlets.

The amusement group in Atlanta's central area has declined in all kinds of business except night clubs. The motion picture theater and its related enterprises were in their infancy in 1910, and of the 15 "electric theaters" located in the city, 12 were in the central business district. Forty years of technological change and public acceptance have now distributed 49 theaters throughout Atlanta, 5 of the largest located within the commercial core. The City Directory listing for theaters interpreted vaudeville as the legitimate stage, which has ceased to exist in Atlanta. The stage productions that now tour the city are shown in establishments located north of the central district. Billiards, pool, and bowling establishments have been driven to other locations by the high cost of land in the central area.

Emigrations Due to Less Apparent Reasons.--Several use-types that have emigrated are not as readily explained as the other types. Physicians and surgeons have moved from the commercial core into structures denoted as Medical Arts and Doctor's Buildings, possibly because of the prestige of a less anonymous location. Also, the outlying professional buildings can offer more personalized service to the tenant and ample patient parking facilities. The medical and dental laboratories have followed their clients because fast service is a prerequisite for many analytical tests.

Funeral homes, music and trade schools, vending machine rental firms, and sign painting shops have been displaced from the central business district presumedly because their limited patronage disallows adequate site bidding with those kinds of business which have a community wide trading area.

The hypothesis that those use-types which are not appropriate to a central business district location will emigrate seems to be substantiated by this study. The few exceptions that did occur, such as motion picture theaters, building and loan associations, and banks, are rather a matter of historical definition than an indication of inappropriateness. The Federal and State legislation controlling finance and banking, for example, has had its effect on the conduct and content of business. The net loss exhibited by these use-types has been essentially a stabilizing process.

Summary.--The emigration of land use types from the central business district has been explained by several assumptions. Social, technological, and economic changes are the predominating forces which have caused many of the uses which formally occupied commercial core sites to locate elsewhere. Other uses have been dissipated by changing merchandising methods, and some have moved as a matter of customer convenience and therefore higher profits. Some retail business types and substantially all the wholesaling and manufacturing use-types have moved because their floor and outside space requirements are extensive and therefore increase the site rent beyond what they can economically bear. They also must avail themselves of sites adequately served by heavy transport facilities, something the central business district should not have. The emigration of a use-type is not explained by any single force, nor are all the forces acting on a

use recounted here. The intent is to break down the costs of friction into that force which seems best to explain the emigration of a business-use.

Findings and Conclusions - Increasing Uses

Increasing uses are those which have either exhibited a net gain in the number of establishments or have been numerically consistent within Atlanta's central business district. They are interpreted as being appropriately located.

Immigrations Due to Business Use Concentration.--The business service function has been the growth indicator for the coalescing commercial core. This functional class gained 394 establishments from 1910 to 1952. Advertising, collection, private employment, mercantile reporting, and legal service agencies are available to all businesses in the city. Their central business district location is explained by the concentration of business in the area and the necessity for convenient and quick service to the maximum number of clients.

Reasons for Immigration Reciprocal of Reasons for Emigration.--What has been said negatively to explain the emigration of land use-types from within Atlanta's central core may now be said positively to explain why most of the retail and consumer service functions are immigrating into the area. However, rather than attempting to explain why the various kinds of business have retained and strengthened their hold in the central business district, this thesis has attempted to explain why certain use-types leave. Hypothetically, those kinds of businesses which can most successfully utilize the entire urban market will tend to displace from the central business district those use-types with more limited trade areas. The commercial

core responds to the growth of the whole urban area by providing those land uses which serve it best. Table 5 indicates those uses which have increased numerically within Atlanta's central area and are presumedly serving the city most advantageously by having a central location.

Table 5. Number of Establishments for Selected Years by Functional Class, Business Group, and Kind of Business Immigrating Into the Atlanta Central Business District

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948
RETAIL TRADE						
Food Group						
Bakery	-	24	1	6	2	31
Eating and Drinking Places						
Restaurants, cafeterias, and lunch rooms	19	211	39	473	49	962
Drinking places (other than night clubs and restaurants)	17	118	-	-	3	196
General Merchandise Group						
Department store	5	12	5	11	6	6
Variety stores, 5 cents to $1.00	2	2	5	24	6	75
Apparel Group						
Men's and boy's clothing and furnishings	20	30	16	26	25	40
Women's ready-to-wear	7	10	19	33	36	65
Millinery shops	10	25	25	30	22	25
Corset and lingerie shops	1	1	3	3	4	5
Children's clothes and furnishings	-	-	1	2	4	7
Shoe stores	19	53	37	61	42	50
Custom tailors establishments	32	102	33	21	14	13
Furriers	1	1	1	3	4	2
Dressmakers	5	64	2	2	7	*

*Not reported by U. S. Census of Business, 1948.

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948
RETAIL TRADE (continued)						
Furniture, Furnishings, and Appliance Group						
Sewing machine stores	1	6	1	11	3	17
Lumber, Building and Hardware Group						
Electrical supply stores	6	8	9	10	4	3
Drug and Proprietary Stores	14	103	15	215	14	247
Liquor Stores (packaged)	-	-	-	-	19	199
Other Retail Stores						
Jewelry stores	17	53	40	56	51	62
Book and stationery stores	9	9	6	18	5	20
Sporting goods stores	2	4	4	2	3	9
Florists	5	12	7	23	4	75
News dealers stores	4	11	4	12	6	10
Gift, novelty, and souvenir stores	3	5	1	12	3	21
Camera, photographic supply stores	3	5	2	4	4	7
Art dealers	1	1	7	*	1	*
Seed and garden supply stores	2	7	3	9	2	6
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION						
Printing, Publishing, and Allied Industries						
Newspapers	2	**	2	**	5	**
Lithographing	-		3		4	

*Not reported by U. S. Census of Business, 1929 and 1948.

**Statistics for 1910, 1929, and 1948 were not obtainable for this functional class. These columns will be omitted on succeeding pages of this table.

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION (continued)			
Miscellaneous Manufacturing Industries			
Jewelry (precious metal)	10	9	10
BUSINESS SERVICES			
Business Group			
Advertising	18	22	33
Collection agencies	7	11	13
Private employment agencies	3	13	22
Accounting, auditing and bookkeeping services	11	49	96
Auctioneers	1	4	1
Mercantile reporting agencies	4	5	4
Legal Services	168	209	446
Architectural and Engineering Service	61	55	60
CONSUMER SERVICES			
Personal Service Group			
Beauty shops	9	23	31
Photographic studios	16	21	18
Shoe repair shops	9	13	10
Shoe shine and hat cleaning establishments	7	16	6
Pressing, alteration, and garment repair shops and pick-up stations	-	5	7
Automobile Repair Services and Garages			
Automobile storage	2	2	3

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
CONSUMER SERVICES (continued)			
Miscellaneous Repair Services			
Watch, clock, and jewelry repair	6	6	23
Locksmith and gunsmith	5	4	4
Radio Broadcasting and Television (including facsimile broadcasts)			
Radio broadcasts	-	1	3
Television broadcasts	-	-	2
Amusement and Recreation Services			
Night clubs	-	-	3
Medical and Other Health Services			
Dentists and dental surgeons offices	72	132	83
Osteopathic physicians	7	7	10
Chiropracters	-	4	4
Optometrists	7	8	28
Chiropodists	2	5	9
Clinics	-	1	3
Educational Services			
Libraries	2	1	1
Music teachers	3	7	18
Business and commercial schools	2	6	2
Dancing schools and studios	-	-	2
Professional schools (medical, dental, law)	-	2	2
Non-profit Organizations			
Associations; business and trade	6	33	88
Associations; professional	2	3	3
Associations; civic, welfare and fraternal	26	18	26

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952
CONSUMER SERVICES (continued)			
Government			
State government offices	-	1	3
Federal government offices	4	18	51
Post Office, main building	1	1	2
Transportation, Communication, and Other Public Utilities			
Railway depots	1	1	1
Railway administrative offices	24	44	51
Local street railway company, operating through	1	1	1
Bus lines, local, operating through	-	-	2
Bus lines, except local, operating	-	3	19
Telegraph company (except branches)	2	4	2
Finance, Insurance and Real Estate Group			
Investment companies, other than banks	19	37	24
Loan companies, other than banks	30	92	38
Stock and bond brokers	6	6	15
Clearing houses	2	1	1
Insurance agencies	136	78	149
Real Estate agencies	109	214	142
Artists	5	7	8
Office Buildings	17	36	40

Land Uses That Are Appropriate or May Require a Central Business District Location

Criteria for Selection.--The basis for a classification of congruous central business district land use-types has been developed in the preceding chapters. The land-use locational theories, the functional classifications developed by various researchers, the characteristics of the central area, and the land use migration study of Atlanta's commercial core have contributed to the criteria which have been used in developing a list of appropriate central business district land-uses. Certain departures from the pure statistical results of the experiment may be noted. The departures do not invalidate the study, but are rather the product of inconsistencies in historical definition. Whenever it was evident that such was the situation and by subjective analysis it appeared that the specific use-type was appropriate to a central business district location, it was included. However, the listings are almost exclusively based on the results of the study.

Retail Trade.--The retail function has been the traditional activity of the central area. People have made their largest expenditures for apparel, household furnishings, furniture, and incidental items in the central business district retail outlets. Through the years some of the more specialized shops have been absorbed by the department store, hardware store, etc., and other shops have been dissipated by technological, social, and economic changes. The food group has practically disappeared from the commercial core. Confectionery-nut stores and bakery outlets are the only use-types that seem to offer the breadth and depth of merchandise mandatory for a central area location. The daytime population is essen-

tially a community, and as such, restaurants, cafeterias, lunch rooms, variety stores, drug stores, barber shops, shoe repair shops, etc., subsist within the central business district as community use-types. They are appropriate uses since they provide the clerk, office worker, and other employees convenient locations for the satisfaction of their daily necessities.

The bulk of the retail uses are appropriately located in the central district because they serve the entire urban population. These uses include the department store; the apparel group; sewing machine stores; electrical supply stores; book and stationery stores; sporting goods; gift, novelty, and souvenir stores; and those stores which have a low turnover, high sales price, and a wide mark-up such as a jewelry store or camera equipment store. The retail stores which appear in the classification, Table 6, are regarded as the most productive use-types and their presence in the central business district promotes the greatest efficiency of land use for the entire area.

Manufacturing Industries and Wholesale Trade.--These two functions are neither appropriate nor do they require a central business district location, the reasons having been mentioned earlier. However, as with most positive statements, there are a few exceptions. Newspaper publishing involves the sale and distribution of the product throughout the city, and it is closely identified as a business service since the central area businesses are the most prolific contributors of advertising material. Lithographing is included for much the same reason. The greater part of the work in this industry is performed on a job or custom basis, and a commercial core location is desirable for customer convenience. Manufacturing jewelers using

precious metals are included since they serve the central retail outlets or area-wide clients. They produce jewel settings and mountings, cut and polish precious stones, drill pearls, and manufacture unassembled jewelry parts on a custom or contract basis.

Manufacturer's agents and wholesale merchants without stock are appropriately located within the central business district, but the successful conduct of their operations does not require a central location. The locational trend for this use-type seems to be a shift from the downtown office to one either in the representatives home or some outlying commercial center. The nature of their operation requires office space and in some instances display space. In the latter case, a central area location is generally required for the maximum customer contact.

Business and Consumer Service Trades.--Business services by definition require a central business district location. They must offer efficient, prompt service to their clients, and their clients are almost entirely the other central area land users.

Consumer services exhibit most of the same locational prerequisites that are characteristic of central district retail use-types. The Personal Service and Miscellaneous Repair Service Groups serve the daytime population and are almost wholly dependent upon their patronage. The other business groups serve the metropolitan area and require a commercial core location for the maximum accessibility to the most people and because of the trade and service interrelationships with other central business district functions. Although the Government and non-profit organizations groups lack the profit motive characteristic of the other functional groups, their location in the district affords the general public and, in the case of the organizations,

specific interest groups the most efficient opportunity for maximum contact. The decisions which are made within these two groups has a paramount effect on the general social and economic welfare of the urbanite. Table 6, presented next, offers the best summation of appropriate central business district land use-types that this author has been able to derive from the theory, past objective studies, and the results obtained from the present study.

Table 6. A Classification of the Land Uses That Are Appropriate or May Require a Central Business District Location: by Functional Class, Business Group, and Kind of Business

---

RETAIL TRADE

Food Group

- Candy, nut, and confectionery stores
- Bakery

Eating and Drinking Places

- Restaurants, cafeterias, and lunch rooms
- Drinking places (other than night clubs)

General Merchandising Group

- Department stores
- Variety stores, 5 cents to $1.00

Apparel Group

- Men's and boy's clothing and furnishings
- Women's ready-to-wear
- Millinery shops
- Corset and lingerie shops
- Children's clothes and furnishings
- Shoe stores
- Custom tailors shops
- Furriers
- Dressmakers

Furniture, Furnishings and Appliance Group

- Sewing machine stores

Lumber, Building, Hardware Group

- Electrical supply stores

Drug and Proprietary Stores

Liquor Stores (packaged)

Other Retail Stores

- Jewelry stores

RETAIL TRADE (continued)

Other Retail Stores (continued)

Book and stationery stores
Sporting goods stores
Florists
News dealers stores
Gift, novelty, and souvenir stores
Camera, photographic supply stores
Art dealers
Seed and garden supply stores

MANUFACTURING INDUSTRIES

Printing, Publishing, and Allied Industries

Newspapers
Lithographing

Miscellaneous Manufacturing Industries

Jewelry (precious metal, limited to custom trade)

Manufacturer's Agents

All agents representing manufacturing firms, either with or without display materials.

WHOLESALE TRADE, MERCHANTS WITHOUT STOCK

Merchant wholesalers dealing with all business groups and kinds of businesses: provided that trade with the clientele is conducted without selling from stock warehoused within the central business district. This classification implies that the merchant takes title to but not physical possession of the merchandise.

BUSINESS SERVICES

Business Group

Advertising agencies
Collection agencies
Duplicating, addressing, mailing, and stenographic services
Private employment agencies
Accounting, auditing, and bookkeeping services
Auctioneers
Mercantile reporting agencies

Legal Services

Legal services

BUSINESS SERVICES (continued)

Architectural and Engineering Services

Architects
Engineers
Designers, industrial

CONSUMER SERVICES

Personal Service Group

Barber shops
Beauty shops
Photographic studios
Photographers, commercial
Shoe repair shops
Shoe shine and hat cleaning shops
Alteration, garment repair
Laundry and cleaning pick-up stations

Hotels and Lodging Places

Hotels

Automobile Repair Services and Garages

Automobile storage

Miscellaneous Repair Services

Watch, clock, and jewelry repair
Locksmith and gunsmith

Radio Broadcasting and Television Studios (included facsimile broadcasting)

Radio broadcasting studios
Television broadcasting studios

Amusement and Recreation Services

Night clubs
Theaters (legitimate)
Theatrical producers agencies
Motion picture theaters

Medical and Other Health Services

Physicians and surgeons offices
Dentists and dental surgeons offices
Osteopathic physicians

CONSUMER SERVICES (continued)

Medical and Other Health Services (continued)

Chiropracters
Medical and dental laboratories (analytical only)
Chiropodists
Clinics
Optometrists

Educational Services

Libraries (public, professional, trade)
Music teachers
Business and commercial schools
Dance studios (non-professional)
Professional schools (law, medicine, dentistry)

Non-profit Organizations

Associations, business
Associations, trade
Associations, welfare
Associations, civic
Associations, fraternal
Associations, religious
Associations, professional

Government

City Hall
Local government offices
County government offices
State government offices
Federal government offices
Post Office, buildings and sub-stations

Transportation, Communication, and Other Public Utilities

Railway administrative offices
Telegraph companies and branchs
Telephone companies
Travel arrangement bureaus or agencies
Steamship companies, administrative offices
Streets and alleys
Sidewalks
Underground transport tunnels
Local street railway, trackless trolley, or gasoline bus lines operating through
Taxicab stands and sheds

CONSUMER SERVICES (continued)

Finance, Insurance, and Real Estate Group

Banks; savings, mutual, stock, National and State
Building and loan associations
Investment companies, other than banks
Loan companies, except banks and pawnshops
Stock, bond, and commodity brokers
Clearing houses
Insurance agencies
Real estate agencies
Trust companies not engaged in deposit banking
Check cashing agencies and currency exchanges

Artists

Recommendations

This thesis does not propose that the land use-types included within Table 6 are perpetually appropriate to the central business district. They are an indication of the present emphasis our culture places on urbanization and mobility and a reflection of the current economic forces continually altering the conditions which determine the locational distribution of land use activity. The commercial core represents the area of greatest financial and energy investments, and its future depends on how well the decisions are made which will alter the demands for its space. At present the central core area enjoys the greatest accessibility to the most people and things and offers the maximum availability of services and commodities. However, the role which the central business district plays today can be expected to alter with time. Technological, social, and economic change is a continual process and land use is the result of that process. The recommendations revolve around that thought. They are as follows:

(1) A study of central business district land use migration similar to the one made for this thesis should become a periodic study of the local planning commission. It should, however, be expanded to include a thorough search of the advertising sections of the newspaper files to determine exact use-type definitions. The historical time period should be decreased to five year intervals, and the study should include the questionnaire survey proposed as part of this research. The migration study should also include an extended area. The extension should be in the form of hard core "contour lines" at appropriate distances from one another. The objective for this phase would be a determination of those

use-types which are pedestrian oriented and those which are vehicular oriented. The value of such a determination would be an aid in determining how use-types coalesce; whether by the nature of the business, by the type of conveyance, or by some other force.

(2) A companion study to that of extra-central business district land use migration is the need for one that will help determine intra-central district land use migration. The value of determining how and why the various use-types migrate from one location to another would be that it establishes the patterns that are formed by a family of uses. It would be of value in urban redevelopment projects in allocating uses to the various sites, and it would contribute to knowledge of the dynamic central business district.

(3) In general, the results of the migration study and the classification of land uses that are appropriate or may require a central business district location may be used as a guide in the solution of those land use problems with which this thesis is concerned. The land use decisions involved in urban renewal programs, comprehensive land use planning, and any problem relating to land use locational analysis will find the section on locational theory an aid in developing locational policy. Precedent for a special central area use district is found in most of the up-to-date zoning ordinances; however, the uses permitted are generally listed by business groups instead of kinds of business. The classification would prove a useful guide in any attempt to include a more complete list of uses permitted within the central district use zone. Finally, the results may be recommended to realtors, property owners, and prospective central business district tenants as descriptive evidence of healthy central area use-types.

A P P E N D I X

Table 7. Number of Establishments for Selected Years by Functional Class, Business Group, and Kind of Business. Findings from Migration Study of Atlanta's Central Business District.

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948	CHANGE*
RETAIL FUNCTION							
Food Group:							
Grocery stores	13	783	3	979	-	1411	M
Meat, fish, and poultry market	10	226	8	146	1	81	M
Fruit & vegetable stands and stores	5	21	6	27	3	98	M
Candy, nut, and confectionery stores	7	24	21	47	3	37	M
Bakery	-	24	1	6	2	31	P
Delicatessen	-	-	5	15	1	10	M
Eating and Drinking Places:							
Restaurants, cafeterias, and lunch rooms	19	211	39	473	49	962	P
Drinking places (other than night clubs and restaurants)	17	118	-	-	3	196	P
General Merchandise Groups:							
Department stores	5	12	5	11	6	6	P
Dry goods and general merchandise	2	69	1	43	-	54	M
Variety stores, 5 cents to $1.00	2	2	5	24	6	75	P
Apparel Group:							
Men's and boy's clothing and furnishings	20	30	16	26	25	40	P
Women's ready-to-wear	7	10	19	33	36	65	P

*P indicates net increase; M indicates net decrease. This notation will be followed throughout this table.

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948	CHANGE
RETAIL FUNCTION (continued)							
Apparel Group (continued):							
Millinery shops	10	25	25	30	32	25	P
Corset and lingerie shops	1	1	3	3	4	5	P
Children's clothes and furnishings	-	-	1	2	4	7	P
Shoe stores	19	53	37	61	42	50	P
Custom tailors establishments	32	102	33	21	14	13	P
Furriers	1	1	1	3	4	2	P
Dressmakers	5	64	2	2	7	*	P
Furniture, Furnishings, and Appliance Group:							
Furniture stores	7	53	6	71	5	116	M
Floor covering	-	-	2	3	-	9	M
Drapery, curtain and upholstery stores	1	8	-	1	-	8	M
China & glassware and metalware stores	2	4	1	5	-	6	M
Antique stores	-	-	-	3	-	22	M
Household appliance stores	5	8	4	14	2	77	M
Sewing machine stores	1	6	1	11	3	17	P
Automotive Group:							
Motor vehicle (new)	8	31	1	32	-	62	M
Tire, battery, and accessory stores	-	14	3	32	-	62	M
Gasoline service station	-	11	1	199	-	679	M
Lumber, Building, Hardware Group:							
Building materials dealers	3	15	1	10	-	13	M
Paint, glass, and wallpaper stores	10	14	10	20	4	29	M

*Not listed for 1948.

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948	CHANGE
RETAIL FUNCTION (continued)							
Lumber, Building, Hardware Group (continued):							
Electrical supply stores	6	8	9	10	4	3	P
Hardware stores	4	13	4	29	1	92	M
Agricultural equipment dealers	4	8	-	2	-	11	M
Drug and Proprietary Stores:	14	103	15	215	14	247	P
Liquor Stores (packaged):	-	-	-	-	19	199	P
Other Retail Stores:							
Fuel dealers	-	76	-	-	-	58	M
Ice dealers	-	7	-	-	-	17	M
Jewelry stores	17	53	40	56	51	62	P
Book and stationery stores	9	9	6	18	5	20	P
Sporting goods	2	4	4	2	3	9	P
Bicycle	2	11	-	-	-	16	M
Florists	5	12	7	23	4	75	P
Cigar stores	45	102	22	41	2	20	M
News dealer stores	4	11	4	12	6	10	P
Gift, novelty, and souvenir stores	3	5	1	12	3	21	P
Music stores	2	2	6	10	-	25	M
Luggage and leather goods	2	2	2	1	-	3	M
Camera, photographic supply stores	3	5	2	4	4	7	P
Office machine and equipment dealers	8	12	16	17	3	9	M
Art materials and supply stores	2	2	1	-	-	2	M
Art dealers	1	1	7	-	1	-	P
Fertilizer, hay, grain, and feed stores	4	15	2	20	1	43	M
Seed and garden supply stores	2	7	3	9	2	6	P
Roofing materials and supply stores	2	11	1	7	-	5	M
TOTAL NUMBER OF ESTABLISHMENTS	262		413		369		P

CLASSIFICATION	CBD 1910	CITY 1910	CBD 1927	CITY 1929	CBD 1952	CITY 1948	CHANGE
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION FUNCTION							
Food and Kindred Products:							
Meat Products	1	*	-	*	-	*	M
Dairy products	-		-		-		M
Canned foods	-		-		-		M
Bakery products	2		1		-		M
Confectionery	2		1		1		M
Printing, Publishing and Allied Industries:							
Newspapers	2		2		5		P
Commercial printing	18		25		2		M
Lithographing	-		3		4		P
Bookbinding	5		4		-		M
Typesetting, photoengraving and stereotyping, electrotyping	4		10		1		M
Leather and Leather Products:	2		-		-		M
Miscellaneous Manufacturing Industries:							
Jewelry (precious metal)	10		9		10		P
Muscial instruments, parts and materials (except pianos and organs and their parts	2		2		-		M
Hand stamps, stencils, brands, badges	5		1		-		M
Cigars	3		-		-		M
Chemical products	4		21		2		M

*Statistics for 1910, 1929, and 1948 were not obtainable for this functional class. These columns will be omitted on succeeding pages of this table.

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
MANUFACTURING INDUSTRIES AND CONTRACT CONSTRUCTION FUNCTION				
Contract Construction:				
General building contractors, offices only	18	52	12	M
Plumbing, heating, and air conditioning shops	11	6	-	M
Electrical	3	-	-	M
Roofing and sheet metal	3	1	-	M
Decorating, interior	4	-	1	M
Miscellaneous, special trade contractors	24	19	5	M
Clothing and Apparel:	9	5	3	M
Manufacturer's Agents:	116	106	56	M
TOTAL NUMBER OF ESTABLISHMENTS	258	268	102	M
WHOLESALE TRADE FUNCTION: MERCHANTS WITH AND WITHOUT STOCK				
Automotive Group:				
Automotive equipment	-	-	1	P
Drugs, Chemicals:				
Drugs, general line	3	1	-	M
Druggist sundries	-	3	-	M
Industrial chemicals	4	2	-	M
Paints and varnish	-	6	2	M
Dry Goods and Apparel:				
Dry goods, general line	4	2	-	M
Notions and other dry goods	2	1	-	M
Clothing, furnishings, footwear	5	6	2	M

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
WHOLESALE TRADE FUNCTION: MERCHANTS WITH AND WITHOUT STOCK (continued)				
Groceries and Foodstuffs:				
Groceries, general	11	3	-	M
Confectionery	1	-	-	M
Fish - seafood	-	-	-	M
Meats, meat products	2	2	-	M
Other grocery and food specialty	16	3	3	M
Farm Products - for Immediate Consumption:				
Dairy and poultry - poultry products	2	1	-	M
Fruits and vegetables	8	4	4	M
Electrical Goods:				
General line, apparatus, supplies	10	8	-	M
Electrical appliances	3	-	-	M
Hardware, Plumbing, Heating Equipment and Supplies:	20	6	2	M
Machinery, Equipment, and Supplies:	32	30	8	M
Miscellaneous Merchant Wholesalers:				
Coal and its products	12	11	5	M
Paper and its products	5	6	14	P
Tobacco and its products	1	1	-	M
Beer, wine, distilled alcoholic beverages	-	-	1	P
Furniture and home furnishings	-	5	-	M
Lumber and construction materials	24	26	3	M
Sporting goods	-	-	-	M
Other merchant wholesalers	7	38	26	P

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
WHOLESALE TRADE FUNCTION: MERCHANTS WITH AND WITHOUT STOCK (continued)				
Agents and Brokers (except money)	59	37	16	M
TOTAL NUMBER OF ESTABLISHMENTS	231	212	87	M
BUSINESS SERVICE FUNCTION				
Business Group				
Advertising	18	22	33	P
Collection agencies	7	11	13	P
Duplicating, addressing, mailing, blueprinting, photostating, and stenographic services	5	4	1	M
Private employment agencies	3	13	22	P
Accounting, auditing and bookkeeping services	11	49	96	P
Vending machine rental	-	1	-	M
Auctioneers	1	4	1	P
Sign painting shops	5	6	1	M
Mercantile reporting agencies	4	5	4	P
Legal Services	168	209	446	P
Architectural and Engineering Service	61	55	60	P
TOTAL NUMBER OF ESTABLISHMENTS	283	379	677	P

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
CONSUMER SERVICE FUNCTION				
Personal Service Group:				
Barber shops	21	32	19	M
Beauty shops	9	23	31	P
Laundry, hand	3	2	-	M
Laundry, steam	2	-	-	M
Funeral service, establishments	2	2	1	M
Photographic studios	16	21	18	P
Shoe repair shops	9	13	10	P
Shoe shine and hat cleaning establishments	7	16	6	P
Pressing, alteration and garment repair shops	4	-	-	M
Laundry and cleaning pick up stations	-	5	7	P
Hotels and Lodging Places:				
Hotels	16	16	4	M
Apartment and lodging places other than commercial hotels	26	5	-	M
Automobile Repair Services and Garages:				
Automobile rentals without drivers	-	3	1	M
Automobile storage	2	2	3	P
Automobile body repair	-	-	-	M
Automobile repair, other than body	3	-	-	M
Miscellaneous Repair Services:				
Blacksmith shops	1	-	-	M
Electrical repair	3	-	-	M
Watch, clock and jewelry repair	6	6	23	P
Upholstery and furniture repair	1	-	-	M
Locksmith and gunsmith	5	4	4	P
Machine shops	1	1	-	M

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
CONSUMER SERVICE FUNCTION (continued)				
Radio Broadcasting and Television (including facsimile broadcasts):				
Radio broadcast	-	1	3	P
Television broadcast	-	-	2	P
Amusement and Recreation Services:				
Night clubs	-	-	3	P
Theaters and theatrical produces (legitimate)	3	5	-	M
Bowling alleys, billiard, and pool parlors	11	10	1	M
Motion picture distribution	3	-	-	M
Motion picture theaters	12	8	5	M
Medical and Other Health Services:				
Physicians and surgeons, offices	155	139	65	M
Dentists and dental surgeons, offices	72	132	83	
Osteopathic physicians	7	7	10	P
Chiropractors	-	4	4	P
Medical and dental laboratories	4	11	-	M
Optometrists	7	8	28	P
Chiropodists	2	5	9	P
Clinics	-	1	3	P
Educational Services:				
Libraries	2	1	1	P
Music schools	1	1	-	M
Music teachers	3	7	18	P
Business and commercial schools	2	6	2	P
Dancing schools and studios	-	-	2	P
Trade schools	2	3	1	M
Professional schools (medical dentristry, law)	-	2	2	P

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
CONSUMER SERVICE FUNCTION (continued)				
Non-profit Organizations:				
Associations, business and trade	6	33	88	P
Associations, professional	2	3	3	P
Associations, civic, fraternal and welfare	26	18	26	P
Government:				
City hall	-	1	-	M
Local government offices	-	19	-	M
State government offices	-	1	3	P
Federal government offices	4	18	51	P
Post office, main building	1	1	2	P
Post office, sub-station	1	5	1	M
Transportation, Communication, and Other Public Utilities:				
Railway depots	1	1	1	P
Railway administrative offices	24	44	51	P
Local street railway company (operating through)	1	1	1	P
Bus lines, local (operating through)	-	--	2	P
Bus lines, except local Operating)	-	3	19	P
Taxicab, storage and repair	2	3	-	M
Telegraph companies (except branches)	2	4	2	P
Telephone companies	--	-	-	M
Travel, arrangements	5	16	4	M
Trucking and Warehousing Group:				
Transfer and storage companies	4	3	1	M
Delivery and messenger service	6	1	-	M
Warehousing companies	-	-	-	M

CLASSIFICATION	CBD 1910	CBD 1927	CBD 1952	CHANGE
CONSUMER SERVICE FUNCTION (continued)				
Finance, Insurance, and Real Estate Group:				
Savings Banks, National and State	12	25	10	M
Building and loan associations	35	16	3	M
Investment companies, other than banks	19	37	24	P
Loan companies, other than banks	30	92	38	P
Stock and bond brokers	6	6	15	P
Clearing houses	2	1	1	P
Insurance agencies	136	78	149	P
Real estate agencies	109	214	142	P
Church Buildings:	3	2	-	M
Artists:	5	7	8	P
Office Buildings:	17	36	40	P
TOTAL NUMBER OF ESTABLISHMENTS (Except Office Buildings)	925	1154	1114	P
Vacant Premises (ground level only)	27	12	1	M

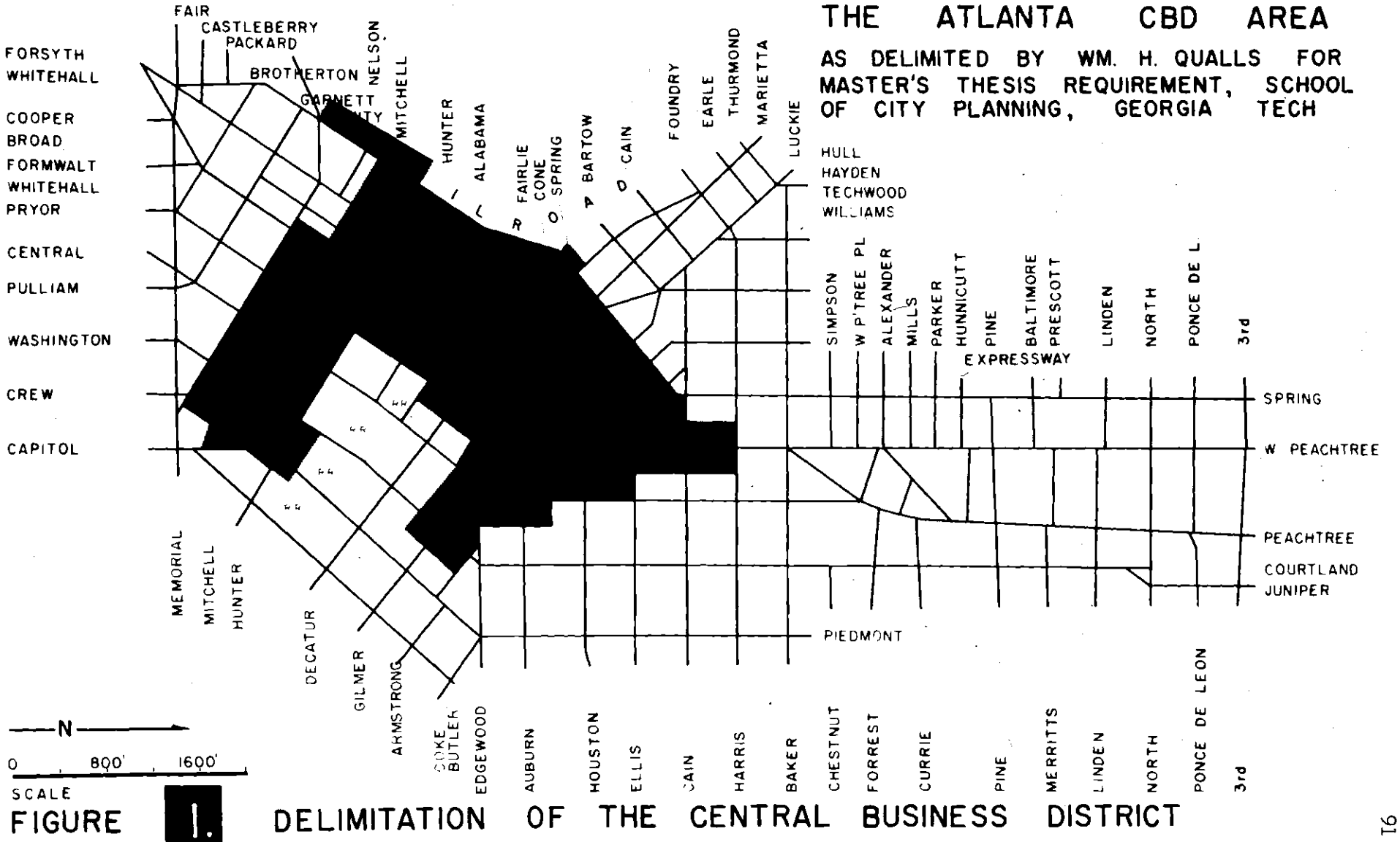


FIGURE 1. DELIMITATION OF THE CENTRAL BUSINESS DISTRICT

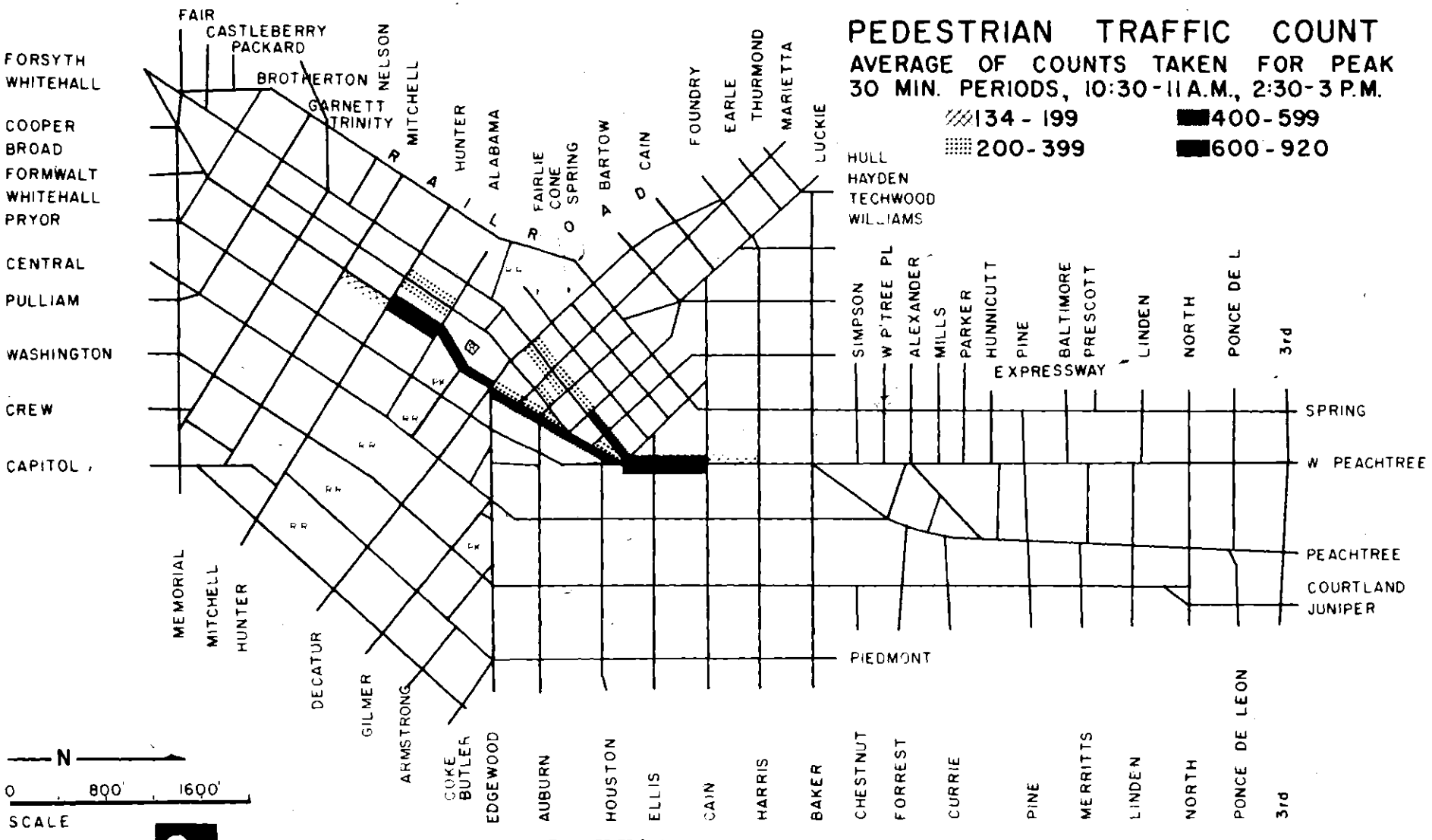


FIGURE 2. PEDESTRIAN TRAFFIC

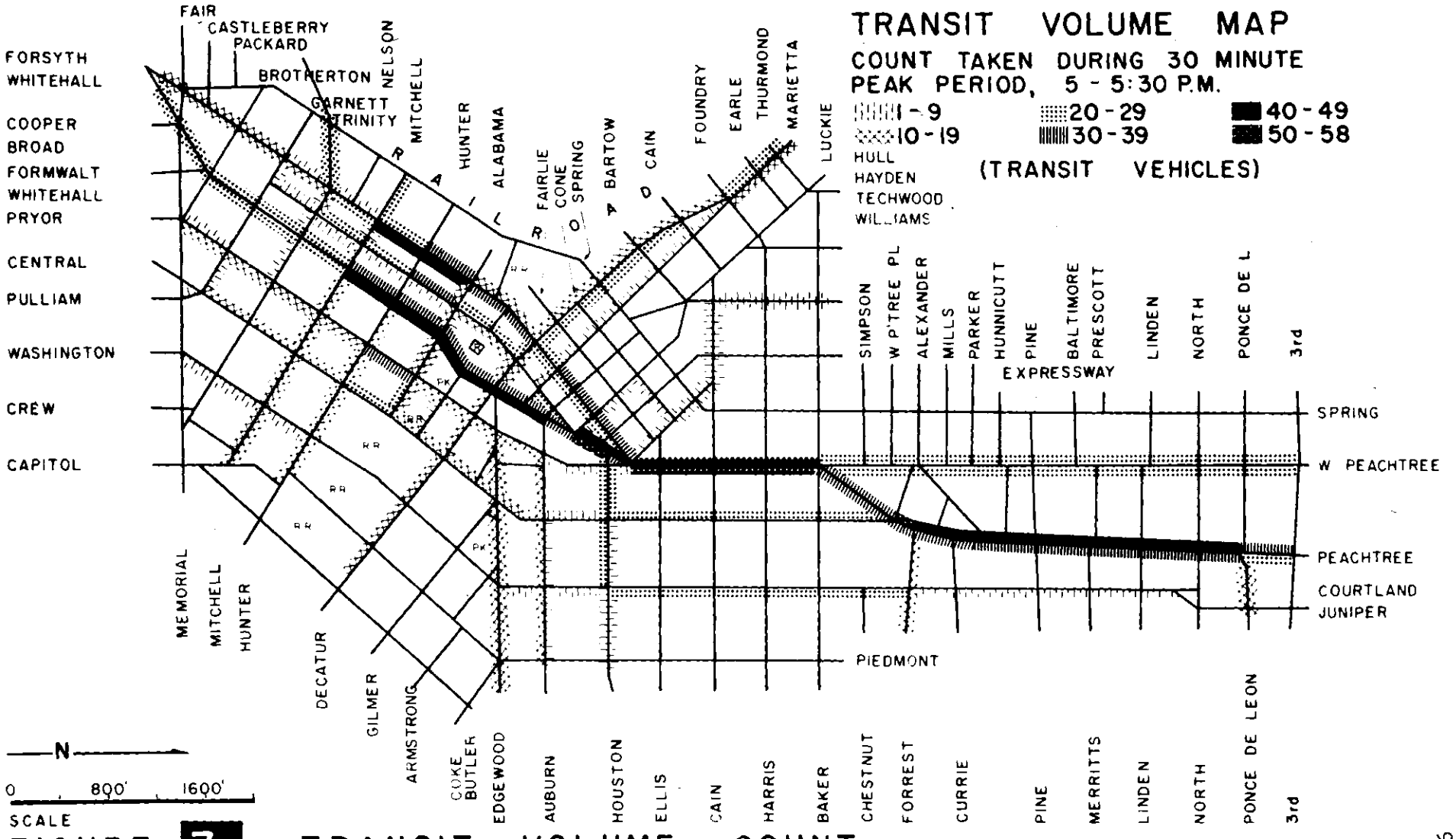


FIGURE 3. TRANSIT VOLUME COUNT

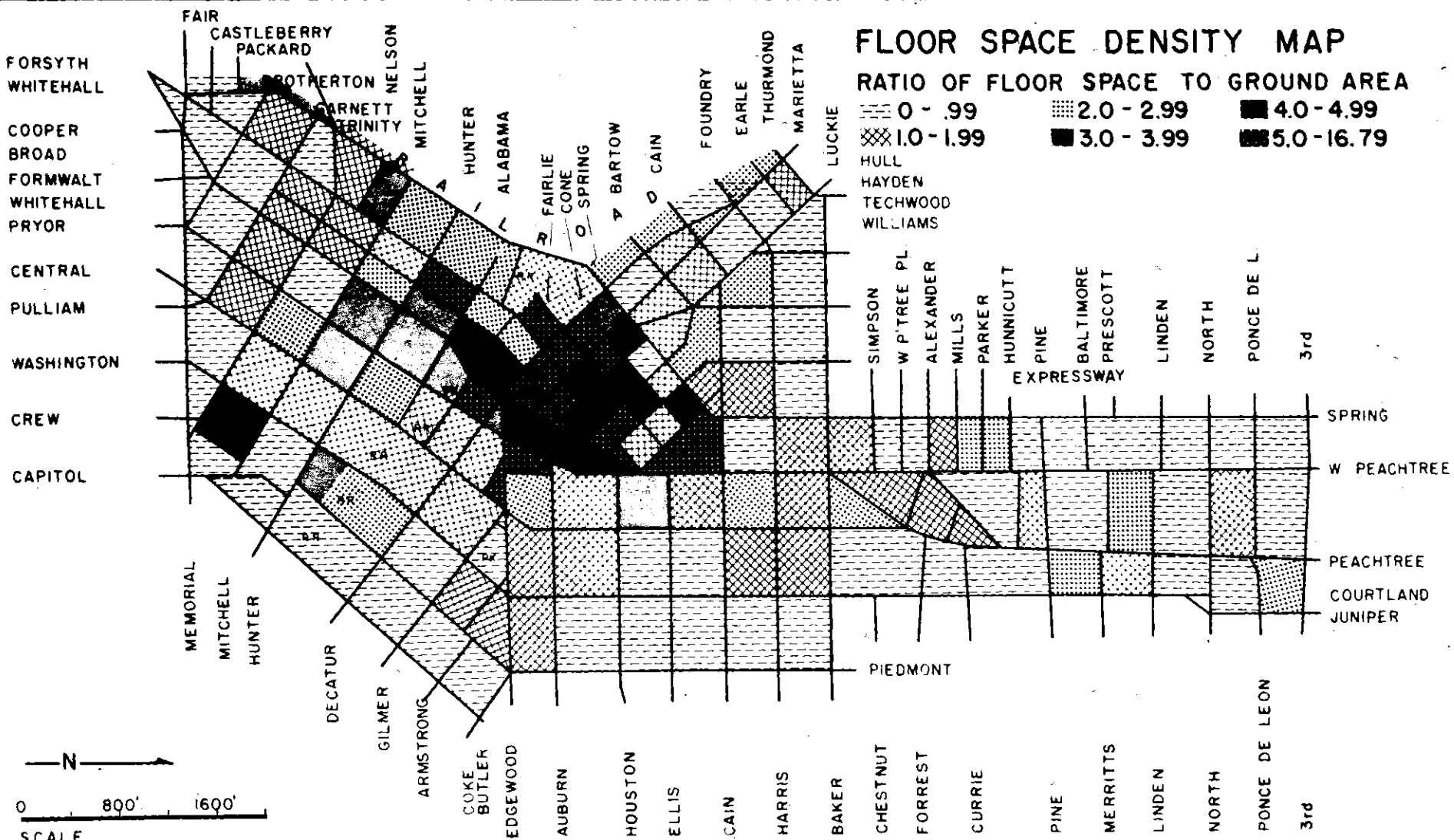
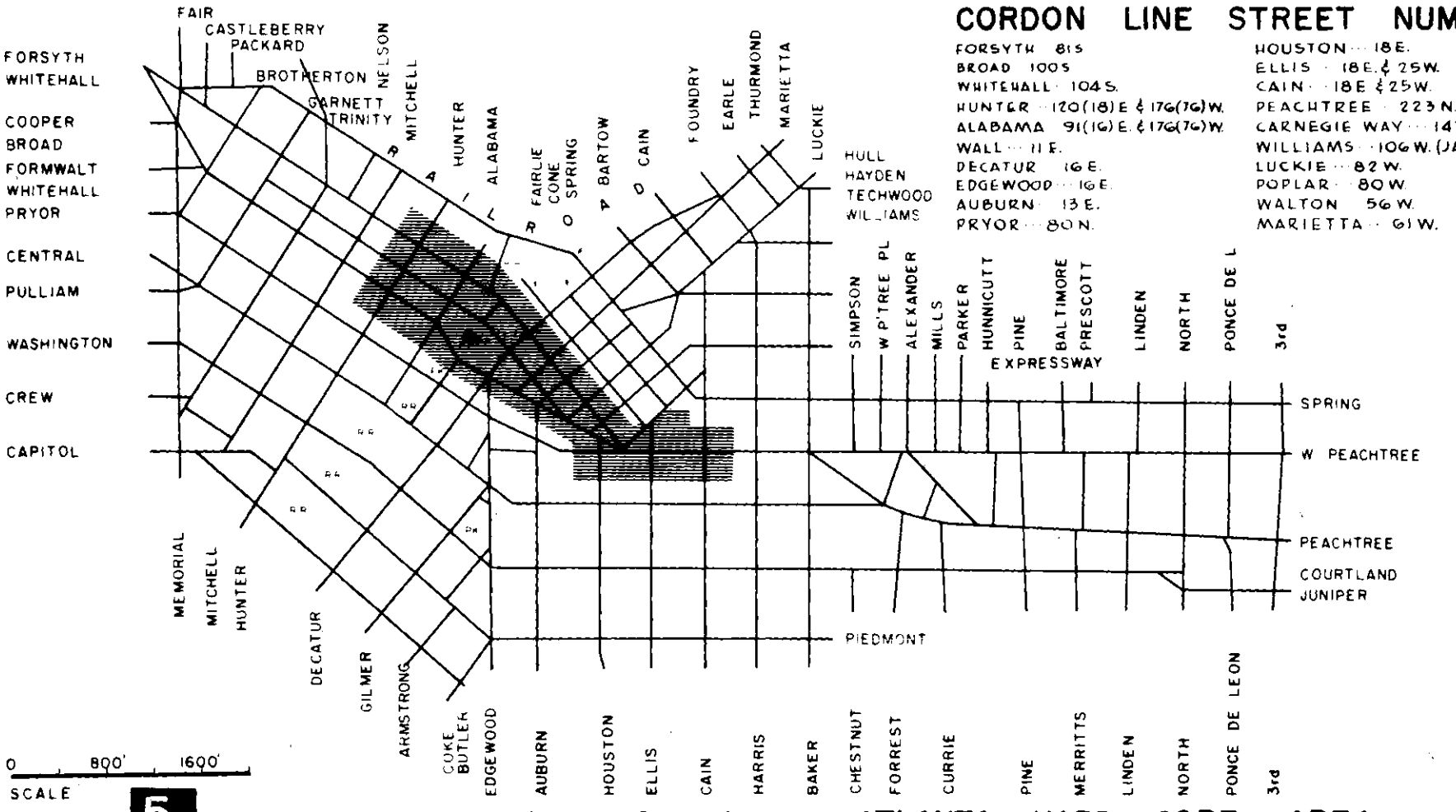


FIGURE 4. FLOOR SPACE DENSITY



CORDON LINE STREET NUMBERS

FORSYTH 815	HOUSTON 18E.
BROAD 1005	ELLIS 18E. & 25W.
WHITEHALL 1045.	CAIN 18E & 25W.
HUNTER 120(18)E & 176(76)W.	PEACHTREE 223N.
ALABAMA 91(16)E. & 176(76)W.	CARNEGIE WAY 147W.
WALL 11E.	WILLIAMS 106W. (JAMES 40W.)
DECATUR 16E.	LUCKIE 82W.
EDGEWOOD 16E.	POPLAR 80W.
AUBURN 13E.	WALTON 56W.
PRYOR 80N.	MARIETTA 61W.

FIGURE 5. CENTRAL BUSINESS DISTRICT - ATLANTA HARD CORE AREA

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