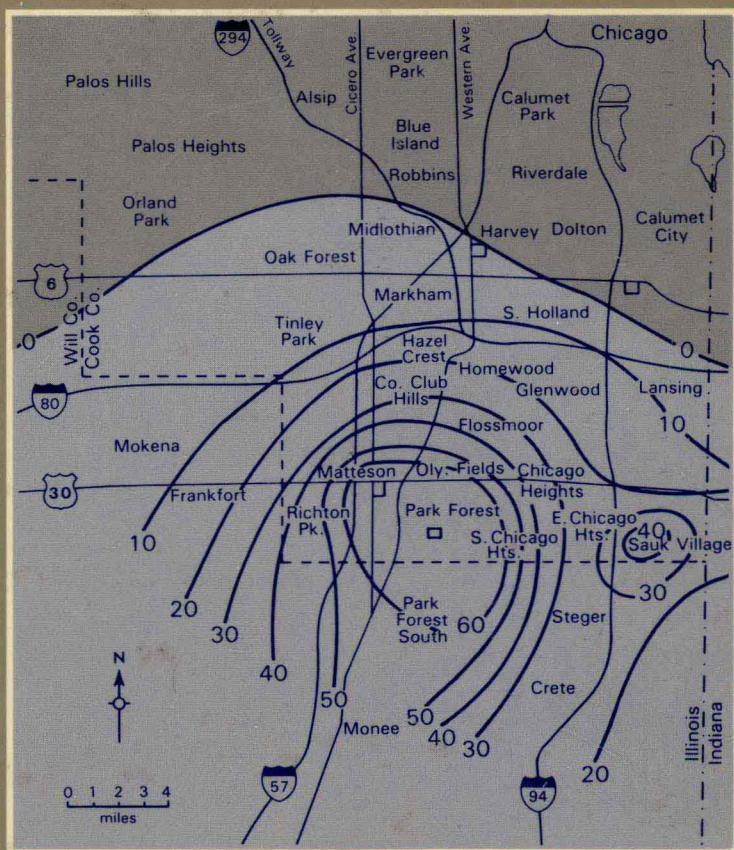


MARKET CENTERS AND RETAIL LOCATION

Theory and Applications



BRIAN J.L. BERRY/JOHN B. PARR
WITH
BART J. EPSTEIN • AVIJIT GHOSH
ROBERT H.T. SMITH

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Preface

That a new text updating the original should be warranted twenty years after *The Geography of Market Centers and Retail Distribution* was first written is a gratifying testament to the continuing use of an original volume more focused than usual.

The original volume's strong thesis stated the following:

. . . that the geography of retail and service business displays regularities over space and through time, that central-place theory constitutes a deductive base from which to understand these regularities, and that the convergence of theoretical postulates and empirical regularities provides substance to marketing geography and to city and regional planning. . . .

The order of presentation mirrored this thesis. Terms and regularities were introduced by examining several case studies in the United States in both historical and cross-sectional detail. Central-place theory was then developed in its classical and contemporary forms. A study of origins and of cross-cultural contrasts was added, followed by brief treatments of the predictive procedures of applied marketing geography and of the prescriptive aspirations of the planner. This sequence of presentation was the result of several years of experimenting with various ways to present quickly, yet rigorously, both classical and contemporary ideas to beginning students. Students were admonished to proceed slowly and carefully, paying particular attention to the maps and diagrams, because the presentation

was cumulative. Understanding later parts depended upon understanding initial parts: If students understood the diagrams they would understand the equations.

In preparing this new edition, we see no need to change the original thesis nor to modify the essential organization of the book or the advice to students. In the past twenty years, however, significant advances have been made in the formalization of central-place theory. A theory of periodic marketing systems has emerged, and marketing geography has progressed as an applied field. The broad outlines of marketing geography's convergence with the store-choice modeling procedures of marketing scientists seem clear. Moreover, central-place ideas have assumed an increasingly important role in the formulation of national spatial strategies for economic development. We therefore have replaced and extended substantial parts of the original book, while attempting to preserve the qualities that assured its longevity.

This was not a task for the original author alone. Several contributors to the developments of the past twenty years joined with me to prepare this new version. John Parr undertook Chapters 3 and 4 as his prime responsibility, and he also worked on the integrity and consistency of the volume as a whole. Robert Smith and Avijit Ghosh contributed a new Chapter 5 on periodic marketing systems. Bart Epstein provided sections on marketing geography. All four of my colleagues critiqued the entire draft. There are many strings left untied in this field, however, for this remains an active arena for both creative research and application. The definitive statement of a dynamic general central-place theory remains to be made. The links between that theory, store-choice modeling, and marketing geography remain unspecified. Uses of central-place theory concepts in national spatial planning have yet to progress beyond articles of faith. Thus, while comparison of this volume with the original will reveal that substantial progress has been made, the gap between present accomplishments and the models to which we aspire remains large. The need remains for that overarching statement of a general theory that will provide conceptual unity while informing practice. It is hoped that this edition may provide a base from which progress towards that statement can be made.

Brian J. L. Berry

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1

Market Centers and Retail Location

INTRODUCTION

In market economies we are accustomed to thinking of the division of labor, differentiating among the activities of production, distribution (exchange), and consumption. It is in the system of *exchange*, through the activity of *distribution*, that the supplies of producers and the demands of consumers are brought together. In this sense, the interconnections of the exchange network are the strands that hold society together.

Exchange takes place in *markets*. Markets exist where a number of sellers and buyers communicate, and the prices offered by the sellers and paid by the buyers are affected by the decisions of each group. A market, then, is a system which produces self-regulating prices; the prices, in turn, are the mechanisms connecting individual actions of choice or decisions.

In this general sense there are *world markets*, for example, the wheat or copper markets. Most types of exchange, however, involve a specific *market-place*.

Market places are sites with social, economic, cultural and other referents where there are a number of buyers and sellers, and where price offered and paid by each is affected by the decisions of the others. (Belshaw, 1965, p. 8)

The Chicago wheat pit and the London metals exchange are dramatic examples of marketplaces of international significance, yet equally important are the

hundreds of thousands of small market centers that dot the globe (Claval, 1962). Although they are seldom imposing, it is in these market centers that the daily process of exchange takes place. Whether they be periodic markets in the rural areas of Asia or North Africa, or markets in the villages and towns of the American Midwest, or a dramatic new shopping center, or a decaying central business district, these market centers are the places to which consumers travel to complete the exchange process. It is in market centers that demands and supplies must ultimately be brought into balance through the price mechanism. In effect, producers and consumers come face to face in retail stores. Retail and service businesses are the end of the chain of production and distribution and the beginning of the process of consumption. It is thus in the geography of retail and service business that we find the equilibrating interface between the geography of production, long a topic of professional interest and study, and the relatively neglected geography of consumption. We need to understand the organizing principles of this interface, and we need to appreciate the socio-economic and cultural factors that produce variation in organization as well as the spatial invariants.

The intermeshing of the geographies can be conceived in this way. Any economic system comprises a set of individuals who are the consumers of what is produced and, at the same time, the producers of what is demanded. In contemporary societies there is extreme division, or specialization, of labor. People specialize and regions specialize, yet individuals of similar income levels within a given society tend to demand similar arrays of goods and services (market baskets). Whereas the geography of production is marked by extreme regional specialization, the geography of consumption involves demands for similar baskets of goods that repeat themselves from region to region. A problem of coordination results, and it is dealt with by the system of exchange and distribution. Local collection points assemble the specialties of producing regions. Local distribution points import the many goods consumers need from collection points in other locales. Collection and distribution points interlock in a complex web of exchange. Collection may involve several steps, but ultimately metropolitan centers provide the points of focus. Similarly, distribution takes several steps, including both wholesaling and retailing, but metropolitan centers ultimately have this role, too. Metropolitan centers are also producers of regional specialties and assembly points for the goods demanded by their surrounding regions. They are also major consumers themselves. Intermetropolitan exchanges are the connecting strands of modern economies; metropolitan regions are the foci about which such economies are organized. It is in the metropolitan regions that the geographies of production and consumption interlock (Duncan, 1960).

Major metropolitan centers wholesale many of the products that they have assembled to smaller surrounding urban places, which, in turn, ship them to even smaller places. These market centers are visited by consumers to purchase needed goods and services. The essence of the geography of retail and service business is the clustering of establishments in market centers visited by surrounding consumers; the size and composition of the cluster is dependent upon the aggregate

demand of the consumers in the region that looks to the market center as a point of focus.

Centrality is the essence of the point of focus. Consumers who must visit the market center on a regular basis want a location that permits them to conduct their business with a minimum of effort. Yet their business trips are varied. They are willing to travel only short distances to obtain items they need frequently. Less-frequent purchases can often be postponed so that a single longer trip can accomplish several things—not only shopping, but also socializing, seeking entertainment, participating in politics, and doing other activities. Centrality, therefore, has meaning at different scales. In any area a variety of “central places” will thus exist. Businesses located in some centers will attract consumers on a frequent basis, but only over short distances. In centers such as these, centrality means superior access to a local market area, but a small market means that a limited array of goods and services will be provided. Other central places will be able to provide a greater variety of goods to much wider areas. In these centers, centrality means accessibility to a larger region.

Central-place theory attempts to explain the location, size, functional characteristics, and spacing of these clusters of activity. It is, therefore, the descriptive and theoretical base of the geography of retail and service business. In the balance of Chapter 1 and in Chapter 2 we will attempt to describe the basic ideas of this theory through the use of examples. By following the examples, you will come to appreciate why the central-place theory, spelled out in Chapters 3 and 4, has such intellectual and practical significance.

Figure 1.1 identifies the areas of the United States to be used as the empirical base of our study. These areas provide a cross section of mid-continent America. Area 1 on the map spans the city and suburbs of the Chicago metropolitan area. Area 2 typifies the corn-growing, meat-fattening Midwest, lying between Omaha, Nebraska, and Council Bluffs, Iowa, to the west and Des Moines, Iowa, to the east. Areas 3 and 4 are in South Dakota. Area 3 includes wheat-growing and cattle-raising counties centering on Aberdeen in the northeast, while Area 4 spans

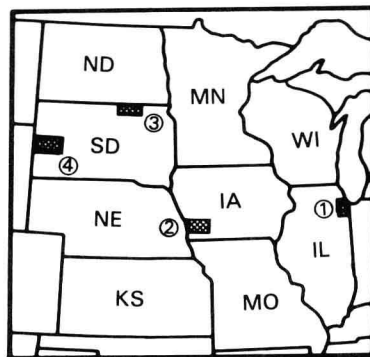


Figure 1.1 Areas investigated in 1960.

both rangelands to the north and east and the mining, forest, and recreation areas of the Black Hills to the west of Rapid City.

Each of these areas was analyzed in detail in 1960 in a study designed to evaluate and to compare the properties of central-place systems in a variety of different locations. An initial report was made on these studies in 1962 (Berry, 1962). Subsequently, both the city of Chicago and its metropolitan area were examined in much greater depth (Berry, 1963 and 1965).

Most of the terms and concepts of central-place theory can be introduced by looking at the southwestern corner of Iowa (Area 2, shown in more detail in Figure 1.2). Several reasons exist for examining this area in some detail. First, Iowa has been the classic region for study of central places in the United States because scholars thought that it satisfied the assumptions of central-place theory more nearly than any other region in North America. Second, to complete the picture we have available not only the field investigations on 1960, but also a study of the historical development of market centers in the area (Laska, 1958). And we also have a unique record of farmers' shopping preferences in 1934 in a form making possible comparisons with the 1960 data (Bureau of Business and Economic Research, 1934).

In his historical study, Laska used Dun and Bradstreet reference books to identify centers with retail stores. Because of the limitations of the data, he had to restrict himself to places with grocery and clothing stores. The 1934 studies

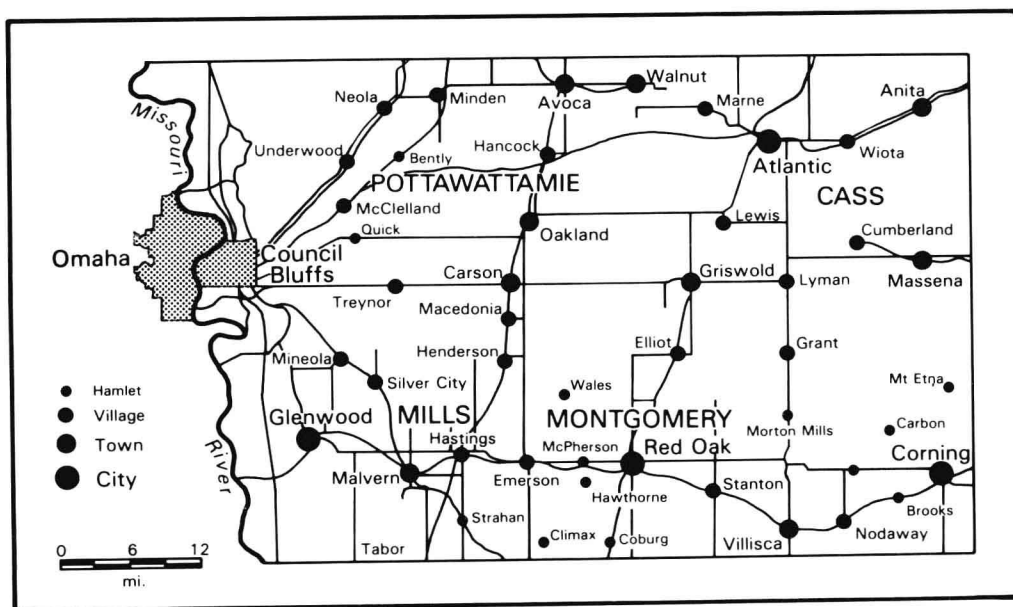


Figure 1.2 Status of market centers in southwestern Iowa in the summer of 1960. The area coincides with that investigated by Laska in 1958, as shown in Figures 1.3 to 1.7.

were completed by Works Progress Administration workers and record where farmers shopped for a variety of different goods and services, plus their preferences for particular market centers. What we learn from these comparisons is that, at any historical moment, the geographic distribution of retail and service business in central places approximates an equilibrium adjustment to the geographic distribution of consumers. However, through time there have been continual changes in the distribution and characteristics of consumers, in modes of travel, and in the technology of retailing; therefore, there have been adjustments in the patterns of business and centers. Settlement of the area was accompanied by the spread of centers and by increases in population and numbers of centers, reaching a population zenith around 1900. Subsequently there was a thinning of the system of centers because of changes in agriculture, loss of farm population, changes in consumer mobility, and changes in the technology of retailing.

Central places for the farming population were provided by points of focus that initially were not associated with retailing. Grist mills, post offices, county seats, and railroad stations created a variety of meeting places for farmers; enterprising businesses could take advantage of the superior accessibility to the consuming population that such locations provided. Combinations of the elements led to greater centrality for some of the initial meeting places, and these places provided excellent location opportunities for businesses serving less frequent demands. Competition among emerging retail centers, in the framework of these differential opportunities, created the central-place system.

EMERGENCE OF THE CENTRAL-PLACE SYSTEM IN SOUTHWESTERN IOWA UP TO 1960

We are fortunate to have data for a long period of southwest Iowa's history, and it will be possible to tell the story in detail of the emergence of the central-place system, gradually becoming more specific about the area and more precise about the ideas and terms to be used subsequently. Such a study will be rewarding, for the story must have repeated itself many times as the frontier expanded westward. Thus, Figures 1.3 to 1.8 contain only those features essential to the narrative. They cover the area seen in Figure 1.2 east of the bluffs overlooking the Missouri River, so that all centers, except Glenwood and Omaha–Council Bluffs, ultimately appear.

Although traders, agents, and missionaries had been in the area prior to 1846, the first white settlers did not arrive until the land was ceded to the United States by the Pottawattamie Indians in June of that year. The first settlers were Mormons, who established the trail west from Des Moines to what is now Council Bluffs. They created Omaha as their 1846–1847 winter quarters. When Brigham Young pushed further west, many of the Mormons remained in the area and established the first farms. In 1852 about half the Mormons in the area answered his call and left to join Young in Utah, but the other half remained in the area,

forming the Reformed Mormon Church. Other white settlers also arrived in the period from 1846 to 1851. These pioneer families provided most of their own needs. The first land plowed for farms was close to the woodlands which banded the area from north to south. These families were not completely self-sufficient. In the early years many of them obtained corn and other necessities by traveling 100 miles south to St. Joseph, Missouri, or back east to Des Moines. Stores were built in Council Bluffs from 1847 to 1849 to cater to the increasing flow of westward migrants, and after 1849 there was rapid growth in Council Bluffs and Omaha as gold seekers streamed towards California. The first center serving the pioneer farmers was constructed in 1851—a general store selling dry goods and groceries. By 1868, on the eve of the opening of the railroads, a rudimentary set of centers had developed (Figure 1.3). The woodland locations mirror the settlement patterns of the pioneers and provide a good example of the first principle of central-place location: *consumer orientation* of retail facilities. Centers conform in their spatial pattern to that of consumers because only those located centrally can attract trade from consumers eager to satisfy their needs and, simultaneously, to economize on the cost of travel.

Often, in the early years, several stores would be established within a mile or so of one another, each providing approximately the same goods and services. Competition would be intense, and success was often based upon the acquisition of some additional attribute that enhanced centrality. All centers that survived were the sites of grist mills, which were basic points of focus for the pioneer economy. Perhaps the most important additional factor determining survival of a center was designation as the county seat; political centrality provided added reasons for farmers to visit a particular center rather than another. Iranistan, Indiantown, and Lewis were founded in 1853 and 1854 within a mile of each other, but the first two were abandoned when Lewis was designated as Cass County

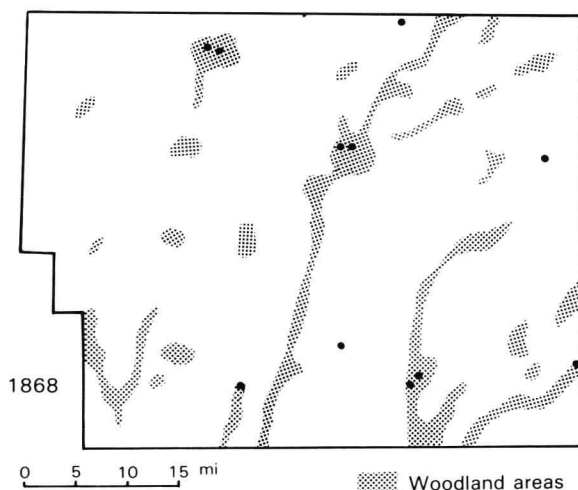


Figure 1.3 Rudimentary pattern of centers of 1868.

seat. Similarly, Frankfort flourished as the county seat from 1855 to 1865, but was deserted after the seat of Montgomery County was transferred in 1865.

The pioneer rural economy of the first quarter-century of settlement was transformed by the completion of railroads to Council Bluffs in 1868 and 1869. Railroads provided the area with access to the market economy of the nation, and the railroad stations were the collection and distribution centers through which the connections were maintained. Farmers began to specialize, using the railroad to ship their products to eastern markets. Other entrepreneurs were sensitive to the changes in farmers' behavior. Centers, built in anticipation of the railroad, competed for railroad stations because of the centrality to farmers that the stations would provide. It was the railroad officials who most clearly saw the advantages a center would have with the addition of a railroad station. Many of these officials were active in the promotion of centers, and since they determined the precise location of stations, they were all too often the ones who profited most. Atlantic and Red Oak were both built in this way. Other centers in the vicinity of centers with railroads were abandoned as businesses transferred their activities closer to the stations. Thus, Grove City vanished after the railroad's benefits accrued to Atlantic. Size differences emerged among the station centers when some were designated county seats and when others added processing activities to their collection and distribution functions. By 1879 the system of centers was almost completely railroad-oriented. (In Figure 1.4, as in Figures 1.5, 1.6, and 1.7, the different dot sizes identify towns with 1, 2-4, 5-9, and more than 10 grocery and clothing stores.) The most densely settled areas followed the railroads, and gaps in the pattern of centers corresponded to gaps in the settlement pattern caused by inaccessibility to the railroads.

After 1879 the settlement pattern filled in as more settlers came to the area,

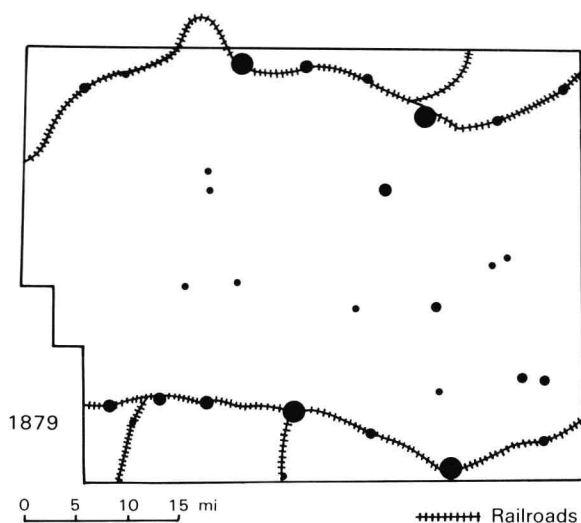


Figure 1.4 Distribution of centers in 1879.

as branch railroad lines were constructed linking the larger main-line towns, and as a system of rural roads emerged linking farms to markets and markets to each other. The number of centers increased as the population expanded and increased and as previously inaccessible interstices between the railroads were filled.

The patterns of 1904 and 1914 are seen in Figures 1.5 and 1.6. Many of the centers created after 1879 were associated with new railroad stations. Griswold, for example, was built at the Atlantic–Red Oak midpoint, and Elliot at the station halfway between Griswold and Red Oak. Wilson vanished when its post office was transferred to Elliot. Lewis was fortunate enough to acquire the Atlantic–Griswold midpoint station. Railroad centers with branch lines radiating from them grow more rapidly than those without. Growth was even more rapid if the center was a county seat.

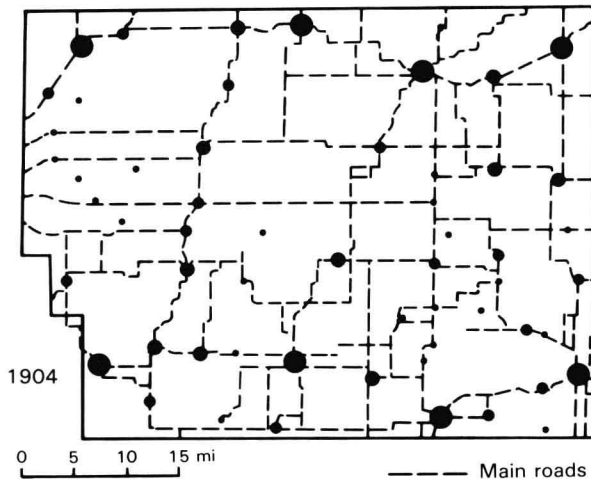


Figure 1.5 Relative importance of centers in 1904.

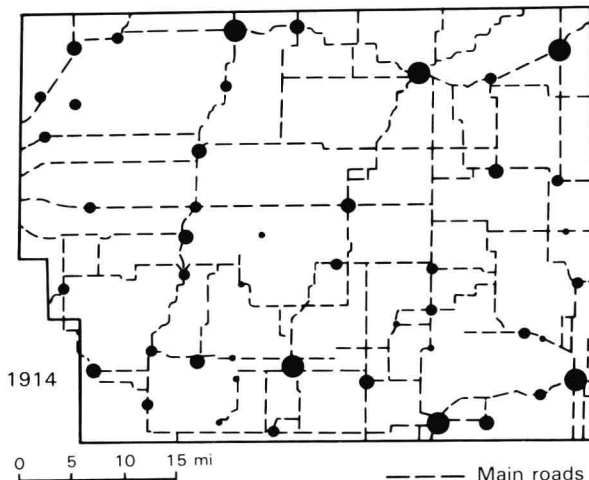


Figure 1.6 The pattern of centers in 1914.

Yet the period 1904 to 1914 saw the onset of new trends. Although some new centers were established after 1900, the number of centers had actually reached its peak by this time. The story changed from one of different factors shaping expansion, growth, and new center location to one of competition, differential growth, and decline within the existing set of centers. All the existing centers possessed some modicum of centrality in the local economy, as provided by the railroads or the county political system. The location of a grist mill declined in importance. The introduction of rural free delivery after 1900 eliminated many small post offices and made continuation of the stores associated with them unprofitable. Comparison of Figures 1.5 and 1.6 will reveal a thinning of the pattern of centers through elimination of the smaller centers.

Tendencies toward differential growth and the thinning of the center pattern latent before 1914 were released by the coming of the automobile and the paving of roads. Roads paved to make farms more accessible to their local market centers enabled farmers to bypass the smaller centers and patronize larger centers. Use of trucks made possible centralization of railroad collecting and distributing operations in the larger stations, eliminating the centrality provided by stations in smaller towns. A process of differential growth started in which the smallest centers vanished, the intermediate-sized centers suffered a relative decline, and only the larger centers grew. In the period from 1914 to 1956 all the centers that were abandoned lay on inferior roads within nine miles of a major center. The few new centers to be established were located at previously unoccupied paved highway intersections. The centralization process was fostered by increased scale of retailing and the emergence of chain-store operations. Chain-stores preferred larger centers, and bigger stores had to locate in larger centers to be able to reach the larger market area necessary for profitable operations. Figure 1.7 shows the resulting pattern in 1956. The largest centers were those which were able to com-

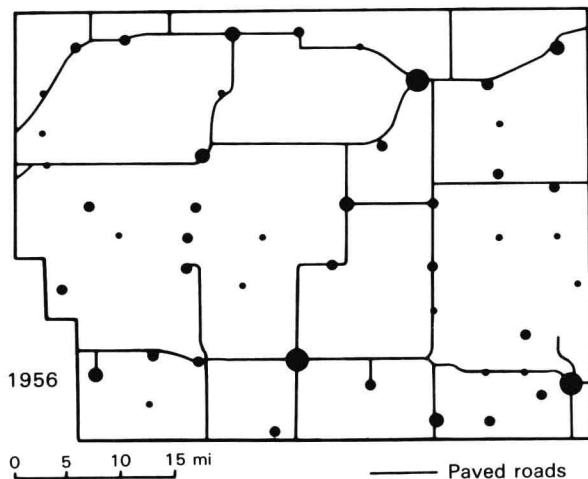


Figure 1.7 Relative importance of centers in 1956.