

Factors in Planning Regional Shopping Centers

KENNETH C. WELCH, Architect-Planner,
G. and J. Daverman Architects, Grand Rapids, Michigan

● A MORE descriptive name, but too long, for this entirely new retail mechanism might be "suburban regional shopping-goods centers." They are a different animal than 98 percent of the many shopping centers being currently planned and/or constructed today.

The term "shopping goods" is important. It refers to seasonal, lifetime needs, and comprises two kinds, fashion and generally standardized, mass-produced products requiring servicing, such as automobiles and the like. However, the regional shopping-goods centers we are discussing deal with the fashion type of shopping goods primarily, both apparel and home furnishings. One or more department stores established in the area with their unbelievable pulling power are a necessity as a nucleus for the shopping-goods center.

Convenience goods, on the other hand, are daily and weekly needs, and the modern super market with its comparatively limited market area is the important nucleus of this kind of a center. Convenience-goods stores have comparatively minor seasonal peaks but have, in some cases, rather severe daily peaks, often producing over 60 percent of their weekly sales on Friday and Saturday.

On the other hand, fashion shopping-goods outlets must plan for seasonal peaks, especially in December, an important factor in the amount and type of parking areas required.

The region we are considering is primarily a segment of the periphery of our urbanized areas, towns, and the rural population, especially that they intercept, or can be reached easily within an hour or two by private automobile. These centers placed well out beyond the central city's limits and beyond the congestion not only pull from the city center, because often congestion decreases as you travel away from the center, but can extend the market considerably into the surrounding towns and rural areas. The pattern of a given region in this respect has a bearing on this

phase of the analysis. New England varies considerably from the Midwest, for example, as I will demonstrate later.

Our cities started with a small, compact, high-density area with walking and the horse and buggy the important means of transportation. They were in practically all cases a port, either seaboard or river. When we look back from the standpoint of tranquility this was rather a delightful era.

The second stage of growth depended upon the streetcar, whose fixed routes determined all of our major thoroughfares today with their many ribbon commercial developments and which, with their abutting interference, are impeding the flow of modern traffic.

The last stage, which has taken place mostly since 1920, is that of the virtual explosion of our cities about in direct proportion, not only to the registration of automobiles, but in proportion to their expanded use as urban transportation, because of the spread of family and individual incomes.

This migration to the suburbs is one not only of numbers but also of income. The average income in large central cities has been shown to be around \$3,200 as compared with \$4,200 in the suburbs. This is an important factor in merchandise planning for these new regional centers.

This low-density population in the suburbs can never be economically served by mass transportation, and it is accordingly quite dependent upon the private automobile, especially for the great majority of shopping trips. This fact is one of the basic reasons why all mass-transit companies in every city today are having economic pains.

By the same token, the central business district, which has heretofore had a monopoly on the presentation of shopping goods, can never be served by the private automobile. This large presentation of shopping goods is the key to the traffic generating power. Shoppers' World, Framingham, which was really the first proof of the

pudding as far as these large regional centers are concerned, has proven that a parking index of 15, i. e., 15 car spaces per thousand gross square feet of rentable area, is necessary to completely handle the December seasonal peak when the store area has reached its realistically maximum space productivity.

Incidentally, a great many reports are circulating to the effect that Shoppers' World has not been too successful. The usual mistakes that seem to be inevitable when you are constructively pioneering were made, many of which can and have been corrected, often at some expense. Even so, the development is definitely a success, and the business this current year is running 20 to 25 percent ahead of the previous year. There are some misfits, naturally, but on the whole the tenants are happy with their operation.

Assuming an average definition of a central business district, it is interesting to compare its parking facilities with Framingham's parking index of 15. It is impossible economically in any central district in a city of 200,000 and over to achieve a parking index of over 0.75 or 0.50, or in other words, over $\frac{1}{20}$ to $\frac{1}{30}$ of the proven parking demand in relation to structures that exist in Shoppers' World. Where possible to increase it materially, it would be impossible with all of the tricks of your gentlemen's trade to provide ample access.

In addition, the central district has to provide low-turnover parking space for the labor force that, by choice, insists upon using cars for transportation, and incidentally, many who can afford to pay fifty cents to a dollar per day for convenient parking spaces.

The former king of retailing, the department store, in the main has fought decentralization tooth and nail ever since the automobile became a problem in our urban areas. As a result, a number of things have happened to them. If they have made too great an investment in their plant in the central district or they have some unfavorable leases, they are in a difficult situation. As a whole, they have creaked to a halt and are going backwards. They as a group present a discouraging profit picture today.

The recent decade of inflation and the greater spread of incomes have saved many a department store. However, to-

day the great majority of merchants concede that it is not good business to continue to fight the natural current but to go with it and that branches of their operation in the suburbs are necessary, if only to maintain their prestige and render a greater needed service to the suburban communities.

As an indication of the considerable shift that has taken place in retail stores by type groups during the time of the increased use of the automobile, I would like to cite a few figures: comparing the year 1929 with the last quarter of 1951, all retail stores in that have succeeded in getting about 12 percent greater share of disposable income of individuals. This is an index in a way of the changed economic conditions primarily due to the greater spread of family income.

In the same period, using the Department of Commerce or Census definitions of store groups, the general merchandise group, which includes department stores, decreased 26 percent in relative share of the consumer's dollar. The apparel store group decreased about 14 percent but the men's stores, who have had their major presentation downtown and who are a part of this group, decreased about 37 percent in their dollar take. Furniture and furnishings stores have remained about the same because of the considerable home-building activity and the promotions of new merchandise, such as television.

We will refer to these three basic groups of kinds of stores hereafter as GAF.

On the other hand, the eating-out and drinking places have increased about 93 percent in relative business, and the super market, which in 1929 took in 8.9 percent of disposable income, now gets 13.5 percent, more than a 50 percent increase.

While the redistribution of incomes, the changing age groups, social habits (due mostly to the automobile), and other factors have been important causes in this shift in retail sales, it is not entirely coincidence that all the stores which have been congestion-bound in the central district and difficult to reach by modern transportation, are losing out in their share of the consumers' dollar, and those stores which have been able to disperse as the automobile has permitted the dispersion of people have had a material increase in relative sales.

It is even more serious when we realize that many department stores have built suburban branches within this period, and that many variety chains (part of the general merchandise group) have dispersed and have outlets in all outlying centers of any size. Further, every neighborhood center has its dress shop, hat shop, or men's haberdashery store.

I am not prophesizing the doom of the large, downtown department store by any means. It will continue to perform a necessary distributive function in any urban area. I do say, however, that (1) it cannot continue to expand in size to serve the modern urbanized area except by building comprehensive branches designed to serve this growth, (2) if it was overbuilt downtown it will never catch up to their full potential of productivity and at the same time make a profit, and (3) it can only maintain prestige and continue to render a needed service to a region by constructively decentralizing its operation.

Accordingly, the problem becomes how best to provide for the large department store and specialty shop branch. It is without any question in my opinion best to make them part of an integrated regional shopping center designed completely to serve the private car with safety, with a maximum amount of convenience, without congestion, and with the complete elimination of the many irritations and frustrations which are a part of trying to use the automobile in the congested central district.

In addition to the definite cumulative pull of many stores within walking distance of each other and stores that advertise (that is what has made downtown great during the street-car age) it is essential that there be many small stores and stores of a character which can competitively pay a higher rent per square foot to reduce the real-estate costs of the puller department store. This is necessary to reduce the one operating-expense ratio which increases today due to current building costs, plus the fact that it is expensive to provide the necessary parking which logically should be free parking. Present real-estate costs in shopping centers unfortunately are compared with those in the 20- or 30-yr.-old structures downtown, which have long since been charged off with the exception of lease-held improvements.

To create the best retail mechanism

and the longest range investment in regional centers, certain basis factors are emerging as being definitely desirable to a maximum degree. First, they must be composed of a balanced group of shopping goods stores, preferably they should be branches of established shopping goods stores using a high degree of regional publicity, primarily newspaper space. They consist in the main of branches of one or more department stores, all kinds of apparel and specialty stores, at least one variety store, and the necessary convenience outlets, such as restaurants, package goods stores, drug stores and the like. There must also be a considerable number of necessary services (some of which can be given a monopoly) to create a so-called one-stop center. In reality, this new regional center becomes a branch of the shopping-goods part of the central business district.

The second factor, and one being neglected in the great majority of centers currently being built, is that it must have ample access, without congestion at the period and time that the local shopping habits demand. The congestion being created by many large centers has always been completely predeterminable and proper planning could have corrected it or the location was wrong to start with. In other words, proper access has a great deal to do with location.

Third, the site design must be based primarily on the organization of the traffic, private and public vehicles, trucking, and the organization of the pedestrian traffic in the center itself. It is possible to minimize the interference between vehicles and people and to provide the maximum pedestrian access to all stores creating all 98 to 100 percent locations.

As part of the site design we have the architectural concept. It must be architecture designed to sell merchandise and it must be today's and tomorrow's architecture, not yesterday's. This is essential to a long-range investment.

This entirely new, too-long-delayed environment for the selling of fashion shopping goods must break as sharply with tradition as the automobile has outmoded the horse drawn carriage. This is essential for its maximum success in not only making an exciting new experience in shopping possible but in naturally and inexpensively selling the maximum amount

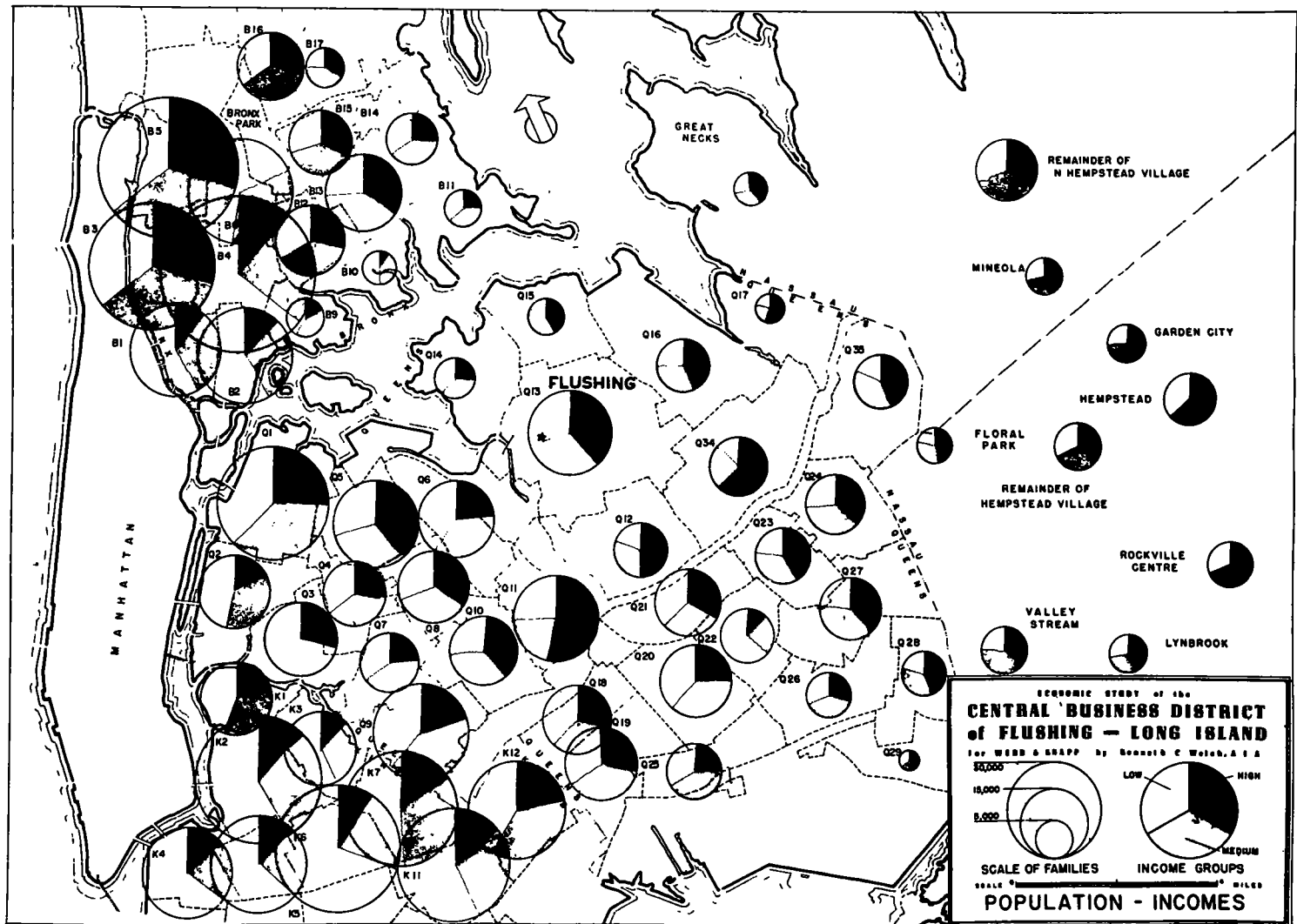


Figure 1.

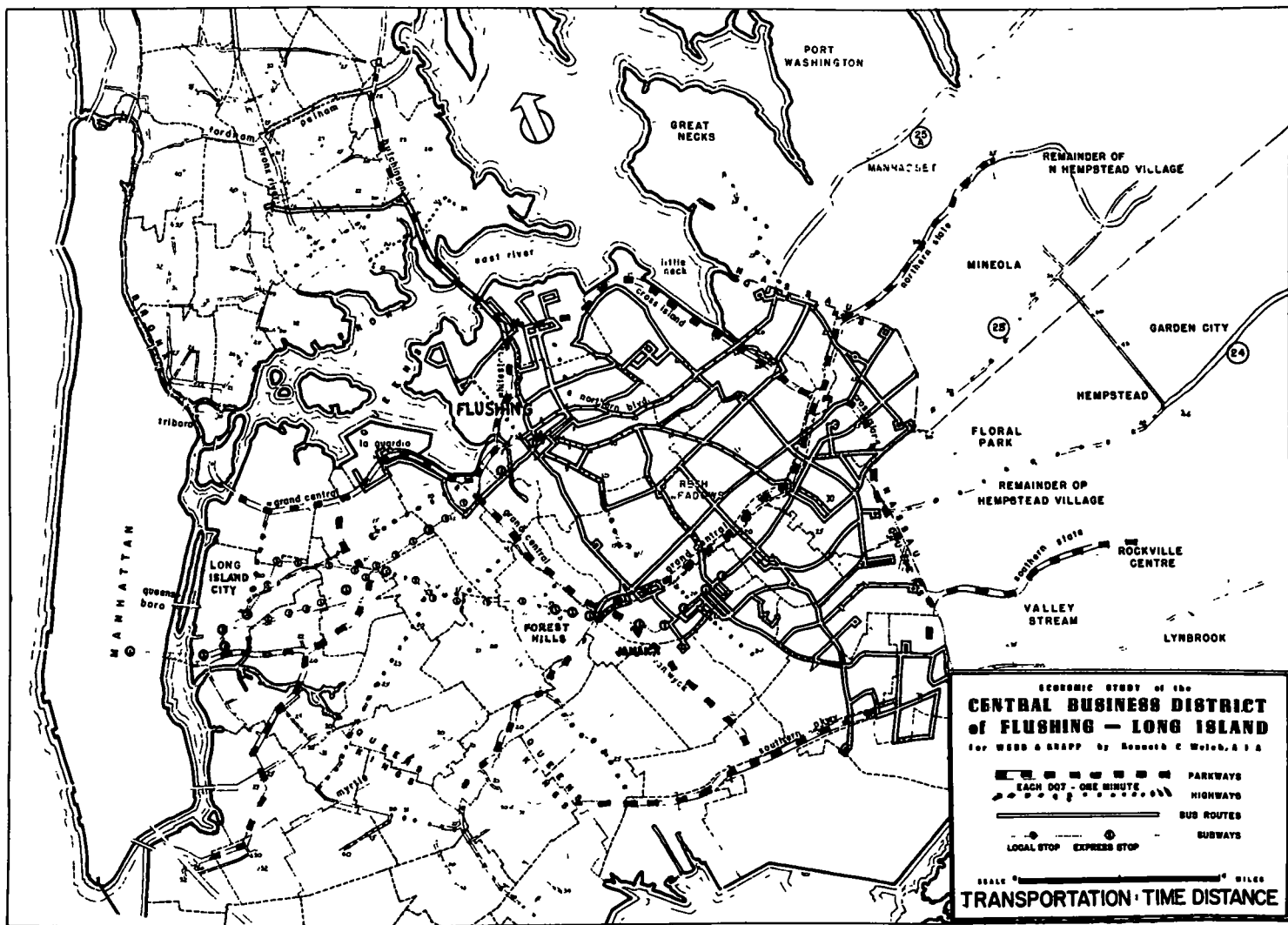


Figure 2

of impulse type of merchandise so important to maximum department-store and specialty-store profits.

This can be done to a high degree. It does not require any miracles, merely a complete application of the many proven design techniques now in use. They include such things as planned traffic flow within the center and within a given store, interrelation of merchandise and display, maximum facilities for suggestive selling, maximum flexibility for seasonal and other changes, minimum effort for sales personnel in completing a transaction, and other factors. Profits are helped too by planning minimum and easy movement of goods from truck to not only the point of sale but to the customer's parcel carrier that in the rear of her parked car. A logical concentration of merchandise that has difficult packing and unusually difficult delivery problems is possible when a store has room to spread laterally instead of vertically.

There are no visual barriers to displayed merchandise as, for example, reflections on show windows. All of this and more is possible only within the concept of a completely fresh architectural and planning approach, which is comparatively easy when you can plan an entire "downtown."

One other factor which should be mentioned in the traffic organization is the necessity of the concentration of pedestrian traffic and pedestrian purchasing power per front foot of display. Only pedestrians buy these kind of goods. Department stores have had to resort to too-much mail ordering and telephone ordering with their costly returns and lack of impulse sales. This concentration of pedestrian traffic is a basic factor in commercial land and structural economics. In central districts and, in fact, most commercial areas, too-much vehicular traffic can be detrimental.

One index of the success of this concentration of traffic in a given site plan is the ratio of the rentable area in a structure to the lineal feet of passageways leading from parking areas to a central point or to a puller. The so-called cluster plan that is the result of a single department store as the main generator often can produce less than 100 sq. ft. of rentable area per lineal foot of passageway or back street, and even the best of the cluster plans can produce as little as 300.

In the planning, for example, of Mondawmin (as reported in the March "Architectural Forum") we have been able to produce more than 650 sq. ft. of rentable area to lineal foot of passageway leading to the important concentrated frontage. Further studies are increasing this figure.

The fourth basic factor in the planning of regional centers is to provide the necessary protection for the surrounding community by voluntary zoning of buffer areas, which can be residential or industrial, to protect the planned highway capacity, to prevent the pirating of your superior parking facilities, and to protect the surrounding community from traffic and other inconveniences. In other words, it is an application of city planning at its best. In many cases when centers are put in built up areas as, Mondawmin, for example, the developer and tenants must be sure that the surrounding zoning and land uses are not politically manipulated to the detriment of the center.

Fifth, there should be an enlightened property management, primarily merchandise rather than real-estate minded. Percentage leases are an instrument for good in this connection.

Too-many good merchants are being sold space in projects that are primarily real-estate speculations. They unfortunately will have varying measures of success, primarily because of the efforts and the reputation in the area of the merchants. However, the great majority of these centers could have been materially improved to make this effort not only more profitable but more lasting.

Lastly, an economic survey and market analysis should be made to determine the potential sales and the types and characters of the stores for a given site and area.

A number of systems of market studies and economic analysis have been used. The growth of the chain stores, a product and accordingly designed for decentralization, but selling convenience goods primarily have a comparatively simple problem in this respect, because they need consider only the immediate surrounding area and market, — within 4 to 6 min. of time distance. However, the larger shopping-goods center pulls easily from 30 min. and further away, depending upon its size and its scope or presentation of shopping-goods merchandise. In the case of Shop-

pers' World, Framingham, subsequent checks have shown that over 30 percent of the number of customers are coming from beyond the original 30-min. time-distance market delimitation.

However, the most-logical method of analysis I feel is what could be called a refinement or modernization of Reilly's Law of Retail Gravitation. This law has been tested a great many times in a great many areas and has proven, when realistically applied, to produce satisfactory appraisal of relative markets and relative sales.

It was developed by William J. Reilly, of the University of Texas, in 1929. It said, "Two cities attract retail trade, primarily shopping goods, from an intermediate city or town in the vicinity of the breaking point, approximately in direct proportion to the populations of the two cities and in the inverse proportion to the square of the distance from these two cities to the intermediate town."

In the application of this law to a modern market analysis, we do the following things: Today the 1950 census breaks down unrelated individuals and families, which we will hereafter call expending units, into income groups by census tracts in cities and by small civil divisions, counties, and the like in the outer areas. This is done by a sampling technique and is not 100 percent accurate, but it is the best measure of purchasing power we have; when conservatively discounted to allow for any errors, it is a useful tool.

We group together a varying number of census tracts creating what we call economic areas of approximately the same number of expending units and, to a limited extent, with the same homogenous economic character. These areas or groups of census tracts become the intermediate town in Reilly's law.

Also, as the population of the cities varied with their presentation of shopping goods, we use today the amount of GAF sales in a given economic area or town as a measure of the direct attraction of retail trade.

Next, because limited access highways and even modern major thoroughfares with synchronized signals can be safely driven from 45 to 50 mph., whereas we are slowed down to 10 mph. or less in the congested districts, we substitute time distance for the distance that Reilly used.

While numbers of expending units in a given zone and the quantity of presentation of shopping goods and the time distance are primary factors, these forces are vitally influenced by the income status of purchasing power of a given group by the type of transportation facilities available and by the quality of the stores.

Admittedly, it is not an exact science and a considerable number of judgments are necessary. However, in a great many cases we make extensive field studies which together with our many conservative factors and discounts we feel gives an acceptable market potential for a given site and location.

In the large metropolitan areas, such as New York, Philadelphia, or Baltimore, the number of computations and the field work necessary to realistically apply this law are considerable. It is necessary to determine the amount of sales in any given area or concentration of sales in shopping goods. In some cities retail sales by types of stores have been broken down into census tracts, and when this is available it makes the problem much easier to solve. When we do not have this information, as for example in Toledo, we have to by examination on the ground and aerial photographs and maps and determining relative areas approximate the GAF sales in a given commercial development.

We use as a basis for shopping goods the GAF sales previously described. To arrive at total fashion shopping goods, or what might be called department-store-type merchandise, we add about 10 percent additional sales for such stores as jewelry, stationery, books, photographic supplies, luggage, and the like.

We feel that this constructive decentralization of this important retail function can help preserve the downtown area. With the suburban center's complete parking facilities it can take off much of the pressure of the suburbanite who insists on using his automobile for transportation making too many trips to the central district. In this way we can utilize the limited (economically) parking facilities available for the many other important functions of the central business district.

It is important, for example, to prevent the decentralization of office space and many other central-district functions that are equally if not more important to the

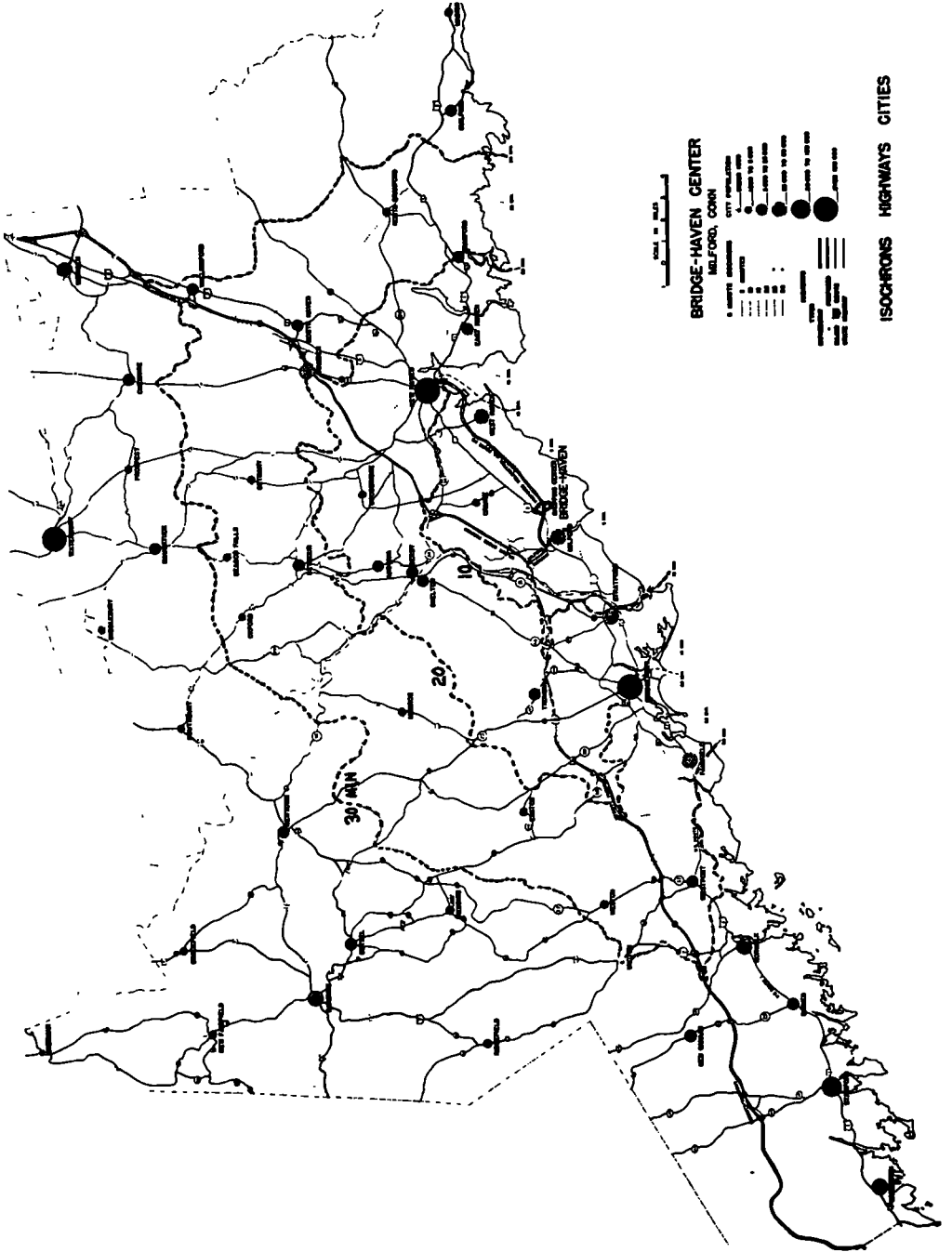


Figure 6.

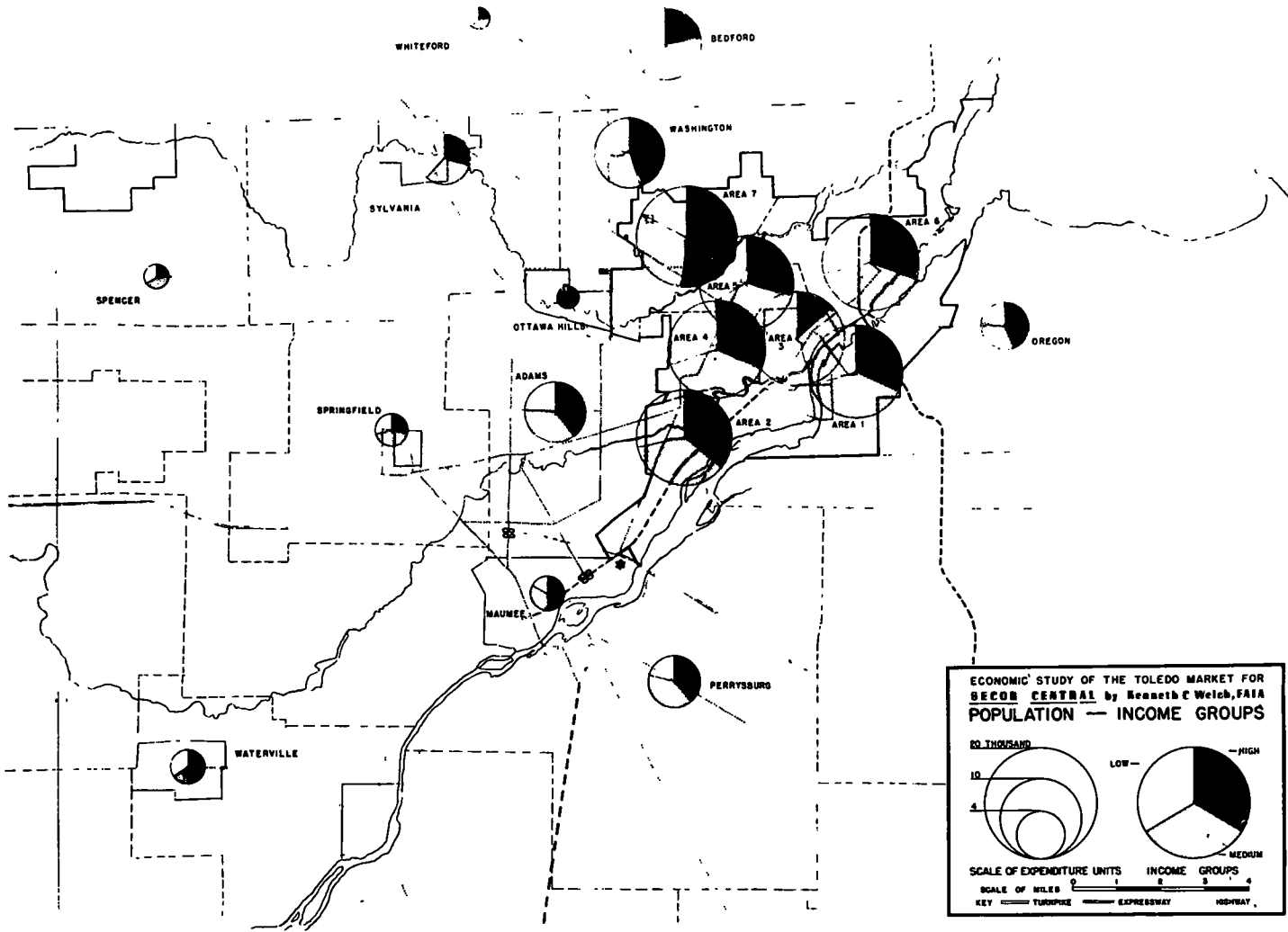


Figure 7.

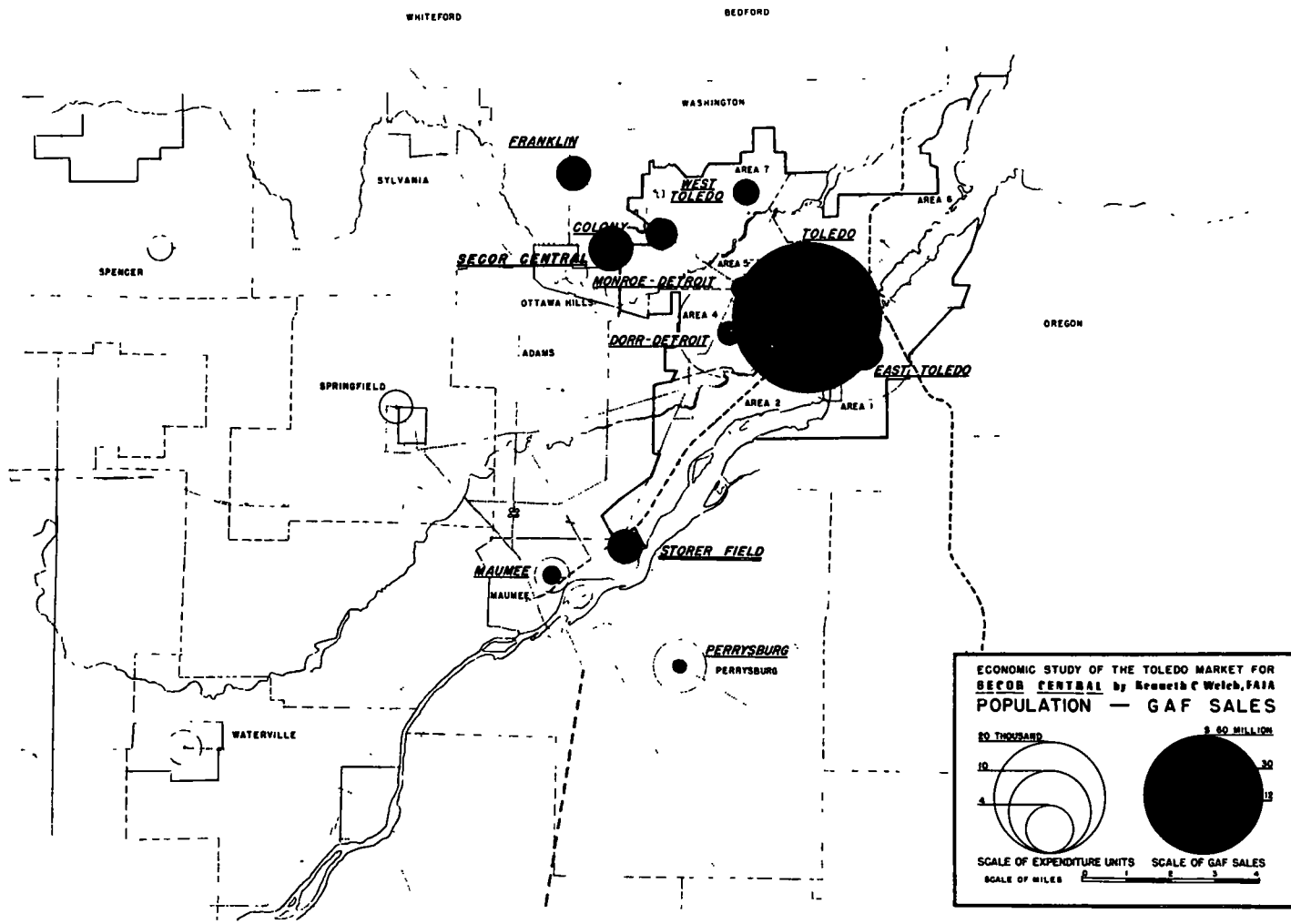


Figure 8.

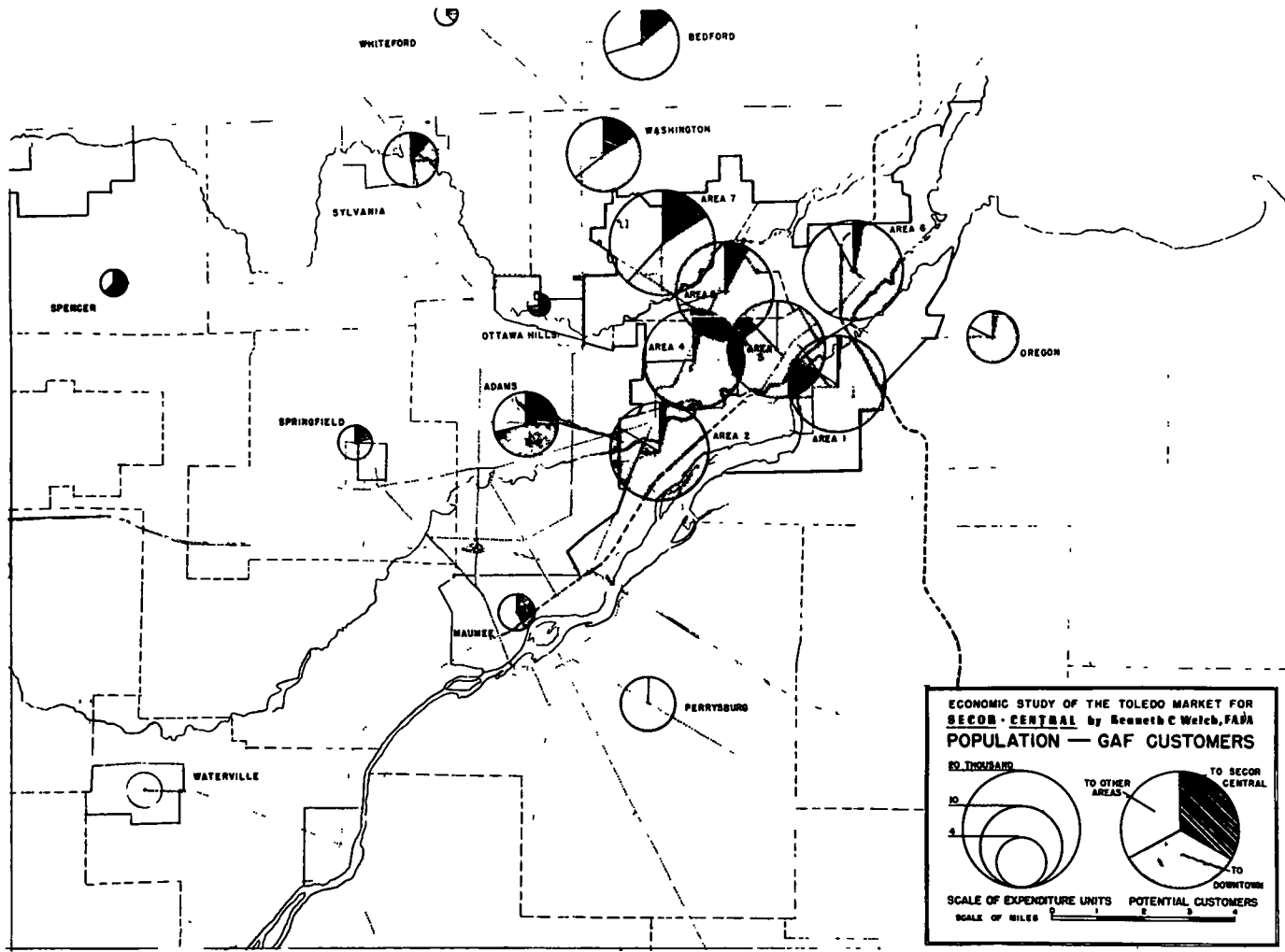


Figure 9.

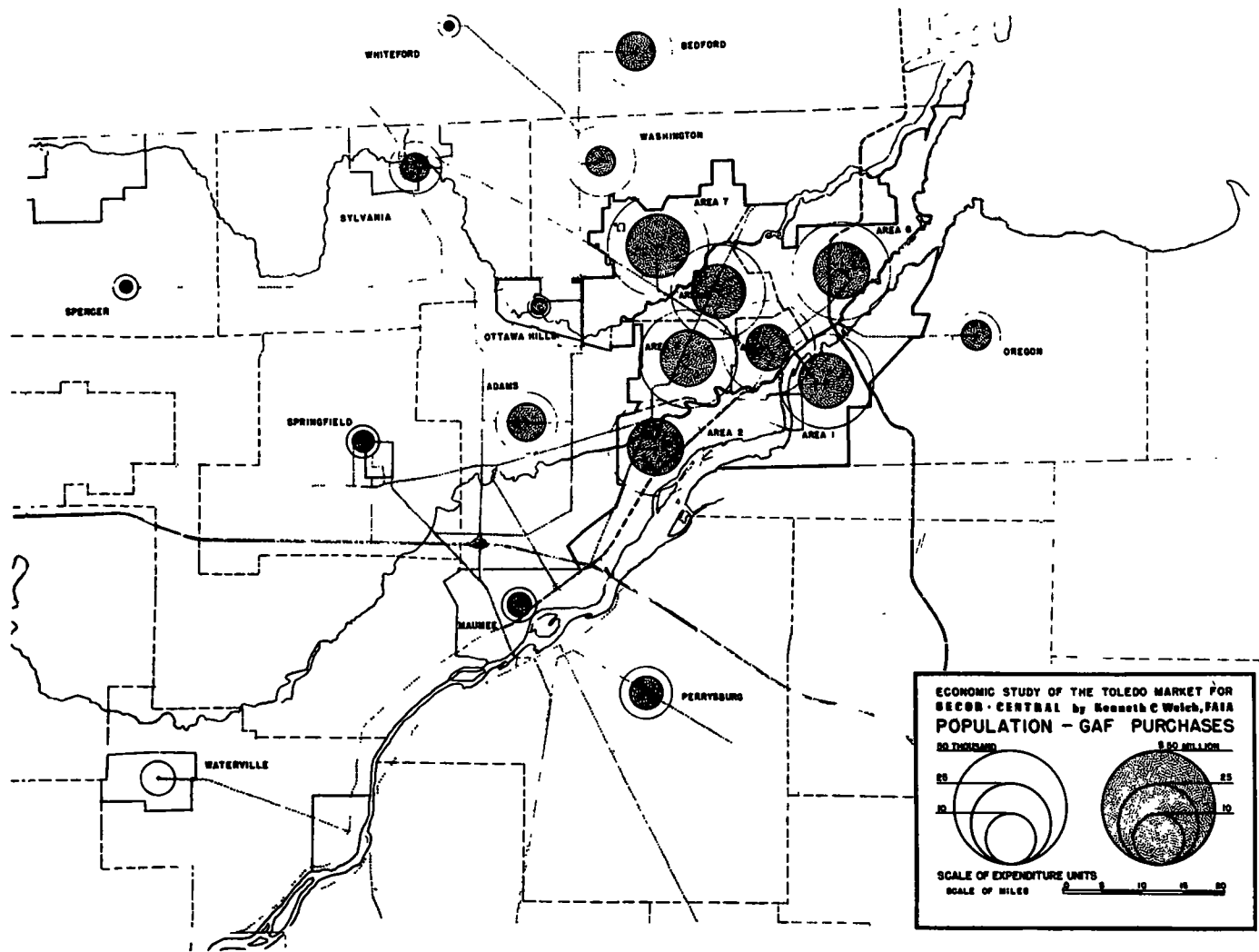


Figure 10.

community as a whole than the shopping section. The clerical force that works in the central district is one of the best markets for fashion apparel and accordingly should be preserved. On the other hand, there are many land uses and structural uses in the central district that would be better in some cases decentralized. This includes certain misplaced industrial operations.

CENTRAL BUSINESS DISTRICT STUDY, FLUSHING

Figure 1 shows by the area of the circle the expending units (EU's) broken down into three income groups: high, the dark tone; light gray, the medium income group; and white, the low income. In this case the lower third in Queens under \$3,000, the middle third \$3,000 to \$5,000, and the upper third over \$5,000. However, in the entire metropolitan area the upper third is only 25 percent of the EU's and the median 30 percent. As in all of these charts it is easy to pick out the high-income areas and the low-income areas. These are further merely graphical representations of the necessary tables and other data to apply Reilly's Law.

Figure 2 combines three basic transportation systems, bus lines and mass transit, subway and highways. All of these are important means of transportation to the center of Flushing. Instead of using the usual method of isochrons, we have shown by dots a minute driving time on the highways as we have to compute the time distance between the centers of all economic areas and centers or concentrations of shopping goods sales. These are established according to standards based on some field studies varying from 45 mph. on the parkways and expressways down to 10 mph. in congested areas. We also allow varying number of minutes to find parking spaces in a given kind of shopping center, varying from 2 to 5 min.

Figure 3. In this study are not only general merchandise, apparel, and furniture sales important but also food sales, separating the combination grocery and meat stores under which category fall the supermarkets. The latter are shown in black and all other food sales in gray and the GAF sales in white.

BRIDGEHAVEN CENTER

Figure 4 shows a typical distribution in New England of Expending Units. The study was made for a center half way between Bridgeport and New Haven. In this case the income groups were broken down into fifths with the upper fifth over \$5,000 and around to the lower fifth under \$1,500. It is interesting to compare the distribution of population and density with, for example, Long Island or Toledo.

Figure 5 shows the distribution of general merchandise, apparel, and furniture, home furnishing store sales. The upper quintan represents the G and clockwise the A sales and to the left the furniture home furnishing sales. In some instances it was not possible to break them down into the three stores groups as for example in the potential of the shopping center in which case they are shown in the solid tone.

Figure 6 shows a network of expressways in this part of Connecticut with a proposed new Route 1 and shows the isochrons of 10, 20, and 30 min. of distance.

If it were not for this excellent network of highways with which you are all familiar this 30-min. isochron would be contracted considerably and the market reduced accordingly.

TOLEDO AREA

Figure 7 shows again the expending units broken into income groups by thirds for the Toledo Metropolitan Area. It is interesting to compare this pattern and distribution of population which is comparatively compact with little in the outer peripheral areas with the wider distribution in New England and the dispersal of purchasing power on Long Island.

Figure 8 shows again the concentration of GAF sales and again note the importance of the central business district with its very high concentration.

Figure 9 shows the expending units and by the pies the GAF customers by numbers patronizing the shopping center, by the central district and by the white tone all other concentrations of shopping goods.

Figure 10 shows in gray circles the GAF purchases made by the various expending units. This can be compared with Figure 8 showing where these purchases are concentrated. Note the much-greater area of the circle in economic Area 7 as

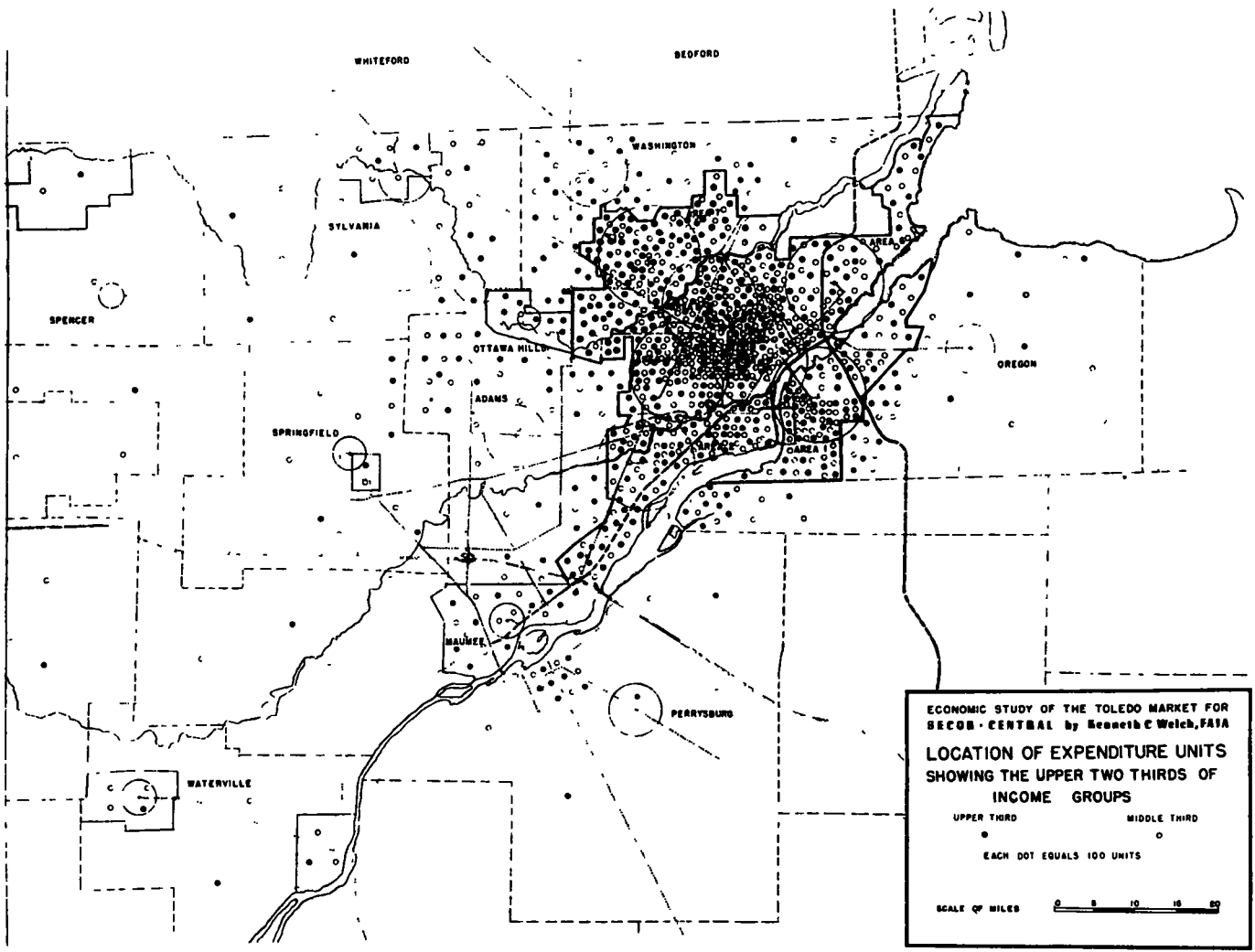


Figure 11.

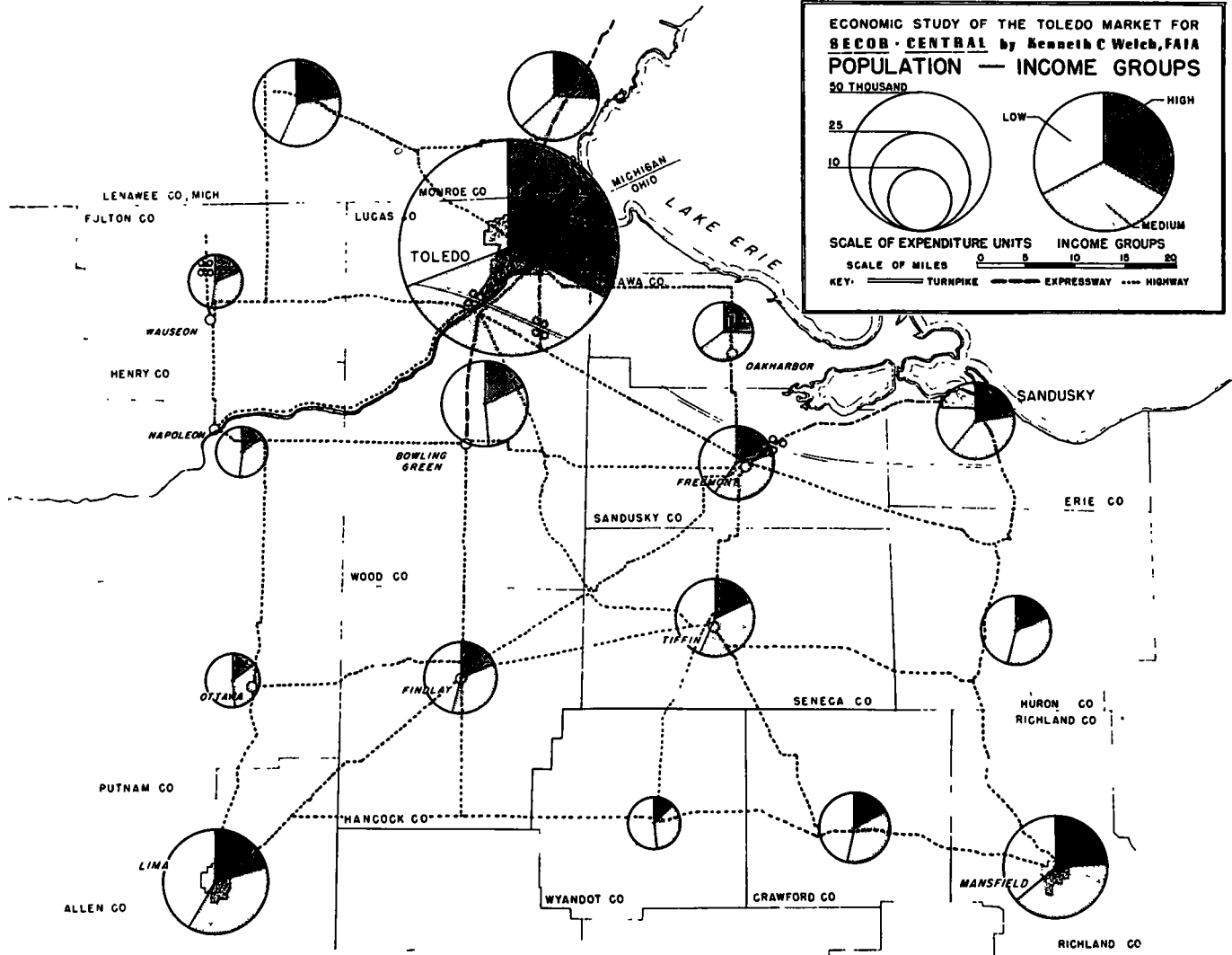


Figure 12.

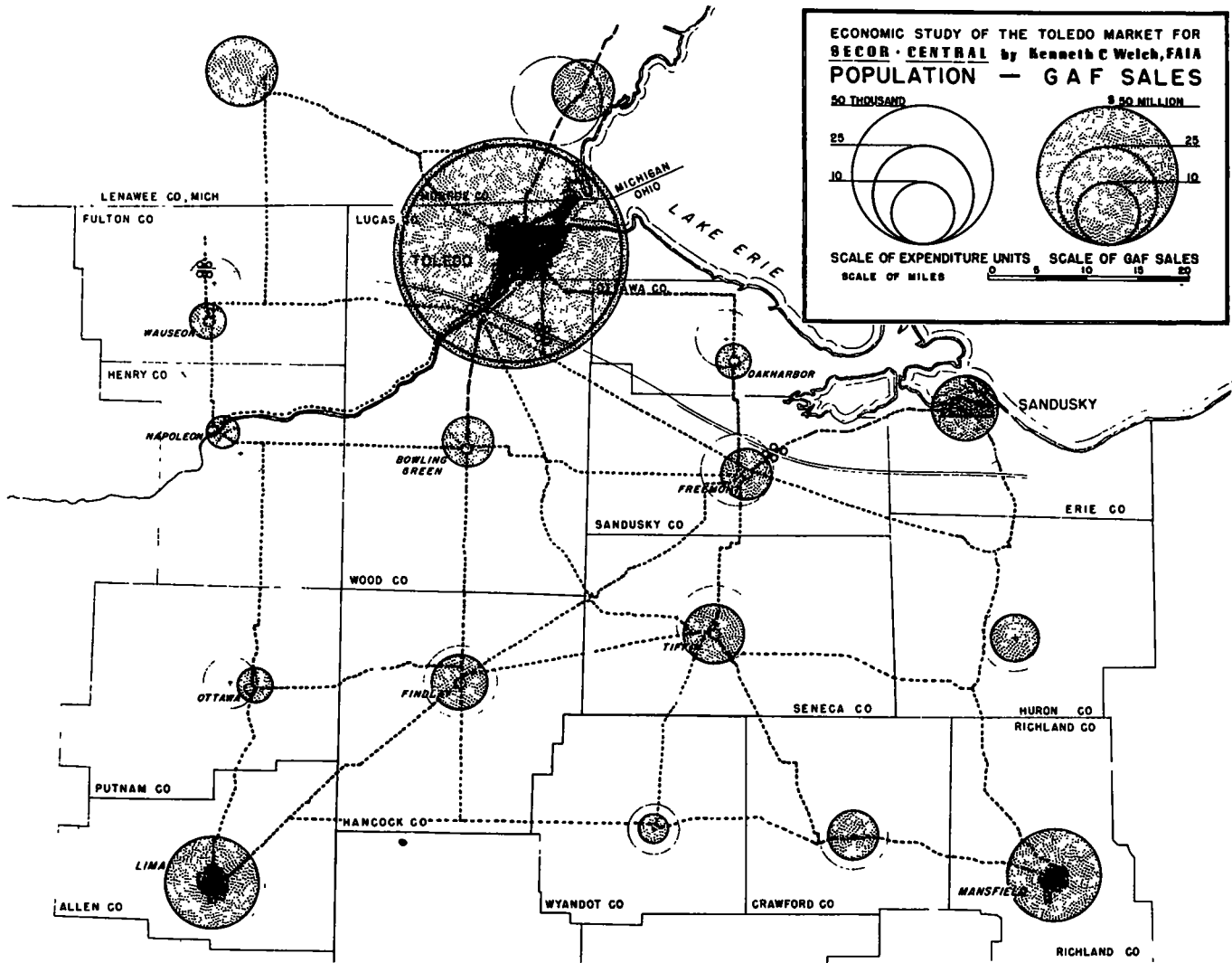


Figure 13.

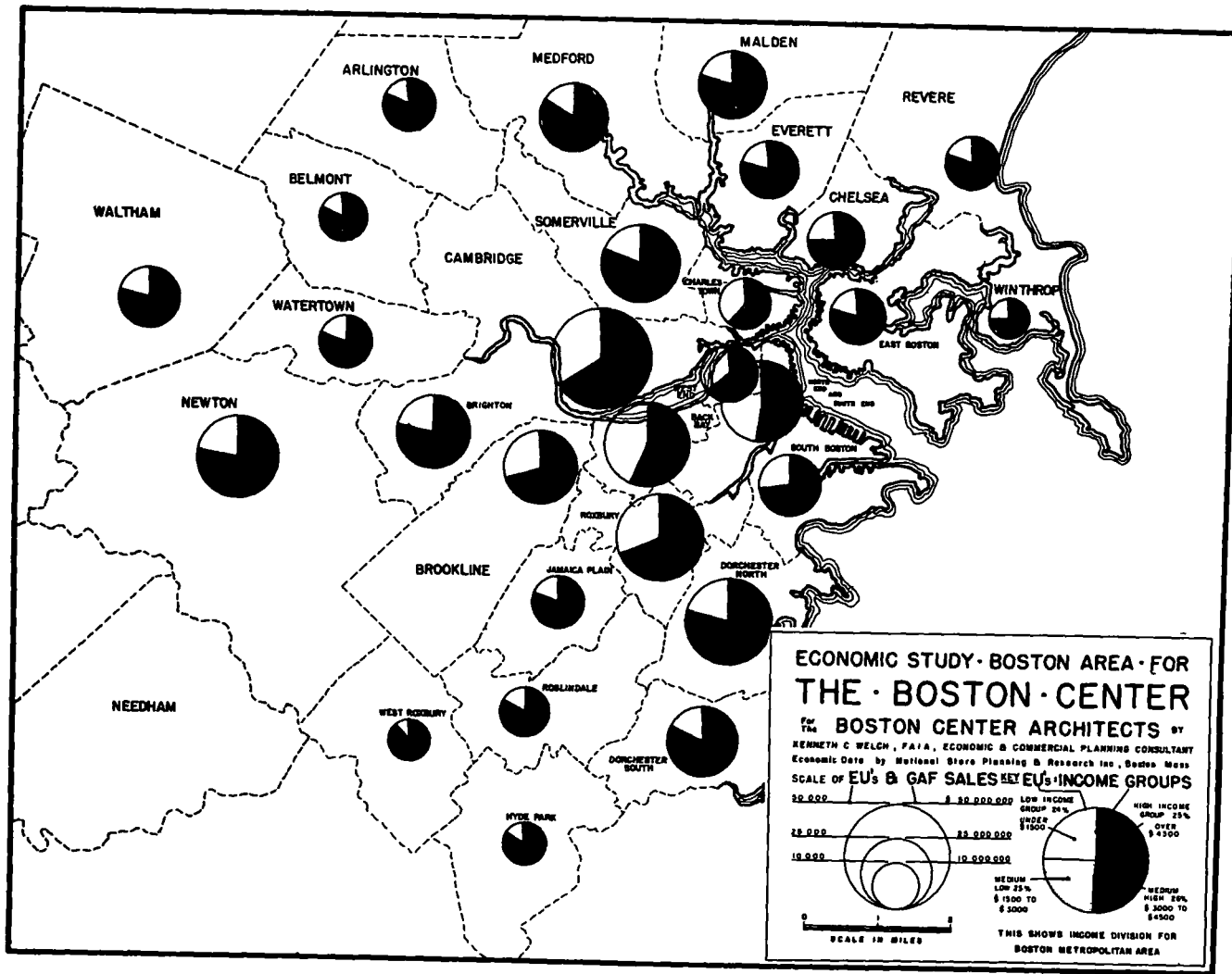


Figure 14.

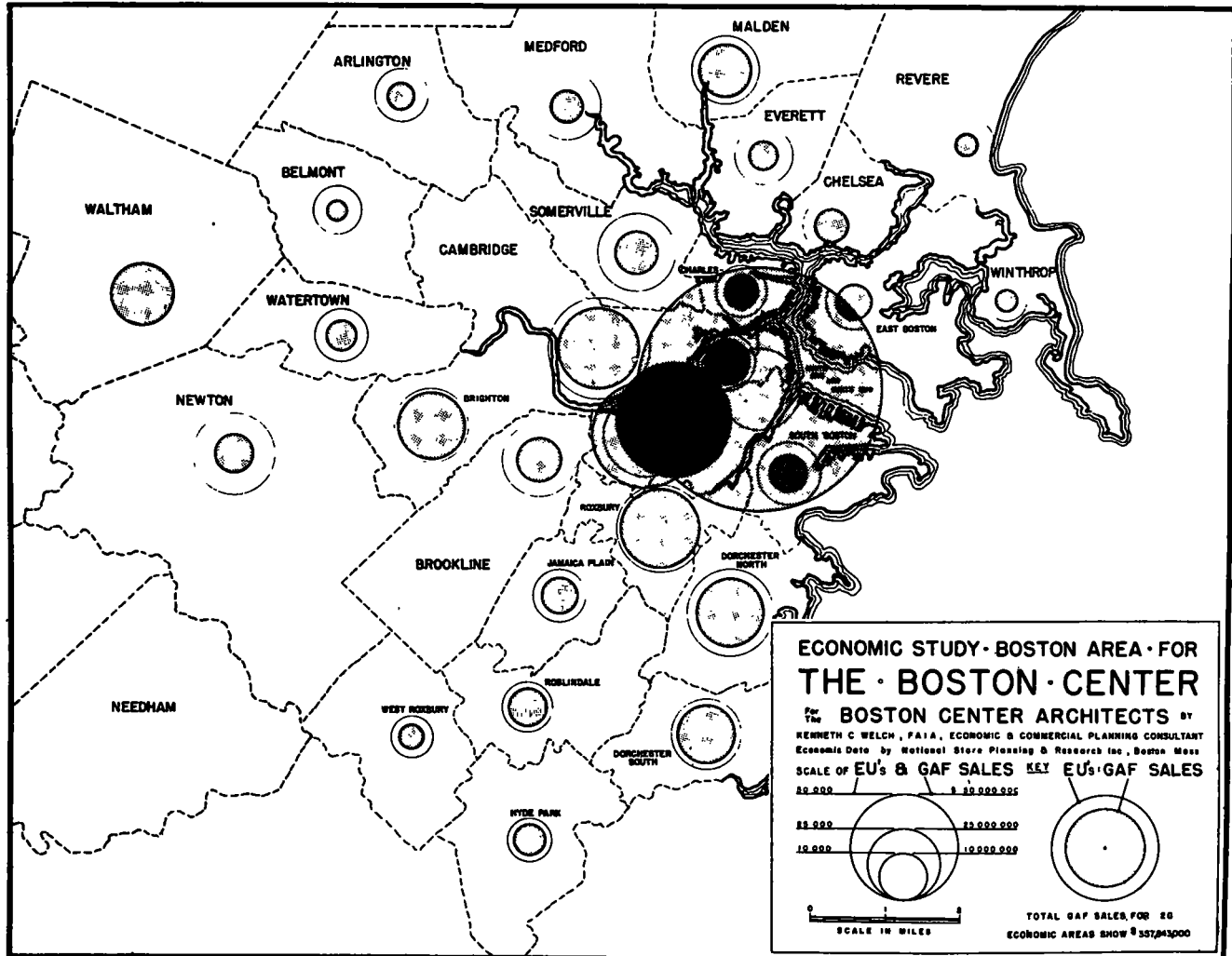


Figure 15.

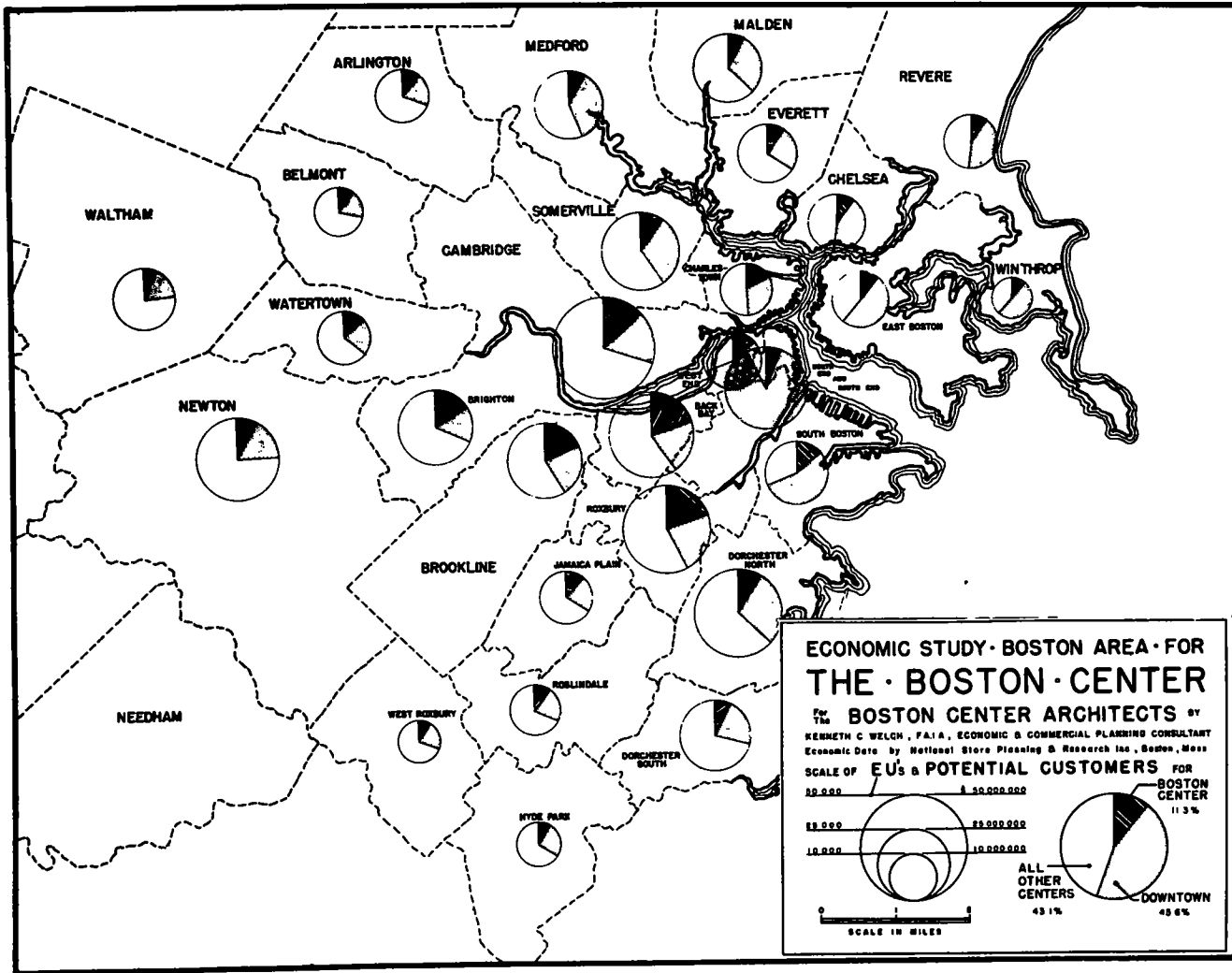


Figure 16.

compared with Area 3 adjacent to the central district, wherein are practically the same number of expending units in each.

Figure 11 is another method of showing income groups by location in a more detailed form. The dark dots represent 100 expending units in the upper third of the income groups and the light dots the middle third. In this case the lower third represents 30 percent of the population and purchase only 23 percent of shopping goods sold in the area.

Figure 12 shows the same expending units for an entire region comprising 17 counties and their breakdown into the same income groups. This study was extended to show the influence of the Ohio Turnpike in bringing additional GAF sales from counties with easy access to the turnpike to the Toledo area.

Figure 13 shows the existing GAF sales in the various counties as compared with Lucas County. Our study showed that some 14 to 15 percent additional GAF sales would come to the Toledo area from the 16 counties, the great majority coming by private automobile.

THE BOSTON CENTER

This center is unusual in that it is just a little over a mile to the central business district. It is on two subway and elevated routes and on a considerable number of bus lines; it is also planned to have a station of the Boston-Albany railroad. It is in a triangle between Boylston, Huntington, and Massachusetts avenues. The matter of traffic access and the organization of the external and internal traffic is obviously one of the most important parts of the study. This is done in collaboration with Wilbur Smith and the economic analysis did a great deal to determine the direction from which the mass transit users would come as well as with the private vehicle traffic. Some 6,000 car spaces are being provided.

Figure 14 shows again the distribution of expending units with their income status and this time broken into fourths.

Figure 15 shows the concentration of GAF sales with the darker circle indicating the potential for the center.

Figure 16 shows again the potential customers for the new center as well as for the central district and all other centers.