

★ planning advisory service

AMERICAN SOCIETY OF PLANNING OFFICIALS

1313 EAST 60th STREET — CHICAGO 37, ILLINOIS

Information Report No. 59

February 1954

SITE DESIGN, PARKING AND ZONING FOR SHOPPING CENTERS*

Suburban shopping centers have come into existence, grown in size, and increased in number not because they offer new products or better stores than are to be found in central business districts, but because they are convenient. Metropolitan areas have grown rapidly in recent years, but the growth has taken place for the most part outside of the central city. Central business districts which were relatively adequate to handle the number (taking their income into account) of people in metropolitan areas a decade and a half ago, are now cramped, crowded and clogged with street traffic.

Shopping centers in suburban areas are nearer the population they serve (in driving time), offer a relatively large (if sometimes inadequate) amount of conveniently located off-street parking, and fit in with the patterns of suburban living described by Burgess and other urban sociologists as long as twenty-five years ago. The farther out from the center of the city that a family lives, the less time the man of the family spends at home. Whatever the social consequences of this situation, it results also in greater dependence on the woman to maintain the day-to-day life of the family. She must run the household and do the shopping, and cannot afford the longer trip to the center of the city - a trip which may have to be taken on slow and crowded public transportation, or by car over congested and hazardous roads with no guarantee that there will be a place to park the car once the central business district has been reached. Shopping center business is drawn almost entirely from people who live within a maximum of thirty minutes driving time over local roads, and most customers live closer.

General definition of a shopping center.

A shopping center is a group of retail stores planned and designed for the site on which they are built, located away from the central business district, to serve the shopping needs of new suburban and fringe growth. Every shopping center that we know of has a supermarket (a large retail grocery) in it, and the supermarket is either the largest traffic generator of the shopping center, or is secondary only to a department store in the center. Shopping centers may be distinguished between those that are dominated by a supermarket or

*Copyright, American Society of Planning Officials, February 1954.

retail grocery, and whose secondary store is a drug store or variety store; and those that are dominated by a department store, and whose secondary store is a supermarket, or another department store.

The two types of shopping centers will differ considerably in their area requirements, the number and types of stores, and the annual gross business. They differ also in the trade area served, and the types of shopping needs fulfilled. PLANNING ADVISORY SERVICE Information Reports Nos. 44 and 47 have covered market area analysis for shopping centers and criteria and standards for shopping center stores. The present report shows how the analysis previously described relates to the gross acreage, parking and site design requirements of a shopping center.

Finally the report describes some of the zoning provisions already enacted for shopping centers and comments on some of the problems for city planners raised by shopping centers.

A SHOPPER'S VIEW OF THE SHOPPING CENTER

The planner is concerned primarily with the shopper and his (her) trip to the shopping center only after the shopper is driving on the road and up to the time that he enters one of the stores in the center. After that, we leave him to the world of stretchable hose and non-stretchable budgets. The planner is most concerned with four stages of the shopper's trip - the road he travels to get to the center, the point at which he leaves this road and enters the center, the search for an unoccupied parking space, and the walk to the stores.

Shopping center developers, as shown in the earlier reports, must consider many facts which are not strictly within city planning jurisdiction, such as the trade potential of the area surrounding the shopping center, and the types of stores that should be located in a particular shopping center. As final plans for the shopping center begin to emerge, showing the size and layout of the stores, parking area, and service areas, the planner becomes vitally concerned. In fact, we believe there is enough information available on the principles and practices of shopping center development for the planner to be concerned about possible zone locations for shopping centers even before a shopping center is proposed for his area.

This report tries, therefore, to cover the stages of the shopper's progress that concern the planner and indicate the difficulties encountered along the way.

Stage One: The Trip to the Shopping Center

Thirty minutes driving time is currently the accepted limit of the market area

of a major regional shopping center, which might serve up to 500,000 people. The area enclosed within the thirty-minute driving time has to be calculated according to the condition and congestion of the streets and is not always in direct ratio to linear distance. Five miles of expressway may be traversed more quickly than five blocks of crowded business section.

Shopping center developers recommend traffic counts of the major streets serving the center, not so much as an indication of the business potentiality, but as a check on the congestion already existing and an aid in predicting the traffic situation after the center is opened. As a matter of self-preservation, developers and architects recommend further studies, including the future road-construction programs in the area, and future housing developments and population movements in the area, so that other effects on business and traffic may be determined.

Once the gross annual volume of business of the center has been estimated, the average number of cars using the center daily may be estimated. Also the peak traffic, in and out, may be estimated, and the time of day at which peak loads will occur may be determined (see below: Stage Two). To the normal present and future traffic loads of the roads serving the center must be added the traffic generated by the center, and the totals must be compared with the capacity of the roads. If the roads do not have the extra capacity to handle the future traffic loads, new road construction should be in the offing, or the center should be located elsewhere. If possible, the site selected for a new shopping center should be adequately serviced by existing public roads.

Stage Two: Off the Road and Into the Center

Crowded highway intersections have long been considered good commercial locations, but the problem of access to the shopping development is receiving much fuller consideration in modern shopping center planning. The key to the access problem is not the volume of traffic passing the center, but the density. As traffic surveys have often shown, the total number of cars passing a given point on a road (the volume) eventually drops as the density gets close to the saturation point. The reason for this relationship is simple. The closer the cars are packed together, the slower they must go. In such dense traffic, as might be said to characterize the rush hour traffic of some Los Angeles free-ways or the Chicago Outer Drive, tie-ups and delays are also more frequent, and more costly in terms of highway efficiency. The roads having highest volumes are those on which the cars are spaced further apart and travel at higher speeds with relative safety.

Both the high-density and high-volume roads offer problems of access to the shopping center. On the high-density, fairly slow-moving road, it will be difficult for drivers to maneuver into position to turn off. On high speed roads, ample warning must be given the driver that he is approaching an exit, and the exits into the center must be designed with safety features that take the higher speeds into account.

Few shopping centers will be served by high-speed, limited-access roads. Shopping centers being constructed in developing areas will be served by an existing road network which may not be adequate to handle the traffic that will arise when the shopping center is completed and the area is built-up.

The points of access from the roads to the shopping center should be adequate to accommodate traffic at the busiest hours of the center. Victor Gruen, architect and designer of shopping centers (in "Traffic Impact of the Regional Shopping Center," see biblio) estimates that an exit or entrance with continuous flow can handle up to 750 cars per hour. The peak load of a shopping center can be estimated on the basis of the annual gross income of the center. The problem is three-fold; first, to determine the largest single-day gross business; second, (on the basis of the average purchase per car) to determine how many cars will be in and out of the center on that day; and third, to estimate the number of cars that will enter and leave the center during the busiest hours of that day.

Gruen estimates that a large regional shopping center may expect a peak volume at the rate of 3,000 cars per hour. In such a case, it would seem that four exits are needed to discharge the 3,000 vehicles.

Stage Three: Parking the Car

Parking is the prime convenience advantage of the shopping center over the central business district. In spite of the repetitive statement of this fact, the shopper may not always find the parking space he wants. The shopper wants a space he can find easily, with a minimum of difficulty in moving around the parking area, and one that is located near the store or store group in which he is going to shop. The fault is sometimes with the developers who have underestimated the need for parking space or found the land too valuable to be devoted to parking. Sometimes there are too few parking spaces simply because there are too many people with cars looking for them.

Parking in the shopping center is seen by the shopper as a series of steps:

1. maneuvering the car around the lot until he finds a space;
2. getting the car into the space;
3. walking from the space to the stores.

Leaving the center, he must go through approximately the same steps in reverse, including finding his car which occasionally seems more difficult than it was to find the space originally.

1. Finding the space. Whether the customer finds a space at all depends on the amount of parking space originally provided. The quantity of space is discussed below. Otherwise, the key factors in moving cars around the parking

lot are the lay-out and width of the aisles between the rows of parked cars, especially near the most attractive stores, the department store (s), the supermarket (s), and the drug store (s). How wide the aisles should be depends mostly on whether they will be one-way or two-way. A survey made by the Eno Foundation (Parking Lot Operation), showed that the aisle widths of eight parking lots with one-way aisles averaged 14 feet, and ranged from 7.5 to 21 feet. The low figure of 7.5 is amazing when you consider that the largest 1947 car was over 6 feet, 10 inches wide. For two-way aisles, the width in about twenty parking lots averaged 23.7 feet, and ranged from 16 feet to 37 feet. If the customers park their own cars, as happens at nearly all shopping centers, then the aisles should not be so narrow as to make the task difficult, nor so narrow that one car being parked will temporarily tie up traffic in the aisle. For one way aisles, width should be at least 10 feet; for two way aisles, about 20 feet.

2. Getting the car into the space; Basically, we are assuming that most parking lots are laid out pretty much in the same way. For instance, the spaces and the aisles may be laid out this way:

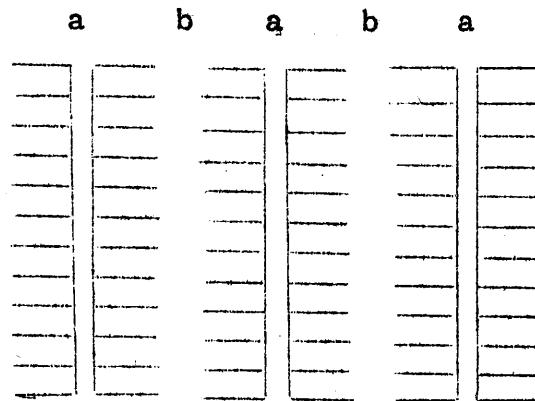


Figure 1

The narrower aisles (a) are the pedestrian walkways sometimes provided, and the wider aisle (b) between rows of spaces is the aisle for maneuvering the cars. The lay-out may be varied for several types of angle parking, thus:

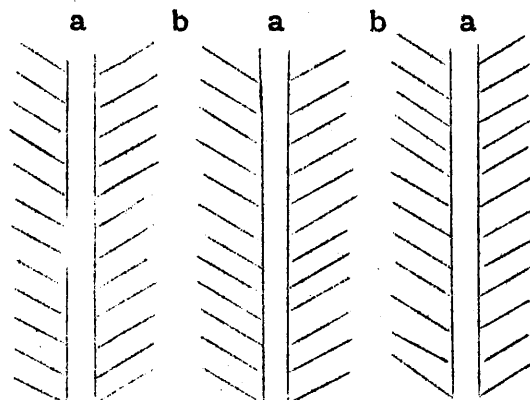


Figure 2

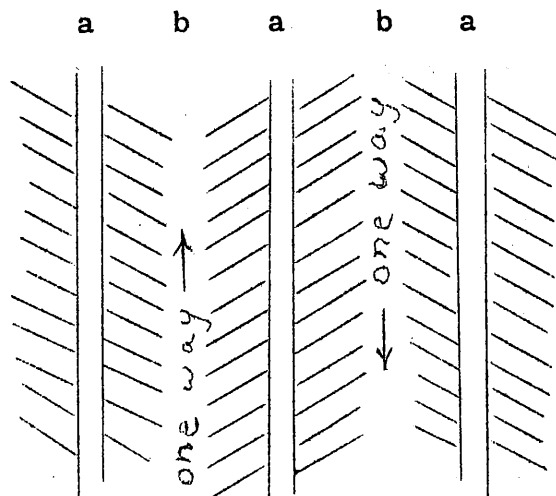


Figure 3

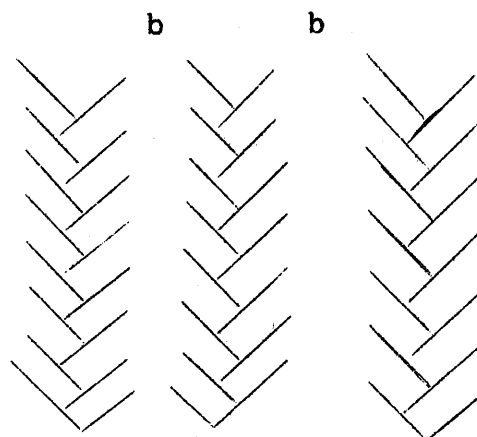


Figure 4

The total parking lot area per car space (including aisles) affects the customer in terms of his difficulty or lack of difficulty in getting into a parking space. The Eno study showed that, for head-in, 90 degree parking, the lots studied averaged 246 square feet per car, with a minimum of 192 square feet and a maximum of 307 square feet. Now 250 square feet per car is considered too small an area for shopping center lots, and 300 is a more commonly accepted figure. Baker and Funaro in Shopping Centers: Design and Operation state that 350 feet is the minimum that can be considered satisfactory. Whatever figure is taken, not more than 200 square feet need be devoted to the space itself. Baker and Funaro recommend a space 9 by 18 feet, and one 10 by 20 feet should be ample. The rest of the area (150 square feet per car by their standards) will be used up in aisles, exits and entrances, and landscaping. No land will be saved by making spaces less than 9 feet wide. Since cars are about 7 feet wide, a smaller space will encourage straddling the dividing lines, and the result will be even fewer usable spaces than if they were 9- or 10-feet wide.

3. Walking from the space to the stores: Once the shopper has safely gotten his car into the best available space, he has only to walk to the stores. We have been assuming that parking would be laid out around the outside of the store

group, with the interior mall reserved for pedestrian movement. (See Figures 5-11 below for design of the parking areas in relation to the possible types of store grouping.) Some parking lots have concrete sidewalks between the rows of parked cars (aisles marked "a" in figures 1, 2, and 3). If they are installed, they should be at least 7 feet wide to allow for the overhang of the front ends of the cars, and to allow room for two people carrying packages to pass each other without difficulty.

The Parkington Shopping Center, which is served by a five-story self-parking structure in the interior of the store grouping, is able to boast that no shopper need walk more than 110 feet from his parked car without being under some cover. Covered walkways for shoppers can be an important feature, especially where the parking is spread out considerably, and the weather often inclement.

Multi-story parking garages, because of the relatively high cost per parking space, are not usually recommended by shopping center developers, except where the amount of land is limited and its cost per square foot is high. For shopping center purposes, it is almost necessary that the structure be a self-service parking garage, and this fact raises some problems of design in a multi-level garage, particularly in the size of the spaces and aisles on each floor, and the width and design of the ramps leading to the floors. The Parkington self-parking structure has separate ramps leading directly from each floor to the ground.

How much space?

The quantity of parking space is measured in two ways. The older method is to compare the total area devoted to parking with the net retail area of the stores. Thus, if 50,000 square feet of floor space is devoted to retailing, and 150,000 square feet to parking area, we would say the ratio is 3:1. A more recently used measure is to compute the number of parking spaces per 1,000 square feet of store space. If we assume that each space takes up a total of 300 square feet of parking lot area (including aisles, landscaping, etc.) then 3.3 cars can be parked for each 1,000 square feet of parking area.

By the old method, a ratio of 3:1 meant that there were three square feet of parking for every square foot of retail space. So, for 1,000 square feet of retail space, we have 3,000 square feet of parking. At 300 square feet a space, 10 cars can be parked in that 3,000 square feet. Therefore, a ratio of 3:1 by the old method, is equivalent to saying 10 spaces per 1,000 feet of retail floor area. Table 1 illustrates the relationship between these two methods of calculating parking in relation to sales area:

With these measures in mind, we can talk about the parking area actually needed for a shopping center. Gruen and Smith have worked out a parking "demand" for a proposed shopping center having 800,000 square feet of floor space and described in Shopping Centers: The New Building Type (see biblio.)

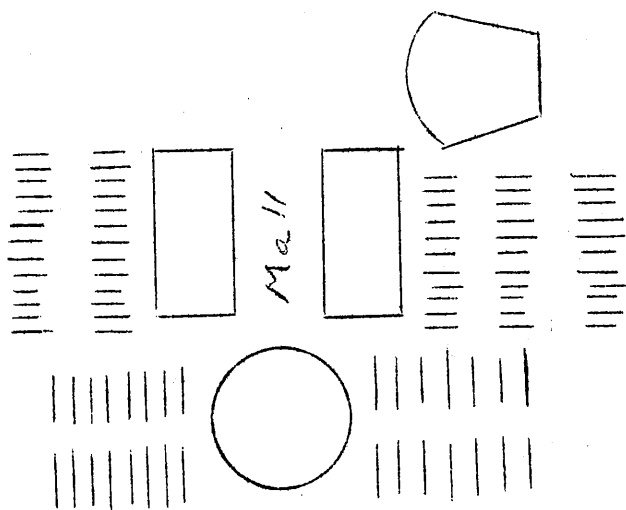


Figure 5

This design is similar to Shopper's World, Framingham, Mass., which is experiencing financial difficulty apparently because no second major store has located at the open end of the mall.

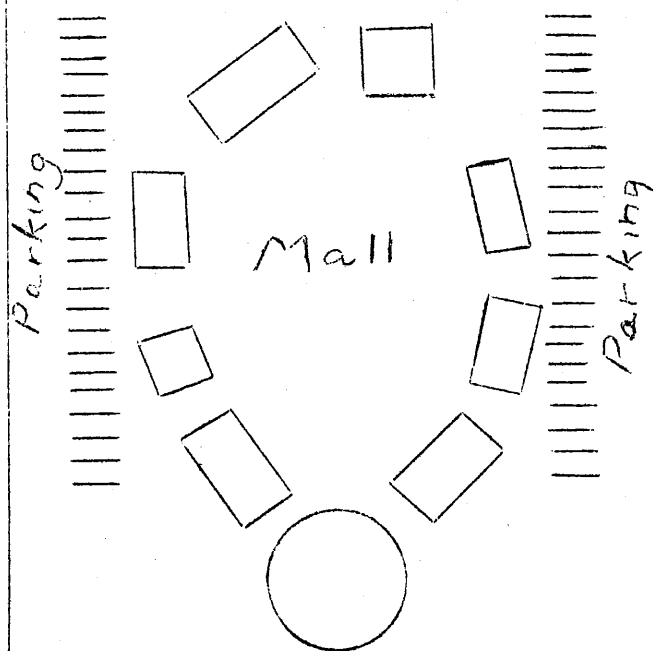


Figure 6

(Similar to Northland, Detroit, Michigan)

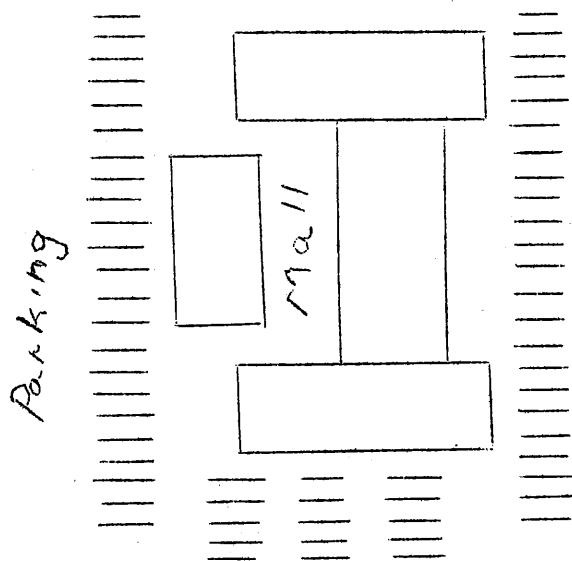


Figure 7

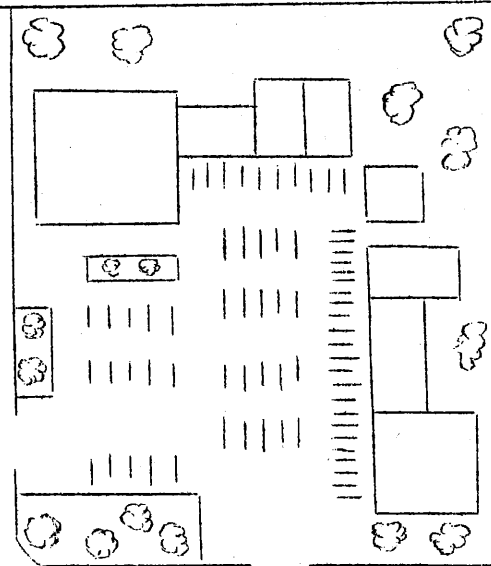


Figure 8

(Similar to Boulevard Shopping Center, Montreal - 207 acres, 32 stores, 2100 parking spaces.)

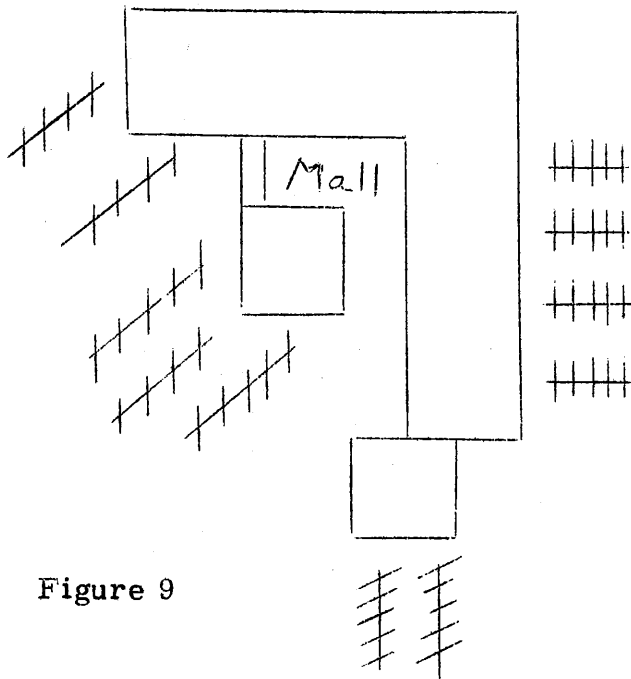


Figure 9

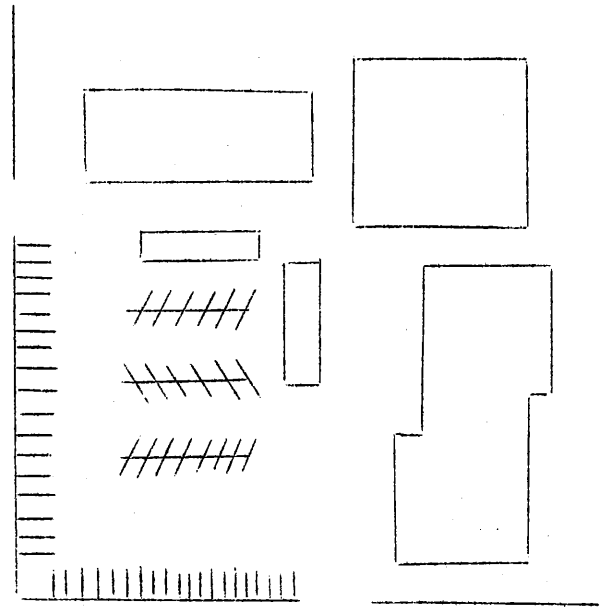


Figure 10

(Similar to Evergreen Plaza,
Chicago, Illinois)

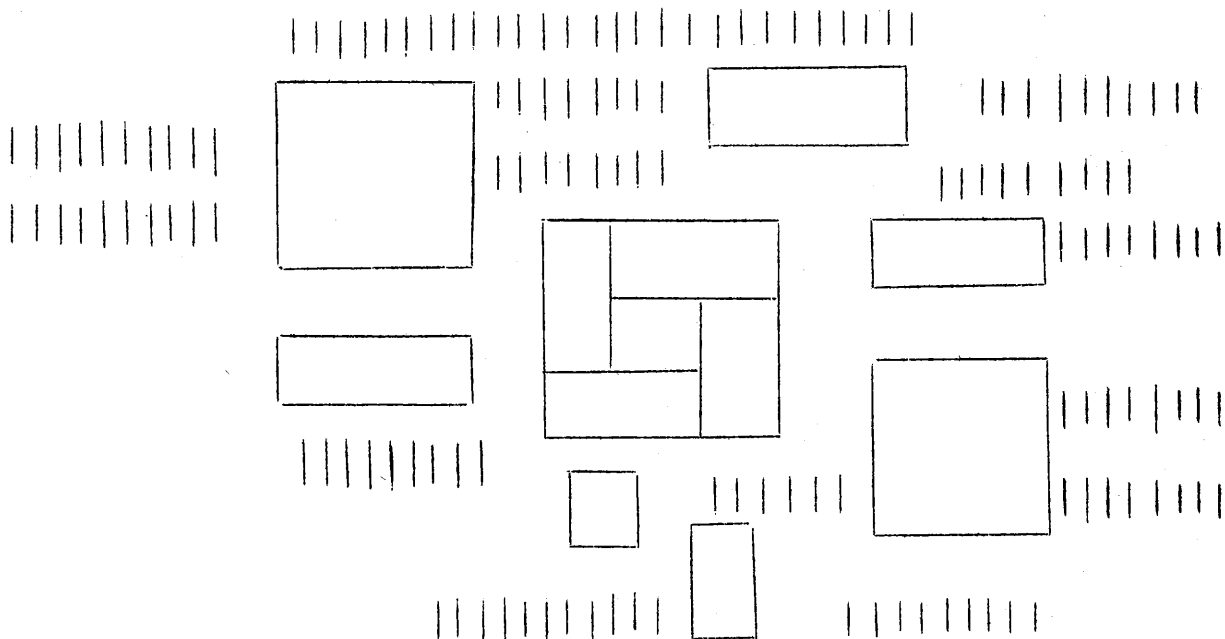


Figure 11

TABLE 1

PARKING RATIO COMPARISON

Square feet of parking area to one square foot of floor area	Auto spaces per 1,000 square feet of floor space (at 300 sq ft per auto)
1:1	3.3
1.5:1	5.0
2:1	6.7
2.5:1	8.3
3:1	10.0
3.5:1	11.7
4:1	13.3

An example of how to read this table would be: a ratio of three square feet of parking area to one square foot of floor space is the same as saying 10.0 auto spaces (at 300 square feet per auto) per 1,000 square feet of floor space.

They calculated the number of cars per 1000 square feet of rental area from observed traffic in an existing center for the six business days. Then they calculated the number of cars daily for a center of 800,000 square feet with 20 per cent more business than the observed center. Finally, an hourly schedule for Friday (open until 9:30 P.M.) was worked out.

While a careful and scientific approach to the problem is to be applauded, it is still questionable whether any more accurate results can be obtained by such a method, after all of the "estimates" and "reserves for unusual conditions" are thrown into the figure, than can be obtained by general observation of existing centers and the adequacy of their parking facilities. While the Gruen and Smith study was based on observation, it was extremely detailed, and the question remains whether one can improve on the simple ratios generally offered.

Two general statements seem to hold true for parking facilities at shopping centers. The first is that there seems to be no record of any parking facility having too large a capacity for the center (see below, Can you have too much parking?) The second statement on parking spaces is that there will be more walk-in business in a neighborhood shopping center than in a community or regional shopping center, and therefore the smaller center will not require

proportionately as much off-street parking space as the large center. Table 2 lists and describes the parking facilities at a number of shopping centers throughout the United States. We must disabuse the reader in advance of any hope of great accuracy in the statistics. The number of parking spaces, and the rental sales area were checked in two sources for a few of the centers. The figures which were checked varied from 10 to 90 per cent.

TABLE 2

PARKING FACILITIES IN SOME EXISTING
AND PROPOSED SHOPPING CENTERS

	Store Selling Space (sq.ft.)	Total Parking (auto spaces)	Ratio of car spaces per 1000 sq.ft.
Old Orchard, Chicago, Ill. (prop.)	1,500,000	6,000	4.0
(J.L. Hudson) Detroit, Mich. (prop.)	1,000,000	11,000	11.0
Stonestown, San Francisco, Calif.	1,000,000 **	2,500	2.5
Fresh Meadows, Long Island, N.Y.	800,000 *	2,500	3.2
Northgate, Seattle, Washington	650,000	5,000	7.7
Westchester, Los Angeles, Calif.	644,200	3,300	5.1
Evergreen Plaza, Chicago, Ill.	500,000	2,200	4.4
Shoppers World, Framingham, Mass.	497,000	6,000	12.1
Highland Village, Houston, Texas	360,000 **	n.a.	5.0
Kanns, Virginia & Virginia Sq., Va.	264,300 *	1,000	3.8
Parkington, Arlington, Va.	250,000 *	2,500	10.0
Wynnwood, Dallas, Texas	250,000 *	2,400	9.9
Clearview, Princeton, New Jersey	227,625	1,900	8.4
Broadway-Crenshaw, Los Angeles, Calif.	222,950	2,750	12.3
Atlantic Center, Los Angeles, Calif.	180,000	1,500	8.4
San Lorenzo Village, San Lorenzo, Calif.	174,750	452	2.6
McCreless Shopping Village, San Antonio	163,000	1,989	12.2
Hutzlers, Townson, Md.	155,000	1,600	10.3
Cameron Village, Raleigh, N.C.	147,340	2,000	13.6
Bellevue Square, Bellevue, Wash.	125,000	1,000	8.0
Edmonson Village, Baltimore, Md.	123,000	550	4.9
Ridgeway, Stamford, Conn.	108,800	1,000	9.2
Wanamaker's, Wilmington, Delaware	105,000	1,000	9.5
La Grange Park, Chicago, Ill.	102,000	1,050	10.3
Lincoln Village, Chicago, Ill.	94,910	1,300	13.7
Lakeshore Plaza, San Francisco, Calif.	83,532	497	6.0
Village Shopping Center, San Angelo, Texas	73,000	1,000	13.7
Town and Country, Sacramento, Calif.	70,095	900	12.8
Woodward and Lathrop, Chevy Chase, Md.	70,000	1,002	14.3

TABLE 2 -- Continued

	Store Selling Space (sq.ft.)	Total Parking (auto spaces)	Ratio of car spaces per 1000 sq.ft.
Edgemont Park, Lansing, Mich.	68,000	680	10.0
Prairie Village, Kansas City, Mo.	64,000	400	6.3
Casey's, Bismarck, North Dakota	60,000 **	400	6.7
Manor Park, Chicago, Ill.	56,200 **	400	7.1
Windsor Hills, Los Angeles, Calif.	54,750	250	4.6
Hoffmans, Aurora, Colo.	52,614	950	17.0
Wanamakers, N. Shore Mart, L.I., N.Y.	51,000 *	600	11.7
Jefferson Village, San Antonio, Texas	48,520	190	3.9
Broadmoor, Shreveport, La.	48,020	350	7.3
Nob Hill, Albuquerque, New Mexico	42,800	100	2.4
Fairway, Kansas City, Mo.	40,250	450	10.3
Lincoln Center, Stockton, Calif.	40,000	400	10.0
Merrionette, Chicago, Ill.	35,110	400	11.4
University Hills, Denver, Colo.	34,000	850	25.0
Mayfair, Fresno, Calif.	33,000	808	24.0
Regenstein's, Buckhead, Ga.	28,000 *	300	10.7
Hometown, Chicago, Ill.	26,310	372	14.0
Naylor Road, Washington, D.C.	21,840	74	3.4
Krameria, Denver, Colo.	21,000	160	7.6
Fresh Meadows, Neighborhood Center, New York City	20,720	175	8.5

* Gross building rental area

** Gross building floor area

Compare the data in Table 2 with the recommended standard of 10.0 car spaces per 1,000 square feet of net retail area (or a parking ratio of 3:1, i.e., three square feet of parking area for every one square foot of retail sales area).

Perhaps the final accurate statement is given in the following extract from a letter:

February 14, 1953

. . . It is doubtful if any two planners or architects could agree on the number of square feet of parking space required for a shopping center or individual store. There is a question in my mind if there ever will be a correct answer.

My rule of thumb for providing parking space for stores and shopping centers is to guess a number of stalls and invariably I provide either too many or not enough. One of my clients who has made a study of parking believes that space should be provided for all the cars that go to a plaza or shopping center during the rush hour on the day before Christmas. Figure that one out . . .

In checking over some of the plaza parking areas that I have designed during the past few years, I find that one car space has been provided for each 120 square feet of gross floor area for one plaza and 160 square feet for another of about the same size. The one with the fewer parking spaces is doing about twice the volume of business at the one with the greater number.

. . . We have found that when there is a consistent shortage of parking stalls at a shopping center at the peak trading hours, that a great many customers knowing of the shortage, arrange to do trading at times when there is a good chance to find space and some of the plazas I have designed with a limited amount of parking have been very successful because the trading is distributed over a longer period than some plazas that have a large amount of parking stalls. Many housewives have set times to do their shopping and will not vary more than half an hour from day to day because of parking conditions.

Many years ago it was considered good practice to provide as much parking area as the total area of the building. This was increased to two times the area and is on the upward swing now from 3 square feet parking area to each square foot of building.

. . . I . . . must confess that I just do not have a formula. Have designed a dozen or more shopping centers or plazas ranging in size from 10 to 30 stores. If I were asked tomorrow how much space I would suggest for a shopping center of 20 stores, would guess a certain number and be reasonably sure that my guess was either too high or too low and that guess would be about 1 car for each 130 square feet of gross floor area for a minimum volume of 10 million and having at least 2 large markets and 2 large department stores.

Sincerely yours,

G. Morton Wolfe
Architect and Engineer
1377 Main Street
Buffalo 9, New York

Can you have too much parking?

We know of no existing center that has too much parking. Some parking spaces it is true are not economically used, due to their distant location from the stores. The poorly located spaces would be used more frequently if they were more conveniently located. The limit on parking area is for the most part determined by the distance that people have to walk to get from their cars to the stores. In a shopping center which offers only an uncomfortable walk through a sea of parked cars, the limit that people can reasonably be expected to walk is about 350 feet. On the other hand, if you can offer the shopper something other than cars to look at, he will most likely walk further. Arcades with window displays, or pleasantly landscaped areas to walk through might permit the extension of the parking area.

Gasoline service stations in the site plan

The larger centers will often include a gasoline service station (but not a commercial garage or repair shop or automobile laundry). The gas station is put in as a service to the customers and not as one of the drawing cards, and therefore should offer only a limited amount of service. For regular check-ups, repairs, and car washing, people will take their cars to neighborhood garages, or to larger service stations located in smaller shopping centers.

The first requisite of the location of a gas station in a regional shopping center is that it should not disturb the flow of traffic using the center for its major shopping purposes. The recommended location, therefore, is one that is separated from the store group by parking area. It probably should be located near the major exits, with access to the gas station so designed that traffic flow in and out of the shopping center is unimpeded.

Truck loading and unloading facilities

The dimensions and over-all size of truck loading berths, and the number required is described in the section on zoning regulations below (see especially the zoning provisions for Bismarck and Kansas City). The design of truck loading facilities and their location offer more serious problems.

If the center is very large, the stores may be served by an underground tunnel in which all the stores have loading berths. Such a facility might cost about \$800,000 according to one estimate, and few shopping centers will be large enough to be able to afford the expense. A more common practice is to have the loading and unloading berths at the rear of the stores, which raises a new problem. Often, the stores in a shopping center do not have a clear-cut "front" and "rear." Two sides face other stores, one side faces a mall, and the fourth side faces the parking area. The side of the store facing the mall must be attractive, obviously. The side facing the parking lot cannot be ignored in design merely because it might be considered the "rear." For one thing, people driving by on the road, and shoppers leaving their parked cars will see only

this side at first. For another, the shopper may, for convenience, enter the store from this "rear" side. If entrances do face the parking lot, then they must be so designed that they are pleasing, and are separated from the truck loading docks, and also so that pedestrian and vehicle movement is separated.

One possible solution is to have depressed loading spaces, that is, to have the trucks parked in a slight depression so that the floor of the store is on a level with the part of the truck in which goods are carried. Thus the truck can be backed right up to the loading dock (which is on ground level) and the goods moved off the truck without lifting or lowering. With such depressed loading spaces, pedestrian movement may be more easily separated from the movement of trucks and their cargoes.

Whatever type of loading facilities are used, their sizes should be keyed to the dimensions of the trucks that will use them. David R. Levin, in Zoning for Truck-Loading Facilities (see biblio.) concludes:

. . . it is recommended that the size of an off-street truck-loading berth be designated as at least 45 ft. in depth, 12 ft. in width, with an overhead clearance of 14ft. Truck berths for use by trucks of smaller size could be reduced in size to accomodate the trucks they are designed to serve.

ZONING REGULATIONS FOR SHOPPING CENTERS

Important zoning ordinance provisions for shopping centers have been added to a number of existing or proposed zoning ordinances. Two major provisions have come to our attention recently, one in the zoning ordinance of Bismarck, North Dakota, adopted in 1953, and the other a provision proposed for Kansas City, Missouri zoning ordinance in 1953. These two provisions are reproduced in full at this point because they are among the few attempts to deal comprehensively with shopping centers in the zoning ordinance, and because a reading of them now will make clearer some of the zoning problems raised by shopping centers.

BISMARCK, NORTH DAKOTA (1953)

In any CC Commercial district the following regulations shall apply:

1. General description. A CC Commercial district is established as a district in which the principal use of land is for commercial and service uses to serve the surrounding residential districts and in which traffic and parking congestion can be reduced to a minimum in order to preserve residential values and promote the

general welfare of the surrounding residential districts. For the CC Commercial district in promoting the general purposes of this ordinance, the specific intent of this section is.

- (a) To encourage the construction of, and continued use of land for neighborhood, commercial and service purposes;
- (b) To prohibit residential, heavy commercial and industrial use of the land, and to prohibit any other use which would substantially interfere with the development or continuation of the commercial structures in the district;
- (c) To discourage any use which, because of its character or size, would interfere with the use of land in the district as a shopping and service center for the surrounding residential districts.

2. Uses permitted. The following uses are permitted:

- a. Retail group A
- b. Service group A
- c. Filling station
- d. Office-bank group
- e. Commercial recreation group
- f. Health medical group

3. Lot area. No CC Commercial district shall contain less than two acres. No zoning lot on which an individual building is placed shall contain less than 5,000 square feet. Provided, however, that a building having one or more party walls and a common roof with one or more similar buildings, but individually owned, may be on a lot of any size so long as all other provisions of this ordinance, including all provisions for off-street parking and loading are fully complied with on that lot.

4. District width. Each CC Commercial district shall have an average width of not less than 200 feet, and shall have no boundary line less than 100 feet in length.

5. Floor area ratio. The floor area ratio of the principal building and all accessory buildings shall not exceed 0.25 for single-story buildings, nor shall it exceed 0.35 for buildings of more than one story. The ground area occupied by the principal and accessory buildings shall not exceed 25 per cent of the total area of the lot.

6. Yards. No building shall be less than 50 feet distant from any lot line.

7. Height limits. No building shall exceed two stories, not shall it exceed 25 feet in height.
8. Divided district. For the purposes of calculating the minimum area, lot width, lot dimension, floor area ratio, percentage of lot covered by building, and yard requirements established by this section, a single CC Commercial district cannot lie on two sides of a public street or alley. Any area designated as being zoned CC Commercial and lying on both sides of a public street or alley shall be deemed to be two CC Commercial districts, and all minimum requirements shall be met by buildings on each side of said public street or alley as separate districts.
9. Nonconforming uses. It is the intent of this ordinance and this section to designate no area as a CC Commercial district in which there is at the date of adoption of this ordinance any residential or other nonconforming use. It is the further intent of this ordinance and this section that insofar as possible all neighborhood commercial and service areas in newly-developed portions of the city shall take place in a CC Commercial district, in order to decrease traffic and parking congestion and to preserve the residential values of the city. The City Planning Commission shall refuse to approve any request for an amendment rezoning any portion of the city to a CC Commercial district if there is in that district any use which would be a non-conforming use upon the passage by the Board of City Commissioners of the proposed amendment.

Off-street Parking and Loading Requirements in CC Commercial Districts.

Notwithstanding any other requirements of this section, one off-street parking space for each 100 square feet of floor space, not including basement storage space, shall be provided for all buildings erected in a CC Commercial district; and one off-street loading berth shall be provided for each 25,000 square feet of aggregate gross floor space for all buildings in a CC Commercial district.

KANSAS CITY, MISSOURI (proposed 1953)

District C-S

General Conditions

This district shall be further divided into C-S1, C-S2, and C-S3 districts, with requirements as listed below.

A District C-S may be established adjoining and including portions of Districts C-1, C-2, or C-3, or in an area which is being newly developed, upon a tract of land in single ownership, provided that a detailed and

specific plan for its development has been approved by the City Plan Commission after a public hearing. The detailed plan shall comply with Rules and Regulations adopted by the City Plan Commission, for the submission, approval and development of Planned Shopping Centers.

If adjoining and including portions of a C-1 District, the tract of land included for such planned development shall be at least one and one-half (1-1/2) acres in size and, if developed in conjunction with a District C-2 or C-3 (or in an area under development), it shall be at least five (5) acres in size, the net area not including any areas of dedicated streets, highways or alleys.

The area occupied by buildings in this district shall be twenty-five (25) per cent or less of the net area of the district.

The location of the C-S District shall be on property which has an acceptable relationship to major thoroughfares. The Commission must satisfy itself as to the adequacy of the thoroughfares to carry the additional traffic engendered by the development, and may request a report and recommendation of the Director of Traffic.

The plan for the proposed development must present a unified and organized arrangement of buildings and service facilities which shall have a functional relationship to the properties comprising the planned development, the properties and the uses of properties immediately adjacent to the proposed development.

The developer must satisfy the City Plan Commission of his financial ability to carry out the proposed plan and shall prepare and submit a schedule for construction, which construction shall begin within a period of one year. Failure to carry out construction as scheduled shall void the plan as approved, unless an extension is approved by the Commission.

The proponents of a Planned Shopping Center shall prepare and submit a preliminary plan and supporting data for review and tentative approval of the City Plan Commission, upon which plan the City Plan Commission will hold a public hearing. Upon approval of the Preliminary Development Plan, the proponents shall prepare and submit a Final Development Plan, which shall incorporate any changes or alterations requested by the City Plan Commission.

The City Council shall approve the Preliminary and Final Plans before the area included is changed to a C-S classification.

Details of the plan may be varied slightly upon the approval of the City Plan Commission. The Commissioner of Buildings and Inspections shall be notified of such approval.

The plan shall meet the following requirements as to use, height, yard space, off-street parking and loading, and all driveways or public accessways.

Use Regulations

The following uses are permitted in a District C-S:

- (a) When in conjunction with a District C-1; Any use permitted in District C-1, except buildings for municipal and governmental purposes and greenhouses.
- (b) When in conjunction with a District C-2; The same as for District C-1 and C-2, except used car lots, billboards and pole signs, animals raised for sale, cabinet shops, children's amusement parks, commercial radio and television broadcasting stations and towers, miniature golf courses and trains, pony tracks and rings, skating rinks, storage warehouses and street car or bus barns.
- (c) When in conjunction with a District C-3; The same as for District C-1, C-2 and C-3, except used car lots, billboards and pole signs, animals raised for sale, cabinet shops, children's amusement parks, commercial radio and television broadcasting stations and towers, miniature golf courses and trains, pony tracks and rings, skating rinks, storage warehouses, street car or bus barns, armories and drive-in theatres.

Note: (In final draft, all allowable uses will be enumerated.)

Height, Yard and Area Regulations

Height:

In a District C-S1, the height shall not exceed three (3) stories and shall not exceed thirty-five (35) feet.

In a District C-S2, the height shall not exceed three (3) stories and shall not exceed forty-five (45) feet.

In a District C-S3, the height shall not exceed six (6) stories and shall not exceed seventy-five (75) feet.

For certain individual buildings, the City Plan Commission may permit an additional height, if such height does not adversely effect the development of surrounding properties.

Yards:

In any C-S District, there shall be a setback from any street of at least twenty (20) feet for any building or parking lot.

Along any other property line within or adjoining an established Commercial District, there shall be a setback of at least ten (10) feet. This requirement may be modified or waived if, in the judgment of the Commission, a fire lane is not considered to be necessary.

Along any other property line abutting or adjoining a residentially zoned district, there shall be a setback of at least twenty (20) feet and the area between this setback and the property line shall be sodded, planted and shrubbed in such a way as to form a permanent screen.

Area:

Any residential use within District C-S shall comply with the lot area per family requirement of District R-4. One- and two-family dwellings shall not be allowed in this district.

Parking and Loading Regulations

There shall be provided off-street customer parking space within a C-S District in the ratio of eleven (11) parking spaces for each 1,000 square feet of gross floor space. This space shall be in addition to any space used for a commercial parking lot, taxi-cab stand, or truck and bus parking or loading space.

Ample off-street space for standing, loading and unloading shall be provided within the development. Each space shall consist of a ten (10) foot by twenty-five (25) foot area for small trucks, such as pickup trucks, and a ten (10) foot by forty-five (45) foot space for larger trucks, including tractor-trailer type trucks. The height clearance in both cases shall be at least fourteen (14) feet.

The location of any driveway shall be in accordance with the regulations of the Traffic Department and shall be subject to review by that department.

* * * * *

Table 3 compares the major provisions of the Bismarck and Kansas City zoning regulations. Two types of regulations predominate: height, yard, and area regulations; and off-street parking and loading regulations.

TABLE 3

COMPARATIVE STANDARDS FOR SHOPPING CENTER DISTRICTS

Standards	Bismarck (adopted 1953)	Kansas City (proposed 1953)
Maximum building height	2 stories (25 feet)	varies from: 3 stories (45 feet) to: 6 stories (75 feet)
Minimum yards	50 feet	20 feet (may be 10 feet adjoining an established commercial district or may be waived if fire lane deemed unnecessary.
Minimum area of the entire district	2 acres (86,500 square feet)	1-1/2 acres (with C-1 district) 5 acres with C-2 and C-3
Minimum lot area	5,000 square feet	No provision for commercial lots; Residential lots same as R-4 3- & 4-family dwelling: 1,500 sq.ft. per unit apartments - 1,000 sq.ft. per unit.
Maximum lot coverage	25% of the lot	Total area of buildings 25% or less of the net area of district
Maximum floor area ratio	0.25 for one-story; 0.35 for two-story buildings	None
Uses Permitted*	Retail Group A; Service Group A; Filling Station; Office-bank group; Commercial recreation group; Health medical group	In C-S1: all C-1 uses except two; In C-S2: C-1 and C-2 uses with exceptions; In C-S3: C-1, C-2, and C-3 uses with exceptions.
Off-street parking spaces required	1 space per 100 sq. ft. of floor space	11 spaces for each 1,000 sq.ft. of floor space

TABLE 3 -- Continued

Standards	Bismarck (adopted 1953)	Kansas City (proposed 1953)
Minimum size of a single space	200 square feet plus safe & adequate maneuvering space	144 sq.ft. plus access (8 ft. by 18 ft.)
Loading space required	1 space for each 25,000 sq.ft. of aggregate gross floor space	"Ample"
Minimum size of a loading space	minimum 10 feet by 50 feet; 14 foot clearance	10 feet by 25 feet for small trucks; 10 feet by 45 feet for large trucks. At least 14 foot clearance

*See TABLE 4

Table 4 compares the uses permitted in the CC Commercial district of Bismarck with those permitted in the CS Shopping Center districts (C-S1, C-S2, C-S3) of the Kansas City proposal.

TABLE 4

USES SPECIFICALLY IDENTIFIED AS PERMITTED IN
THE SHOPPING CENTER DISTRICTS OF BISMARCK AND KANSAS CITY¹

	CC (Bismarck)	C-S1	C-S2 (Kansas City)	C-S3
Antique store	yes	-	-	-
Appliance, radio and television store	yes	-	-	-
Artists studios	-	yes	yes	yes
Art supply store	yes	-	-	-
Auto accessory store	yes	-	-	-
Auto laundry	no	no	yes	yes
Auto repair garage	no	-	-	-
Automobile or trailer sales rooms	-	no	yes	yes

TABLE 4 -- Continued

	CC (Bismarck)	C-S1	C-S2 (Kansas City)	C-S3
* Bakery (retail)	yes	yes	yes	yes
* Bank	yes	yes	yes	yes
Bar	yes	no	yes	yes
Barbecue stands	-	no	yes	yes
* Barber shops	yes	yes	yes	yes
* Beauty shops	yes	yes	yes	yes
Bicycle repair shops	-	yes	yes	yes
Billboards (See Outdoor Advertising)				
* Book, magazine, newspaper store	yes	yes	yes	yes
Bowling alley	yes	-	-	-
Bus stations	-	no	yes	yes
Business or commercial schools	no	no	yes	yes
Butcher shop	yes	-	-	-
Camera store	yes	-	-	-
* Candy store	yes	yes	yes	yes
Cat and dog hospitals	no	no	no	yes
* Clinics	yes	yes	yes	yes
* Clothing, clothing accessories store	yes	yes	yes	yes
Commercial school	yes	no	yes	yes
Dance hall	yes	no	yes	yes
Dancing schools	-	yes	yes	yes
* Delicatessen	yes	yes	yes	yes
Department store	yes	-	-	-
Diaper services	no	no	no	yes
Drive-in businesses (exc. restaurants & theaters)	no	no	no	yes
Drive-in restaurants	-	no	yes	yes
* Drug store	yes	yes	yes	yes
Dry cleaning, dyeing	-	yes	yes	yes
Electrical shops	-	yes	yes	yes
Feed stores (no grinding)	-	no	yes	yes
Fiestas and street fairs	-	no	no	yes
Film exchanges	-	no	no	yes
Five and ten cent stores	yes	-	-	-
Fix-it, radio or television repair shops	-	yes	yes	yes
* Flower shop	yes	yes	yes	yes

TABLE 4 -- Continued

	CC (Bismarck)	C-S1	C-S2 (Kansas City)	C-S3
Frozen food lockers (not commercial)	yes	no	yes	yes
* Furniture store	yes	yes	yes	yes
Garage	no	yes	yes	yes
* Gasoline filling station	yes	yes	yes	yes
* General office	yes	yes	yes	yes
* Gift shop	yes	yes	yes	yes
Governmental office	yes	no	-	-
* Grocery store	yes	yes	yes	yes
* Hardware store	yes	yes	yes	yes
Hobby store	yes	-	-	-
Ice cream parlor	yes	-	-	-
Ice delivery stations	-	no	yes	yes
Insurance office	yes	-	-	-
* Jewelry store	yes	yes	yes	yes
Job printing, publishing, etc.	-	no	yes	yes
* Launderettes	yes	yes	yes	yes
Laundries	-	no	yes	yes
Laundry collection offices	-	yes	yes	yes
Liquor store (package)	yes	no	yes	yes
Meat markets	-	yes	yes	yes
Motels	no	no	no	yes
* Music store	yes	yes	yes	yes
* Notion, variety store	yes	yes	yes	yes
* Office (general)	yes	yes	yes	yes
* Office supply store	yes	yes	yes	yes
Outdoor advertising sign	no	no	no	no
* Parking lot (commercial)	yes	yes	yes	yes
Personal loan agency	yes	-	-	-
Pet shops	-	no	yes	yes
* Photographic studio	yes	yes	yes	yes
Plumbing shops (no tin work or outside storage)	-	yes	yes	yes
Pool or billiard parlor	yes	no	yes	yes

TABLE 4 -- Continued

	CC (Bismarck)	C-S1	C-S2 (Kansas City)	C-S3
Professional office	yes	-	-	-
Public utility stations	-	no	yes	yes
Real estate office	yes	-	-	-
RESIDENTIAL USES	no	yes	yes	yes
Roller skating rink	yes	no	no	no
Saloon	yes	no	yes	yes
* Shoe store	yes	yes	yes	yes
Shooting galleries	-	no	no	yes
Sign painting and sign shops	-	no	no	yes
Sporting goods store	yes	-	-	-
Sports arena	yes	no	no	no
* Stationery store	yes	yes	yes	yes
Steam bath	no	-	-	-
Tavern	yes	no	yes	yes
Taxicab office	yes	-	-	-
Taxidermy	-	no	no	yes
Telephone exchange	yes	no	yes	yes
Theater	yes	no	yes	yes
Tire and battery repair	no	no	yes	yes
Tourist camps	no	no	no	yes
Toy store	yes	-	-	-
Trade schools	yes	no	no	yes
Undertaking establishment	no	no	yes	yes
Utility office	yes	-	-	-
* Variety store	yes	yes	yes	yes
Warehousing	no	no	no	yes
Wholesale sales office, sample rooms	no	no	yes	yes

¹ Blank spaces indicate that the use is not specifically or clearly permitted or prohibited in the district.

* Indicates permitted in all four districts.

Also permitted in CC Commercial Districts: hospital for human beings, nursing or convalescent home, old people's home, orphans home and sanitarium.

The "Intent" or "Idea" of the Shopping Center Provision

To write laws that take "everything" into account is out of the question. Often, problems will arise in connection with legislation, such as the zoning ordinance, which were not foreseen by the authors of the law. Such matters sometimes find their way into the courts, and the courts sometimes judge these matters in terms of the "spirit" of the law or the "intent" of those who enacted the law. Therefore, the Bismarck ordinance includes a number of specific statements detailing the intent of the law so clearly that a court reviewing the ordinance could hardly be in doubt about the purposes of the law. Note that under "1. General Description" the ordinance states that the purpose of the CC Commercial district is:

- (a) To encourage the construction of, and continued use of land for neighborhood, commercial and service purposes;
- (b) To prohibit residential, heavy commercial and industrial use of the land, and to prohibit any other use which would substantially interfere with the development or continuation of the commercial structures in the district;
- (c) To discourage any use which, because of its character and size, would interfere with the use of land in the district as a shopping and service center for surrounding residential districts.

Note also that under Section 9, "Nonconforming Uses" the ordinance clearly states its intent. No area can be designated as a CC Commercial district if there is any pre-existing residential or other use which would be nonconforming in a CC district. The ordinance also gives a clear directive to the City Planning Commission not to approve any request to rezone any portion of the city to CC Commercial if there is any use that would thereby become nonconforming.

The Zoning Ordinance of Niagara Falls, New York (1951) contains the following provision with respect to shopping centers:

NIAGARA FALLS, NEW YORK (1951)

Shopping Center District

The regulations for C-D districts are intended to assure the grouping of buildings on a parcel of land in such manner as to constitute a harmonious, efficient, and convenient retail shopping center, and to provide a means for permitting the establishment of such centers as a part of the development of parts of the city that at the time of the adoption of this ordinance consist of open acreage, such districts to be established from time to time by amendments of this ordinance consisting of appropriate changes in the boundaries of districts established

by this ordinance in such a manner as best to fit the general pattern of land use established by this ordinance, in relation to residential development as it may occur in the aforesaid open acreage areas and to further the purposes set forth in Section 1 of this ordinance. In any C-D district the location of main and accessory buildings on the site and in relation to one another, the traffic circulation features within the site, the height and bulk of buildings, the provision of off-street parking space and loading space, the provision of other open spaces on the site, the designation of certain uses as specified for C-D districts in 1 (b) under "Uses" in the above schedule, and the display of signs shall be in accordance with a site plan or plans or subsequent amendment thereof, approved in any case by the planning board in accordance with the same procedure as that specified by law for approving subdivision plats. In approving site plans the planning board may act on site plans submitted to it or may act on its own initiative in proposing and approving a site plan. A site plan may include landscaping, fences and walls designed to further the purposes of the regulations for C-D districts, and such features shall be provided and maintained as a condition of the establishment and maintenance of any use to which they are appurtenant. In considering any site plan for a C-D district, the planning board shall assure safety and convenience of traffic movement, both within the shopping center covered by the plan and in relation to access streets, harmonious and beneficial relations between the center and contiguous land and adjacent neighborhoods.

The Niagara Falls provision is altogether a statement of intent, giving direction to the planning board in its consideration of any site plan for a shopping center. The planning board, according to the ordinance provision, "shall assure safety and convenience of traffic movement, both within the shopping center covered by the plan and in relation to access streets, harmonious and beneficial relations between the center and contiguous land and adjacent neighborhoods." (Emphasis furnished)

The Niagara Falls provision raises an important question: Are the regulations sufficiently specific so that the planning board has a clear guide in making its decisions? If they are not specific enough in the eyes of a court, the court may rule that the provision represents an unlawful delegation of the legislative power.

The Cleveland, Ohio, Zoning Ordinance (1951) also has a relatively general, though comprehensive, shopping center provision. In Cleveland, the planning commission is given the discretion to decide whether the proposed center has adequate parking, loading, landscaping and so forth. The provision in full:

CLEVELAND, OHIO (1951)

Shopping Center Districts

Definitions. For the purpose of this Chapter a shopping center district is defined as a retail business area within or adjacent to a residence district, characterized by a concentrated grouping of stores, shops and other uses herein permitted, ordinarily planned as a unit and built according to such plan. The designation "shopping center districts" shall apply to all areas so designated on the Building Zone Map by appropriate symbol and to all Local Retail Business Districts more than 200 feet in lot depth and more than one acre in area, and, where such Local Retail Business zone is separated from a street line by an adjoining General Retail Business zone, the Shopping Center District shall include such General Retail Business zone.

The Shopping Center District is hereby created in order to secure in such store groupings, so located, traffic safety through provision for proper traffic routing and car parking, freedom from traffic congestion on public streets through provision for adequate off-street parking and off-street loading, and protection of residential character of neighborhoods through provision of adequate and suitable treated business-area open spaces at boundaries adjacent to residential area.

Section 981-10.2 Shopping Center Districts, Approval of Plans. No permit for the construction or occupancy of a shopping center district or part thereof shall be issued unless the plans have been approved by the City Planning Commission with respect to the provision for off-street parking, the provision for loading docks, the width and location of driveways for the car parking areas and the loading docks, the adequacy of open spaces and suitability of their proposed planting or other treatment at boundaries adjoining or adjacent to residence districts.

Section 981-10.3 Shopping Center Districts, Permitted Building and Uses, in a Shopping Center District the following buildings and uses are permitted:

1. All uses permitted and as regulated in a Local Retail Business District.
2. The sale of general merchandise, including sale in department stores.
3. Banks.

Unity of Ownership or Management: a proposed provision (1951) for the zoning ordinance of Annapolis, Maryland states:

" . . . In order that the purpose of these districts shall be realized, the buildings and appurtenant facilities shall be in a single ownership or under management or supervision of a central authority, or they shall be subject to such other supervisory lease or ownership control as may be necessary to carry out the provision of this ordinance relating to community shopping center districts . . . "

No provision for unity of ownership is found in the Bismarck or Kansas City provisions. It is believed that the authors of those provisions deliberately avoided a single ownership requirement to avoid any monopolistic tendencies.

In the United States today there are over 4 million businesses, about one for every 38 persons in the country. Small businesses have been and will remain a career for many people. In a planned town with a planned shopping center in single ownership, the possibility of opening a small business in the town is not open to the residents.

Whatever the merits of the case, a single ownership or management requirement does limit the possibilities of new businesses growing up.

Unity of Land Unbroken by Public Streets and Alleys: such a provision occurs in the shopping center regulations of the Bismarck, North Dakota ordinance, as we have already noted (see page 17, no. 8).

Unified Architectural Treatment: a number of provisions require a unified design.

The zoning ordinance of Valparaiso, Indiana (1951), states that a shopping center plan may be approved if the report of the city planning commission shows that, among other things, "The entire development is designed as a single architectural unit, with appropriate landscape architectural treatment of the entire unit area . . . "

The Annapolis, Maryland ordinance proposed in 1951 would require that " . . . The shopping center buildings shall be designed and built as a whole, united and single project with good architectural treatment . . . "

Unfortunately, a provision for unified architectural treatment is not a guarantee of good design. It is not within the scope of the zoning ordinance to define good taste.

CONCLUSION

Our conclusion reads much like our introduction. Shopping centers are here because they are convenient, and they will be a phenomena of growing importance in the automobile age, and perhaps in the helicopter age, if that is to come. Further, whether designed to serve a region containing 100,000 or more people, or planned for a small neighborhood of a few hundred families, shopping centers represent an up-grading over many existing commercial neighborhoods. They have considerably eased the parking problem near stores, and, in some cases, have put a stop to the mixture of residential, and light and heavy commercial and even industrial uses which have often created an unhealthy situation. There will be no apartments over the stores in modern shopping centers.

The previous discussion has not brought forth a clear distinction between neighborhood and regional shopping centers. In fact, there is only a limited difference in planning problems between the two. A few of the major differences are:

1. The regional shopping center is much larger than the neighborhood shopping center in area. The minimum requirements for area in the shopping center provisions studied range from about one acre to five acres. A regional shopping center may require as much as 100 acres or even more. The ground coverage of any particular center is limited through the floor area ratio, building coverage provisions, and required off-street parking area.
2. The neighborhood shopping center may require less parking area if it draws a considerable amount of walk-in business. A suggested parking requirement for such neighborhood centers is 2:1 (two square feet of parking area to one square foot of net floor selling space) which is the same as saying 6.7 car spaces per 1,000 square feet of floor space (if each car is presumed to require 300 square feet of parking area).
3. The number of uses which usually appear in a regional shopping center are more limited. It is evident that there are certain uses which belong in neighborhoods, and which would in fact interfere with the smooth functioning of a larger shopping center, as in the case of service garages.

Basically, all shopping centers have much in common. Most important, they represent a clear break with many of the existing and now-outmoded strip commercial developments.

APPENDIX A

A COMPARISON BETWEEN THE CENTRAL BUSINESS DISTRICT AND THE PROPOSED SOUTHDALÉ SHOPPING CENTER, ST. PAUL, MINNESOTA

The rivalry between central business districts and out-lying shopping centers is a subject of considerable debate and speculation. The following table presents some unusual information which may clarify the facts of the relationship between the two types of shopping areas. The table is taken from Planning for St. Paul, a publication of the City Planning Board, 274 City-County Building, St. Paul, Minnesota, Volume 7, No. 3, April 20, 1953. The table compares the central business district of St. Paul (the area bounded by Kellogg, Market, Eighth and Jackson) with "Southdale" (a new regional shopping center planned by the Dayton Company in Edina).

TABLE 5

Item	Central Business District	Southdale	Comparison Central Bus. Dist. with "Southdale"
Site size (excludes streets)	57 acres	84 acres	.68 as large
Rental Area (sq.ft.)	5,394,000	500,000 projected 850,000 potential	10.78 times as big 6.34 " " "
No. of Businesses	880	84	10.5 times as many
Parking Spaces	3,779	4,753	.79 as many
Ratio: Parking Space per 1000 sq.ft. rental area	1.4	8.26	.16 as large
Trade Area population (15 min.time district)	353,302	206,000	1.71 times as many
"Guesstimated" annual business	\$110,000,000	\$32,000,000	3.4 times as much

Interpreting this information, which may be taken as typical of shopping center - business district comparisons, is a process that will raise further dispute. Does this table prove that there ought to be considerably more parking spaces downtown? Or does it prove that the central business district cannot, by its nature, serve a car-riding population but that an improvement in mass transit facilities is required? Or is it still clear that the problems of urban congestion have many causes and therefore no single solution?

BIBLIOGRAPHY

The following references emphasize or contain material pertaining to the design aspects of shopping centers. The bibliographies of the previous two shopping center reports list a number of works dealing with the analysis of market potential and the operation of stores.

ARCHITECTURAL RECORD. October 1953. Shopping Centers, Building Types Study Number 203, pp. 179-205.

BAKER, Geoffrey, and FUNARO, Bruno. Shopping Centers: Design and Operation. Reinhold Publishing Corporation, New York, 1951. 288pp.index. (\$12.00). (The most complete manual on shopping centers yet published. Seven chapters on analysis, design and operation. Descriptions and analyses, some in more detail than others, of 63 shopping centers.)

CHAIN STORE AGE. May 1953. Administrative Edition. The Chain Store in the Planned Shopping Center. pp. 23-59. A series of articles on the shopping center. (Chain Store Age is a monthly publication of Lebhar-Friedman Publications, Inc., 185 Madison Avenue, New York 16, New York. Issued in nine different editions directed to executives of different types of chain stores. \$3.00 per year in U.S., \$4.00 in Canada.)

GRUEN, Victor. "Traffic Impact of the Regional Shopping Center." Traffic Engineering, March 1953, pp. 191-4, 202.

GRUEN, Victor and SMITH, Lawrence P. "Shopping Center: The New Building Type." Progressive Architecture, June 1952, pp. 67-109. (Contains history, definitions, outline of planning steps, design, etc. An abbreviated manual. Gruen is an architect and Smith is a real estate economist.)

SHOPPING SURVEY: An Interview with the Spokane Shopper. Spokane City Plan Commission, Room 451, City Hall, Spokane, Washington, July 1952. 76pp. tables. (Gives data on the length of shopping time, amount of money spent, mode of transportation, and parking needs by type of store.)

TATLOW III, R. H. "Parkington: Shopping Center Design." In Traffic Quarterly, October 1952, pp. 440-456.

URBAN LAND INSTITUTE. Shopping Centers: An Analysis. Technical Bulletin No. 11, Urban Land Institute, Washington, D.C., 1949, 48pp. \$5.00 (A general discussion of shopping centers and an individual analysis of 17 centers.)

Special parking and truck loading studies used in this report:

AMERICAN AUTOMOBILE ASSOCIATION. Traffic Engineering and Safety Department, Washington 6, D.C. Parking Manual. 181pp.charts, diagrams, illus. 1946.

LECRAW, JR. Charles S. and SMITH, Wilbur S. Parking Lot Operation.
Published by the Eno Foundation for Highway Traffic Control, Saugatuck,
Connecticut, 1948, 114pp.charts,tables,diagrams,illus.

LEVIN, David R. Zoning for Truck-Loading Facilities. Bulletin No. 59,
Highway Research Board, National Academy of Sciences, National Research
Council, 2101, Constitution Avenue, Washington 25, D.C. 1952. 101pp.illus.
tables,charts,diagrams. \$1.50. (An excellent study of the requirements
for off-street truck-loading and unloading facilities in zoning and other local
ordinances, including recommendations by Mr. Levin.)