been subdivided, partially built up or abandoned, possessed of no identity as neighborhoods, uncontrolled as to land use, monotonous and unappealing in appearance. From the peak of the first sales hysteria, values stagnate and owners find little or nothing to encourage the maintenance of their properties or to hold their interest in the locality.

From this result arises the paradox that the small home which, by all economic theory, should be the safest and most liquid of investments, often becomes a commodity in which speculation is greatest and in which long term security is lacking. This condition, of course, is not universal; it need not even be general. Neighborhoods can be produced as satisfactorily for modest homes as for expensive homes, and in many cases with lower land development costs.

This bulletin is not intended to be a treatise on neighborhood planning, or in any way to offer a substitute for the esthetic and engineering skill required in the laying out of a subdivision. It seeks to call attention to the necessity for good planning and the economic advantages of good planning. It attempts to set forth the principles which must be followed if appropriate planning is to be achieved; and it endeavors to offer suggestions to sub-dividers, engineers, architects, land planners, and operative builders which will result in the production of more neighborhoods for modest homes—neighborhoods to which, with investment secure, mortgage money will flow at attractive rates, and in which owners will find lasting enjoyment and satisfaction.[1]

Part II

GENERAL PRINCIPLES

In the creation of new neighborhoods complex elements must be weighed and given their proper values. The need for the development, the land costs, the topography and consequent costs of development, the accessibility, the character of adjoining neighborhoods, the type of restrictions necessary to provide proper protection, must all be taken into account in order to provide the promise of lasting values.

Certain general principles covering these factors may be suggested as of importance to the developer in deciding the location and character of his enterprise, to the mortgagee in determining the distribution of his loans, and to the family seeking to buy a home. While

[1] (F. H. A. Form No. 2059, Circular No. 5, Subdivision Development, should be consulted in preparing application for insured mortgages in undeveloped subdivisions.)

these principles are applicable to neighborhoods of all types, they are discussed here with particular reference to neighborhoods suitable for low priced dwellings.

Ascertaining the Need and Demand.—*There should be convincing evidence of a healthy and active demand for homes of the type contemplated and at the prices asked.*

The purpose of the subdivision of land is to provide sites for needed homes. The sale of unimproved lots for purely speculative purposes seldom, if ever, results in the establishment of sound communities. No matter how attractive its surroundings or how well it is designed and restricted, a real need must be evident before a development is justified. When there is no demonstrable market for the type of housing proposed, the property cannot be considered economically sound and it, therefore, offers neither a safe mortgage risk nor a proper equity investment.

The developer's first concern, therefore, is to ascertain the type and cost of home that is in demand in his particular community. His entire development program and the success of his enterprise hinge on the determination of this question. The demand for homes may be measured in a number of ways. Statistics covering employment, wage scales, city growth, obsolescence of existing structures, percentage of vacant homes, the number and cost range of dwellings that have been built in recent years, and real property surveys are sources of information from which a very accurate estimate of the capacity of the market to absorb a quantity of various types of housing may be obtained.

Site and Topography.—*The site should be plainly suitable for the type of development contemplated.*

With the need ascertained, the next step is the selection of the land. The main factors to consider here are its location, cost, and topography. These must be appropriate for the type of housing contemplated. Land which might be excellent for the high salaried group might be entirely unsuited for garden homes for workmen. *Many subdivision failures are the result of trying to find a use for a piece of land, instead of finding land for a specific use.*

The property finally selected should be the one which is desirably located and priced to meet the demonstrated demand, topographically suited for the intended use and free from any natural or created hazards such as floods, fog, smoke, noises, obnoxious odors, and similar undesirable conditions.

The attractiveness and physical appeal of the sudivision, as well as the cost of preparing the land for occupancy, depend to a great extent on topography. Rolling land with patches of wood and

broken slopes lends itself to a picturesque development of small estates where great variation in block sizes and lot areas is permissible. Steep hillside slopes make expensive sites for low-cost homes. Densely wooded land may be too expensive to prepare for an economical development.

The type of soil should be given consideration, especially if the purchaser intends to secure part of his living from garden produce. Land on which water stands or which is marshy should be viewed with suspicion because it may cost thousands of dollars to install a drainage system that will fit it for use, and even then there may be wet cellars in the spring or times of heavy rains.

Accessibility and Transportation.—*The subdivision should be easily accessible by means of public transportation and adequate highways to schools, employment, and commercial centers.*

The convenience of public transportation and the accessibility to employment centers and schools becomes increasingly important as the income range of the prospective purchasers decreases. Not only should the transportation facilities such as are afforded by street cars and busses be adequate but there should be convenient access by motor car through arterial highways which provide easy approach to industrial, recreational, and shopping centers.

In a development for industrial workers a difference of a few cents in the cost of transportation may ruin the chance of success of an otherwise desirable project. The convenience to schools, stores, and employment may frequently be the deciding factor in weighing two competing properties. An inaccessible site is a difficult handicap to overcome, even though other factors may be favorable to it.

Utilities and Street Improvements.—*Appropriate and necessary utilities and street improvements should be installed, or definite assurance given that such facilities will be furnished.*

Due to local custom and to the character of the climate and neighborhood, street improvements which are suitable in one case may be undesirable in another. A road which would be satisfactory where the climate is mild and dry might be most unsatisfactory where freezing and thawing occur. Walks may be omitted in an open, semi-rural type of development, while they will be needed on both sides of a street in a densely populated urban neighborhood. No rule regarding street improvements may be made except that they must be suited to the climate, the density of population, and the traffic requirements of a particular area.

The same variation in requirement will apply to the facilities provided for water supply and sewage disposal. Except in developments of large lots and favorable geological conditions, water supply from individual wells cannot be recommended, since the quantity and purity

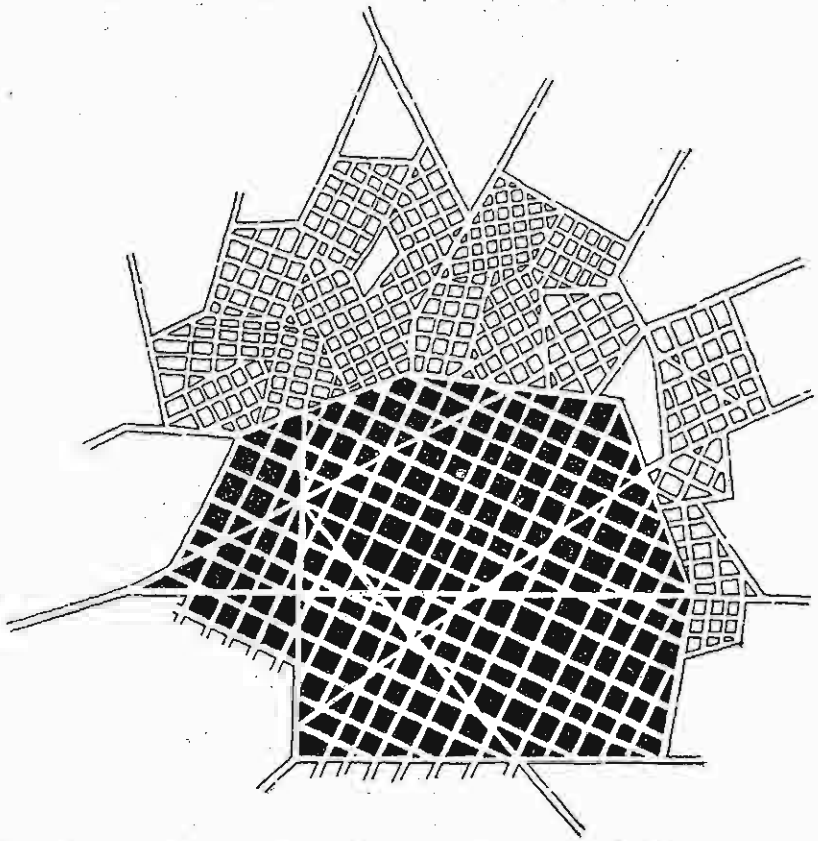
can seldom be relied upon. While the disposal of sewage by means of individual septic tanks or cesspools may under certain circumstances prove acceptable, such methods frequently present a menace to health, particularly if the drainage is poor and the lots are small. It will generally be found that the cost of drilling individual wells and installing private pumping systems and of constructing a properly designed septic tank is greater per lot than the cost of installing the mains. Where public water or sewer mains are readily available, connections to them should certainly be made.

Inadequately improved subdivisions seldom develop into stable neighborhoods. Such properties are usually sold for land speculation, with but little interest in the building up of a permanent community. The actual investment of the promoter is so small that he can take a quick profit in the land, assuming no responsibility for its development. This very often results in an orphaned subdivision and a blighted and undesirable neighborhood—an area to be avoided when investment risk is considered.

The cost of such improvements as are here recommended need not place an excessive burden upon the modest neighborhood. Complete street improvements and utilities will usually range in cost from seven dollars to fifteen dollars per front foot. When the improvement costs are greatly in excess of these figures, heavy delinquencies in purchase contracts or in assessments frequently result. It must be noted, however, that the cost of these improvements will not always decrease with the cost of the dwelling, since with small lots, and the resulting density of population, better traffic facilities may be needed and larger sewer and water mains required.

Street improvements and utilities for garden homes on acreage plots in outlying areas where the traffic demands are light, may be extremely simple and inexpensive. Under such conditions a graded and surfaced roadway, without walks or curbs, will often be found to meet the needs of the property owners, and even including water mains and sewer lines the front foot improvement costs can frequently be held to less than five dollars.

Improvements may be installed by the developer and included in the lot price or put in by the local government and the cost assessed over a period of years. If improvements are to be paid for in yearly installments, this should be clearly stated in the sales agreement. If property is sold with the understanding that certain improvements will be made by the developer, either a proper proportion of the sales price should be set aside in a trust account for this purpose, or the developer should furnish a bond guarantying the fufillment of his agreement.



This is an actual example of what happens to city growth when there is no master city plan. The original portion of the city (in black) followed a pattern in which consideration had been given to arterial highways. Lacking subdivision control or a city plan, new subdivisions were placed on the market without reference to the existing arterial highways and the future traffic needs of the community or to the street plan of adjoining subdivisions. This resulted in jogged, narrow streets cutting off main highways, impeding traffic and throttling the growth of the city. It is not necessarily desirable to extend all the minor residential streets, but main traffic arteries should be direct and the entire street pattern extended in an orderly connected manner. Every city should have a well-studied street plan to provide for future growth and to which all subdivisions should conform.

The streets and improvements should be acceptable for dedication to the city or county wherever they have jurisdiction. The responsibility for maintenance is then transferred from the lot owners to the municipality and there is fair assurance that the improvements are appropriate to the climate and needs of the community.

City Planning and Zoning.—*Whenever the subdivision, or any part of it, falls within the jurisdiction of a city, county, or regional plan or of subdivision regulations, the design and development should comply with such plans and regulations.*

The process of breaking up large tracts of land into small parcels involves a serious responsibility, affecting as it does, the way in which the land may be utilized in the future. Developers are urged to cooperate with planning bodies even though they may lack complete authority in the enforcement of their recommendations.

Subdivision development in all of its phases is a part of city and county planning including the control by zoning ordinances. Each new area opened should be planned and its use controlled not only in respect to its internal and individual requirements, but in relation to the existing and probable future plan and use of the community and its environs as a whole. Proper attention to such relationships will tend to establish the new neighborhood on a sound basis as regards its general environment, to preserve it from loss due to overdevelopment of certain types of land use, such as commercial and apartment areas, and to provide a reasonable permanence of the use for which the area is designed.

In order that this requirement be met, every new area should be platted and the plat and deed restrictions recorded. Selling property from other than a recorded plat is to be discouraged, except in comparatively large tracts in areas destined to remain semi-rural in character.

As against describing a parcel by metes and bounds, the advantages of the use of a recorded plat and restrictions are as follows: (1) Uniformity of restrictions for all similar properties; (2) better means for the proper distribution of land use in an area, for the provision and dedication of proper streets, installation of utilities, etc; (3) facilitates more equitable tax assessments in the areas; (4) avoids involved deed descriptions with the increased possibilities of error and makes titles easier to check, with a favorable effect on the title insurance rate; (5) stimulates confidence in the seller and permits the purchaser to make a more accurate estimate of the future environment of his property. All of these items are to the advantage of both the property owner and the reputable land developer, whose chief interest should be in the creation of a stable community and sound real estate values.

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Deed Restrictions [2]—*The property in a subdivision should be protected by appropriate and recorded deed restrictions.*

Well-drawn deed restrictions aid in establishing the character of the neighborhood through control of the use of the land and of the structures to be erected upon it. They increase marketability and help to maintain a stable market condition in an area; and they assure the purchaser that his investment will not be jeopardized by thoughtlessness or selfishness on the part of his neighbor.

The term "restrictions" is too often associated in the public mind with unwarranted interference in the use a property owner may make of his land. Every effort should be made by developers to show the home buyer that reasonable and effective deed restrictions protect his investment and assure him a better community in which to live and one in which real estate values will be more stable. Restrictions should be recorded at the time the plat is recorded. They should also be in the purchase contract and deed, and should run for a sufficient period to assure the property being developed in the manner intended.

The principles outlined above have two main purposes: (1) The preparation of residential land at cost which will provide reasonable sites for low priced homes and in a manner which will be suitable to the requirements of the neighborhood; (2) the creation of a neighborhood which will have a distinct character and in which that character will be protected against encroachment from without and deterioration from within.

The fulfillment of the first of these purposes should result in a commodity within the range of effective demand. The second is aimed to give that commodity both initial and lasting appeal. The production of good neighborhoods is not philanthropy but good business. It means homes which are more readily sold or rented, and it means homes that stay sold and rented.

A further contribution to both these ends may be made through the conduct of large scale operations; that is, the creation of a whole or a large portion of a neighborhood at one time.[3] Such operations may offer to the substantial developer the possibility of a broader and more profitable use of capital in the housing field. While requiring a more painstaking investigation and comprehension of the market than piecemeal building, they permit industrial methods to be introduced into home building with resulting savings in overhead,

[2] (See Appendix A for typical restrictive covenants suitable for modest neighborhoods.)

[3] For methods of conducting large scale operations with insured mortgage, see F. H. A. Form 2012,[1] "Multifamily and Group Housing Insurance", and F. H. A. Circular No. 4, "Operative Builders."

erection, and merchandizing costs. Above all, they permit the developer to achieve his plan in a consistent and harmonious manner.

Another factor not to be neglected in large scale operations is the benefit to be obtained from a development of commercial services such as retail stores and gasoline stations necessary to the life of the new community. Such commercial development may be, and frequently has been, overdone; but properly related to the needs of the neighborhood, it may not only be made an attractive focal point in the plan, but may become an important feature in the returns from the enterprise. In the production of neighborhoods of low priced dwellings, a proper consideration of the income derivable from associated commercial properties becomes especially important.

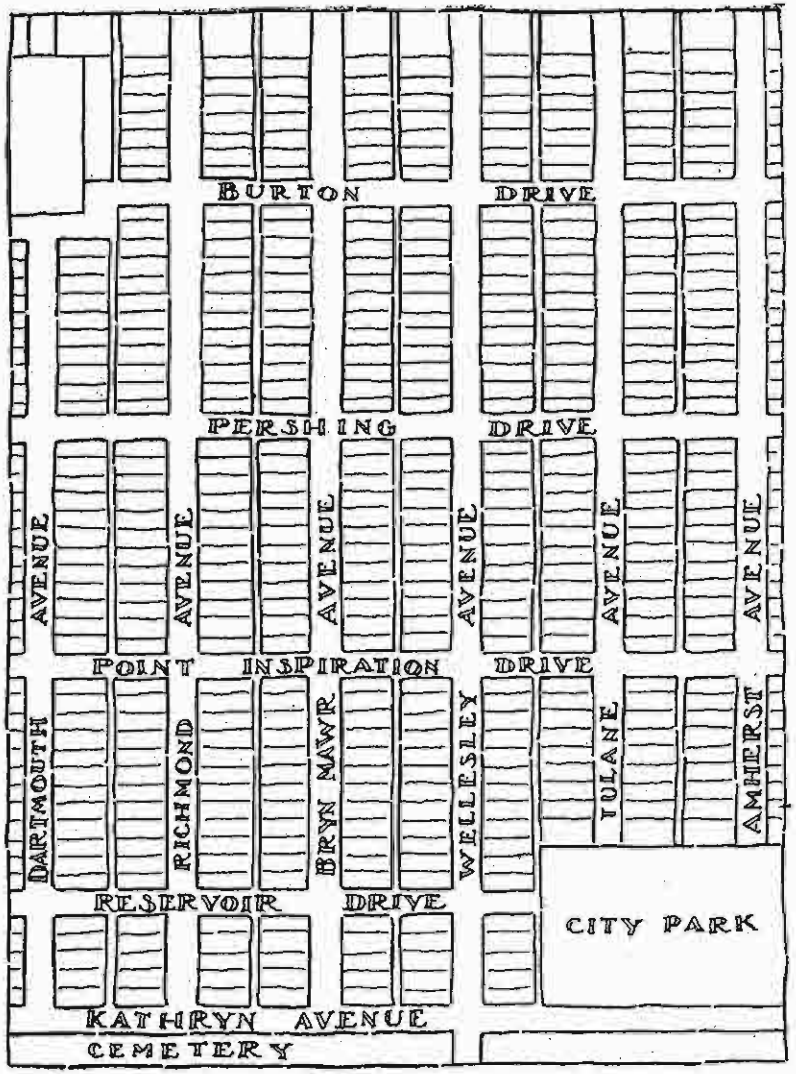
The purchaser or renter participates in the advantage of large scale enterprise. He may gauge from actuality, rather than from the rhetoric of the promoter, the character of the environment in which he is to live. He is given the maximum of protection against the deleterious use of neighboring properties and has consequently the greater security in his holding. He may benefit from the cost savings of a well conducted enterprise.

Part III

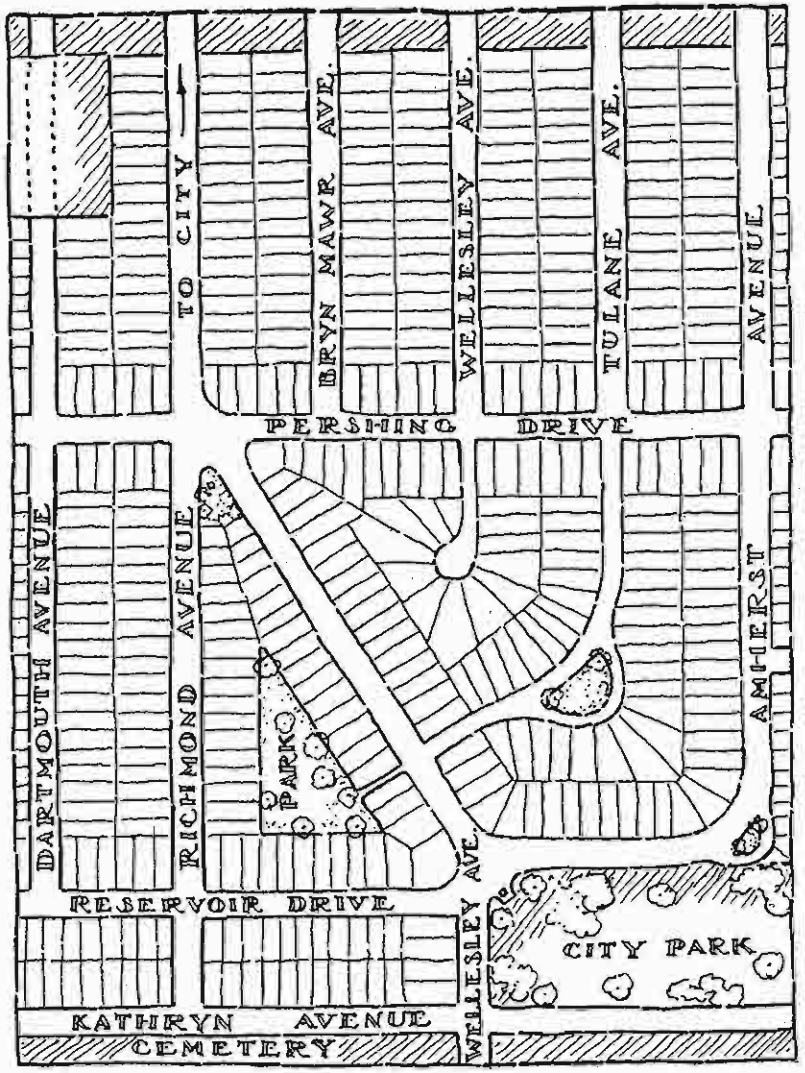
NEIGHBORHOOD DESIGN

Good subdividing, whether for low priced or high priced properties, is not simply blocking off an area into lots which can be easily surveyed, staked, and recorded. On the contrary, it means the creation of real estate values through devising a layout which is not only economically sound but which provides to the maximum degree those conditions which make for pleasant and healthful living. The original cost, the stability of values, and the whole quality of living within the subdivision are affected by the layout of the tract and the determination of the manner in which it may be used.

In every plot of land there are certain sections where values naturally will be comparatively higher than in the remainder of the tract. These will be found to be near such features as a lake, a park, or fine residential boulevards. Little ingenuity or thought is required to market such sites. All too frequently, however, when these choice areas are sold, the remaining property, due to its lack of appeal, may be sold only with difficulty. The subdivider's profit, as well as his big problem, lies in marketing the less desirable portions of his allotment; that is, in the creation of interest in his poorest land. In this section some of the features making for more distinctive neighborhood quality are discussed.



This monotonous gridiron plan has but little character or appeal. The unnecessary cross streets are wasteful of land and expensive to construct. Values drop off rapidly as the lower end of the property is approached and the city park, which is the best natural asset, is left inaccessible. No effort has been made to divert through traffic from the minor residential streets.



In this plan the city park has been made a focal point and a real asset to the entire property. Lots in the lower right-hand corner are no longer cut off from ready access to the city. Unnecessary cross streets and alleys have been eliminated, resulting in a saving of a 1,000 feet of road construction with a slight increase in the number of lots. Some of the more desirable lots are now in the lower end of the property near the park.

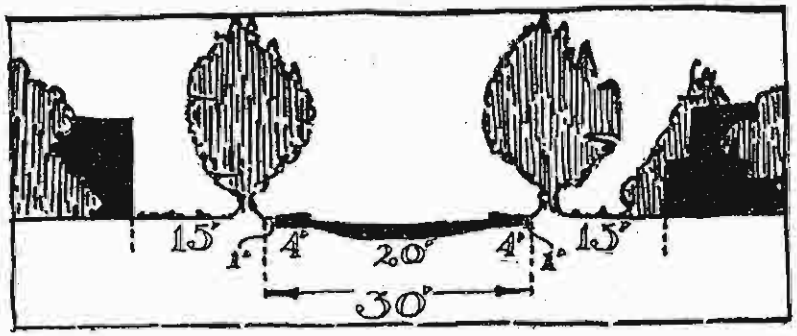
Street Patterns.—One of the chief functions of a city plan is to provide a street pattern that will assure an orderly and natural city growth. This is done usually by a plan for the extension of existing main thoroughfares so that circulation will not be restricted and whole areas cut off from ready access to the main body of the city. Every developer should give consideration to this and to the needs of the adjoining acreage, planning his allotment accordingly. This does not mean, however, that minor streets in a development should either carry through or be directly connected with existing streets. Frequently the breaking of the line of such minor streets improves the vista, diverts through traffic, and increases the privacy of the residential area.

The gridiron plan which has been so universally adopted in most of our cities has several very decided disadvantages when applied to residential areas. In the first place, it creates waste by providing a greater paved area than is necessary adequately to serve a residential community. Secondly, it causes the installation of a more expensive type of paving by dispersing the traffic equally through the area, which in turn creates an increased traffic hazard. In addition to these disadvantages, it creates a monotonous, uninteresting architectural effect and fails to create a community aspect.

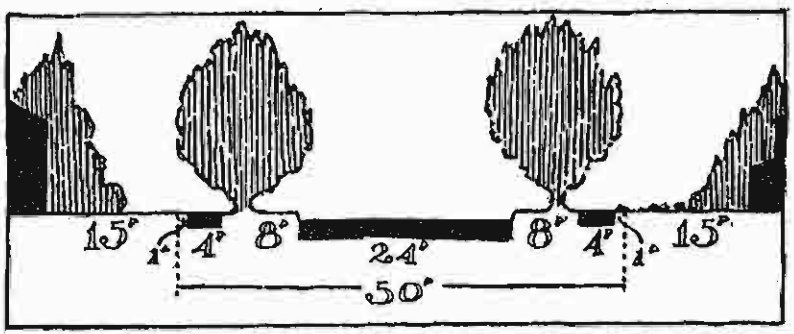
Street patterns should be so designed as to provide a reduction in the paving costs, a proper control of traffic, adaptation to the terrain, and also to provide an architectural setting which will lend interest and create a sense of social responsibility as well as a feeling of pride in the community.

In designing a subdivision the major and minor streets, the blocks, lots, parks, business centers, etc., should be adjusted and coordinated into a well balanced unit and adapted to tie in with adjacent future or existing developments. The width and arrangement of streets, the size of the areas set aside for residences and for business or recreation must all bear a proper relation to each other and to the needs of the community. It is easy to throw a subdivision off balance by the allocation of too great an area for business, resulting in a large proportion of the most valuable frontage lying idle, or by installing too many streets of excessive width, creating an exorbitant construction and maintenance burden.

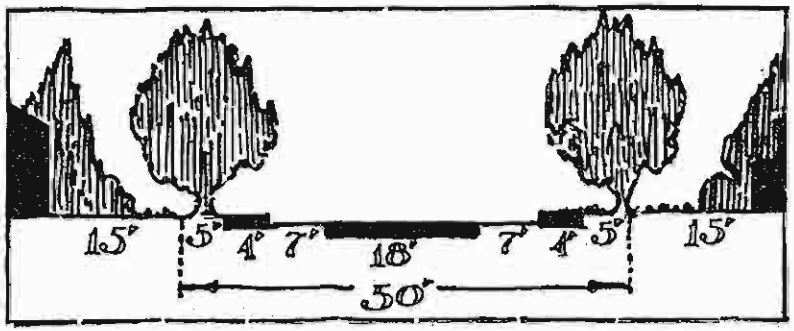
Major Thoroughfares.—Major thoroughfares must be provided that give quick and convenient access to principal centers. If possible, the trunk highways should be located along the borders. If however, this is not possible and they must go through the tract, they should be made direct and of sufficient width to provide for the unhampered passage of traffic. Allowance should be made for the future traffic needs of major highways. Although at first the



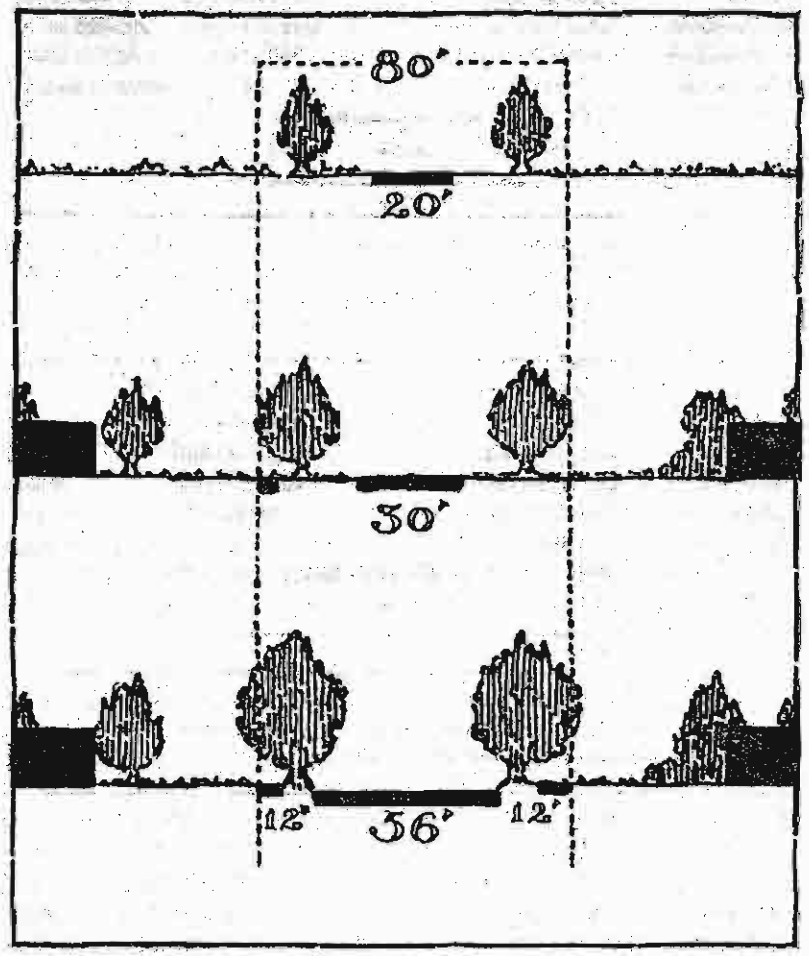
A section for a 30-foot right-of-way for court or cul-de-sac. This road provides a 20-foot paved strip graded to the center so that only one catch basin is needed instead of the usual two. The 4-foot walks are integral with the curb and gutter.



Conventional treatment of a 50-foot minor residential street having 24-foot paving, 8-foot tree strip and 4-foot walks. This road provides one lane for through traffic with parking space for cars on each side.



Cross section of a 50-foot minor residential street with 18-foot strip of paving for two rows of traffic and two 7-foot graded shoulders for parking. Four-foot walks with combined curbs are placed next to the road giving maximum space for trees and eliminating narrow tree lawns between the walks and curbs which are difficult to maintain and not wide enough for large trees.



This sketch illustrates the manner in which the street improvements on an 80-foot thoroughfare may be gradually increased as the neighborhood grows. Hardy trees are planted in their permanent location. In this manner excessive construction costs are eliminated in the early stages of the development and road widths are increased and finally walks installed as the area becomes built up and additional traffic facilities are necessary. By using this method it will not be necessary to cut down trees or tear up previous construction.

paving of such thoroughfares may be held to a minimum width, it is always desirable to dedicate a sufficiently wide right-of-way to provide for future needs in order to avoid expensive condemnation proceedings later.

Minor Residential Streets.—The most desirable residential street is one on which the noise and hazard caused by traffic is reduced to a minimum. The street layout should be designed with this definitely in mind and through-traffic discouraged. Wide intersections should be eliminated. Minor streets should meet the main thoroughfares at right angles in order to decrease traffic danger and permit a more efficient lot subdivision. Surfacing of residential streets devoted to local traffic may be of lighter and less expensive material than is possible where through traffic must be allowed for. The minor residential streets should follow the topography closely (swinging around a knoll or a clump of fine trees) with the result that an attractive and unforced curvilinear layout is secured at reduced improvement cost, creating interesting vistas and doing away with the monotony of long straight rows of houses. On minor streets grades steeper than 5%, usually considered the maximum for main highways, are permissible to avoid expensive cut and fill. Paving widths may be reduced and in some instances walks omitted.

Culs-de-Sac.—Homes located on *culs-de-sac*, or dead-end streets, and on courts or crescents may offer distinct advantages, especially to families with small children. In addition to the reduction in the traffic hazard, the creation of such sites has many other advantages, both to the buyer and to the developer. The cost of street improvements may be greatly reduced as there is no need of wide, heavy paving, and as only a comparatively small number of houses are served in each group, large size water and sewer mains are not required.

Culs-de-sac and courts may be fitted into the plan so that odd-shaped inaccessible remnants of a subdivision, which would otherwise have but little value, are converted into desirable lots. All dead-end streets should be provided with convenient turn-arounds with a radius of not less than 30 feet. Customary planting strips and sidewalks should encircle the turn-around.

Block Lengths and Widths.—Blocks should generally range from 600 feet to 1,000 feet in length and may be even longer where they front on main highways, although blocks in excess of 1,300 feet in length are not to be recommended. Blocks should have their greatest length in a direction parallel to the natural traffic flow. The elimination of unnecessary cross streets is an important method of reducing construction costs. The use of a public cross-walk midway of long blocks is recommended.

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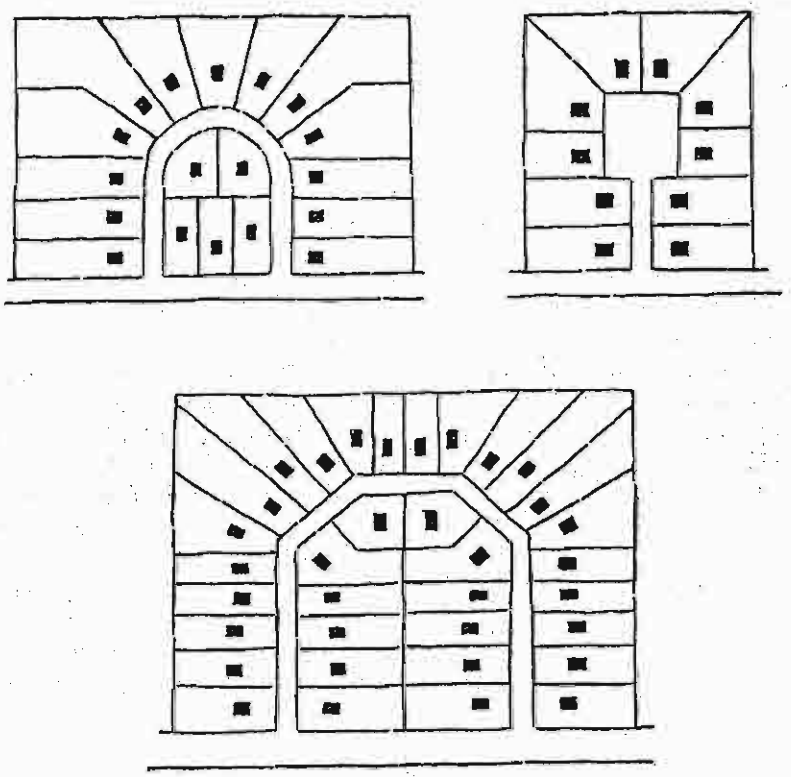


These diagrams indicate designs for courts and culs-de-sac. Sites such as these are off noisy and dangerous traffic streets and are much in demand by the parents of small children. Because traffic needs are not great the paving and walk widths may be held to a minimum and the improvement costs considerably reduced. Paving widths of only 18 or 20 feet and 4-foot walks frequently will be found adequate. A 30-foot radius for the turn of the cul-de-sac should be considered the minimum. It is possible to group small homes much more interestingly in locations of this kind than along straight streets. A skillful planner will find that by the use of culs-de-sac many odd-shaped remnants may be plotted into valuable sites.

In urban developments block widths will normally be between 200 and 300 feet. However, there has been a recent tendency toward wider block sizes than the normal type, the interiors of which are developed with park areas.

In semi-rural and garden home subdivisions, block widths may be considerably greater. It is frequently desirable in such projects to provide for future re-subdivision into smaller lots by setting aside properly located easements of suitable widths for roadways and by prohibiting any other method of re-subdivision than the one established by the developer.

Lot Sizes.—The size of the lot to be established in an area will be determined by several considerations among which are the following:

(1) *The remoteness from the center of the community.*—Generally speaking, the farther from such a center the area is located, the larger will be the lots. Garden homes will not be appropriate adjacent to the commercial section, nor will row houses ordinarily be appropriate to the open country. There should be a diminution in the density of population as the circumference of the city expands, from approximately 12 to 16 families to the gross acre for close lying attached home developments, to 4 to 8 families to the gross acre for urban and suburban areas of detached houses. There is a strong trend to provide greater land areas for all types of housing, and because in general land values decrease as the distance from a main center increases, a process of decentralization is occurring in most of our large cities.

(2) *The price of raw land.*—If low priced houses are to be produced on large lots they will ordinarily have to be placed in a distinctly suburban section. However, the influence which a specific type of subdivision has upon the price of land must not be neglected. The acceptance of a fixed size of lot by a large part of the people of a community tends to establish the price of that lot. Thus in different cities of comparable size the price in one of twenty foot lots for row houses may not differ from that in another of forty foot lots for detached houses. Public demand and the price the public can afford will, therefore, except where congestion is caused by peculiar geographical conditions, to a great degree influence both the size and the price of the lot.

(3) *The character of the land improvements.*—Inasmuch as the cost of street and walk pavements, sewer and water lines, varies with the length of lot frontage, these costs have a direct bearing upon the amount of land which may be allocated to a family. It follows that unless these costs, both as to initial installations and subsequent maintenance are kept low, the size of lot possible for low priced

homes must be kept small. Fortunately, decrease in population density per acre and good planning both permit simplification of improvements, lighter and narrower pavements, omission of walks, lesser diameter of sewer, etc., so that with an exercise of good judgment large lots with appropriate improvements may be produced for persons of modest means.

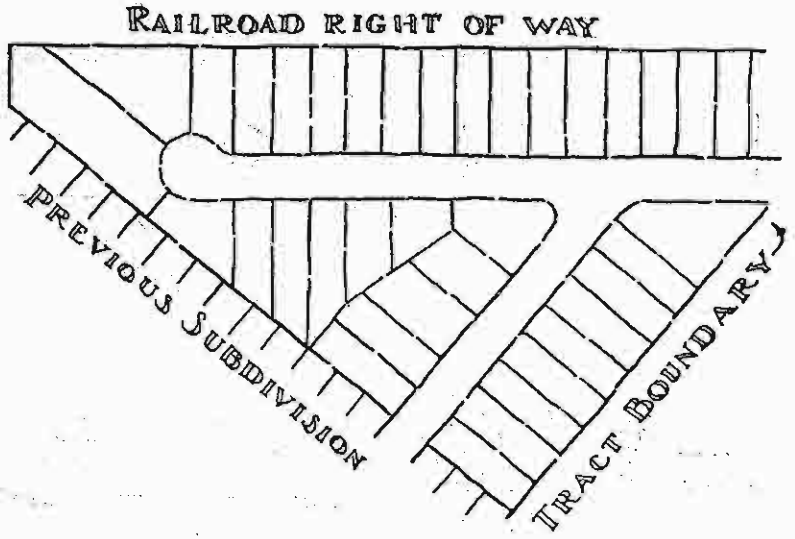
(4) *The character of the land.*—Where lots are difficult and expensive to grade, lot areas may have to be reduced to keep such lots within a reasonable price. The selection of such land for low priced subdivisions should, however, be generally avoided unless a restrictive geographical situation forces its use. A poor soil will make inadvisable large tracts for garden use. A heavily wooded site may produce a greater degree of privacy on smaller lots than would be possible in open land.

(5) *The desires of the people.*—The developer must produce, so far as it is possible for him to judge, what people want, not what he may think people want. A class of people, among whom small families and long working hours are customary would be burdened with large garden tracts, with a resulting deterioration in the appearance of the area. On the other hand, persons with limited working hours may prefer such tracts for the enjoyment and profit they may yield. Families liking a high degree of community association may prefer group houses. Those desiring a greater privacy will require a more open type of development. This factor of appeal to a large buying or renting group must be carefully studied by the developer.

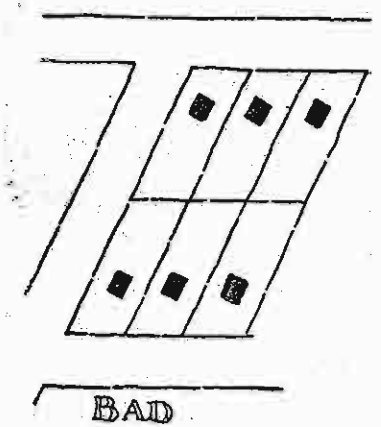
(6) *Type and Character of Housing.*—Whether the land is to be improved with detached, semidetached, or row houses will have a very definite bearing upon the determination of the size of the lots. The availability and need for recreational facilities and the type and character of the proposed occupants will in turn react upon the type of housing and, therefore, the lot sizes.

Shape of Lots.—The customary shape of a town lot is long and narrow, a shape no doubt originally established because of the desirability of keeping stables and other outbuildings as far from the residence as possible. With the now almost universal use of plumbing and the replacement of the horse by the motor car, this necessity no longer dictates the lot shape. The custom nevertheless persists, increasing land density and forcing more durable and expensive street improvements, which in turn provide a new argument for the narrow frontage.

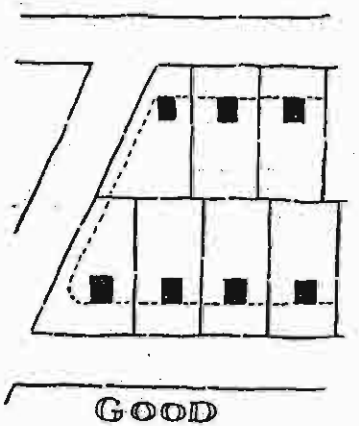
Narrow lots limit the open space around the house and force the construction of long, narrow homes which must obtain their light and air from the front and rear, and which frequently contain a series of dark, unhealthy rooms in between. Excessively deep lots in urban



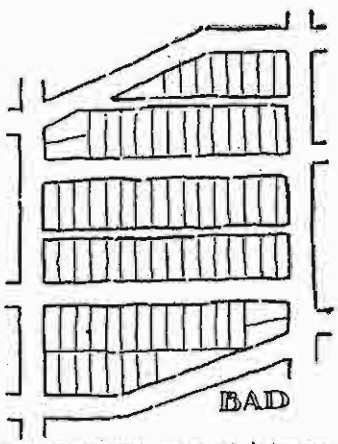
An odd shaped remnant of land developed into saleable home sites by a cul-de-sac design.



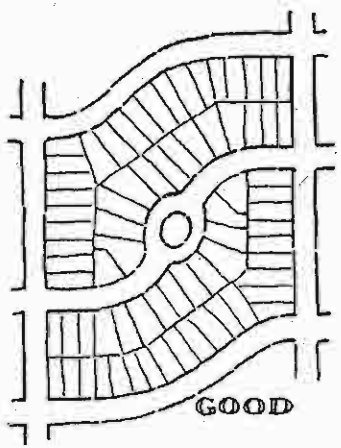
Narrow corner lots with lot lines forming bad angles with the streets causing a saw-toothed building line with houses placed in bad relation to each other and to the street.



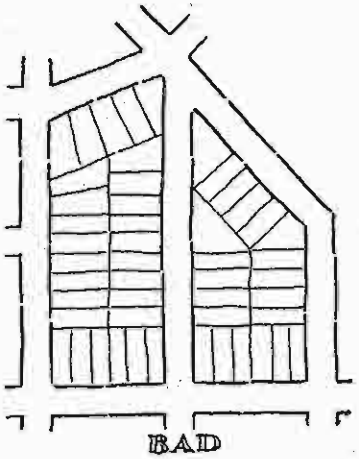
Corner lots of generous size, lot lines at right angles to the street, permitting a regular building line with houses placed in good relation to each other and to the street.



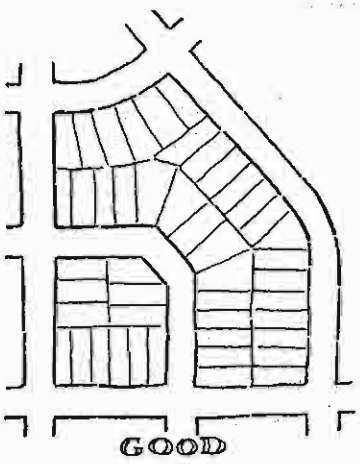
Streets do not meet at intersections. Unnecessary streets and alleys create traffic hazards and increase construction cost.



Street intersections meet with no jogs. Wasteful, pointed lots are eliminated and streets cross at right angles.



Lots smaller than necessary. Some lots poorly shaped. Street intersection very inconvenient.



Large and better shaped lots with bad street intersection avoided.

areas encourage the construction of a second house in the rear. The alley dwellings in many of our large cities, with their undesirable social consequence, are examples of this condition.

The tendency to decrease the depth and widen the frontage of lots is one which, generally speaking, should be encouraged. The wide frontage lot permits the placing of a garage adjacent to the dwelling (with an increase in convenience and saving in driveway costs). It allows a maximum of light and air on all sides of the dwelling and uses the available area to the best advantage in providing a setting for the dwelling.

Lots for detached dwellings should not be much, if any, less than 50 feet wide and their area should not be less than 5,000 or 6,000 square feet. Lot widths and areas for semi-detached and attached dwellings may reasonably be diminished, particularly where open areas are provided for park and recreational use. For the average residential subdivision the economical lot depth will vary between 100 and 150 feet, but should ordinarily not exceed the latter figure.

In increasing lot widths the cost of suitable utilities must, however, not be neglected, so that reasonable relationship between the total cost of the improved land and of the dwelling may be maintained. In order to make wide lots possible for low priced homes, therefore, advantage must be taken of the simplification of land improvements which low density makes possible. Thus, in areas of garden homes, frontage of 100 feet wide and wider may be possible. The increase in size necessary for garden plots to allow ample planting space frequently leads to depths so great that the development becomes merely a ribbon along a main highway. This type of subdividing should be avoided. Whenever possible the depth of such plots should not exceed 300 feet. Such a maximum still permits the development of a neighborhood plan, at the same time permitting future resubdivision into 125 foot lots by cutting new streets at the rear of the lots in the rare case where the growth of the community may require it.

Lot Lines.—Side lot lines should be either at right angles or radial to the street lines. If these lot lines are not laid out at right angles, a uniform building line along the street is impossible, and an ugly saw-tooth effect is the result. Careful planning of the rear lot lines will also avoid the long unusable slivers and awkward angles that are so frequently found in subdivision plans. The advantage of such a study of rear lot lines becomes apparent when it is necessary to run utilities such as electricity and telephone along rear easements.

Alleys and Rear Easements.—Where lots are 40 feet or less in width or where it is necessary to serve apartments or stores, alleys will be found advisable. They should not be less than 16 feet in width

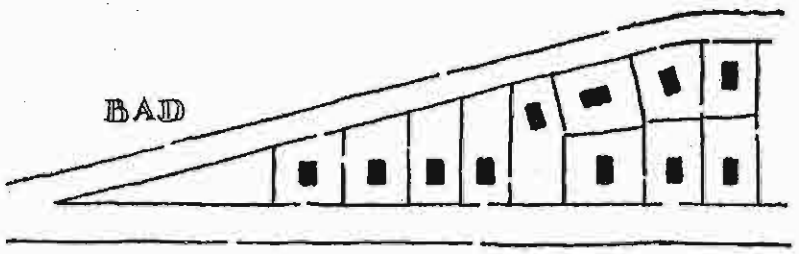
and should not exceed 20 feet. The tendency to the wider and comparatively shallow lot, however, eliminates the necessity for an alley. Such elimination is to be recommended wherever possible as saving a substantial initial installation cost and removing a problem in community maintenance. When no alleys are provided, an easement from 5 to 10 feet wide may be reserved along the rear line of each lot, making the total easement 10 to 20 feet, for the use of public utilities, poles, conduits, and in the case of the wider easement, alleys.

Streets, Walks, and Pavement Widths.—The width of the land taken for streets, walks, and pavements should be suited to the volume and character of the expected traffic. No through street should be less than 50 feet in width. However, a width of 30 feet for culs-de-sac serving a limited number of homes will usually be sufficient, with pavement widths as narrow as 18 feet.

Paving for minor streets bearing purely local traffic need be only wide enough for the comfortable passage of two lines of cars. Under such conditions, graded shoulders may provide for street parking, and curbs, and sometimes even walks, may be omitted. However, where the lots are small and the family density per acre correspondingly great, traffic needs will usually be increased to a point where pavements of greater width are required and walks will be necessary for the safety of pedestrians.

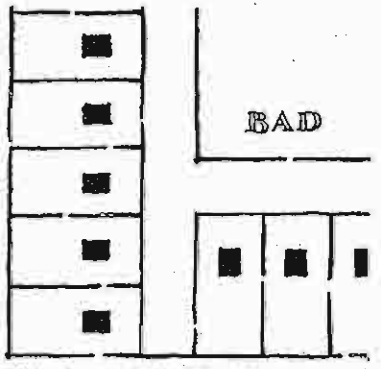
A good standard for paving widths is an allowance of 9 or 10 feet for each lane of moving vehicles and 7 or 8 feet for each parallel parking lane. On main thoroughfares it is frequently desirable to pave only a narrow width sufficient for present traffic and to plant the trees in the location they are to occupy when the paving is eventually widened. This eliminates the cost of unnecessary construction and provides assurance that the pavement may be widened without damage to the trees. Walks 4 feet to 5 feet in width are sufficient for minor residential streets. On a main thoroughfare a greater width is usually desirable.

Parks and Playgrounds.—It is usually good business for the subdivider to set aside areas for permanent open spaces. The rugged areas or a particularly good piece of timber adapt themselves to such purposes. Such areas will often be expensive to prepare for residential use, especially in a development of small home sites and it will be found that their best use, both from the standpoint of cost and of increasing the desirability of the development, will be to dedicate them for public parks. Home sites surrounding such areas are always in demand. Carefully kept records by large real estate operators show that such open spaces are excellent investments.

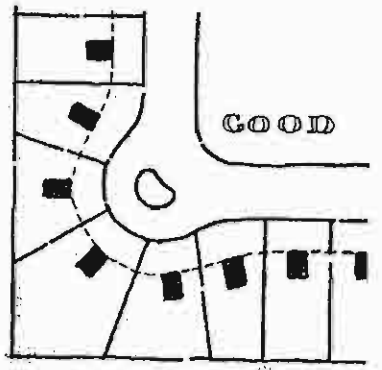


A minor residential street making a sharp intersection with a thoroughfare, creating a serious traffic hazard, encouraging fast through traffic and resulting in a wasteful and inefficient lot subdivision.

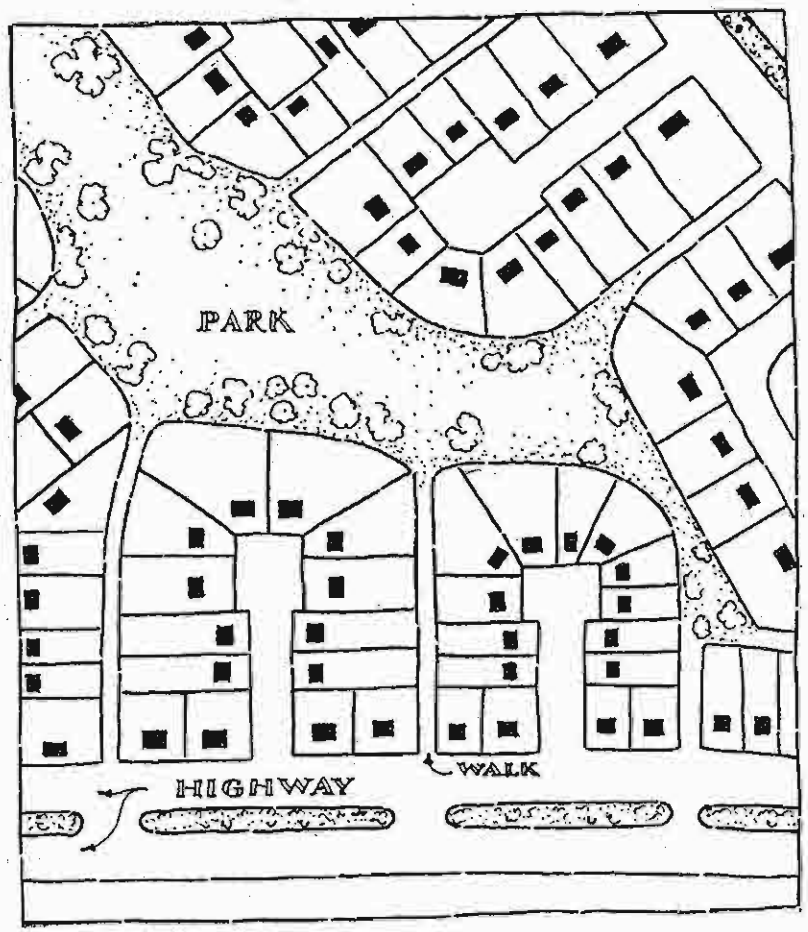
A minor residential street making intersection with a thoroughfare at right angles. Fast through traffic is discouraged. A dangerous traffic hazard is eliminated and an economical subdivision of well-shaped lots is made possible.



This sketch indicates the treatment of a corner of a subdivision with the street dead-ended against a property line. There is an excessive area in streets. The lots and the houses are grouped in poor relation to one another.



This sketch indicates the treatment of the same corner so that there is no traffic dead end and the maximum area is in lots and the minimum area in streets, with houses attractively grouped in relation to one another.



The Radburn type plan showing a series of culs-de-sac grouped in a superblock around a central park. The traffic highways border the superblock. The houses face the front yards and parks rather than the streets. The cul-de-sac roadways are service drives and give access to the rear of the houses. Traffic passes by rather than among the houses.

When a large acreage is plotted, consideration should be given to school sites. These should be generous enough in size not only to give adequate space for the school, but also to provide for the recreational needs of a large portion of the students. The need of shaded breathing places is clearly demonstrated by the popularity of the small residential parks during hot periods, when they prove an absolute necessity to the welfare of both adults and children. Many cities require a certain percentage of each subdivision to be set aside for such purposes. The mounting death toll of children killed in traffic accidents is another factor that makes a development in which safe playgrounds are provided for children, a popular one.

Landscape Planting of Subdivisions.—As soon as permanent grades have been established along the streets and front portions of the residential lots, trees should be planted in the spring or fall of the year. Only permanent trees such as Red Oak, Pin Oak, Hard Maple, American and English Elm, Sycamore, or American and European Linden should be planted.[4] These trees should be planted about forty feet apart on either side of the street, either half-way between the sidewalk and curb or about four feet inside of the sidewalk. The latter is suggested so that when the trees reach maturity, the roots will not interfere with the sidewalk.

When space is adequate, a grouping of trees along the street is effective. For example, groups of three or five Sycamores planted at intervals along the street make a very impressive avenue. At certain street intersections or in other locations along the avenue, low shrubs may be planted. These should be of a type that will give winter as well as summer effects obtained by berries that remain through the winter or coloring of twigs that brighten the landscape. Such shrubs are Snowberry, Rosa Rugosa, Prairie Rose, Japanese Barberry, Regal Privet, Hawthorn, and many others. These plantings should never be allowed to grow high enough to obstruct the view of moving motors along the street.

Hedges or other plantings on the front lawns should be so arranged as to give adequate setting to the residences but not grow to such an extent as to smother the dwelling in plantings. The yards should be kept free from excessive plantings in order to give a more pleasing landscape effect along the avenue.

To procure the best results in the landscape treatment of a subdivision, the services of a competent landscape architect should be secured. The attractive landscape effect obtained throughout the project will more than compensate for the cost of such services.

[4] In some communities the type of street planting permitted is controlled by ordinance.

Commercial Areas.—The determination of the amount of land to be allotted for commercial uses, its location, its control, its development and its relation to the residential areas involve considerations which rarely have been given the attention they deserve. Segregation of these areas is essential to the preservation of values in residential areas. Limitation of the amount of the commercial use is essential to the preservation of values in commercial areas.

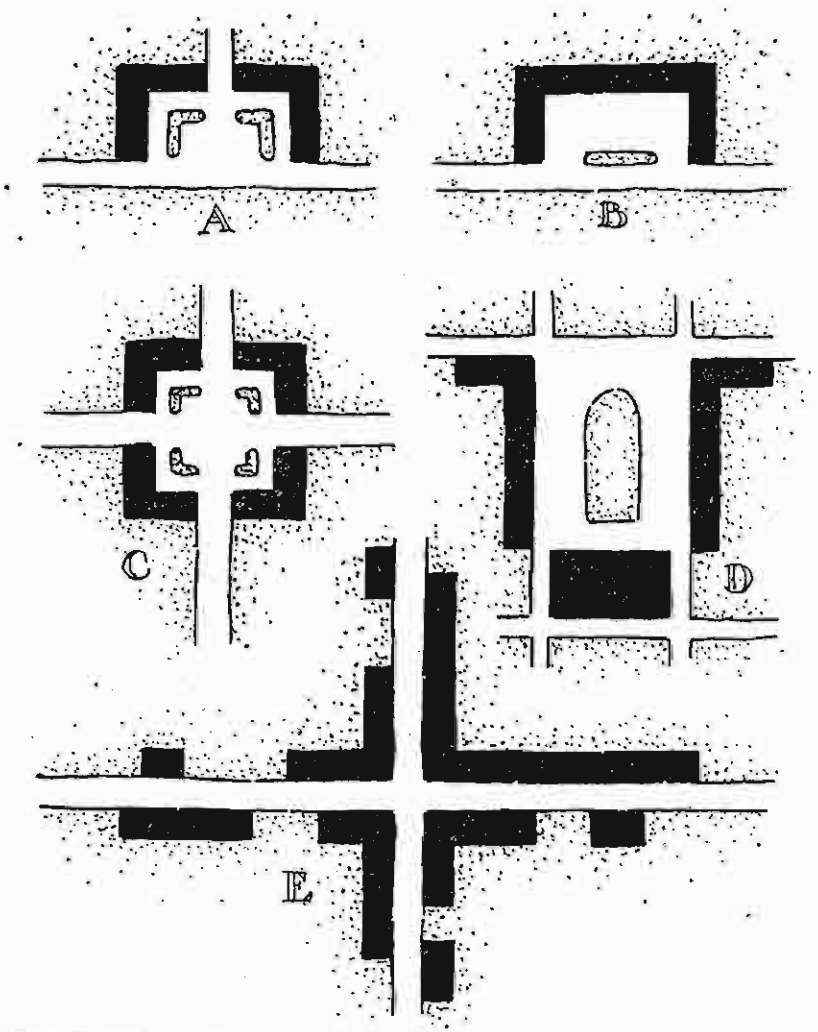
In neighborhoods planned for higher priced homes where shopping is done by car or telephone or dependence placed on delivery service, it is possible to omit local shopping facilities and to rely on distant commercial centers. In areas planned for low priced homes where shopping is done on foot and carried home, neighborhood centers should be provided in closer proximity to the home.

In any case, where the problem of providing for commercial use in connection with a residential community must be faced, the shopping area should be determined carefully in relation to the number of families it must serve. The belief that commercial property is more valuable than residential property leads generally toward a tendency to allocate more land to this use than is justified. High values are justified only when the income derived by the operation of the stores warrants such values. If more commercial land is created than can be supported by the community, there is a constant threat of ruinous competition affecting land values as well as business income. By restricting the area through deed restrictions or zoning, values may be maintained or enhanced and also the injurious effect upon the residential values is minimized.

The location of a shopping center should generally be on or just off a main thoroughfare in the line of the greatest pedestrian traffic. A focal point along this line, within easy access of the various sections of the neighborhood, should be chosen and developed as a unit. It should not be permitted to spread unrestrained along the length of the thoroughfare.

The highway should be widened at the shopping center to permit adequate automobile parking. It is wise to separate the parking area from the highway by a park strip. Another solution is to develop the shopping center off the highway so that through traffic is not merged with the local traffic. The use of service alleys for deliveries has definite advantages in the delivery of goods to the shops.

There is a growing appreciation of the need for a definite means of planning and controlling subdividing so as to provide a transition from commercial to residential areas without injuring values. This may frequently be done by the location of community features or multi-family dwellings between these areas.



Sketch E indicates the scattered shoe string manner in which neighborhood shopping centers spring up along the length of highways due to improper zoning and deed restrictions. A much greater area is allocated to stores than the community can support. No parking facilities are provided. The traffic hazard is great and nearby residential values are adversely affected. The sketches A, B, C, and D indicate how proper zoning and deed restrictions and careful planning provide for shopping centers at important intersections and at suitable intervals along the highway. All of these shopping centers can be developed with architectural control, parking facilities for customers, and with the assurance that there will be a sufficiently large area from which to draw business. Store centers of this kind do not adversely affect nearby residential values. Plan B placed midway in the block eliminates traffic dangers,