AN EVALUATION OF THE NEIGHBORHOOD UNIT CONCEPT IN THE PLANNING OF A NEW TOWN

by

CHENG-HSIN LIU

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Approved by:

Roy Bradley Weisenburger
Major Professor

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CHAPTER I

INTRODUCTION

Purpose of New Town

As a consequence of industrialization, urban centers grew rapidly. Massive problems created by industrialization such as population concentration, traffic congestion, slum areas, urban sprawl and pollution, made the urban area an unhealthy place to live in. Urban growth trends have recently become a dominant and catalytic force on the quality of life in today's city.[1]

The creation of new towns has become a worldwide movement, applied in a variety of situations for a variety of purposes. The contemporary new town is essentially an outcome of urbanization to decentralize the population of urban centers. New town is a newly developed or expanded urban center which should be a self-contained, self-sustaining, and balanced community, with a relatively independent economic base and minimum commuting patterns. The well-balanced new town should have a diversified socio-economic structure and should provide daily the required social, cultural, educational, commercial, and other necessary services to minimize commuting behaviors.[2]

Purpose of Neighborhood Unit

The new town planning movement has reacquainted planners with two significant concepts.[3] The first is the provision

for a pedestrian pattern totally separated vehicular networks. The second concept is that of social and organizational identity in the form of a neighborhood unit. Lewis Mumford indicated that neighborhood unit organization seemed the only practical answer to the giantism and inefficiency of the over-centralized metropolis.[4]

The division of new town into neighborhoods is intended to serve two main ends. The first is purely functional, for that town's population and area, it would be useful to create sub-areas for the provision of local services such as shops, school and community center. The second purpose is a sociological one. In many of the larger towns and cities practically all sense of community has been lost. It is partly in an attempt to restore this community spirit in existing towns, and to create it in the new, that the idea of the neighborhood unit evolved.[5]

Social isolation of people and the mental consequences stressed in large urban centers may be reduced or diminished in a neighborhood. It is noteworthy that a highly mobile society tends to weaken kinship relations, and in a rapidly urbanized society such as that of the United States personal isolation may easily become an imposed social pattern and lead to depression and mental illness.[6] Thus a neighborhood unit may be an alternative to isolation while residing in an urban environment.

It is necessary to encourage in all ways the design and

development of each neighborhood so that it shall be a self-contained unit in the pattern of the city.[7] These neighborhood units may offer those who live in them adequate light, air and open space with comparative peace from the noise and dust of heavy through traffic arteries. The health, safety and morals of people living in such neighborhood units can be safeguarded as they can not be protected in overcrowded areas unprovided with proper facilities, or in poorly planned units too large or too small to include convenient location of needed services.

Definitions

Neighborhood The area with which residents may all share the common services, social activities and facilities required in the vicinity of the dwelling.[8]

Neighborhood Unit The neighborhood is regarded as a planning unit in which all factors including physical boundaries, society, utilities and services, transportation networks, government, and others contribute to the formation of the whole unit.

New Town A land development project having an acreage sufficiently large to encompass land use elements of residence, business and industry, which, when developed, provide: 1) opportunities for living and working within the community; 2) a full spectrum of housing types and price ranges; 3) permanent open space in passive and active recreation areas with sufficient land on the periphery to protect the industry;

4) strong aesthetic controls; and 5) sufficient financing to provide money for initial development needs.[9]

Garden City A town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not large; surrounded by a rural belt; the whole of the land being in public ownership or held in trust for the community.[10]

CHAPTER II

HISTORICAL DEVELOPMENT OF NEIGHBORHOOD UNIT

The first neighborhood records are the early Mesopotamian villages where nomadic tribes established either temporary or permanent settlement. These tribes contained the essential characteristics of a neighborhood.

The first planned cities of the Greeks combined social and political identity in the concept of the city-state.[11]

The neighborhood of medieval cities also contributed its social characteristics to the concept of neighborhood.

During the Renaissance, the idea of all socioeconomic groups living together was discarded. The segregation of middle and upper class people based on income was the foundation for today's middle and upper class neighborhood.[12]

The Industrial Revolution resulted in the neighborhood population classed by income as the railroad and automobile split the city into sections.

The twentieth century has seen a revival of interest in the neighborhood. Clarence Stein and Henry Wright, in their plans for Sunnyside Gardens, Long Island (Figure 1), though confined by the existing gridiron street pattern, had created a neighborhood in which the playgrounds and open spaces and small meeting halls were treated as an integral part of the housing development (Figure 2); and in Radburn they carried this mode of planning, not without consultation with Perry and

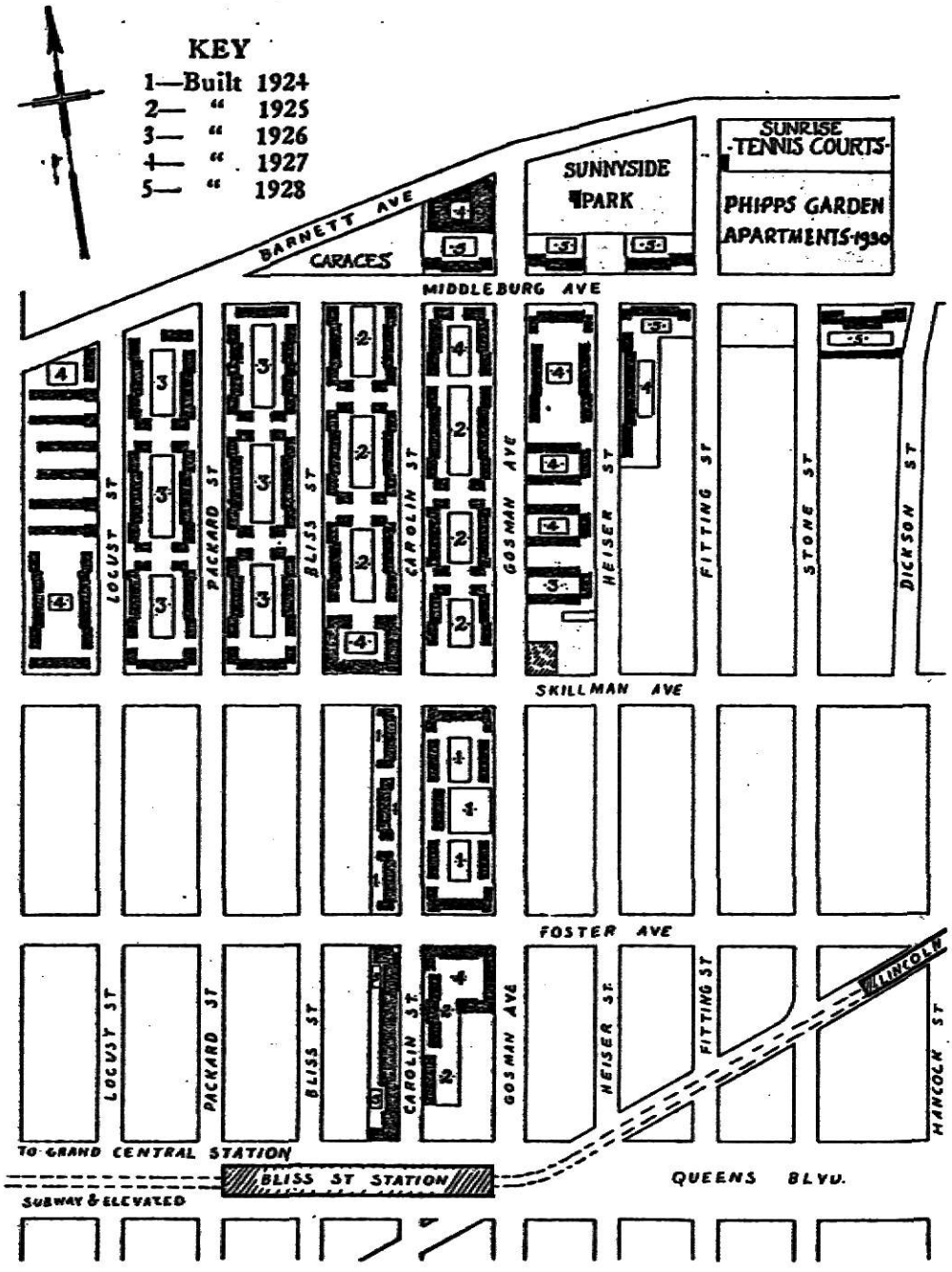
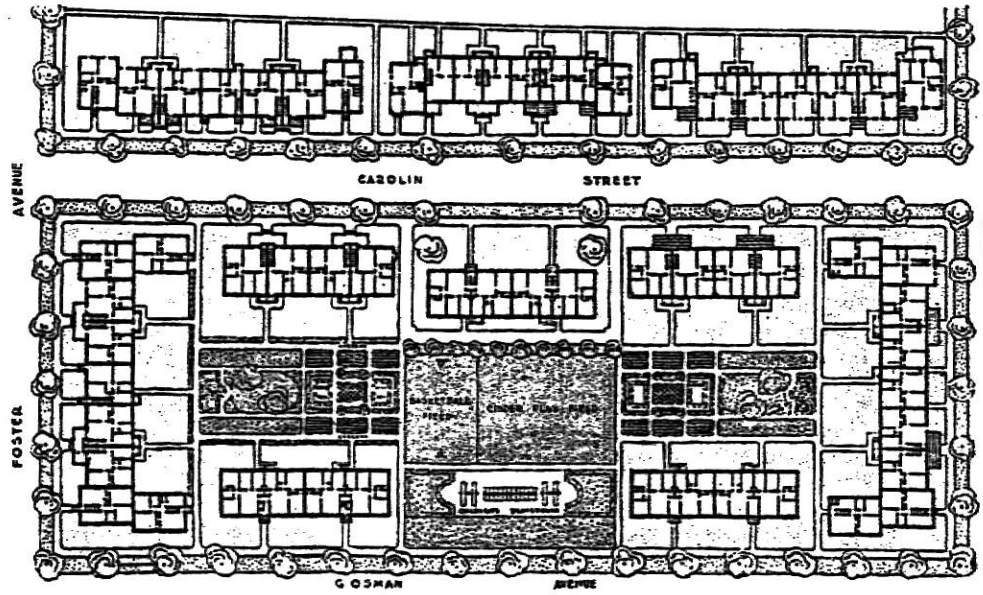
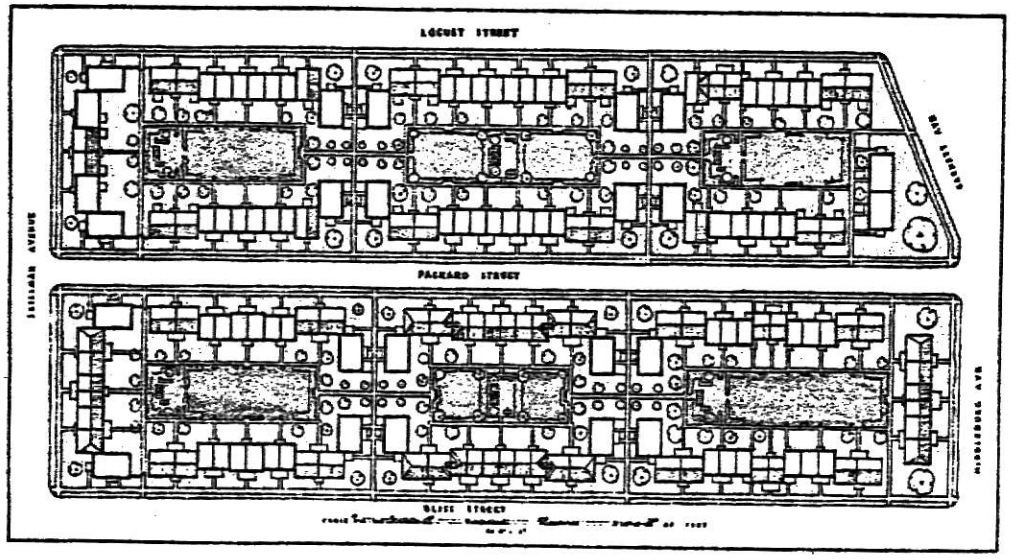


Figure 1. General Plan of Sunnyside Gardens

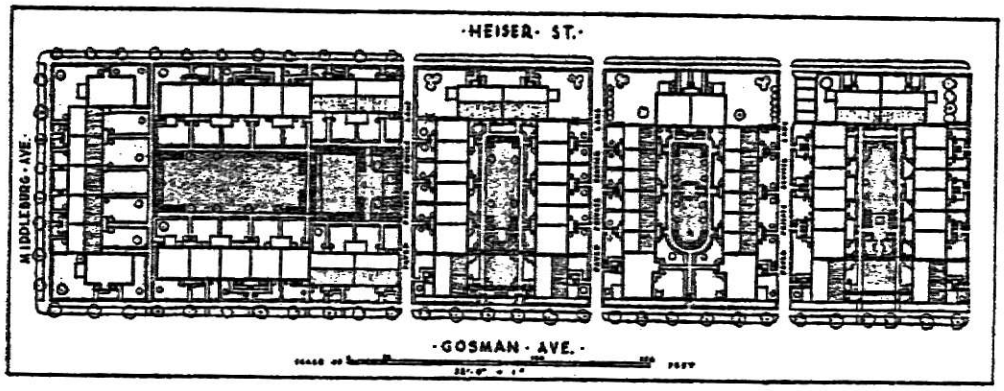
Source: Clarence S. Stein
Toward New Town for America



The first unit of Sunnyside, built in 1924



Plan of two blocks with inner courts, built in 1926



Plan of part of a block with an inner court and three courts opening off the street built in 1927

Figure 2. Residential Units Plan of Sunnyside

various school authories, into their designs for the whole community.

At Radburn, conceived in 1928 and largely built during the next three years, the modern neighborhood concept was applied for the first time and, in part, realized in the form that is now generally accepted.[13] The main traffic roads of the town went around, not through, the unit (Figure 3). The movement of pedestrians was mainly along a spinal green that formed the inner core of the town. At the center of each neighborhood was an elementary school, with its recreation field and its swimming pool; and the shops and services were gathered in a shopping center, with a parking place for cars, instead of being dispersed along a traffic avenue.[14] The neighborhoods were laid out with a radius of one half mile, centering on the elementary schools and playgrounds. Each was to have its own shopping center. The size of the neighborhood was determined by the number of children cared for by a single school. So as to allow for flexibility in development (Figure 4).

Clarence Perry, the formulation of the neighborhood concept in the United States, defined the "Neighborhood Unit Principles"[15] (Figure 5) in 1929, which included:

Size A residential unit development should provide housing for that population for which one elementary school is ordinarily required, its actual area depending upon its population density.

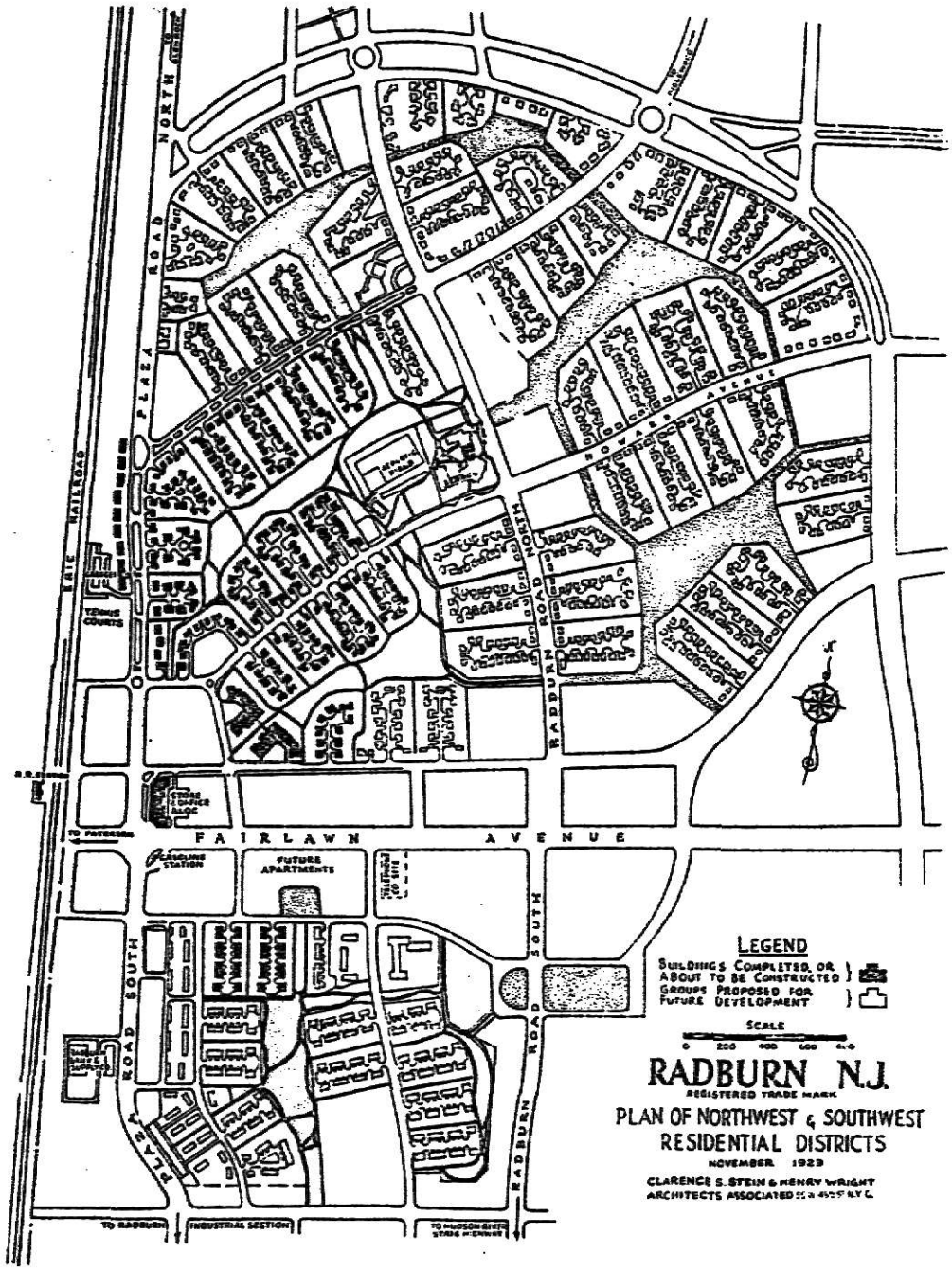


Figure 3. Radburn Residential Districts

Source: Clarence S. Stein
Toward New Town for America

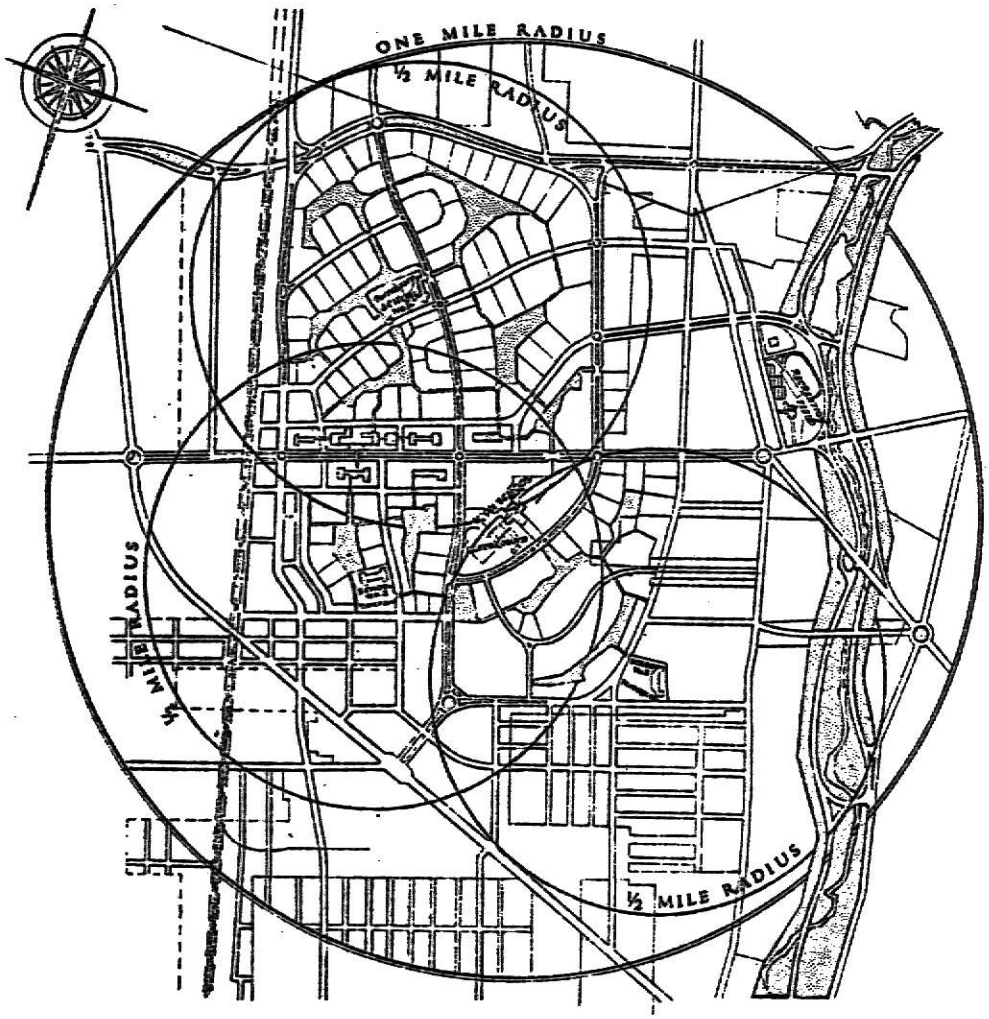


Figure 4. Radburn General Plan
Showing Neighborhoods

Source: Clarence S. Stein
Toward New Town for America

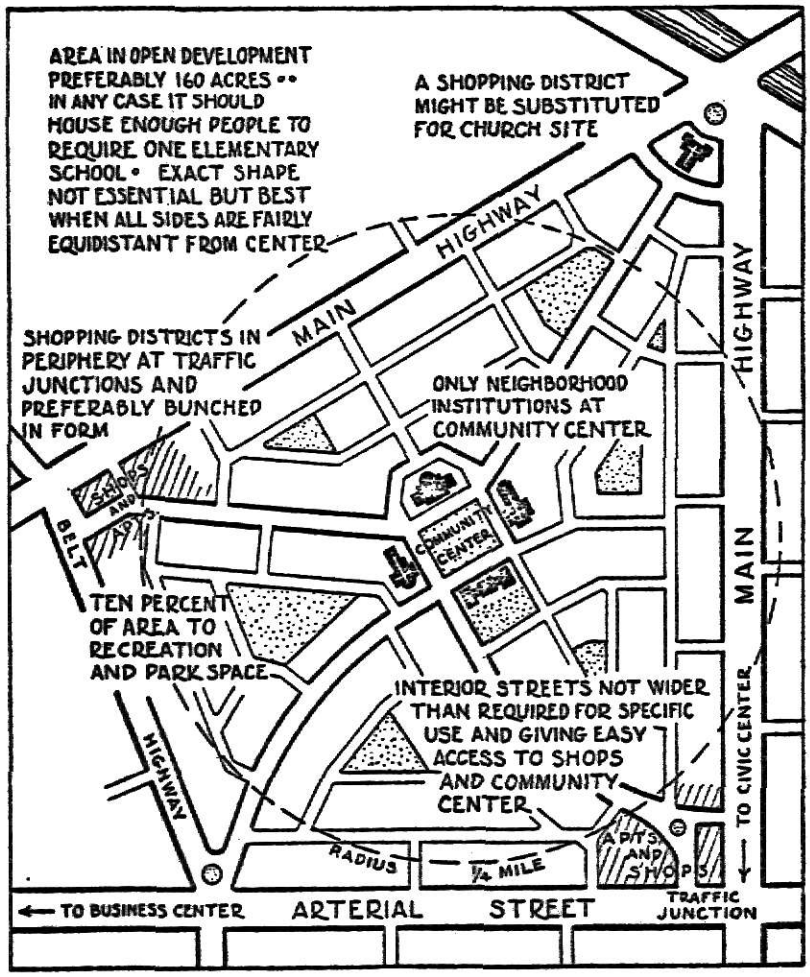


Figure 5. Perry's Neighborhood Unit Principles

Source: Clarence A. Perry
Housing for the Machine Age

Boundaries The unit should be bounded on all sides by arterial street, sufficiently wide to facilitate its by-passing, instead of penetration, by through traffic.

Open Spaces A system of small parks and recreation spaces, planned to meet the needs of the particular neighborhood, should be provided.

Institute Sites Sites for the school and other institutions having service spheres coinciding with the limits of the unit should be suitably grouped about a central point, or common.

Local Shops One or more shopping districts, adequate for the population to be served, should be laid out in the circumference of the unit, preferably at traffic junctions and adjacent to similar districts of adjoining neighborhoods.

Internal Street System The unit should be provided with a special street system, each highway being proportioned to its probable traffic load, and the street net as a whole being designed to facilitate circulation within the unit and to discourage its use by through traffic.

Perry's neighborhood unit concept and that presented by the Dudley Report[16] in 1944 different in three major elements: (Figure 6) 1) location of shopping centers; 2) location of open spaces; and 3) neighborhood size in relation to school size.

The English post-World War II new towns have applied neighborhood planning concepts which have centered around

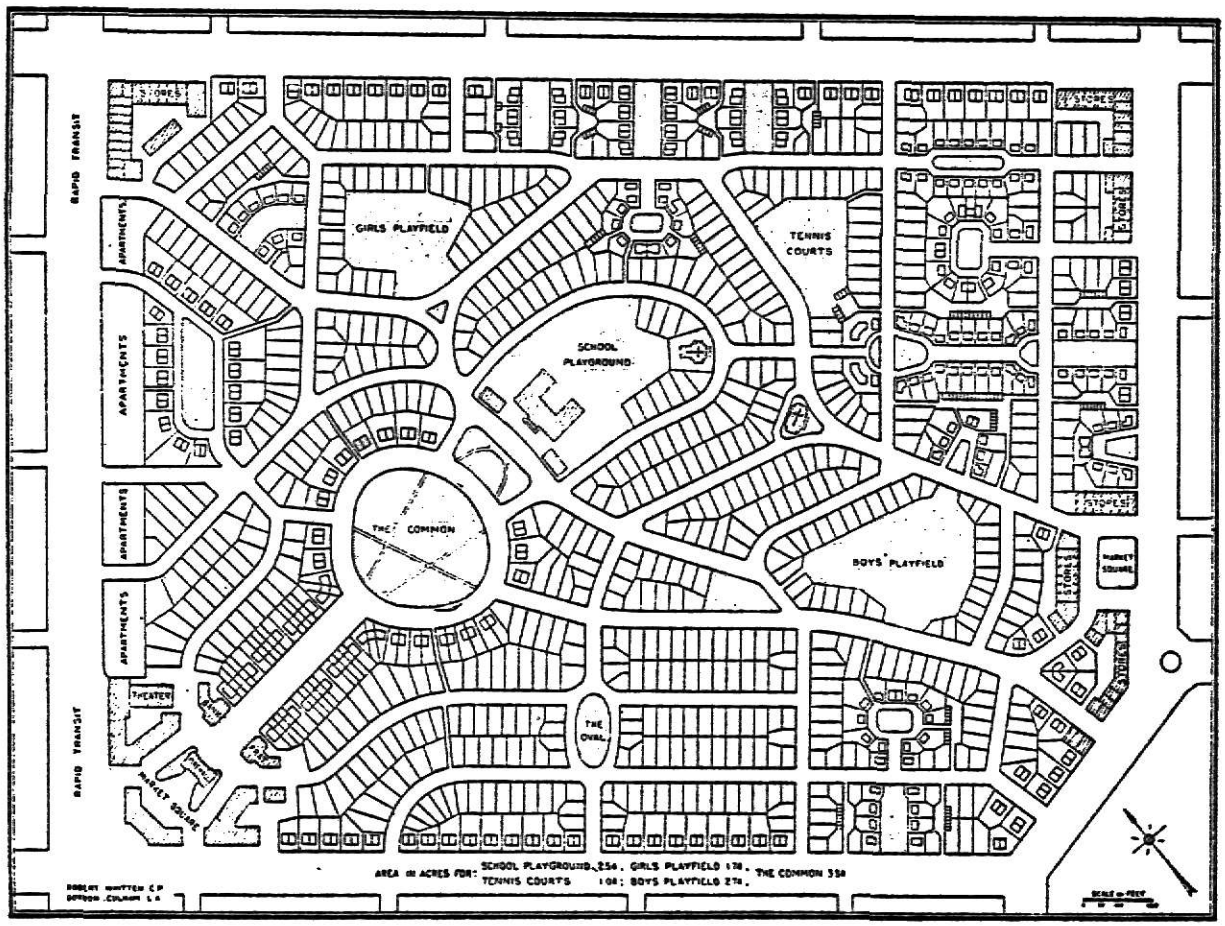


Figure 6. Perry's Neighborhood Unit

Source: Clarence A. Perry, Neighborhood and Community Planning, Regional Survey, volume 7.

community buildings, schools, shopping centers, open spaces for interaction, and the use of wide, green open spaces as boundaries. Despite some rejection of the neighborhood unit structure developed in Britain in the fifties and sixties, planners retained three basic ideas of the neighborhood concept.[18] These were 1) size, as related to school catchment area, walking distances, and service considerations; 2) location of facilities to serve overlapping residential catchment areas, to replace the centralized services of the neighborhood, and to form a flexible rather than rigid structure; and 3) a city layout which favors subdivision of large units into smaller ones.

In the United States, contemporary planned neighborhoods attempt to break down the segregation of residents and to establish diverse social, economic, ethnic, or racial groups in the same area.

The neighborhood unit has undergone many changes in physical form, but the impetus behind it remains the same, i.e., to provide a setting where people not only can live comfortably but can socialize and find an identity within a new town.

CHAPTER III

SOCIAL CONCEPT OF NEW TOWN NEIGHBORHOOD UNIT

The first and most important characteristic of the neighborhood unit in the new town is a personal sense of communal unity and identity that allows a person to find his place and define his role in his neighborhood.

Sharing systems and neighboring are two important means of promoting unity and identity. A local, effective, political power structure and the provision of services which enables a neighborhood to be relatively self-contained are another two means in promoting unity and identity.

In order to produce these desirable characteristics, a neighborhood unit in the new town must be effectively and efficiently designed and include the walking distance scale it needs.

Social Integrity

The main goal of a neighborhood unit should be to establish social identity and unity. The urban neighborhood should be regarded both as a unit of a larger whole and as a distinct entity in itself.[19]

The characteristic of society and population, rather than planned physical forms, give a residential agglomeration the self-identity of a neighborhood. An ideal neighborhood possesses this intangible identity and unity, and its residents have a senes of belonging, of being a part of an

identifiable community.

Sharing System

Sharing brings people together, it is the basic element of a neighborhood on which new town planning should focus. An ideal neighborhood unit should be founded on the basis of sharing. The sharing of a neighborhood unit are that:[20]

1 - Common Residences

Residential sharing associated with proximity and social affinity increases this degree of sharing and thus strengthens residents' identification with their neighborhood.

2 - Sharing of Services

This contributes to a high degree of distinct neighborhood identity. Services may be daily, occasional, or seasonal. The diversity of services, their accessibility and proximity to neighbors, and their quality are strong forces in establishing and retaining the identity of a neighborhood.

3 - Sharing of Citizens Participation

Neighborhood residents participate in community life and its accomplishments and share the responsibility of operation neighborhood machinery.

Neighboring

Neighboring is a limited relation which is a reliable source of socializing for children and housewives, and a relation which precedes friendship.[21] Neighboring has its

own norms and regulations dictated by various cultural, physical or even climatic conditions.

Neighbors in a new town may replace absent relatives and may thus intensify neighboring. Neighboring relation may develop from exchanging, borrowing, assisting, gossiping and exchanging information. Proximity in neighborhood unit may produce much socializing among residents.

Governance

Governance of neighborhood is to establish and retain an organization that can exercise local control over matters of common interest to their neighborhood.

Identification with and responsibility toward a community are encouraged when residents govern themselves. One advantage of establishing neighborhood governance within a new town is reducing the risk that a centralized power will develop an absolute government. This balancing of political power between neighborhood governments and a central government may encourage citizen participation, promote local leadership, and improve relations and contacts between voters and elected officials.[22]

Self-Containment

A primary neighborhood goal is to provide maximum possible daily services within a short distance from its residents. The decentralization of new town services among its neighborhood may not only ease family life within a

neighborhood but also decrease the number of trips taken to the new town center.

Although self-containment is suggested for the neighborhood unit to provide daily, local, immediate services and facilities, it is not the purpose of a neighborhood to be an impractical, totally independent island within its urban surroundings.

The neighborhood unit should be designed as an integral coherent segment of the overall new town linked to the public utilities, services and amenities.

CHAPTER IV

NEW TOWN NEIGHBORHOOD UNIT PLANNING

Planning Criteria

Before planning the neighborhood units for a new town, planners should consider the basis of an overall policy for design in the very early stages and later establish an actual comprehensive design. These planning criteria are described as follows:[23]

- Land use arrangement should provide maximum accessibility from one part of a neighborhood unit to another and a minimum need for vehicle.
- A neighborhood unit composed of people from various income groups would require a wide range of services than a neighborhood of one social class.
- In view of the size and location of services, transportation, and land use functions, the neighborhood unit should be a part of a hierarchial pattern within a whole new town.
- Definite physical boundaries can support the formation of local identity and a sense of neighborhood unity.
- A neighborhood unit may have a distinctive social appearance, such as a hierarchy of the population by density, ethnic affiliation, race, or religion.
- A neighborhood unit should have primary and secondary internal landmarks to reinforce personal identification

with the area and to serve as visual cues within an area's geographic complexity.

- To insure the social effect of a neighborhood, planners should view the unit as a complex of many sub-units and sub-subunits that allows real neighboring contact.

Neighborhood Size

In order to maintain proximity, a sense of identity, and necessary services in a neighborhood unit, there must be a limit to the physical size and population density so that the unit will not lose its social interaction and unity while providing effective services.

Size is a factor in two other aspects of the model neighborhood community, i.e., the achievement of a distinctive residential quality, and the possession of a rich associational life.[24]

The neighborhood unit should be large enough to support necessary daily local services, especially schools, yet small enough to produce local neighboring and neighborhood identity.

There are two variables, walking distance and school size, may dictate the size of a neighborhood unit.[25]

1 - Walking Distance

The scale which provides the easiest means of interaction is walking distance (Figure 7). The average, middle-aged resident should be able to walk comfortably between the boundaries of a neighborhood. 1/2 to 3/4 mile is generally considered the most desirable distance between a residence

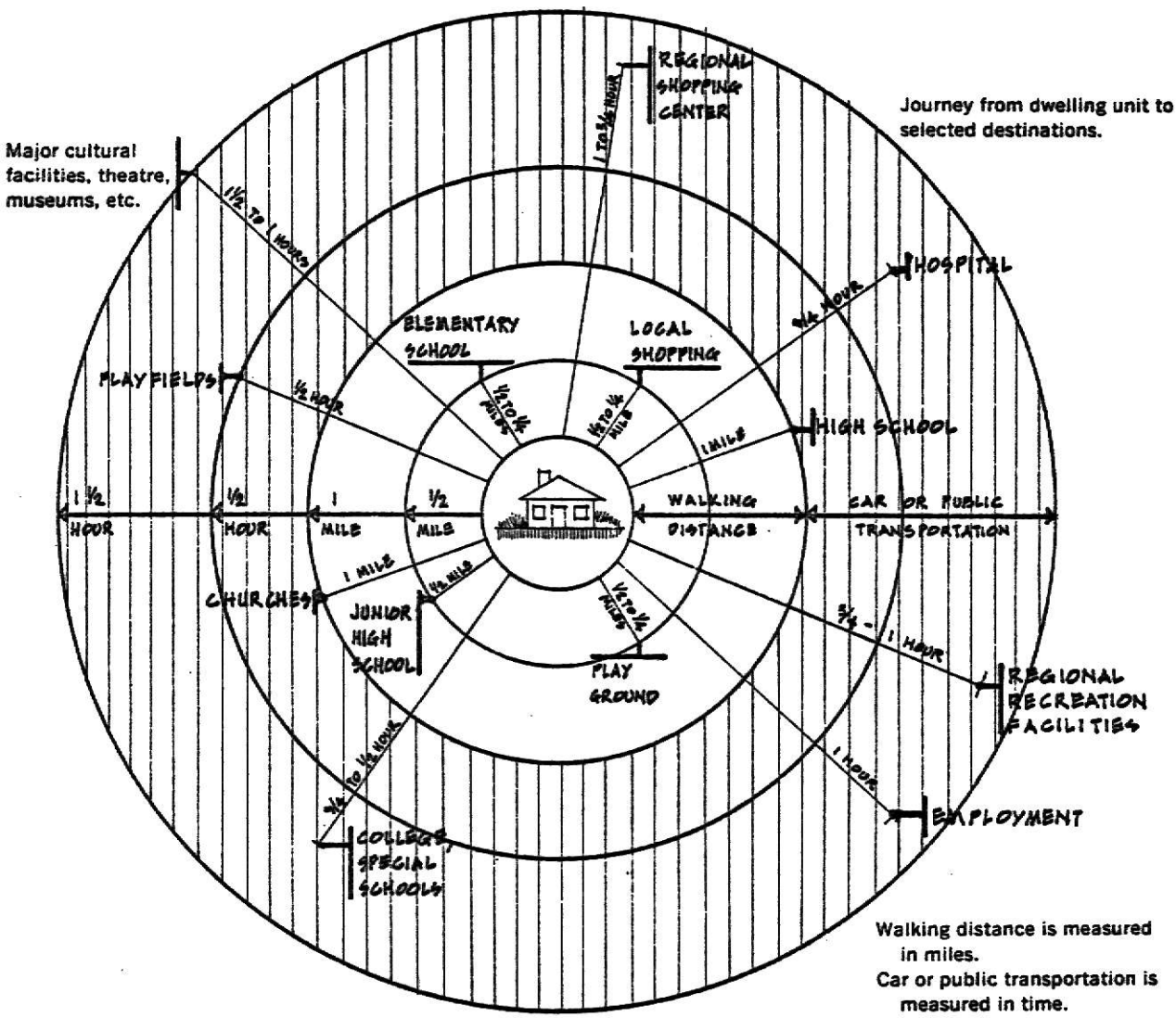


Figure 7. Walking Distance of Neighborhood Facilities

Source: Joseph Dechiara and Lee Koppelman
Urban Planning and Design Criteria

located at the periphery of the neighborhood and its geographic center where services are located.[26]

Children of the elementary school grade should not be required to travel more than 1/2 mile to school.[27] In cities it is generally agreed that the contributing area for an elementary school may have a radius of 1/2 to 3/4 mile.[28]

This would set the diameter of a neighborhood at about one mile and its optional physical size at less than one square mile or 640 acres. Table 1 depicts a model of the quantitative sequences when alternative maximum walking distances are considered.

2 - School Size

A residential unit development should provide housing for that population for which one elementary school is ordinarily required.[29]

According to authorities in school administration, a public school have a capacity of from 1,000 to 1,600 pupils.[30] As a matter of fact, the size of an elementary school will vary among geographic areas and from one time to another, so the size of the neighborhood unit will differ according to the place and time in which it is planned.

The average ratio of the elementary school age-group and the total population is about 1/6.[31] On the basis of the standard capacities given above, an efficient urban school district may range in population from 3,000 to 9,600 or say 10,000 persons.[32] Generally, then, a population of 7,000

Table 1. Neighborhood Sizes Related to Population and Area

Alternative	Total Population	Total Number of Families*	Alternative Gross Density Per Acre		Total Area Needed		Total Number of Employees			Radius of Area Required in Miles
			Families	Persons	In Acres	In Sq. Miles **	Avg. of 1.0 Persons	Avg. of 1.5 Persons	Avg. of 2.0 Persons	
I	2,500	675.6	3	11.1	225.2	.352	675	1013.4	1351.2	.112
			4	14.8	168.9	.264				.084
			5	18.5	135.1	.211				.067
			6	22.2	112.6	.176				.056
			7	25.9	96.5	.151				.048
			8	29.6	84.5	.132				.042
			9	33.3	75.0	.117				.037
			10	37.0	67.6	.106				.034
			11	40.7	61.4	.096				.031
			12	44.4	56.8	.089				.028
II	3,000	810.81	3	11.1	270.3	.422	810	1,216	1621.5	.134
			4	14.8	202.7	.317				.101
			5	18.5	162.2	.253				.081
			6	22.2	135.1	.211				.067
			7	25.9	115.8	.181				.058
			8	29.6	101.4	.158				.050
			9	33.3	90.1	.141				.045
			10	37.0	81.1	.127				.040
			11	40.7	73.7	.115				.037
			12	44.4	67.6	.106				.034
III	3,500	945.9	3	11.1	315.3	.493	946	1,419	1,892	.157
			4	14.8	236.5	.370				.118
			5	18.5	189.2	.296				.094
			6	22.2	157.7	.246				.078
			7	25.9	135.1	.211				.067
			8	29.6	118.2	.185				.059
			9	33.3	105.1	.164				.052
			10	37.0	94.6	.148				.047
			11	40.7	86.0	.134				.043
			12	44.4	78.8	.123				.039
IV	4,000	1081.08	3	11.1	360.4	.563	1,081	1621.6	2,162	.179
			4	14.8	270.3	.422				.134
			5	18.5	216.2	.338				.108
			6	22.2	180.2	.282				.090
			7	25.9	154.4	.241				.077
			8	29.6	135.1	.211				.067
			9	33.3	120.1	.188				.060
			10	37.0	108.1	.169				.054
			11	40.7	98.3	.154				.049
			12	44.4	90.1	.141				.045

Alternative	Total Population	Total Number of Families*	Alternative Gross Density Per Acre		Total Area Needed		Total Number of Employees			Radius of Area Required in Miles
			Families	Persons	In Acres	In Sq. Miles **	Avg. of 1.0 Persons	Avg. of 1.5 Persons	Avg. of 2.0 Persons	
IX	6,500	1756.7	3	11.1	585.6	.914	1,756	2,635	3,513	.291
			4	14.8	439.2	.685				.218
			5	18.5	351.4	.548				.174
			6	22.2	292.8	.457				.145
			7	25.9	251.0	.392				.125
			8	29.6	219.6	.343				.109
			9	33.3	195.2	.305				.097
			10	37.9	175.7	.274				.087
			11	40.7	159.7	.249				.079
			12	44.4	146.4	.228				.073
X	7,000	1891.8	3	11.1	630.6	.984	1,891	2,837	3,783	.313
			4	14.8	472.9	.738				.235
			5	18.5	378.4	.590				.188
			6	22.2	315.3	.492				.156
			7	25.9	270.3	.422				.134
			8	29.6	236.5	.369				.117
			9	33.3	210.2	.328				.104
			10	37.0	189.2	.295				.094
			11	40.7	172.0	.268				.085
			12	44.4	157.7	.246				.078
XI	7,500	2027.0	3	11.1	675.7	1.056	2,027	3,040	4,054	.34
			4	14.8	506.8	.792				.25
			5	18.5	405.4	.633				.20
			6	22.2	337.8	.528				.17
			7	25.9	289.6	.452				.14
			8	29.6	253.4	.396				.13
			9	33.3	225.2	.352				.11
			10	37.0	202.7	.317				.10
			11	40.7	184.3	.288				.09
			12	44.4	168.9	.264				.08
XII	8,000	2162.2	3	11.1	720.7	1.126	2,162	3,243	4,324	.36
			4	14.8	540.5	.845				.27
			5	18.5	432.4	.676				.22
			6	22.2	360.4	.563				.18
			7	25.9	308.9	.483				.15
			8	29.6	270.3	.422				.13
			9	33.3	240.2	.375				.12
			10	37.9	216.2	.338				.11
			11	40.7	196.6	.307				.10
			12	44.4	180.0	.281				.09

Table 1 (Continued)

V	4,500	1216.21	3	11.1	405.4	.633	1,216	1,824	2,432	.202
			4	14.8	304.1	.475				.151
			5	18.5	243.2	.380				.121
			6	22.2	202.7	.317				.101
			7	25.9	173.7	.271				.086
			8	29.6	152.0	.238				.076
			9	33.3	135.1	.211				.067
			10	37.0	121.6	.190				.061
			11	40.7	110.6	.173				.055
			12	44.4	101.4	.158				.050
VI	5,000	1351.4	3	11.1	450.5	.704	1,351	2,027	2,702	.224
			4	14.8	337.8	.528				.168
			5	18.6	270.3	.422				.134
			6	22.2	225.2	.352				.112
			7	25.9	193.1	.302				.096
			8	29.6	168.9	.264				.084
			9	33.3	150.2	.235				.075
			10	37.0	135.1	.211				.067
			11	40.7	122.9	.192				.061
			12	44.4	112.6	.176				.057
VII	5,500	1486.5	3	11.1	495.5	.774				.246
			4	14.8	371.6	.581				.185
			5	18.5	297.3	.465				.148
			6	22.2	247.7	.387				.123
			7	25.9	212.4	.332				.106
			8	29.6	185.8	.290				.092
			9	33.3	165.2	.258				.082
			10	37.0	148.6	.232				.074
			11	40.7	135.1	.211				.067
			12	44.4	123.8	.193				.061
VIII	6,000	1621.6	3	11.1	540.5	.843	1,621	2,432	3,243	.268
			4	14.8	405.4	.632				.201
			5	18.5	324.3	.506				.161
			6	22.2	270.3	.422				.134
			7	25.9	231.7	.361				.115
			8	29.6	202.7	.316				.100
			9	33.3	180.2	.281				.089
			10	37.0	162.2	.253				.080
			11	40.7	147.4	.230				.073
			12	44.4	135.1	.210				.067
XIII	8,500	2297.3	3	11.1	765.8	1.190	2,297	3,445	4,594	.378
			4	14.8	574.3	.896				.285
			5	18.5	459.5	.717				.228
			6	22.2	382.9	.597				.190
			7	25.9	328.1	.512				.163
			8	29.6	287.2	.448				.142
			9	33.3	255.3	.398				.126
			10	37.0	229.7	.358				.114
			11	40.7	208.8	.326				.104
			12	44.4	191.4	.298				.095
XIV	9,000	2432.4	3	11.1	810.8	1.260	2,432	3,648	4,865	.401
			4	14.8	608.1	.949				.302
			5	18.5	486.5	.759				.241
			6	22.2	405.4	.632				.201
			7	25.9	347.5	.542				.172
			8	29.6	304.1	.474				.151
			9	33.3	270.2	.422				.134
			10	37.0	243.2	.379				.121
			11	40.7	221.1	.345				.109
			12	44.4	202.7	.316				.100
XV	9,500	2567.6	3	11.1	855.9	1.340	2,567	3,851	5,135	.426
			4	14.8	641.9	1.000				.318
			5	18.5	513.5	.801				.255
			6	22.2	427.9	.668				.212
			7	25.9	366.8	.572				.182
			8	29.6	320.9	.501				.159
			9	33.3	285.3	.445				.142
			10	37.0	256.8	.401				.128
			11	40.7	233.4	.364				.116
			12	44.4	214.0	.334				.106
XVI	10,000	2702.7	3	11.1	900.9	1.401	2,702	4,053	5,404	.446
			4	14.8	675.7	1.054				.335
			5	18.5	540.5	.843				.268
			6	22.2	450.5	.703				.223
			7	25.9	386.1	.602				.191
			8	29.6	337.8	.526				.167
			9	33.3	300.3	.468				.149
			10	37.0	270.3	.421				.133
			11	40.7	245.7	.383				.121
			12	44.4	225.2	.351				.112

* Assumes 3.7 people per family
** 640 acres = 1 square mile

Source: Gideon Golany, New Town Planning: Principles and Practice.

seems most desirable for a neighborhood unit.[33]

Neighborhood Density

In order to achieve a proper relation between the population of a neighborhood unit and its facilities, the density of development must be controlled by setting up the desired population limit.

Neighborhood density is defined as the number of persons per acre of the total neighborhood land (net residential land plus streets, and land used for schools, recreation, shopping and other neighborhood community purposes).[34]

The regressions reported by Lansing and Hendricks[35] suggest that lower dwelling unit density (and hence less propinquity) is significantly associated with neighborhood satisfaction because it is usually related to greater privacy and less noise. In Lansing, Marans, and Zehner's study[36] indicates that "noisy" neighborhood and "hearing neighbors" increase fairly regularly with density. On the other hand, variation in density under 12.5 dwellings per acre (44 persons per acre) appears to have little systematic effect on private yard space for outdoor activities, or the adequacy of children's play areas near home. Finally, residents in neighborhoods with the highest densities are much less like to know their neighbors by name although their rates of casual interaction are not significantly lower than rates in less density areas.

The recommended maximum net residential and neighborhood densities are given in Table 2.

Table 2. Net Residential and Gross Neighborhood Densities (persons/acre)

	Open Develop.	Outer Ring	Inner Ring	Central (Normal)	Central (Concent.)
Net Residential	30	50	75	100	120
Gross Neighborhood	21	30	40	50	60

Source: Anthony Goss. "Neighborhood Unit in British New Towns", Town Planning Review, April 1961.

Neighborhood Site Selection

The general site for a new town may already have been selected, and the neighborhood site may have to be chosen within that context. Thus a compromise with the whole town site may be required for designating that land portion that is to become a neighborhood unit.

There are some basic principles planners should use in selecting the neighborhood sites:[37]

- The water and sewage system and the adaptability of topography to their installation are of major importance.
- An examination of geological formations is needed not only for the safety and convenience of the residents of a neighborhood but also for the safety and facilitation of building construction, road construction, and the laying of ground utilities.
- The suitability of land and its capability for

development have a great impact on the economic investment required per land unit and intensity with which it may be used.

- A study of the view and landscape values lost or gained in selecting neighborhood site.
- To examine a site in reference to potential foul odors and air pollution. This examination should include a determination of prevailing winds and the locations of possible polluting factors.
- To examine the amount of existing or projected noise pollution.
- To check the existence and possibility of health hazards. Potential hazards may arise from swampy areas within or near the neighborhood site.
- The potential for harmony between the development of the site and the natural environment.
- Easy access to transportation and communication networks should be available to and from the site and within the site. There should also be adequate space for the circulation of vehicular and pedestrian patterns to and from the site and within it. Convenient access to public utilities such as water, sewer, and communication cables is essential.
- Temperature generally affects humidity and comfort. Temperature and wind can sometimes be controlled at the macrolevel if there is careful site planning.

Neighborhood Street Patterns

The neighborhood streets should carry only that traffic which either originates in the neighborhood or therein finds its destination. The Lansing, Marans and Zehner's study[38], concerned with finding neighborhood satisfaction, identified that neighborhood site arrangements which limited or excluded public pedestrian and vehicular through traffic would result in fewer undesired intrusions and greater neighborhood satisfaction.

The local neighborhood streets and the peripheral highway should meet or intersect at a minimum number of points. Within the neighborhood there should be a clear distinction in the right-of-way width and in the street profile between the major and minor residential streets. The pattern formed by these two kinds of street should be as simple and straightforward as possible, enabling easy accessibility to all parts of the neighborhood unit. There should be a minimum conflict between the pedestrian and the vehicular traffic. A high standard of sight distances and a maximum separation of pedestrian ways and vehicle ways should be maintained.

The hierarchical street patterns in the neighborhood unit consist of the following levels:

1 - Collector Road

This is designed to function as the main network of the whole residential area and also to feed peripheral highways. Collector road are usually looped to create circulation by

entering and leaving the same road within the area.

2 - Local Road

This road provides for low-level local traffic. It has the lowest speed limits and is the most carefully designed in terms of details and also provides for bicycle movement.

3 - Cul-de-Sac

This is a pattern of dead-end roads which were used extensively in the neighborhoods of ancient cities. Cul-de-sac are used as a means to retain the self-identity of clans or their sub-units and to further personal contact, convenience, and propinquity within a population, all of which contribute to community pride.[39]

4 - Pedestrian Network

The last level of this hierarchy is a system of pathways for pedestrians made in the neighborhood unit by separating pedestrians and vehicles. This network should run from the edges of the neighborhood unit to its center to insure safe movement for all age residents.

Neighborhood Facilities

The provision of services in a neighborhood unit is aimed at reducing the need to commute to other parts of a new town for daily needs, thus providing a hierarchy of services within the neighborhood population.[40]

The planning of local services and shopping areas within a neighborhood unit should not conflict with or substitute for such activities in a new town center. The two centers should

complement each other but not compete.

To encourage social unity among residents, a neighborhood unit should provide self-contained services as an integral part of entire town services.[41] The services required in a neighborhood unit are those needed daily or frequently by neighborhood residents. Ideally, some of these services might include an elementary school, a community center, nursery schools, outdoor and indoor recreational facilities for adults and children, parks and gardens, a religious center, a library and restaurants.[42]

1 - Nursery School

Nursery school should be accessible by footpath from dwelling units without crossing any streets. If street must be crossed, it should be a minor street. Its location should near an elementary school or neighborhood center.[43]

2 - Elementary School

Elementary school should be accessible by footpath from dwelling units without crossing any streets. If street must be crossed, it should be a minor street. Its location should near the center of residential area, near or adjacent to other neighborhood facilities.[44] Figure 8 shows the locations of nursery school and elementary school in the typical neighborhood organization.

3 - Playlot

A playlot is a small recreation area designed for the safe play of pre-school children. If a neighborhood is able

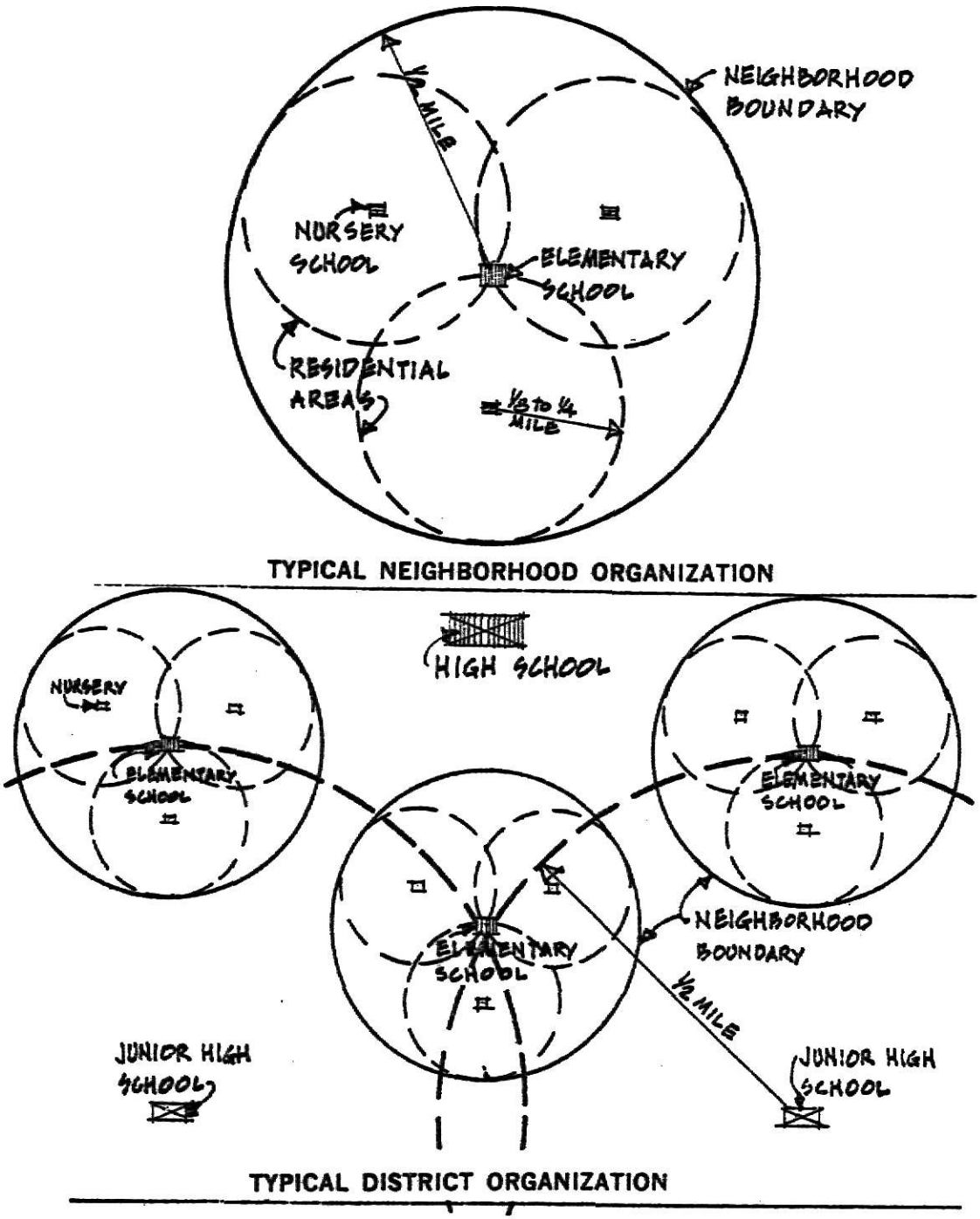


Figure 8. Typical Neighborhood Organization

Source: Joseph Dechiara and Lee Koppelman
Urban Planning and Design Criteria

to operate a playground within 1/4 mile of every home, playlots should be located at the playground sites. A location near a playground entrance, close to rest rooms, and away from active game areas is desirable.[45]

4 - Playground

Playground is designed to serve children under 14 years of age. It should have additional features to interest teen-agers and adults.

Modern planning for outdoor recreation at the neighborhood level places heavy emphasis on combining elementary school needs with those of the neighborhood.[46] Where elementary school facilities are unavailable or inadequate or joint development is impossible, a separate playground will be needed in each neighborhood.

The neighborhood playground serves the recreation needs of the same population served by the elementary school. The service radius is 1/2 to 1/4 mile.[47] It should be located to the center of the area to be served and away from heavily traveled streets and other barriers to ease and save access.

5 - Park

The neighborhood park is the land set aside primarily for passive recreation. Ideally, it gives the impression of being rural, sylvan, or natural in its character. A park should be provided for each neighborhood unit.

In many neighborhoods, it will be incorporated in the park-school site or neighborhood playground. A separate location is required if this combination is not feasible.

6 - Church

Clarence Perry estimated that a population of 5,000 persons could probably support three churches of about 1,500 persons each.[48] The location of churches should be easily accessible. Generally, churches are located on the sides of collector road to serve more than one neighborhood.

7 - Shopping Center

The small neighborhood type of shopping center should be considered as a local convenience and service facility which must depend largely for its success on supplying the everyday needs of a limited residential population within a relatively small surrounding tributary trading area.[49] Store types will include approximately ten stores in the following order:[50]

1. Super Market
2. Drug Store – with some eating facilities
3. Cleaner and Dyer Shop – which could be combined with a laundry agency
4. Beauty Parlor
5. Filling Station
6. Bakery – this might depend on provision by grocery
7. Shoe Repair
8. Laundry Agency – possibly in the rear of another store.
9. Variety Shop
10. Barber Shop

Variations from this basic list will occur, depending upon the individual case.

Best location of the neighborhood shopping center is generally located on major street and preferably at or near the intersection of main or secondary streets, so that it is easily accessible from its tributary area both by pedestrian and vehicle traffic. Adequate parking in relation to number of stores must be provided. The houses adjacent to the shopping center must be properly protected with planting or fences.

Table 3 shows the land area of all neighborhood unit facilities.

Table 3. Land Area of All Neighborhood Unit Facilities

Component Uses and Aggregate Area, by Type of Development and Population of Neighborhood[a]

TYPE OF DEVELOPMENT	NEIGHBORHOOD POPULATION				
	1,000 persons 275 families	2,000 persons 550 families	3,000 persons 825 families	4,000 persons 1,100 families	5,000 persons 1,375 families
ONE- OR TWO-FAMILY DEVELOPMENT[b]					
Area in Component Uses					
1) Acres in school site	1.20	1.20	1.50	1.80	2.20
2) Acres in playground	2.75	3.25	4.00	5.00	6.00
3) Acres in park	1.50	2.00	2.50	3.00	3.50
4) Acres in shopping center	.80	1.20	2.20	2.60	3.00
5) Acres in general community facilities[c]	.38	.76	1.20	1.50	1.90
Aggregate Area					
6) Acres: total	6.63	8.41	11.40	13.90	16.60
7) Acres per 1,000 persons	6.63	4.20	3.80	3.47	3.32
8) Square feet per family	1,050	670	600	550	530
MULTI-FAMILY DEVELOPMENT[d]					
Area in Component Uses					
1) Acres in school site	1.20	1.20	1.50	1.80	2.20
2) Acres in playground	2.75	3.25	4.00	5.00	6.00
3) Acres in park	2.00	3.00	4.00	5.00	6.00
4) Acres in shopping center	.80	1.20	2.20	2.60	3.00
5) Acres in general community facilities[c]	.38	.76	1.20	1.50	1.90
Aggregate Area					
6) Acres: total	7.13	9.41	12.90	15.90	19.10
7) Acres per 1,000 persons	7.13	4.70	4.30	3.97	3.82
8) Square feet per family	1,130	745	680	630	610

[a] This table combines the recommended or assumed values

[b] With privite lot area of less than ¼ acre per family (for private lots of ¼ acre or more, park area may be omitted).

[c] Allowance for indoor social and cultural facilities (church, assembly hall, etc.) or separate health center, nursery school, etc.

[d] Or other development predominantly without private yards.

Source: Joseph Dechiara and Lee Koppelman
Urban Planning and Design Criteria

CHAPTER V

EVALUATION OF SELECTED NEIGHBORHOOD UNIT PROPOSALS

This chapter reviews five significant neighborhood unit proposals of the contemporary new towns in the United States, Britain, Finland and Israel, which have excellent experience in the development of new towns.

COLUMBIA, MARYLAND, USA

New Town in General

Columbia, located approximately 25 miles north of Washington D.C. and 15 miles southwest of down town Baltimore (Figure 9), is a series of ten small towns, or villages, clustered around a downtown core. Each village consists of five or six neighborhoods around a village center (Figure 10 and 11). All of the villages, and some of the employment centers are linked together and to the town center by a transit system of small buses operating on their own roadways.

Columbia provides homes for about 29,000 families or approximately 110,000 population on the land of 6,739 acres.[51] Figure 12 shows the master plan of Columbia New Town.

Neighborhood Unit Layout

1 - Neighborhood Size

Population: 500-600 families, or 1,800-2,100 persons

Radius: 1/4 mile

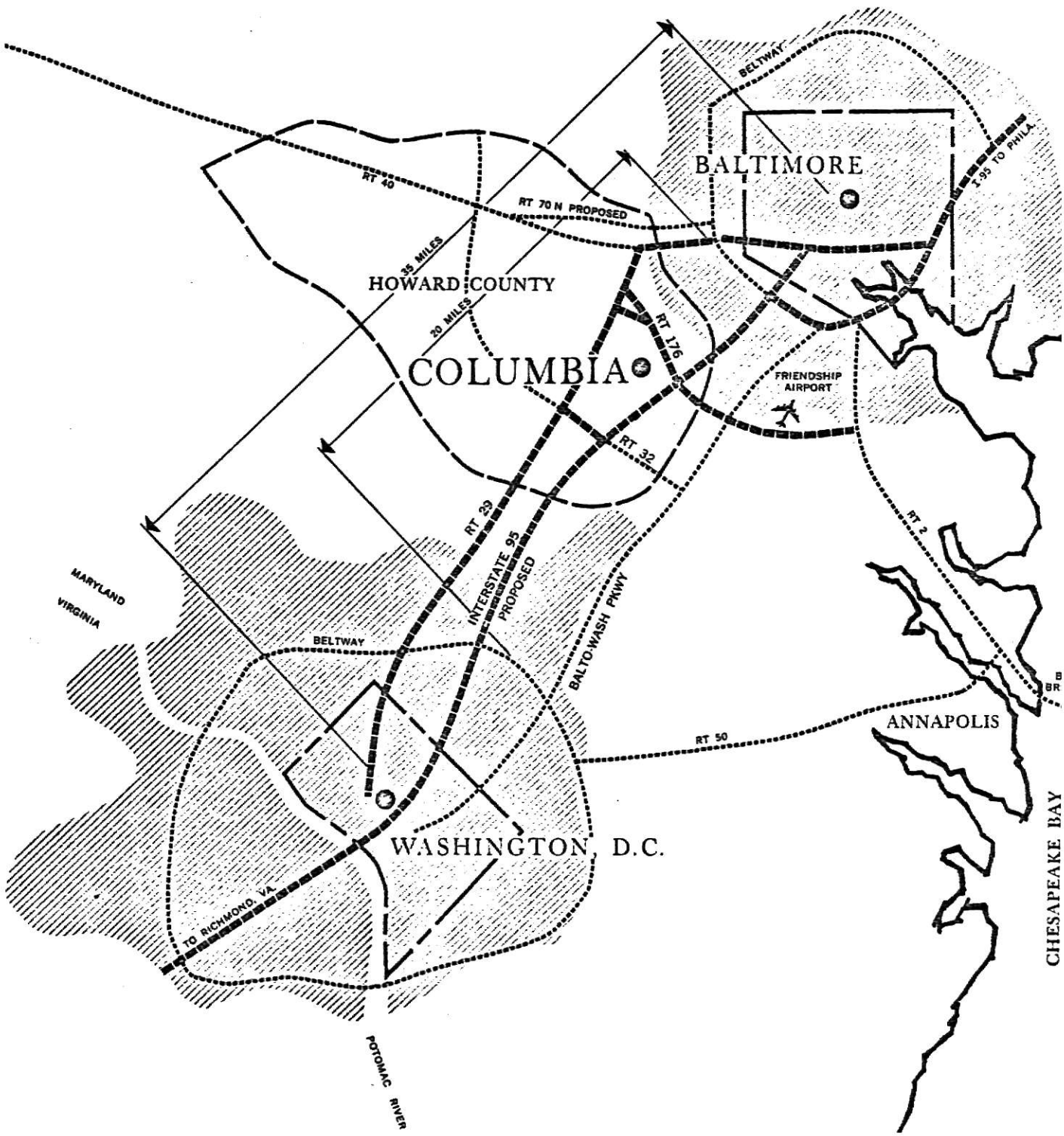


Figure 9. Columbia New Town Site

Source: Community Research and Development, Inc. Columbia, Maryland

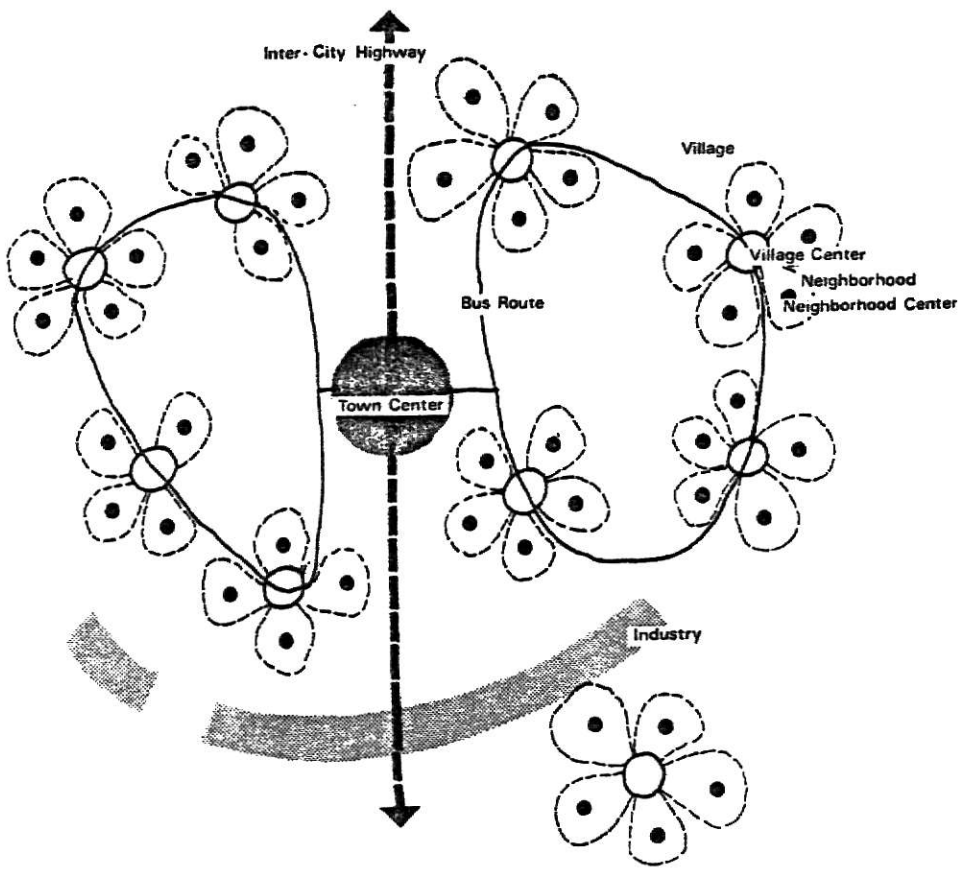


Figure 10. Columbia New Town Concept

Source: Randolph T. Hester Jr.
Neighborhood Space

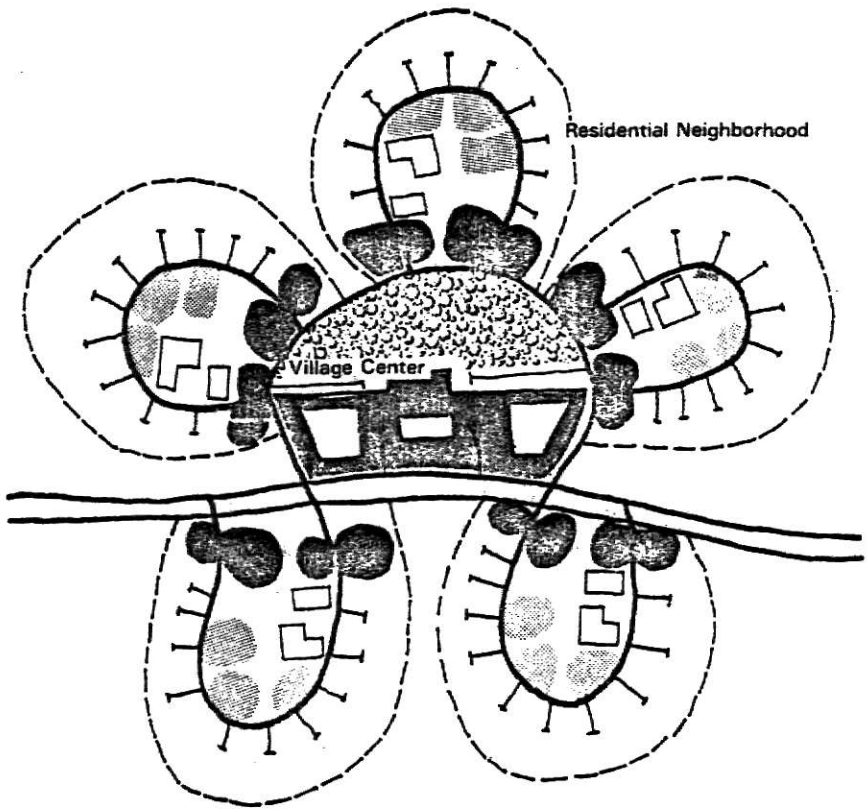


Figure 11. Columbia New Town Village Concept

Source: Randolph T. Hester Jr.
Neighborhood Space

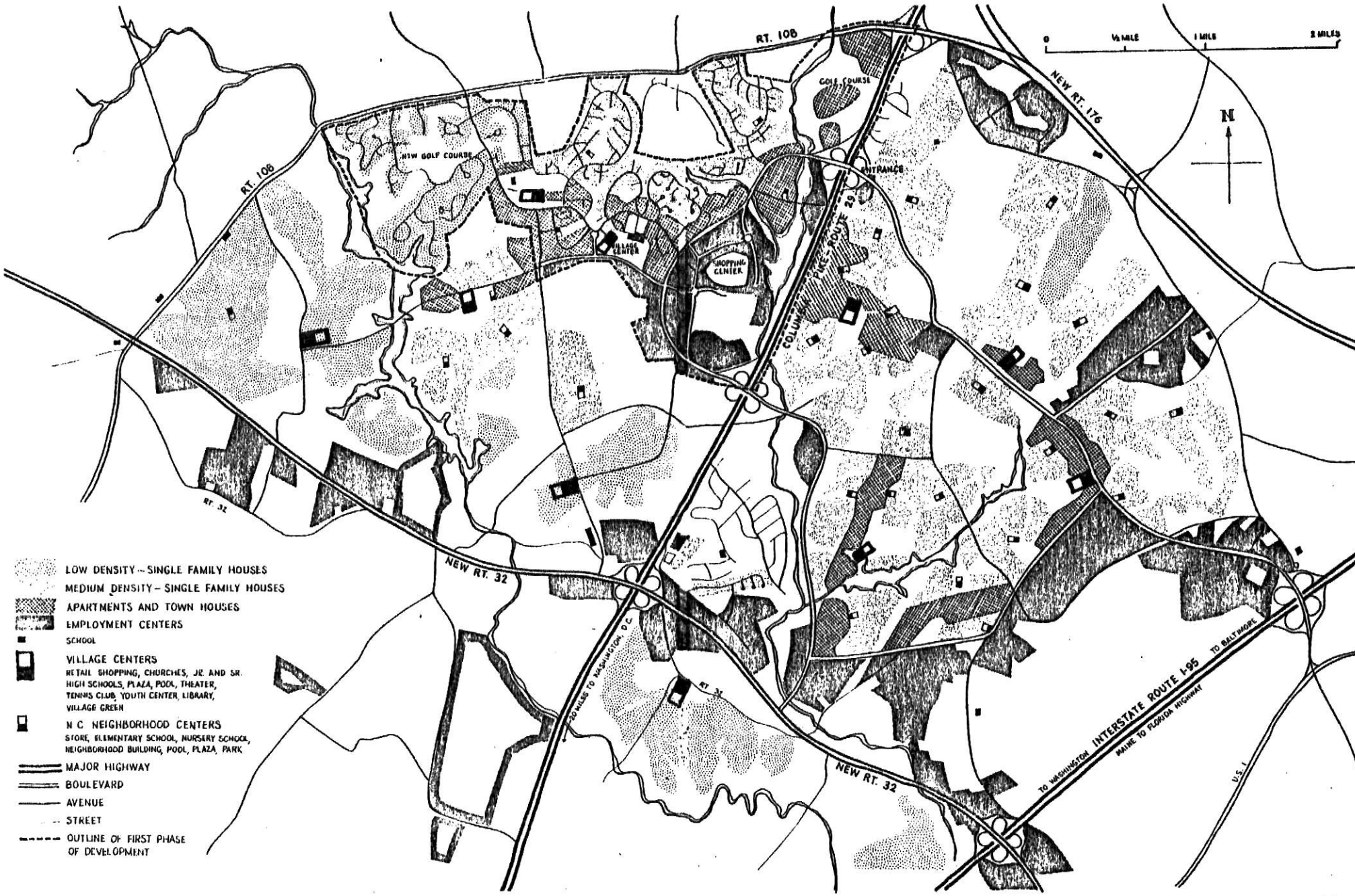


Figure 12. Columbia New Town Master Plan

Source: Vivion G. Breckenfeld, Columbia and the New Cities.

2 - Neighborhood Density: 3-3.7 families/acre, or
11-13 persons/acre

3 - Layout

Each neighborhood is planned in a variety of housing arrangement clustered around a neighborhood center (Figure 13), which contains an elementary school, a nursery school, a store with snack bar, a meeting room, a swimming pool, a park and playground. The elementary school is the focal point of the neighborhood center. Playground adjacent to the school will be easy to reach for the residents. Near the elementary school, a small shop provides the basic needs of the residents.

The road leading to and around the neighborhood is designed to the highest standards of safety. Children can walk to elementary school without crossing a single street.[52] All facilities within a neighborhood unit are within walking distance of each home.

Remarks

1 - The neighborhood is the basic planning unit in Columbia New Town which further the neighborhood principles of Perry and Stein within the overall planning context of the entire new town.

2 - Neighborhood population is less than 7,000; neighborhood radius is smaller than 1/2 mile; and neighborhood density is lower than 21 persons/acre (from Table 2).

3 - Low density has provided a healthy living environment in the neighborhood.

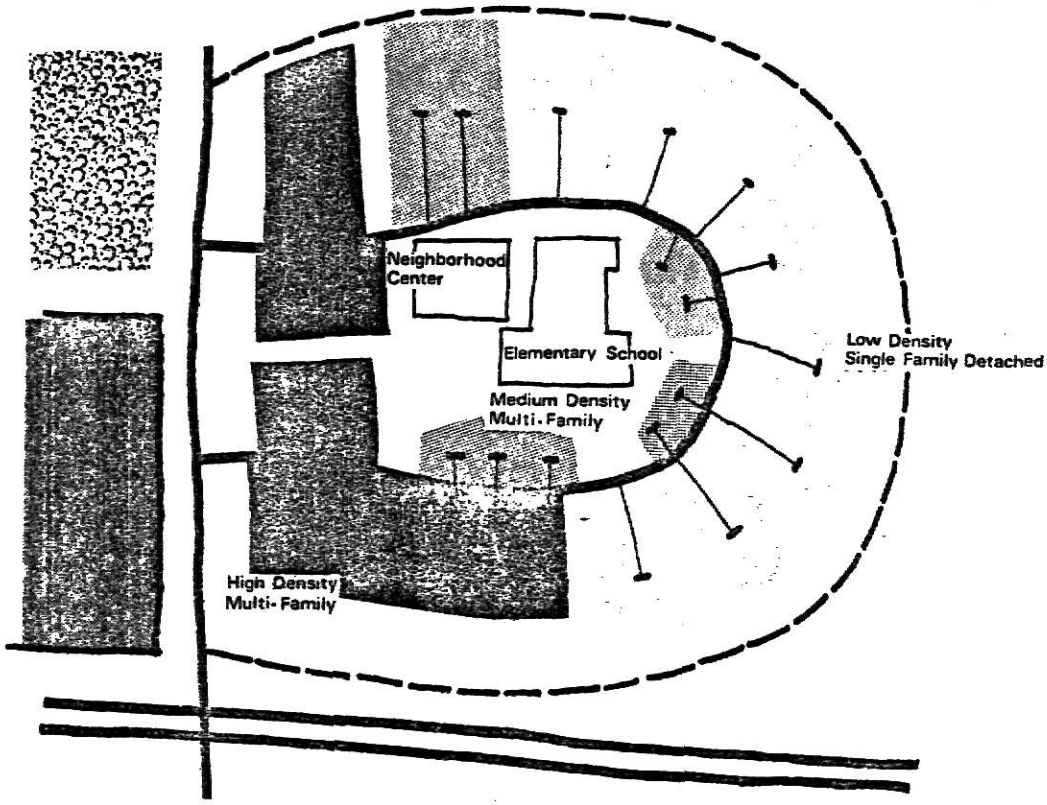


Figure 13. Columbia New Town Neighborhood Unit Concept

Source: Randolph T. Hester Jr.
Neighborhood Space

4 - The principle of clustering single family homes is applied in the neighborhood arrangements. This allows for the devotion of major areas of land to pathways and parks.

5 - An orderly but also firm hierarchy of housing cluster, neighborhood, village and town is established. The overlapping communities chiefly by means of village centers serving several adjacent neighborhoods and a planned loop bus route is emphasized.

6 - The physical plan is an attempt to put people of different backgrounds together. Although Columbia's growing pains reflect these of the rest society, the community's basic plan of neighborhoods and villages, with a variety of services and opportunities, has stood up well.[53]

7 - Some observers feel that Columbia's eventual success will be in its humanizing effect on the highly depersonalized patterns of urban life in the United States.[54]

RUNCORN, ENGLAND

New Town in General

Runcorn is located on the south bank of the River Mersey approximately 14 miles from the center of Liverpool (Figure 14). The new town with an area of 7,250 acres is planned for an ultimate population of 100,000.[55]

The main residential areas consist of a series of communities of 8,000 population, surrounding a park and linked by a rapid transit system of buses on a reserved track (Figure 15). These buses pass through the local centers of the

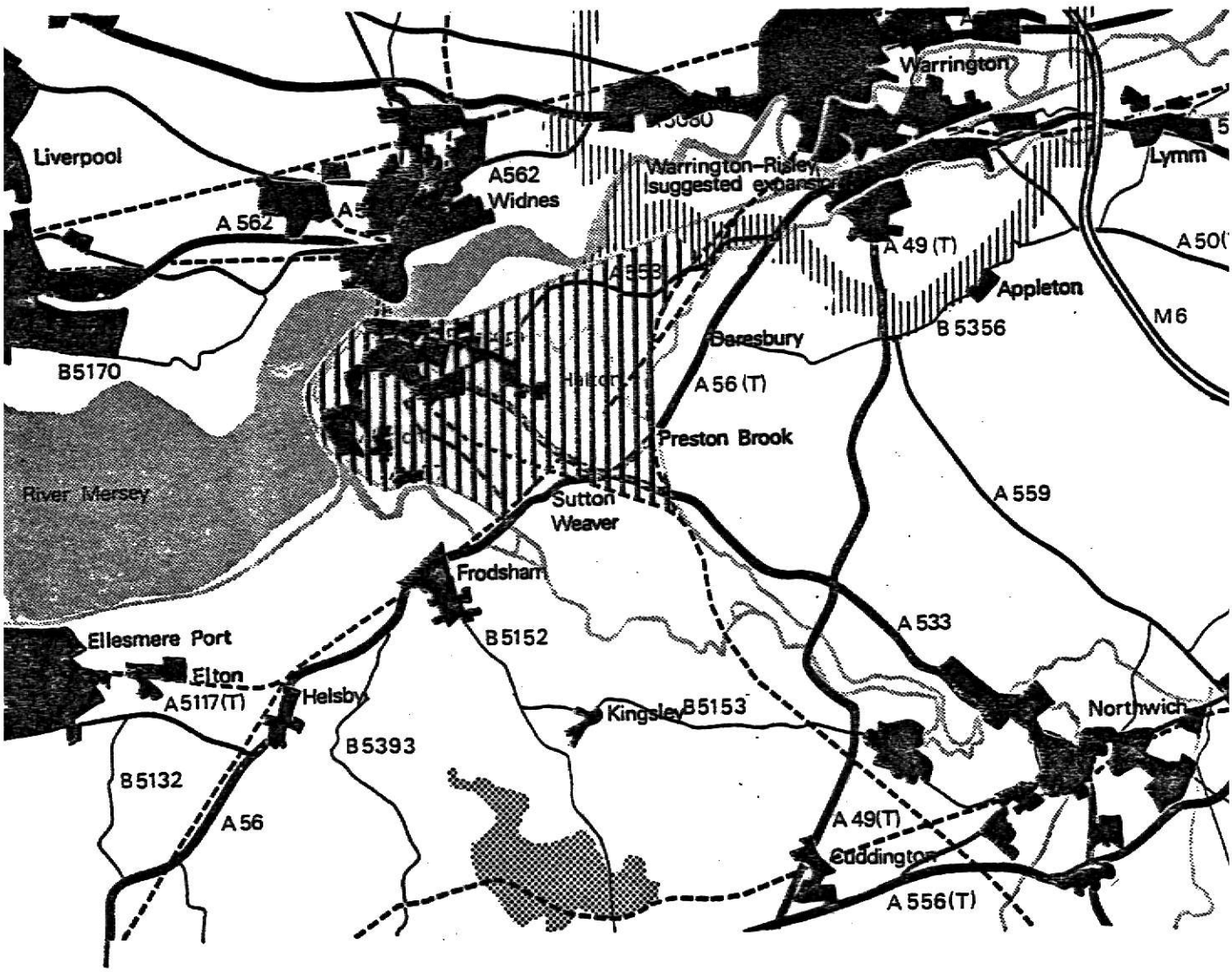


Figure 14. Runcorn New Town Site

Source: Runcorn Development Corporation
Runcorn New Town

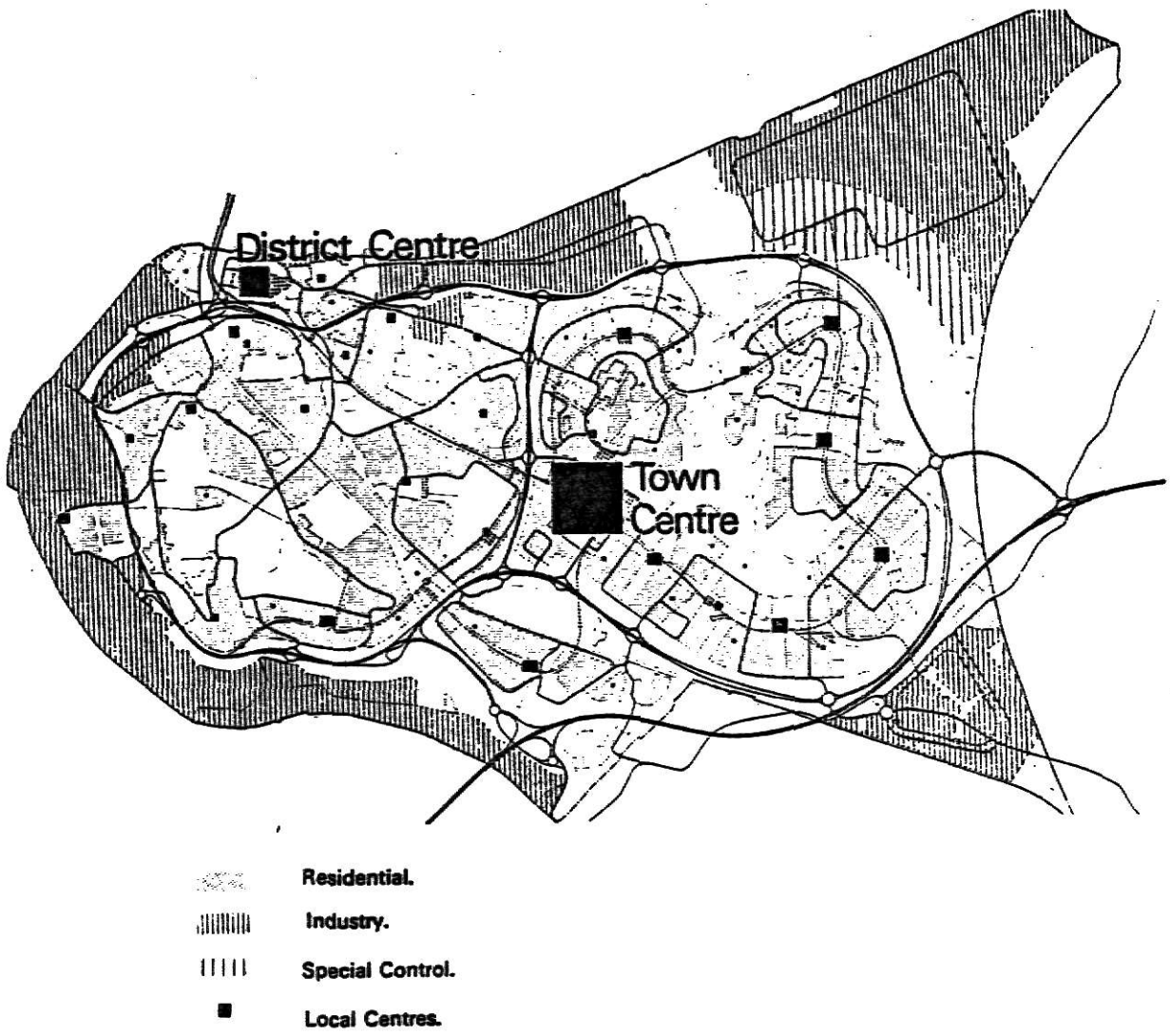


Figure 15. Runcorn New Town Plan

Source: Runcorn Development Corporation
Runcorn New Town

community and their route forms the spine of a "figure of eight" system with the new town center and its intersection.

Each community of 8,000 population is divided into four neighborhoods with the rapid transit route and the school sites forming their inner boundaries and the playing field and open space amenities at their outer edge (Figure 16).

Neighborhood Unit Layout

1 - Neighborhood Size

Population: 2,000 persons

Radius: 1/8 mile (500 yards approximately)

2 - Neighborhood Density: 50 persons/acre

3 - Layout

The whole neighborhood is served by a main spine collector road giving access to car parks or to some cul-de-sac roads of a maximum length of 600 feet. Within the neighborhood, pedestrian movement is given priority and facilitated by the use of grade separation at the crossings of pedestrian routes with the collector roads.

Elementary school and playground are sited on the open space between neighborhoods. Sites for nursery schools have been planned in association with the elementary school. A small corner shop, a super-market type, is located near the parking lot of each neighborhood. Every four neighborhoods is clustered around the community center which contains rapid bus stop, shops, clinic center, clubs and church.

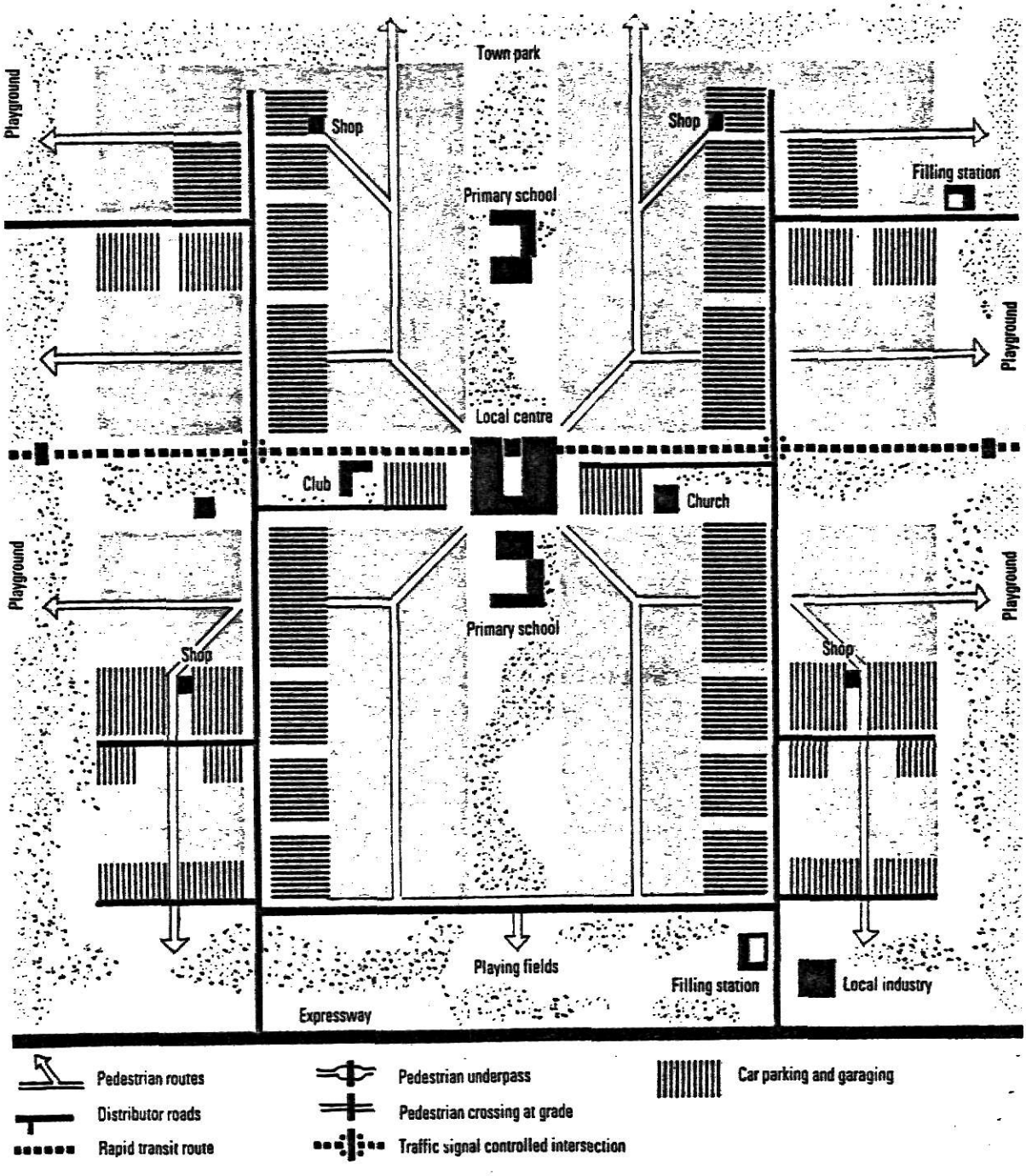


Figure 16. Runcorn New Town Community and Neighborhood Units Structure

Source: Runcorn Development Corporation
Runcorn New Town

Remarks

1 - Neighborhood population is less than 7,000; neighborhood radius is smaller than 1/2 mile; and neighborhood density is higher than 21-30 persons/acre (from Table 2).

2 - A planned balance between public and private transport in the neighborhood is established. This results in all parts of the town accessible from one another.

3 - The elementary school sites are placed in open spaces between neighborhoods instead of neighborhoods center so that one school can serve two neighborhoods.

4 - The neighborhoods are planned so that all residents are within five minutes walking distance to the community social and shopping centers where rapid transit stops are located.

5 - Corner shop is not the focal point in the neighborhood. Community center serves four adjacent neighborhoods and provides most neighborhood facilities.

6 - Residential groups of 30-60 houses are planned in each neighborhood. Each residential group contains a variety of housing types which result in the mix of different people.

7 - The difficulty of maintaining such a high residential density in the face of growing pressure for more family living space may lengthen walking distance to the public transport route and thus threaten its viability.[56]

8 - The self-contained geometry of the plan may cause difficulties during growth and make further expansion awkward beyond the planned size.[57]

HOOK, ENGLAND

New Town in General

Hook New Town was proposed in 1956 by the Greater London Council. Although this town was never built, its plan reveals a new level of maturity in new town planning.

Hook was located approximately 40 miles to the south-west of London (Figure 17). The target population was 100,000 with a total area of 7,526 acres.[58] The town was roughly linear in shape and continuously developed. Figure 18 shows the main framework for the master plan of the town.

The whole built-up area of the town was some four miles long and has an average width of two miles (Figure 19). "Inner town" provided for 60,000 residents, for which 48,000 is to be housed in a continuous system of neighborhoods and the remaining 12,000 is to be housed in and immediately around the "central area". At the heart of the whole town is the planned central area. The core of the central area is to be a group of pedestrian shopping malls forming a continuous pedestrian routes with the shopping parade, and embracing all types of shops. "Outer town" will provide for 30,000 residents to be housed in three neighborhoods, each of which will have its own shopping and social sub-center.

Neighborhood Unit Layout

1 - Neighborhood Size

Population: 4,000-5,000 persons (inner town)

Radius: 1/4 mile

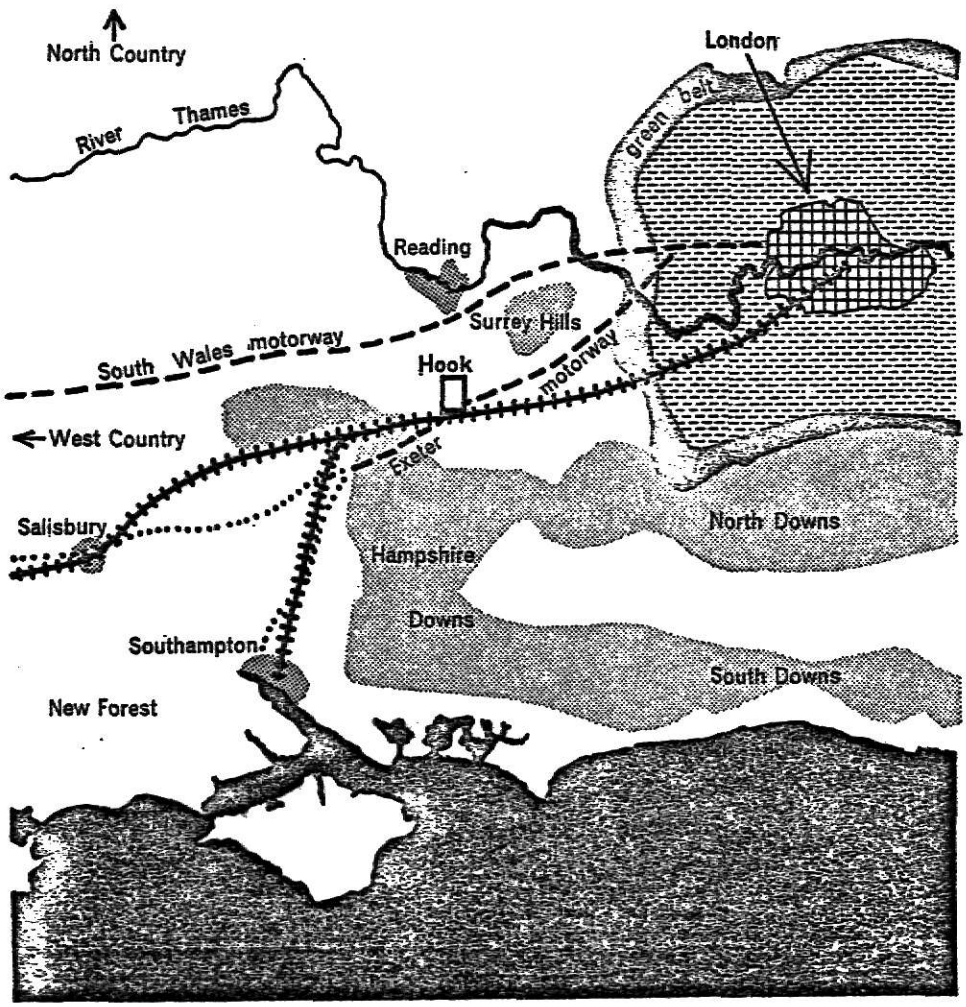


Figure 17. Hook New Town Site

Source: *London County Council*
<u>The Planning of a New Town</u>

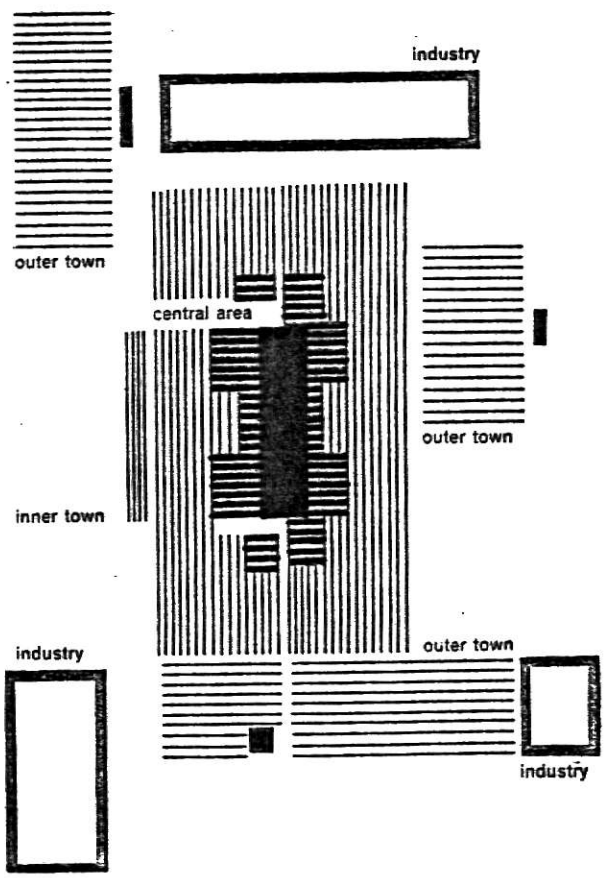


Figure 18. Hook New Town Diagram

Source: London County Council
The Planning of a New Town

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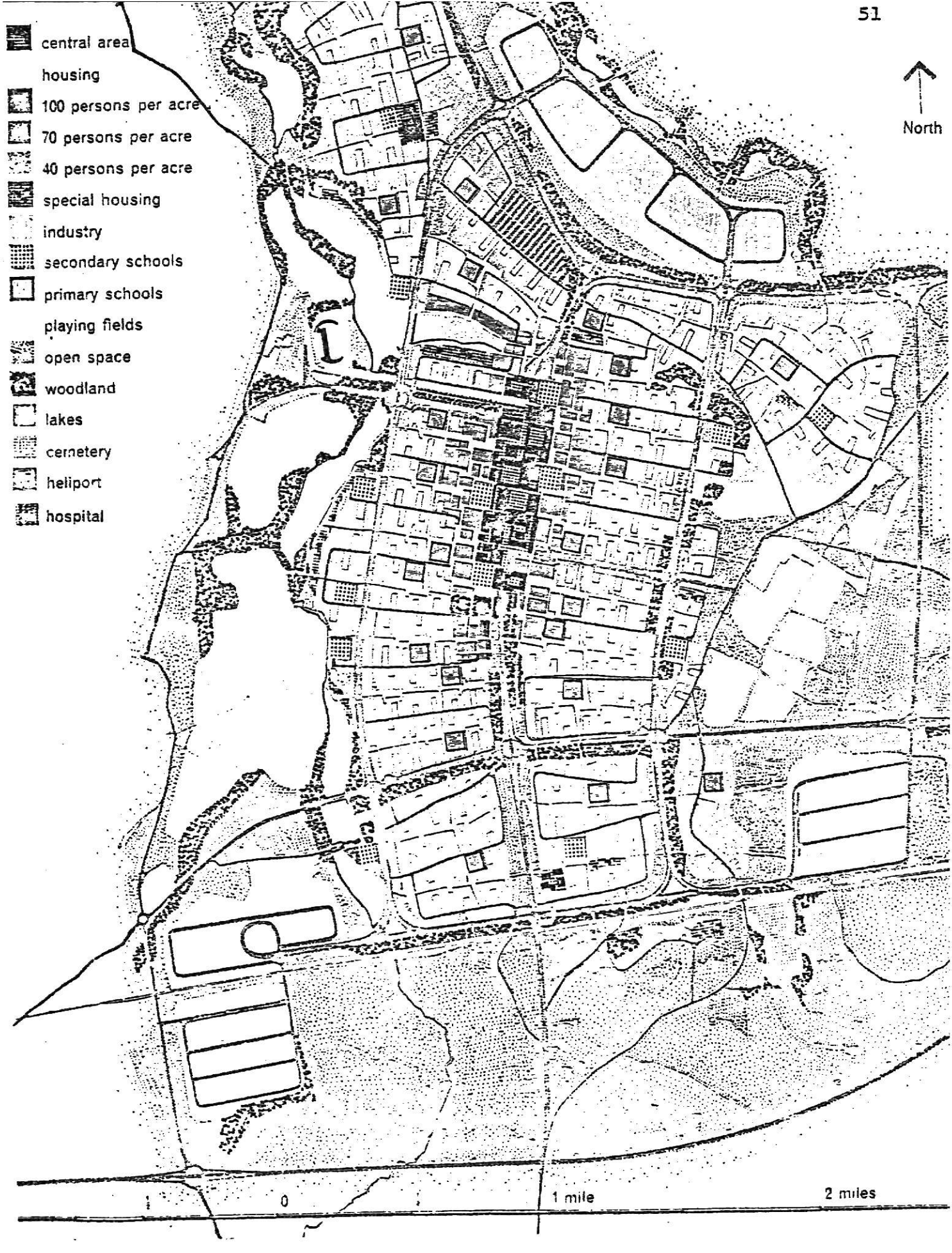


Figure 19. Hook New Town Master Plan
Source: London County Council, The Planning of a New Town.

2 - Neighborhood Density

Central Area:	100 persons/acre
Inner Town:	70 persons/acre
Outer Town:	40 persons/acre

3 - Layout

Each neighborhood will consist of a number of cul-de-sac access housing groups, linked by a central pedestrian way to local school, shops and social buildings, and defined by a major road, forming a "super-block" (Figure 20). All pedestrian ways linking super-blocks will pass under or over main roads. Neighborhood facilities such as primary school, nursery schools, shops, clinics, playgrounds, public houses and clubrooms will adjoin the central pedestrian ways.

Remarks

1 - Neighborhood population is less than 7,000; neighborhood radius is smaller than 1/2 mile; and neighborhood density is higher than 30-50 persons/acre (from Table 2).

2 - Hook New Town was designed to be surrounded by, rather than penetrated by, green space. It is not so much a garden city as a city in a garden.

3 - 60% of the total population would be housed in a continuous system of inner residential areas close to the main center and integrated with it. As a result, 2/3 of the population would live within ten minutes' walk of the central area.

4 - A strong central area was conceived as the dominant focus

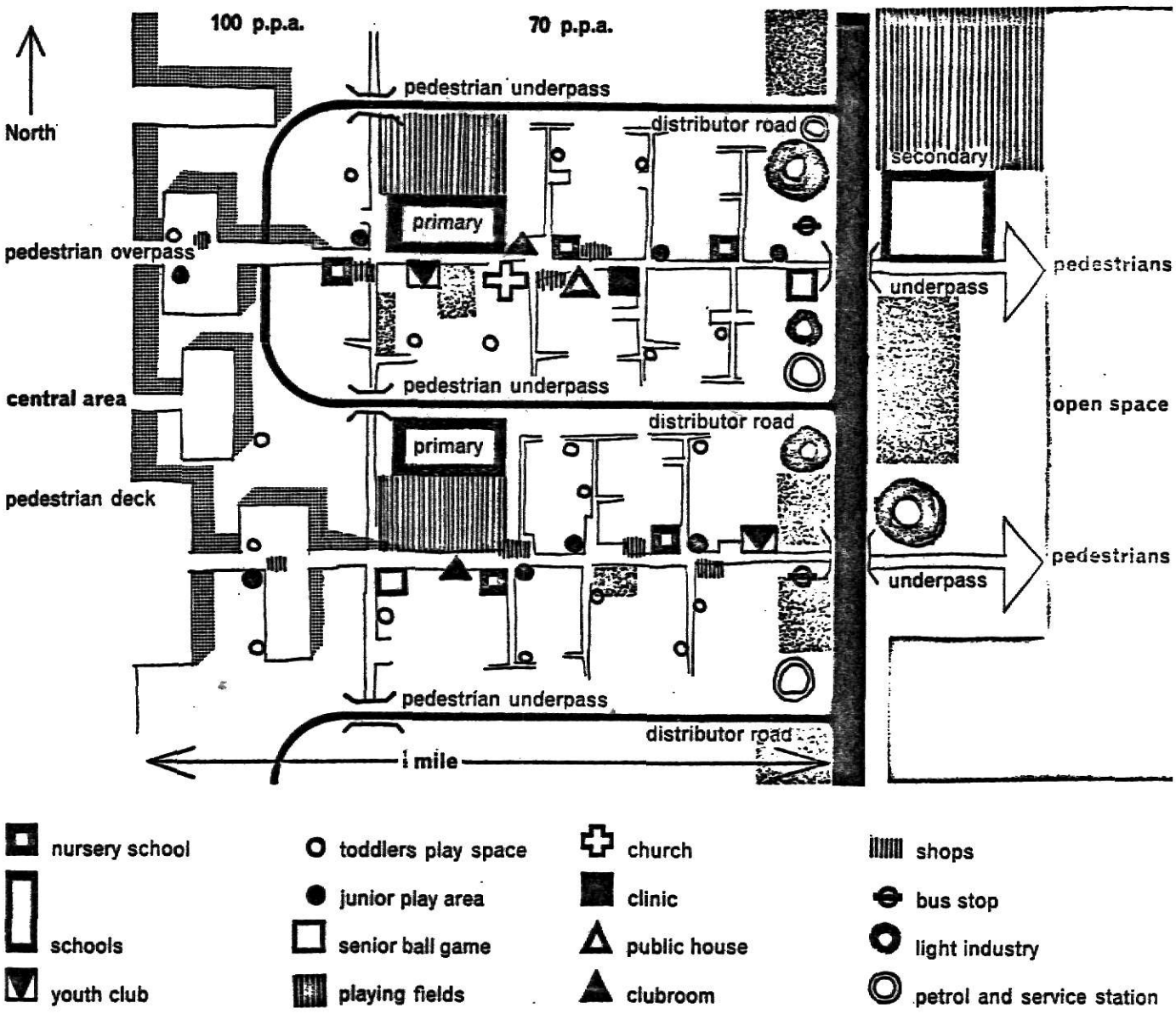


Figure 20. Hook New Town Neighborhood Unit Plan

Source: London County Council
The Planning of a New Town

of the town's social, business, and intellectual life, projecting outwards along the main pedestrian route into the inner residential areas.

5 - Residential areas are envisaged in the form of concentric rings increasing in density, height, and concentration of building towards the center. In this way, a variety of housing types could be provided to meet individual needs and preferences as to homes and local environment.

6 - With the development of a compact linear town for Hook, the modern tradition of planning by neighborhoods would have been rendered unnecessary.[59]

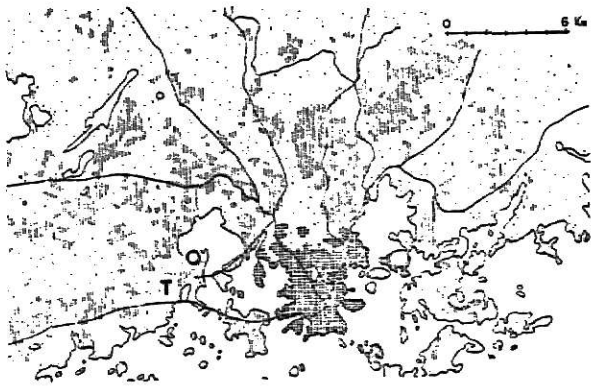
7 - Unfortunately, the Hook scheme was turned down because the local councils believed that major expansion of existing towns in Hampshire could provide homes and jobs more quickly than starting a new town.

TAPIOLA, FINLAND

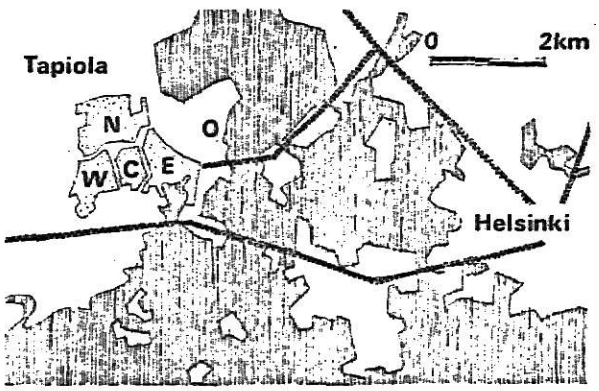
New Town in General

Tapiola is located in the county of Espoo approximately 6 miles to the west of the city of Helsinki (Figure 21). The target population of the new town is 16,000 with an area of 670 acres.[60] In the general plan for the district of Espoo, Tapiola was defined as a "district center" serving a maximum population of about 80,000 in Espoo County.

Tapiola New Town has divided into four neighborhoods separated by two crossing roads, one east-west, one north-south (Figure 22 and 23). The town center is separated from



1.
Tapiola in relation to the greater Helsinki area. Helsinki proper is crosshatched. "T" indicates *Tapiola*; "O," *Otaniemi*. Vertical shading indicates other urban development.



2.
Tapiola in relation to Helsinki. "W," "N," and "E" indicate the west, north, and east neighborhoods; "C" indicates the town center; "O" indicates Otaniemi.

Figure 21. Tapiola New Town Site

Source: Heikki von Hertzen and Paul D. Spreiregen
Building a New Town

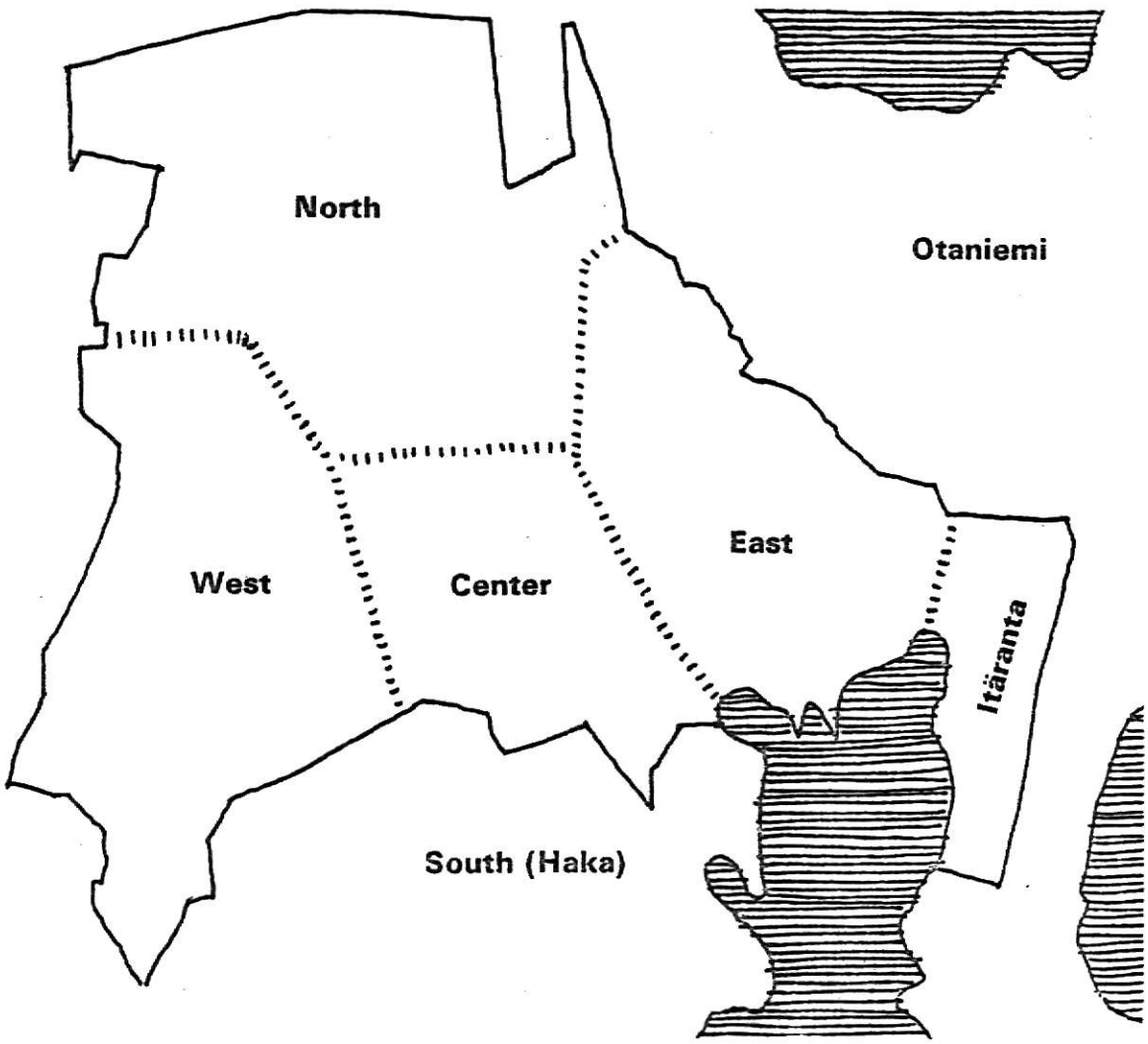


Figure 22. Tapiola New Town Component Portions

Source: Heikki von Hertzen and Paul D. Spreiregen Building a New Town

Key for Plan of Tapiola

1. The fourteen-story central office tower (C)
2. The central shopping plaza (C)
3. Future theater and library (C)
4. Shops and offices ("Heikintori" department store) (C)
5. Lutheran Church (C)
6. Future hotel (C)
7. Swimming pool (C)
8. The Eastern (first) neighborhood center (E)
9. Four-story walk-up houses (E)
10. "Weak-link" houses and four-story walk-ups (E)
11. Walk-up houses (W)
12. Row houses (W)
13. School (N)
14. Row houses (E)
15. Prefab row houses (E)
16. Courtyard houses (N)
17. Row houses (E)
18. Walk-up houses (E)
19. Row houses (W)
20. Weak-link row houses (E)

Figure 23

Tapiola New Town Plan

Source:
Heikki von Hertzen and Paul D. Spreiregen
Building a New Town

its four surrounding neighborhoods by open spaces. Pedestrian ways from each neighborhood lead to the town center, which allows no through traffic. In addition to the town center, there are three independent neighborhood centers, serving approximately 5,000-6,000 residents each.

Tapiola's development follows a sequence that started in 1952 and ended in 1970:[61]

Eastern Neighborhood,	1952-1956,	5,000 residents
Western Neighborhood,	1957-1960,	5,000 residents
Southern Neighborhood,	1958-1967,	5,000 residents
Northern Neighborhood,	1961-1965,	3,000 residents
The Itaranta Portion of the Eastern Neighborhood,	1958-1964,	2,000 residents
Town Center, 1958-1961-1970-to ultimate completion		

Neighborhood Unit Layout

1 - Neighborhood Size

Population: 4,000-5,000 persons

Radius: 1/2 mile

2 - Neighborhood Density: 30-40 persons/acre

3 - Layout

Each neighborhood has its own related shops and services such as elementary school, kindergartens, food shops, post offices, cafes, barbers, youth clubs and hobby rooms. Various roads connect elementary school with its neighborhood shopping centers. These road pass through numerous residential areas. A separate pedestrian walkway system has been planned for the entire town with major pedestrian streets leading from

the center into neighborhoods, with finger system leading to dwellings.

Figure 24 illustrates how "never more than 250 yards from each dwelling to the nearest shops" has been worked out in the planning of Tapiola's neighborhoods — the smallest circles (neighborhood subcenters) have a radius of 250 yards, the medium circles (neighborhood centers) have a radius of 330 yards and the biggest circle (town center) has the maximum walking distance of 380 yards from the central tower.

Remarks

1 - Neighborhood population is less than 7,000; neighborhood radius is appropriate; and neighborhood density is higher than 21 persons/acre (from Table 2).

2 - Tapiola's low density development has created a garden city which integrates man, his family, and his living in harmony with the nature and climate of the northern countries.[62]

3 - The pleasant impression of Tapiola is the result of the careful placement of buildings in the natural environment with beautiful groves. This, in itself, helps to balance and compensate for the lack of architectural unity.[63]

4 - Segregated footpath and cycleway were carefully designed for plenty of social contact between all groups. No grade-separated junctions and public transit system were planned.

5 - A variety of housing types is provided consistent with

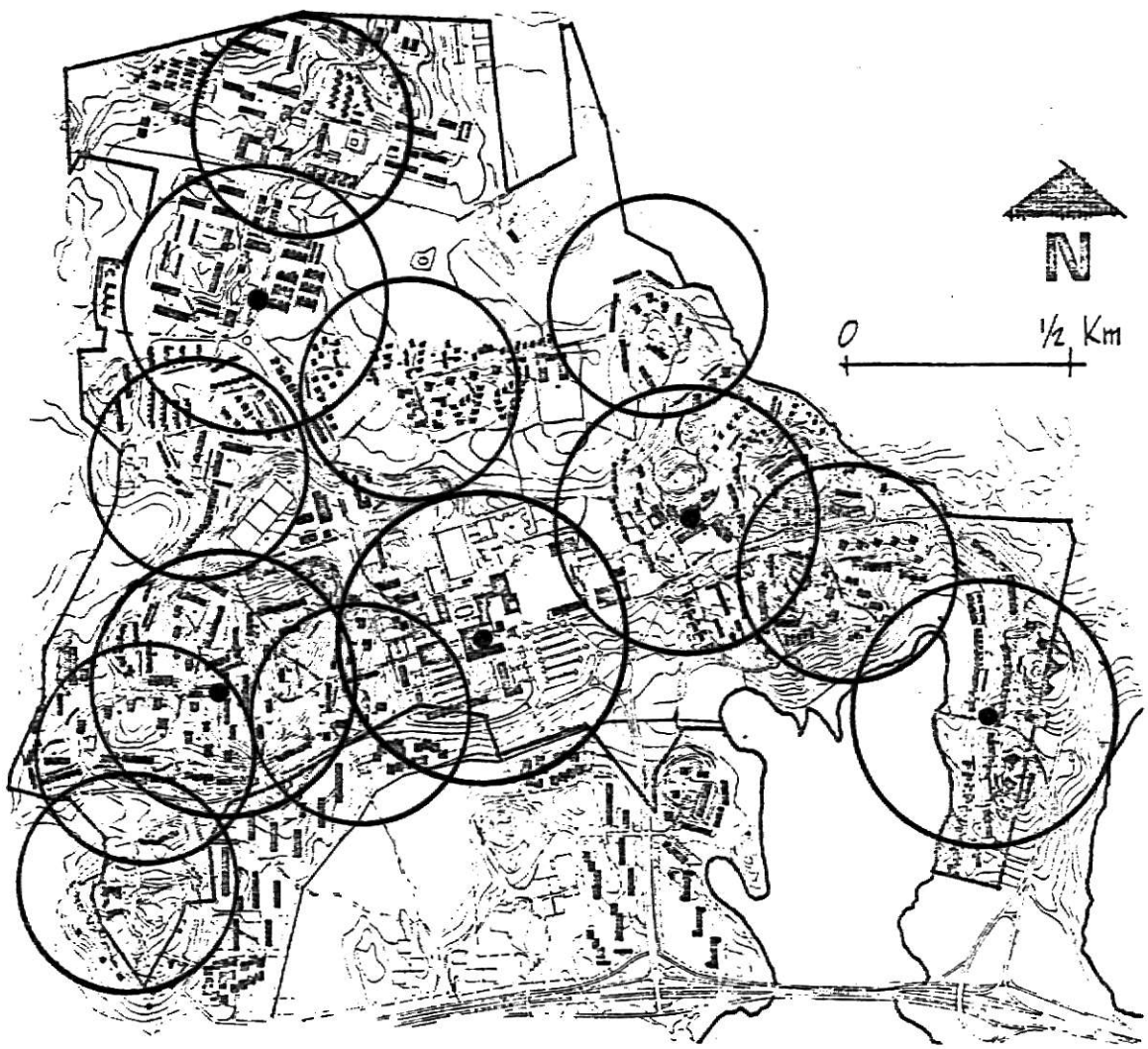


Figure 24. Tapiola New Town Shopping Facilities Distribution

Source: Heikki von Hertzen and Paul D. Spreiregen Building a New Town

the social and economic objectives. Tapiola successfully mixes people of greatly varied economic and educational backgrounds in the same housing

6 - The neighborhoods are separated from one another by open spaces, so that their identities are not clear.

7 - Tapiola is clearly a contented community living up to many of the ideals set out by its founders.[64] It is a good place to live and enjoy a full and varied social life.

QIRYAT GAT, ISRAEL

New Town in General

Qiryat Gat New Town is situated to the south of Tel Aviv approximately 38 miles and to the south-west of Jeruselim approximately 35 miles (Figure 25). Situated approximately in the geographical center of the planning region, Qiryat Gat is to serve in every respect as the superordinate center for the whole area.[65] The target population of the town was 14,000 with an area of 1,850 acres.[66] With the expension of the town, target population has been raised to 70,000-80,000.

The new town comprises a loose layout of four neighborhoods around the town center (Figure 26), separating them from each other by geological wadis. Neighborhood A contains almost exclusively single-story, one- and two-family houses; neighborhood B contains one-family houses, but the plots are smaller; neighborhood C comprises mostly two- and three-story blocks of flats; in model neighborhood G, a variety of housing types are provided.

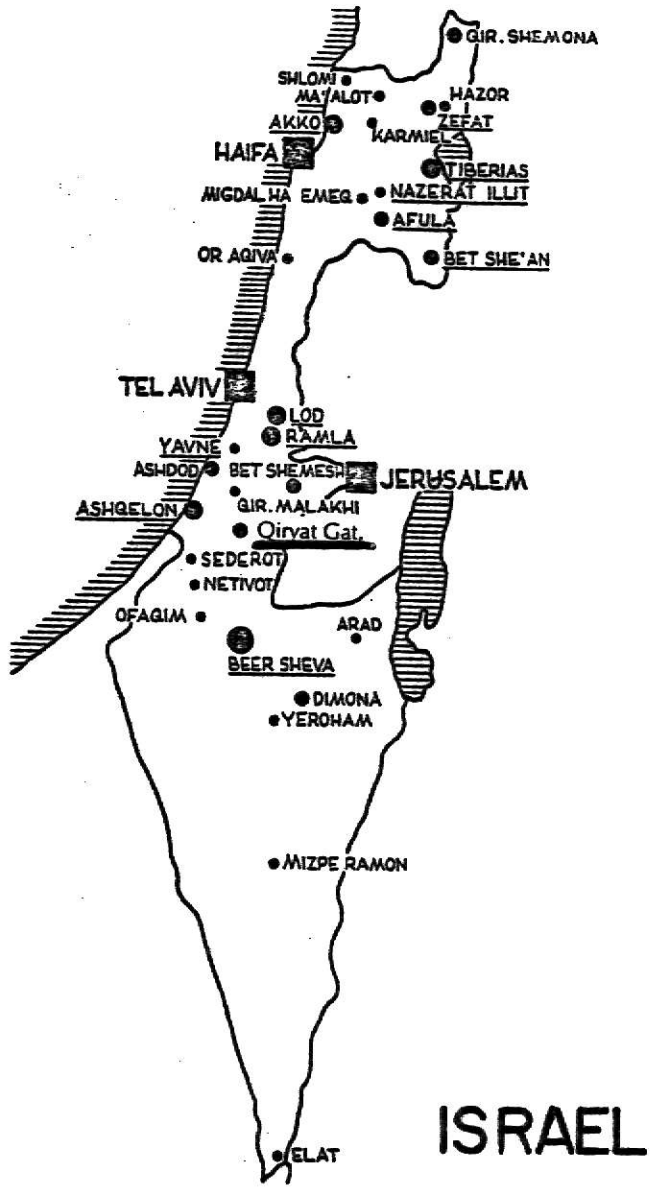


Figure 25. Qiryat Gat New Town Site

Source: Erika Spiegel
New Town in Israel

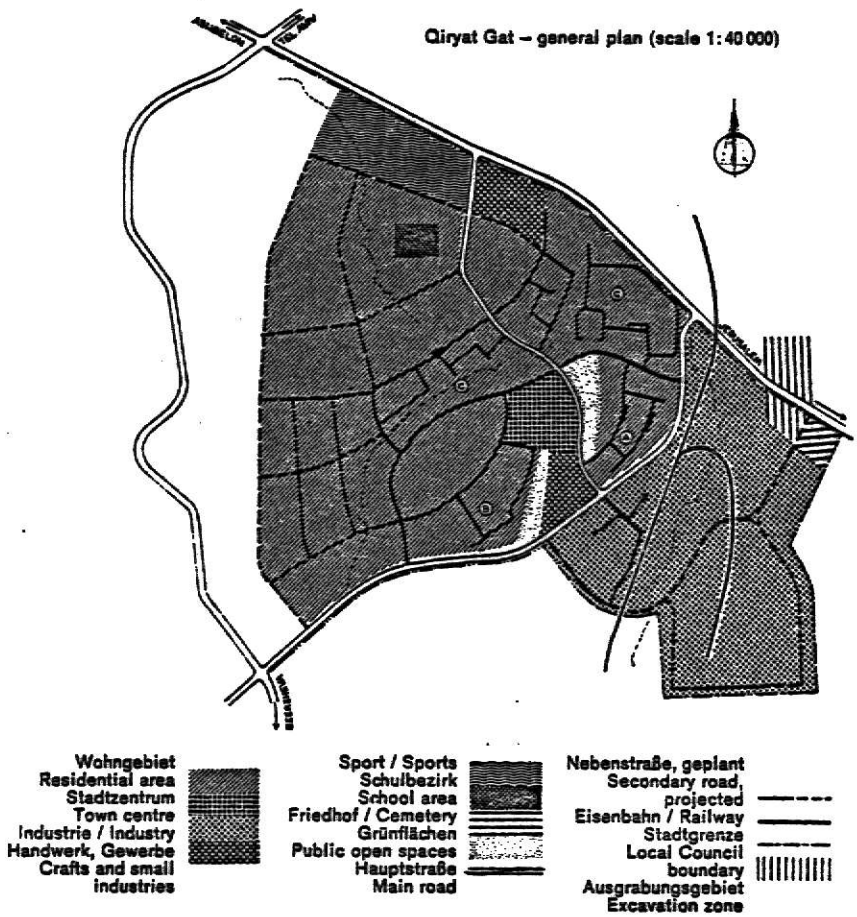


Figure 26. Qiryat Gat New Town Plan

Source: Erika Spiegel
New Town in Israel

Neighborhood Unit Layout

1 - Neighborhood Size

Population: 4,000 persons (model neighborhood)

Radius: 1/2 mile

2 - Neighborhood Density

Neighborhood A: 2 families/acre

Neighborhood B: 12 families/acre

Neighborhood C: 12 families/acre

Model Neighborhood: 18 families/acre

3 - Layout

In the model neighborhood (Figure 27), all dwellings surround the neighborhood center which contains a elementary school, a nursery school, a small shopping center and three clubs — a club for old people, youth and women's club, and sports club. Each of the six subneighborhoods, surrounding a central open space (playground), are connected through a pedestrian network.

Remarks

1 - Neighborhood population is less than 7,000; neighborhood radius is appropriate; and neighborhood density is higher than 30-40 persons/acre (from Table 2).

2 - Neighborhood is the basic unit of organization in Qiryat Gat New Town because of two reasons, one social and the other developmental.[67] Qiryat Gat is composed largely of newcomers to the country, the neighborhood becomes an essential focal point for integrating them into society and giving the

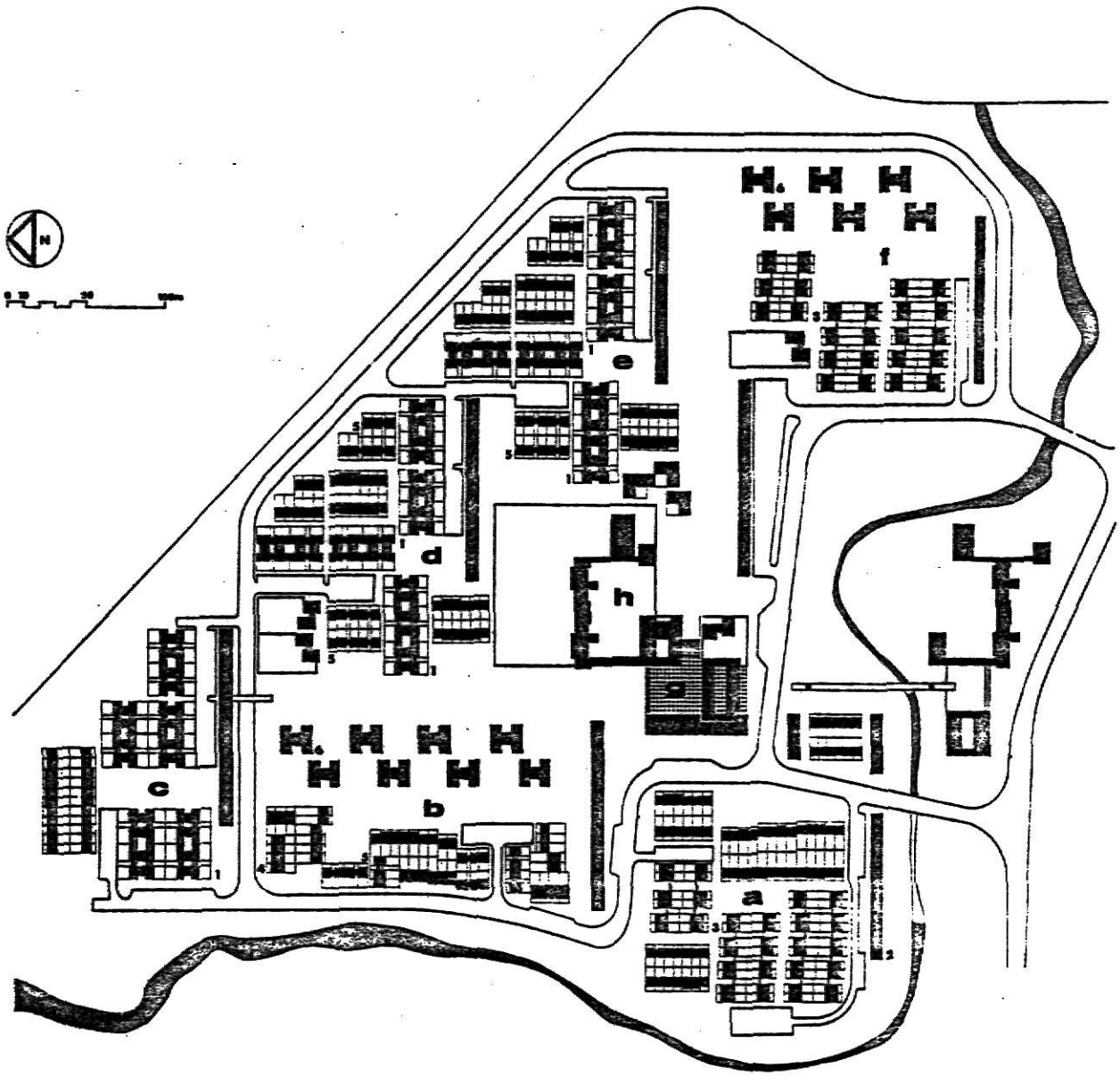


Figure 27. Qiryat Gat Model Neighborhood Unit Plan

Source: Gideon Golany
New Town Planning: Principles and Practice

immigrants some initial point of identification. From the development point of view, the neighborhood forms a useful module that can be recreated or modified at each stage of the plan.

3 - The neighborhood is organized into six sub-units, each of which is dominated by a long multistory apartment building. The other units in the neighborhood vary from mid-rise structures to patio apartments. The six high-rises are grouped in the center of the neighborhood, surrounding a core area of community services and small shops.

4 - Israel is a nation of immigrants, so that the neighborhoods have quite clearly defined ethnic characteristics, and interaction among nationalities occurs for the most part in shops, at schools and on the job.[68]

CHAPTER VI

CONCLUSIONS

The continuous degeneration of some elements of today's large cities has brought planners to view the neighborhood unit as the promising solution for the present degeneration. Until recently planners of new towns rarely considered social planning or a new town's need for identity as the cornerstone of plans by relating and subordinating all other considerations to those of social livability.[69] Traditionally, the physical aspect of planning has been the most thorough, with little being achieved in social planning.

The primary goal of social planning is to improve the quality of society and to increase residents' personal satisfaction with their social and physical environment.[70] A neighborhood unit is a sociophysical aggregate that forms its own characteristic unity and differs from other urban surroundings. New town planners should view the neighborhood as a unit of complex components focusing on human needs rather than on physical configurations.

The establishment of the modern neighborhood as a social unit is rather the recognition that modern urban man needs a social unit to belong to, which will help him regain his social balance by face to face interaction in a neighborhood system.[71] To insure the social effect of a neighborhood, planners should view the unit as a complex of many sub-units

that will permit real neighboring contacts.[72]

The combined shapes of the neighborhood units should determine the form of the whole new town. The neighborhood unit and the new town as a whole should interact socially, economically, and physically. Such a new town should be viewed as a dynamic entity.[73] The new town designer-planner should envision the desired future interrelation and integration between the neighborhood unit and the new town as a whole.

The neighborhood unit proposals I have reviewed in Chapter V are all good ideas to be used in designing new towns and neighborhoods for different cultural backgrounds: Columbia in the United States, Runcorn and Hook in Britain, Tapiola in Finland, and Qiryat Gat in Israel. Table 4 shows the comparisons of these five proposals, These neighborhood units have related social plans to physical structures; i.e., they considered such factors as social identity, needs, and social philosophy and then planned their physical arrangements. They were not regarded solely as physical entities but units synthesized from the society, education, transportation, government, and physical form of a new town.

It is more than likely, however, that we still have some problems involved in using the neighborhood unit as design policy. The main problem is the neighborhood exclusionary. None of the research or modeling of the process of racial succession provides any reason for optimism about the future

Table 4. Comparisons of Neighborhood Unit Proposals

NEIGHBORHOOD	COLUMBIA	RUNCORN	HOOK	TAPIOLA	QIRYAT GAT
Population (persons)	2,000	2,000	5,000	5,000	4,000
Radius (mile)	1/4	1/8	1/4	1/2	1/2
Density (persons/acre)	11-13	50	70	30-40	55-60
Housing Types	Detached House Town House Apartment	Detached House Town House Apartment	Town House Apartment	Detached House Town House Apartment	Detached House Town House Apartment
Facilities	Nursery Scl Elementary Scl Stores Meeting Rm Swimming Pool Playground Park	Primary Scl Corner Shop Shopping Center Public House Social Center Church Clinics Playground Park	Nursery Scl Primary Scl Club Rm Public House Church Clinics Health Center Library Bran. Shops Playground	Nursery Scl Elementary Scl Shopping Center Clubs Hobby Rm Playground Park	Nursery Scl Elementary Scl Shops Club Rm Playground Park
Environmental Amenities	X	X		X	
Clearness of Boundaries	X	X	X		X
Planned Public Transit	X	X	X		
Planned Pedes. Network	X	X	X	X	X
Clustering of Subunit Housing	X	X			X
Accessibility of Facilities	X	X	X	X	X

of neighborhood racial integration in America cities.[74] There are no easy techniques for altering the rate, or the composition, of the flow of migration.[75] All in all, neighborhood unit technique is not an absolute cure-all for new town design, it is nothing more than a planning organizational tool. As the only planning and organizational tool we currently have, neighborhood unit will continue to be a valid technique for use in new town planning and design.

FOOTNOTES

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37. Golany, op. cit., pp. 198-200.

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39. Golany, op. cit., p. 156.

40. Ibid., p. 196.

41. Ibid., p. 197.

42. Ibid.

43. Joseph Dechiara and Lee Koppelman, Urban Planning and Design Criteria, second edition, 1969, p. 330.

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45. Ibid., p. 335.

46. Ibid., p. 336.

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49. Ibid., p. 444.

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72. Ibid.

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AN EVALUATION OF THE NEIGHBORHOOD UNIT CONCEPT IN THE PLANNING OF A NEW TOWN

by

CHENG-HSIN LIU

B.S., College of Chinese Culture, Taiwan, 1969
M.S., College of Chinese Culture, Taiwan, 1972

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1978

The creation of new towns has become a worldwide movement for a variety of reasons. The contemporary new town is essentially an outcome of urbanization to decentralize the population of urban centers.

The continuous degeneration of some elements of today's large cities has brought planners to view the neighborhood unit as one promising solution to present degeneration. Lewis Mumford indicated that neighborhood unit organization seemed the only practical answer to the giantism and inefficiency of the over-centralized metropolis. Until recently planners of new towns rarely considered social planning or a new town's need for identity as the cornerstone of plans by relating and subordinating all other considerations to those of social livability.

The division of new town into neighborhood units is intended to serve two main purposes — one is purely functional, for that town's population and area, it being useful to create sub-areas for the provision of local services; the other is a sociological one, creating social unity and identity.

A neighborhood unit is a sociophysical aggregate that forms its own characteristic unity and differs from other urban surroundings. New town planners should view the neighborhood as a unit of complex components focusing on human needs rather than on physical configurations.

The combined shapes of neighborhood units should determine the form of the whole new town. A neighborhood unit and a new

town should interact socially, economically, and physically.

This report has reviewed the social and physical planning criteria of neighborhood unit in the planning of a new town, then has evaluated five selected neighborhood unit proposals of the contemporary new towns which are Columbia (USA), Runcorn (England), Hook (England), Tapiola (Finland) and Qiryat Gat (Israel). These neighborhood unit proposals are all good ideas to be used in designing new towns and neighborhoods for different cultural backgrounds because they have related social plans to physical structures. They were not regarded solely as physical entities but units synthesized from the society, education, transportation, government and physical form of a new town.

Neighborhood unit technique, however, is not an absolute cure-all for new town design, it is nothing more than a planning organizational tool. As the only planning and organizational tool we currently have, neighborhood unit will continue to be a valid technique for use in new town planning and design.