RECONSIDERING THE DREAM: TOWARDS A MORPHOLOGY FOR MIXED DENSITY BLOCK STRUCTURE IN SUBURBIA

PART 1: LITERATURE REVIEW AND ANALYSIS

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RECONSIDERING THE DREAM

"The idea of the suburb in North America has been fraught with contradiction since suburbs were first identified as such in the mid-nineteenth century. Where earlier colonial forms of settlement had sought to establish European man's domination over the hostile wilderness, the suburbs were based on the more complex concept of living in harmony with nature. This idea of combining the country with the city - nature with technology - was, from the outset, one of contradiction, and gave rise to the emergence of the suburb as not just a planning type but "perhaps most importantly a state of mind based on imagery and symbolism".[1]

"EVERYONE LIKES TO LIVE in the suburbs. Everyone pokes fun at the suburbs. That's fair enough. Everyone respects those who made the suburbs. Everyone despises the suburbs. Everyone's friends live in the suburbs. Everyone hates the kind of people who live in the suburbs. Everyone wants bigger and better suburbs. Everyone thinks there is just too much suburbs. You and I live in the suburbs - it's lovely to have a nice home in the suburbs. The whole idea of the suburbs fills us with dismay, alarm, and frustration. Almost everyone's business is dedicated to making life in the suburbs more and more and more enjoyable. The suburbs are a crashing bore and desolating disappointment. The suburbs are exactly what we asked for. The suburbs are exactly what we've got."[2]

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1 van Nostrand, John. Toronto's Suburbs: Their Origins and Future. Section A, pg. 33.

2 Carver, Humphrey. Cities in the Suburbs, pg. 3.

RECONSIDERING THE DREAM: towards a morphology for a mixed density block structure in suburbia

PART 1: Literature review and analysis

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RECONSIDERING THE DREAM

1.0 TERMINOLOGY

In undertaking a study with such a title as *"Reconsidering the Dream: towards a morphology for a mixed density block structure in suburbia"*, it would be beneficial, at the outset, to attempt to articulate the subject's terminology.

This is considered desirable as a result of the complex and value-laden nature of such concepts as the urban and the suburban, of such notions as border, edge and dream, and of such processes as development. Through the process of articulation, it is hoped that a common ground can be established upon which to entertain a discussion of "*suburbia*".

Webster's New Dictionary and Thesaurus (1989) defines some of the more relevant terms in this study as follows:

urban [ûr'ban] *adj* of or belonging to a city - *adj* **urbane**, pertaining to, or influenced by, city life, civilized, polished, suave. - *adv* **urbane'ly** - *vt* **ur'banize**, to make (a district) urban as opposed to rural in character - *n* **urbaniza'tion**. - *n* **urban'ity**, the quality of being urbane - **urban renewal**, rehabilitation of dilapidated urban areas, as by slum clearance and housing construction; **urban sprawl**, the spread of urban construction into surrounding areas. [L *urbanus* - *urbs*, a city.]

suburb [sub'urb] *n* a district, town, etc., on the outskirts of a large city; (*pl*) a residential area on the outskirts of a city; (*pl*) the near vicinity. - *adj* **subur'ban**, of a suburb - *ns* **subur'banite**, a person living in a suburb; **subur'bia**, suburbanites and suburbs collectively. [L *suburbium* - *sub*, under, near, *urbs*, a city.]

border [bord'er] *n* the edge or margin of anything; a dividing line between two countries; a narrow strip along an edge; (*slang*) the US - Mexican borer - *vi* to come near, to adjoin (*with* **on, upon**). - *vt* to to - *ns* **bord'erland**, land near a border; a vague condition; **bord'erline**, a boundary. - *adj* on a boundary; indefinite. [OFr *bordure*; from root of **board**.]

edge [ej] *n* the border of anything; the brink; the cutting side of an instrument; something that wounds or cuts; sharpness (eg of mind, appetite), keenness. - *vt* to put an edge on; to border; to move by little and little; to insinuate - *vi* to move sideways.

dream [drem] *n* a sequence of thoughts and fancies, or a vision during sleep; a state of abstraction, a reverie; an unrealised ambition; something only imaginary. - *vi* to fancy things during sleep; to think idly - *vt* to see in, or as in, a dream.

devel'opment, a gradual unfolding or growth, evolution; the act of developing; (*math*) the expression of a function in the form of a series; a new situation that emerges. (*mus*) the elaboration of a theme.

town [town] *n* a place larger than a village; a city; the inhabitants of a town; a township; the business center of a city; the people of a town **vill'age** [-ij], any small assemblage of houses, less than a town; the people of a village, collectively.

principle [prin'si-pl] *n* a fundamental truth on which others are founded or from which they spring; a law or doctrine from which others are derived; a settled rule w action; consistent regulation of behaviour according to moral law; a basic part; an ingredient (as a chemical) that exhibits or imparts a characteristic quality; the scientific law explaining a natural action; the method of a thing's working.

Exurbia As defined by Herbers, the typical exurban settlement contains a population of 150,000 spread out over 250 square miles - a larger land area than the city of Chicago with its 3 million inhabitants. Its downtown is a strip 10 miles long, and its residents think nothing of an 80-mile commute to work.

As this study is to consider suburbia as both process and product, it would be useful to attempt to articulate one more concept: that of suburban development. To best set this notion into context, suburban development is to be considered as "... the process of transformation of country into city (one which) is regulated by a complex and ever changing idea of how we see ourselves in relationship, not only to the existing city, but also to the countryside which it wants to replace."[3]

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[3] van Nostrand, John. Toronto's Suburbs: Their Origins and Future. Section A, Vol. 3, No. 1, pg. 33.

RECONSIDERING THE DREAM

2.0 INTRODUCTION

Suburbia. "There is no there there".[4]

To paraphrase Californian architect Peter Calthorpe, there is a fundamental disjunction between the contemporary nature of development in suburbia and the needs of the post-industrial culture. "The current round of suburban growth is generating a crisis of many dimensions; mounting traffic congestion, increasingly unaffordable housing, receding open space, and stressful social patterns. The truth is, we are using planning strategies that are forty years old and no longer relevant to today's culture. Our household makeup has changed dramatically, the work place and work force have been transformed, real wealth has shrunk, and serious environmental concerns have surfaced. But we are still building World War II suburbs as if families were large and had only one breadwinner, as if jobs were all downtown, as if land and energy were endless, and as if another lane on the freeway would end congestion."[5]

The concern that Calthorpe voices encapsulates the distress that dozens of other professional and non-professional urban observers have expressed about the post-1945 suburb since the late 1950's. Yet, for all the criticism, the contemporary product, debased and stripped of ideology, remains as a deep--seated cultural aspiration.

The objective of this literature review and analysis is to attempt to better understand contemporary suburbia thorough an examination of its revolutionary past, its evolutionary present, and its theoretical future.

As is the case with any review of literature, a degree of selectivity must be exercised with respect to which works are to be examined. In this case a basic premise governs the particular choices made. This is that in spite of the consensus that the ubiquitous, land consumptive, use-segregated, low

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4 Stein, Gertrude; Original Source Unknown.

5 Kelbaugh, Doug; The Pedestrian Pocket Book: a new suburban design strategy, pg. 3.

density, "*single family detached*" postwar suburban morphology is no longer tenable nor sustainable, its iconic cultural appeal and mythological status remains virtually undiminished. Thus, a new direction for suburbia cannot be posited in ignorance or denial of these aspirations.

To comprehend contemporary suburbia's revolutionary past, it is necessary to consider seminal projects and provocative ideas, most of which originated in the mid-to-late 19th and early 20th-Centuries, most of which came to Canada via Britain, Europe or America. It is not until the post-1945 era commences, in the consideration of suburbia's evolutionary present, that Canadian prototypes become significant. In the consideration of suburbia's theoretical future, emerging or emergent trends, particularly those in the United States, are presented and analyzed.

It is expected that this review and analysis will inform and legitimize the second and third parts of the study: a series of roundtable discussions, and the positing of an alternative paradigm.

RECONSIDERING THE DREAM

3.0 ORIGINS

During the Middle Ages, the term suburb denoted "inhabited land immediately below hilltop walled towns".[6]

At its outset, suburbia was not so much an idea as a reaction to the socio-economic and physical limitations of the walled town. The town manifested relative wealth and order, the suburb impoverishment and chaos. The haphazard displacement of houses, gardens and workshops of these disenfranchised citizens bespoke plainly of the inferiority of the suburban. Referring to the British situation at the time of Chaucer (1345-1400), John R. Stilgoe describes suburbia as: "Not village, not town, not even hamlet, its inhabitants cringed under the scorn of burgers complacent behind stout walls. They wanted little else than to join the walled-in fortunates, to achieve citizenship."[7]

Citizens living within walled towns profited from the disordered suburban condition, as they owned the agricultural lands upon which these communities were to be created, and exacted ground rents. Townsmen "taxed suburbanites, especially when town walls needed repair, and spurned them as they taxed."[8]

From the medieval epoch until the Eighteenth-century, suburbs "existed on the edge, in a marginal zone neither municipal nor rural."[9]

Effective political and military control over the hinterland of walled-in towns in Europe and North America was to profoundly alter the status of the suburb. Once the walls disappeared first physically and second psychologically, the area immediately adjacent to the densely and generally orderly built community was to assume both a new strategic significance and economic value. And, once the wall

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6 Stilgoe, John R. Borderland: Origins of the American Suburb 1820-1939, pg. 1.

7 Ibid., pg. 1.

8 Ibid., pg. 1.

9 Ibid., pg. 2.

as the ultimate limitation to the size of a governable community was removed as a constraint, the town could expand according to an entirely new set of circumstances. Hence, location and ownership of land, versus political or military control of territory, become the primary consideration.

RECONSIDERING THE DREAM

4.0 BIRTH OF THE MODERN SUBURB

Using the example of Britain, Anthony Sutcliffe describes the impact of the industrial revolution, the exponential increase in urban populations, and the lack of effective public authority upon the evolution of the urban environment. "Many of the new centres of advanced industry ... rose so rapidly from the status of village or small market town that they possessed no municipal organization at all ... the concentration of environmental powers in municipal hands did not begin until the Public Health Act of 1848, which proposed to give extensive sanitary powers to new local authorities known as Local Boards of Health ... this concentration of authority did not, however, immediately promote more active public intervention in the environment. In many towns, death rates had risen to a peak by mid-century. but in the absence of a full understanding of the causes of disease, and in the face of the increased expenditure which the new responsibilities brought with them, municipalities generally left as much as possible to the private sector."[10]

Throughout the 19th-Century, many of former towns and villages, both in Europe and North America, expanded at an exceptionally rapid pace to become cities. Typically, municipal administrations would maintain existing thoroughfares, but would leave the planning and construction of new streets to the individual landowner, and to the use of private land and buildings.

In Canada, few towns had fortifications which could have acted to restrict their outward expansion and to affect the nature and form of "*suburban*" development. As was the case in Britain, capital and enterprise flowed freely into residential building, producing, for the most part, a relatively elevated standard of housing quality. With the exception of Montreal, the single family house, built at quite low densities, was the norm.

In Canada. early 19th-Century suburbs were developed "on a piece-meal basis, largely in conformity with the pre-existing colonial grid pattern of land division ... these unplanned suburbs were developed

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[10] Sutcliffe, Anthony. Towards the Planned City, pp. 48-49.

by individual small landowners to meet an immediate demand for residential lots. As a result, most were conceived as extensions of, or additions to, the existing town".[11]

In Toronto, the urbanization process, commencing in the 1830s, involved the transformation of an average 100-acre "*park lot*" farm into quasi-rural subdivisions, occupied initially by lower income families, and then subsequently into fully subdivided and serviced urban communities. At their inception, these developments were neither rural, suburban, nor urban; as such, they manifested many of the characteristics of the contemporary "*exurban*" scene: comprised of a mixture of working farms, country estates, and a scattering of subdivisions.

The continuously intensifying process of division and subdivision of land occurred primarily for economic reasons. Lacking "*zoning*" as a dictate to the nature and form of development which would be permitted to occur on a particular parcel of land, individual landowners attempted to attract to their particular sites whatever land use would realize the highest return, be that residential, commercial, institutional, or industrial.

Typically, once these exurban areas infilled sufficiently and became annexed by the city, the original colonial grid of farm roads would be upgraded to serve as the principal thoroughfares. This "... larger framework was supplemented by the creation of new intermediary streets ... which were formed by interconnecting various east-west and north-south streets which, although they had been built by separate developers, happened to align between different subdivisions. In turn these streets were upgraded ... and subsequently carried the water and sewage mains which served the individual neighbourhoods. Over time, they became the focus of expanding commercial and institutional development, which was reinforced by the expansion of the street-railway network, to the point where they served as "main streets" - the principal public spaces within the expanding nineteenth century city".[12]

Thus, "... this pattern of growth - the piecemeal subdivision of individual farms into residential blocks,

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[11] van Nostrand, John. Op. Cit., pg. 33.

[12] Ibid, pg. 34.

and the subsequent annexations of groups of these to the city within an urban structure of roads and services placed on the alignment of the colonial grid - was to typify development in Toronto up to 1950."[13]

The urbanization of the countryside typically proceeded on a farm-by-farm basis, and was gradually complemented by subdivisions created through the assemblage of several farms - a process which enabled larger speculative developments of a truly "suburban" nature to be established beyond the city boundaries.

In Toronto, districts such as Yorkville (1853) and Rosedale (1878) were initially established as speculative suburban or quasi-rural village developments. Whereas a grid-structured Yorkville developed initially as a modest dormitory community for street car commuters, a curvilinear-structured Rosedale was designed and marketed as a prestigious residential neighbourhood.

Urbanization proceeded on a *laissez-faire* basis, with changes in land use occurring more or less on demand. The non-corporate process of subdivision and building in the 19th-Century is credited for encouraging participation by a variety of small and medium-sized builders, realtors and developers. However, the *laissez-faire* approach meant that urbanization of the countryside frequently occurred in a chaotic manner; in the very least, it ensured that land uses and the physical fabric of the new suburbs were in a state of continuous evolution.

Designated "*main streets*" were expanded to 66 feet from the original colonial farm roads, and served to define the development of blocks of residential lots structured within and according to the rectilinear framework of the existing colonial grid. Typically, neighbourhoods were comprised of a number of individual subdivisions. Internal subdivision streets were of a standard width, and, lacking a hierarchy of "*functions*" (i.e., there was no formal conception of local, collector, and arterial roads), were used by both pedestrians and vehicles. Lacking stipulated planning guidelines, the provision of parks or open space was determined by economic considerations: i.e., the desire to increase the value of specific lots by creating an amenity, as, for example, was demonstrated through the creation of urban squares in

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[13] van Nostrand, John. Op. Cit., pg. 34.

Georgian London's Bloomsbury district by the Duke of Bedford.

"The absence of formal building bylaws and the involvement of a great variety of individuals in the building process led to the production of a great variety of housing types, lot sizes and housing densities."[14] Eventually, lot sizes were standardized to allow for such modern amenities as garages, driveways, and septic systems; small businesses and shops were created within the residential fabric. Some cottage industries were located directly on the main streets or immediately adjacent to residences, "... particularly true of blocks which were subdivided so as to create a central service alley."[15]

In Britain, a tendency towards more ambitious public intervention emerged during the last three decades of the 19th-Century, the main concern being public health, supplemented by an enhanced perception of the inadequacies of working-class housing. This tendency was strongly influenced by a nascent housing and social reform movement. Other areas of emphasis were the commencement of a restriction on the free use of private land through the creation and statutory embodiment of building regulations. As legislation became increasingly comprehensive, the main objective was to regulate the planning of housing and the spaces around it. Since it was believed that much disease was miasmic and caused by putrefying matter, building regulations sought to create broad streets and housing types that could be cross-ventilated with a large open space in the rear. The interaction between "... increasingly stringent (building) regulations and the efforts of developers and builders to make the most of their land tended to produce a standard layout not only for workers housing but even for much middle-class housing. Residential streets were arranged in parallel lines with the minimum of cross-streets, producing building blocks in the form of elongated rectangles. The streets were lined by unbroken rows of two-storey houses standing on or slightly behind the street-line. The interior of each lot was occupied by the back yard or gardens, divided by low walls. Access to these back yards was provided either by a narrow alley running the whole length of the block parallel to the streets, or

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[14] van Nostrand, John. Op. Cit., pg. 34.

[15] Ibid, pg. 34.

by a series of narrow passages or tunnels through the rows of houses from the streets ... whatever criticisms may be levelled at the residential layout produced by the by-laws, it was certainly not chaotic (however) ... where the British approach fell short of the (more comprehensive) German was in the creation of anything more ambitious than the purely residential street."[16]

In Britain, an unwillingness by government to consider the town and its problems holistically, coupled with the effects of a severe depression in the early 1880s, led to elevated social tensions; serious doubts were raised about the quality of the built environment and its effect on the physical and moral state of urban populations.

By the 1890s, the impact of an intellectual debate, one which considered the environment and its apparent influence on mankind, was finally felt in the housing reform movement. In Britain, "... the physical, economic and social surroundings of man came to be regarded as aspects of a single, all-embracing environment, to which he responded on a psychological as well as a physiological plane ... less confidence was placed in the power of the individual to rise above his environment by holding firmly to moral values".[17]

The intellectual development of an "*environmentalist idea*" led to the perception that the greatest threat to the health and well-being of the individual lay in the condition of the town - especially the industrial town. Hence, a movement which sought to improve the quality of housing alone would not be enough; it was now considered necessary to transform the very nature of the town.

And what exactly should be the nature of the improved town? Initially, environmentalists referred to the ideas of the early utopians, from Plato to Thomas More to Robert Owen. A seminal work, Thomas More's "Utopia" (1516), for example, proposed a crescent-shaped island paradise supporting a healthy, happy, well organized people. On this island state were set fifty-four "*big walled towns*", all built on the same plan, all looking exactly alike, some four square miles in area, built an average of 24 miles apart, and each home to 6,000 residents. "No town has the slightest wish to extend its boundaries,

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16 Sutcliffe, Anthony. Op. Cit., pp. 51-52.

17 Ibid., pg. 56.

for they don't regard their land as property but as soil they've got to cultivate".[18] The planning of each community was predicated on a fairly high degree of resident collectivity. With respect to urban design, streets were to have a uniform appearance, and housing was to be comprised of terraces in the Renaissance tradition of the "*Place*", where the whole was greater than the sum of its parts. Each of the perimeter block terrace houses was to stand on a street twenty feet wide, and was to enclose an enormous collective garden. In this plan was imbedded the following message:

> "You see how it is - wherever you are, you always have to work. There's never any excuse for idleness. There are also no wine-taverns, no ale-houses, no brothels, no opportunities for seduction, no secret meeting-places. Everyone has his eye on you, so you're practically forced to get on with your job, and make some proper use of your spare time."[19]

Captivated by the seductive power of the utopian visions of More and others, and by the success of such initiatives as New Lanark (a philanthropic company-town in Scotland), the notion of an essential and desirable linkage between housing and the living environment became a fixed one in the minds of the environmentalists. Thus espoused, the theory gained credibility, and was eventually adopted by everyone from social reformers to factory owners. In reaction to the deplorable conditions of the city, to an inefficient workforce, and to social unrest, the move was on to address the problems of housing and the town. One of the methods advocated was a co-ordinated decentralization of the congested quarters of existing towns. This strategy proposed that working-class populations be relocated to new, environmentally sound communities, situated far out in the hinterland: communities where it would be possible to live in harmony with nature, where it would be possible to spend time with a family, where produce could be grown in a subsistence garden, and where, in the case of the company-town, the worker could be treated to a paternalistic existence. In Britain, several company towns were created following those objectives, notably those of Bourneville, Saltaire, and Port Sunlight. Others, who deplored such complete control by capitalists over the lives of workers, proposed that, instead of decentralization, institutional and land reform be initiated in existing centres.

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[18] More, Thomas. Utopia, pg. 70.

[19] Ibid., pg. 84.

Thus, the social and environmental debate in Britain led to the presentation of not one but two alternative solutions to the plight of workers and the city: the first, as espoused most provocatively by Ebenezer Howard, was the synthesization and crystallization of the twin ideals of decentralization (de-densification) and development of new communities (Garden Cities). The second, as espoused by Thomas Horsfall and others, was that of comprehensive town-extension planning, a concept predicated on the notion *of "land reform"; an* integral component of this was the idea of large-scale municipal land banking, to be accomplished either by compulsory purchase or nationalization.

4.1 DECENTRALIZATION AND THE GARDEN CITY

Ebenezer Howard's solution, first presented in the 1898 work entitled: "Tomorrow: A Peaceful Path to Real Reform", (re-entitled in 1902 as "Garden Cities of Tomorrow), addressed the social and environmental concerns which had attracted the attention of reformers. The desire was two-fold: first, to set-up wholly new communities; not suburbs, but new towns which would act as prototypes for an alternative social and economic system, one which would be substantially more equitable for the working-classes; second, to populate these new communities by shifting out and relocating workers and the poor from crowded and unhealthy town centres, an idea already attempted through the establishment of industrial communities such as New Lanark, Saltaire, Port Sunlight, and Bourneville, an arrangement also designed "... to secure the worker's loyalty to his employer.[20]

The Garden City model as articulated by Howard envisaged a "*central*" or mother city of approximately 58,000 residents situated on 12,000 acres of land, and surrounded by a constellation of semi-autonomous "*social*" or garden cities. Each of these would be mixed-use, employment-based towns with a population of approximately 32,000, situated on 6,000 acres, of which the town would occupy 1000 acres. Each town would be comprised of approximately 5,500 lots of an average of 20 feet by 130 feet; each town would be linked to the others as well as to the central city across the proposed agricultural and forested green belts by a network of high speed rail lines (providing a ten minute journey time) or canals. Howard's concern was how to "... make our Garden City experiment the

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[20] Sutcliffe, Anthony. Op. Cit., pg. 66.

stepping stone to a higher and better form of industrial life generally throughout the country"[21], a form of development contrary to the then contemporary practice of urban accretion (or town-extension), and one which questioned conventional assumptions about both the size and structure of older cities.

To support his arguments, Howard frequently quoted contemporary commentators, writers, and journalists who voiced comparable concerns about the state of the city and society:

> "Human nature will not flourish, any more than a potato, if it be planted and replanted for too long a series of generations in the same worn-out soil. My children have had other birthplaces, and, so far as their fortunes may be within my control, shall strike their roots into unaccustomed earth - Nathaniel Hawthorne, *The Scarlet Letter*.
>
> The question which now interests people is, What are we going to do with democracy now that we have got it? What kind of society are we going to make by its aid? Are we to see nothing but an endless vista of Londons and Manchesters, New Yorks and Chicagos, with their noise and ugliness, their money-getting, their "corners" and "rings", their strikes, their contrasts of luxury and squalor? Or shall we be able to build up a society with art and culture for all, and with some great spiritual aim dominating men's lives? - *Daily Chronicle*, 4th March 1891."[22]

Howard attempted to relate the problem of material inequalities with the structure of cities and the pattern of land ownership. His work assisted the establishment of the profession of town and country planning, now known in North America as urban and regional planning, as well as stimulated urban programs in Britain and elsewhere. Accused of being an anti-urbanist, he conceived of a different kind of urbanity, one consisting of networks of closely linked towns, rather than conurbations.

The comprehensive nature of the Howard solution was its most compelling quality: he demonstrated everything from how the construction of new towns (a hitherto unattempted practice of building large-scale developments on greenfield sites) could be made financially viable, to producing generic macro and micro-scale planning models of how a typical Garden City could be designed, to how such a creation could be organized and administered. Howard was one of the first to consider the apparent benefits of establishing the semi-autonomous development corporation and its ownership of land.

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[21] Howard, Ebenezer. Garden Cities of Tomorrow, pg. 101.

[22] Ibid., pg. 101.

Seeking to decentralize (de-congest) London and other large manufacturing cities, Howard prophesied that the creation of peripheral communities on low-priced agricultural land would set into motion a process which would lead to a decline in the population of existing centres, which would in turn lead to a decline in land and property values, enabling these former slum areas to be redeveloped at much lower densities, and, in a much less coherent argument, activating a process which would eventually lead to the elimination of the private landlord.

Although a number of garden cities were constructed (Letchworth (1904), Welywn (1921)), and post--1945, a number of New Towns, the idea of the Garden City was pre-empted by the less comprehensive but more readily achievable concept of the Garden Suburb, a theoretically "*balanced*" community providing for living, some shopping, as well as for a small amount of employment; in effect, a modified version of the corporately-built, 19th-Century dormitory suburb concept: developments located along commuter rail lines.

4.2 TOWN-EXTENSION PLANNING

The second strategy, that of town-extension planning, was posited in reaction to both the banal quality of peripheral suburbs, which, in Britain, assumed minimum by-law standards and a monotonous appearance, and in admiration of the approaches adopted by other European centres, notably those in Germany, which were predicated on municipal land banking procedures. Reformers such as Thomas Horsfall, who were influenced by William Ruskin, William Morris, and the Settlement Movement led by Dame Henrietta Barnett (all of whom believed that an appreciation of beauty would allow the poor to rise above their squalid surroundings), appealed for peripheral areas to be developed following master planning concepts which adopted "... wide streets and avenues and the reservation of large areas for open space"[23] (very much a reflection of the contemporary practice in German cities), and which would be accessed by a comprehensive network of cheap transport lines. The situation of housing in inner-city Britain was summarised by Horsfall as follows:

> "The causes of the degeneration which goes on in our large towns, and of the high death-rate of many of those towns, are very obvious. The

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[23] Sutcliffe, Anthony. Op. Cit., pg. 68.

> main cause is not the over-crowding of dwellings, though that is a very marked and serious evil, nor excessive drinking, nor licentiousness, nor betting and other forms of gambling, nor the cutting off of light by smoke, nor the horrible filthiness of the air, nor the lack of physical exercise, nor any other of the evils which exist in our towns, though each of those which I have mentioned would by itself almost suffice to cause the ruin of the race. The chief cause is that, while all these evils exist, there is nothing to counteract the effect of them, that none of the conditions exist for the majority of the inhabitants of the towns which give strong motives to human beings to resist the temptations found everywhere to drink, to gamble, to be licentious, to give up exercise, to exclude fresh air from one's house and so on. The chief cause of evil is that the towns lack the pleasantness, which is the most important condition of cheerfulness, hopefulness, physical and mental health and strength for all classes, for the poorest as well as for the richest."[24]

Horsfall argued that instead of giving municipalities the right to buy land and build working-class housing, they should be given the right to buy land and to legislate and regulate planning for peripheral areas around towns. It was not until a social crisis intervened which permitted such an idea to move forward (the Boer War and the evident poor "*quality*" of the recruits), as well as influential books such as Masterman's "The Heart of the Empire" (1901).

By 1904, following publication by Horsfall of "The Improvement of the Dwellings and Surroundings of the People: The Example of Germany", the concept of town-extension planning gained momentum: the possibility was raised that it would be feasible to "... incorporate cheap transport, cheap land and a pleasant environment within a single planning strategy for the suburbs."[25] This would be a suburbia that would involve municipal ownership of land and changes in building by-laws; for example, to promote narrower (cheaper) residential streets. As the local councils did not have the power to invoke such legislation, national legislation was sought.

By 1907, some of the required powers were granted to local authorities to plan their suburban areas. Visionary schemes were put forward by architects as a means of promoting the potential inherent in town-extension planning; widely publicized plans manifested civic centres, boulevards and parks with monumental qualities.

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[24] Sutcliffe, Anthony. Op. Cit., pp. 69-70.

[25] Ibid., pg. 71.

In North America, Canadian and U.S. cities were gradually transformed by the process of town-extension, one which was generally referred to as "*urbanization*". Initially, town-extension was encouraged by the advent of electric street car lines, omnibuses and the introduction of inter-urban rail, and the resultant growth in demand for commuting, actions undertaken which recognized both the necessity of working in the city and the desirability of living in the suburbs. The great advantage of commuting, it was perceived, was that it would "... enable everyone to have a suburban or villa or country home, to spread the city over a vast space ... with all the advantages of ... pure air, gardens and rural pleasures ... before long, town life, life in close streets and alleys, will be confined to a mere collection of shops, warehouses, factories and places of business."[26] For future land developers, however, perhaps the more germane commentary was stated as follows: "One consequence of this (commuting) is the immense improvement of the country and rise in the value of property".[27] Electric-car lines and the arrival of inter-urban railways coupled with the introduction of commuting ticket prices encouraged the acquisition and subdivision of peripheral and outlying land. Initially, the more distant peripheral land was subdivided by hundreds of small, independent speculators, and was sold and resold to other land speculators until such time as the city expanded far enough outward to become marketable, or until commuter lines would be established in the vicinity. Once the commuter line was established, adjacent land already subdivided would skyrocket in value.

As the population of cities continued to grow, the cities would continue to expand into the hinterland. Only a handful of municipalities embarked upon a co-ordinated campaign of land-banking, (for example, Saskatoon, Saskatchewan) leaving the hinterland open for speculative purchase, and hence speculative profiteering, as agricultural land was bought and sold repeatedly prior to actual subdivision. This urbanization process usually entailed the construction of grids of unpaved streets and rectangular lots, a pattern that was easy to survey and one which would usually ensure the maximum number of lots at greatest efficiency could be produced; water and sewerage would be provided at municipal expense.

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[26] Stilgoe, John R. Op. Cit., pg. 132.

[27] Ibid., pg. 132.

The irony for many of the first residents of these "*exurban*" areas was that although they may have purchased individual lots due to the tremendous views or environmental qualities they once offered, the "*illusion of country*" character was essentially transfigured once all of the lots comprising a subdivision were developed. Typically, these residents benefitted neither from the advantages of the city, nor of the country. "At the edge of every major city, mid-nineteenth century land speculators thrust an essentially urban fabric over (the) hitherto borderland landscape ... domestic architecture, too, whispered of deep-rooted urban visions (with speculators erecting) identical houses on the narrow lots, marching them down the rectilinear streets ... the houses stood apart from each other, but (were) in all features identical with that constructed far nearer city centres, (accenting) the tacit assumption of urbanity."[28]

The nature of speculative residential development in cities like Toronto adopted a village-like scale and quality: relatively narrow streets, frame houses (generally semi-detached) set close together, erected in neighbourhoods featuring an intermixing of manufacturing enterprises and housing.

The move to more distant suburbs, spurred along by the opening of private collective transport, occurred for reasons in addition to the desire to be close to nature: middle-class and better-off working-class families moved further out, not so much of choice, but of necessity, as a result of the search for appropriate, affordable housing. In America, while the vast majority of housing in suburban areas was comprised of single family detached or semi-detached, by the end of the 19th-Century there began to appear multi family housing units, generally built by speculative developers. As land prices increased, and consequently lot sizes decreased, multiple-unit buildings became more prevalent. In reaction, the majority residents (single family detached) of these newly created neighbourhoods began to push for controls to protect their investments, as the multiple-unit buildings were considered to lead to a deterioration of property values.

In North America, social critiques at the time (1850-1900) focused on a discussion of the blandness of town-extension planning: houses "... huddled together on mean little lots all the same size and

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[28] Stilgoe, John R. Op. Cit., pp. 152-153.

shape, all running the same way, so that neighbours can almost shake hands out of the opposite windows ... cheap with the cheapness of dullness, ignorance and indifference ... neither city nor country, nor can it ever supply the place of either ... (it) can not even be suburban ... for it is too like a stunted town and has almost nothing essential of the country".[29]

Oblivious to the real costs involved, but following upon the arguments of English architect Raymond Unwin and others, critics argued for ever-lower densities and for developments employing large lots (the logic being that this would reduce the number of intersections and road footage), and for the maximization of outdoor private space. Critics also bemoaned the lack of quality to be found in speculatively-built single family housing, the uniformity of street layouts, the "clever marketing of the builders, and the paucity of choice actually offered by developers.

4.3 THE COMMUTER SUBURB

In North America, by 1850, "... the rapidly growing population ... was largely accommodated in great tracts of low-density, single-family housing, regulated by large-scale grid networks of streets, built cheaply in wood, and generously served by street car and railway lines which developed on a scale unparalleled in Europe. Indeed, outside the East, most towns took this low-density form from the start..."[30] For the most part lacking the urban density "*problem*" that beset many cities in Europe, most North American municipalities avoided development of the associated physical problems which were so characteristic of the heavily industrialized English and German cities.

However, while town-extension planning in North America may have avoided the problems encountered in Europe, the aforementioned critiques, and, more significantly, nascent concerns regarding how neighbourhoods comprised of mixed-uses could negatively impact upon otherwise sound real-estate ventures, led some developers to create "*up-market*" suburbs physically removed from the existing town, as well as from any imminent town-extensions or accretions; locations where developers could have total control over the formulation and governance of the community. Assembling huge acreages,

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[29] Stilgoe, John R. Op. Cit., pg. 159.

[30] Sutcliffe, Anthony. Op. Cit., pg. 91.

real-estate developers sought to create distinctive "*suburban villages*". While many such communities were established, some of the more prominent and influential were Llewelyn Park, New Jersey (1853); Lake Forest, Illinois (1856); Riverside, Illinois (1869); Rosedale, Toronto (1878); Forest Hills Gardens, New York (1906); and Shaker Heights, Cleveland (1911).

Exclusive up-market suburbs all, some of the more significant projects, notably Rosedale, Llewelyn (which featured a 50 acre park at its centre), Riverside (America's first "*fully planned*" suburb), and Forest Hills Gardens (featuring a mixed-use civic space), were either designed by landscape architects or by professionals strongly influenced by the publicity granted to park designs (i.e., Central Park, New York; Mount Royal, Montreal) at the time. With the advent of the commuter suburb was the advent of "*design controls*", an initiative intended to preserve property values through the elimination of non-conforming residential expression. Depending on the circumstances, individual houses had to respond to stylistic requirements, and in almost all cases to economic and environmental stipulations, regarding such issues as the size of the lot, setbacks, and the size and cost of the house. Each of these communities was planned so as to preserve as much vegetation, topographical characteristics and existing features as possible; the rectilinear street grid pattern employed in town-extension planning was set aside in preference of more site-specific solutions: the resultant street pattern was frequently "*seconded*" to that of the setting; a more random, curved-grid or sinuously curvilinear layout usually resulted. While such a pattern ensured that land would not be used as "*efficiently*" as with the gridiron, the uniqueness of the approach created a marketing advantage for the developer, as upon entry into such a neighbourhood, it was impossible to mistake it for any that might be found at the edge of the city.

So seductive was both the image and the product that "... by the end of the century curvilinear layouts and provision for greenery were beginning to be found even in land-promotion schemes which did not pretend to cater for the very rich."[31] While the aesthetics of commuter suburb planning greatly strengthened its appeal and credibility, it was the commuter suburb's severely restricted "*zoning*" that

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[31] Sutcliffe, Anthony. Op. Cit., pg. 95.

was to appear most attractive to producers and consumers, and which was to presage the introduction of the modern notion of zoning some decades later.

Regarded as one of the most paradigmatic commuter suburb developments in America, Forest Hills Gardens, New York, is an "*English-like*" garden suburb, providing rental and owner-occupied houses, and featuring many of the qualities of the "*town*" that critics found so lacking in town-extension or subdivision developments. Planned by landscape architect Frederick Law Olmsted Jr. and architect Grosvenor Adderbury, the suburb featured "*urbane*" characteristics: compactness, a civic space, mixed-use facilities, a range of densities in various blocks (single family detached, row houses, and eight to nine-storey apartment buildings), and parking facilities provided for in courtyards or garages. Developed by Sage Foundation Homes Company, the firm intended "... to build a wholly profitable housing development that would demonstrate to the most callous developer of residential-zone (town-extension) and borderland housing the greater profits to be realized from new arrangements of streets and structures, from new building materials, and from integrated beauty ... people of moderate income (sic) and good taste, who appreciate sympathetic surroundings, but are tied close to the city by the nature of their occupation would find some country air and country life within striking distance of the active centres of New York."[32] To ensure that its investment was protected, tight restrictions were imposed on the nature and form of development, and, ominously, of residents.

The former Borough of Queens farm field, situated eight miles northeast of New York City, and adjacent to a five hundred-acre wood lot reserve, was to become home to a 142-acre community designed according to what the designers determined to be the three most important principles in city planning: that "... main thoroughfares should be direct, ample, and convenient no matter how they cut the land ... (second) that all other roads must be quiet, attractive residential streets, not fantastically crooked but laid out so as to discourage their use as thoroughfares and kept narrow to increase the area of lawns and front gardens"[33], and third, that the quiet streets be focused on parks and public

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[32] Stilgoe, John R. Op. Cit., pg. 226.

[33] Ibid., pg. 226.

open spaces. Of particular interest in the plan of Forest Hills Gardens was the arrangement of private outdoor space: in lieu of individual back yards, the rear of some of the more modest grouping of houses situated on shallow lots was provided with a communal, semi-private park space, intended primarily as play areas for young children.

While extremely influential, Forest Hills Gardens manifested a flaw that all later "*planned suburbs*" were to exhibit, that being that it "... had no capacity to absorb change, be it hundreds of parked cars or one large apartment house, without badly marring its jewel-like perfection".[34]

4.4 THE GARDEN SUBURB

The Garden Suburb concept, a much less ambitious derivation upon the Garden City strategy of Ebenezer Howard, was aided greatly by the development of town-extension planning ideology. The most influential scheme was that produced by architects Raymond Unwin and Barry Parker for the Hampstead Garden Suburb (1905), a lower density planned suburb comprised of a mix of single family detached and multi family housing, one which was composed to protect the admirable environmental characteristics of a leafy hill-top from the ravages of the standard, by-law inspired, suburban terrace development.

A basic premise of this 655-acre, 16,000 population venture was its social engineering aspect, one promoted by its founder, Dame Henrietta Barnett, of the previously mentioned Settlement Movement. A central idea was to relocate some inner-city working-class residents to co-habitate the new community with a better educated and wealthier population. Significantly, working-class housing was not to be provided by the public-sector, but by co-partnership companies, and built on the cheaper land of the estate. Another premise was that lower cost (income) housing would be realized as an integral component of this ostensibly upmarket housing estate; to be built at the same time, thereby benefitting from the same environmental attributes that the suburb offered its wealthier residents. The paternalistic objective was that this mixing of income groups would somehow better the lot of less sophisticated "*workers*", in lieu of the other alternative, that of the construction of a segregated,

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[34] Stilgoe, John R. Op. Cit., pg. 238.

one-class (lower) municipal housing estate.

The planning of Hampstead Garden Suburb featured cul-de-sacs, footpaths, *redents* (three sided courts of terrace housing), single family detached residences arranged lengthwise and situated close to the road, and larger, multi-unit townhouses. Architect Unwin reasoned that lower densities (6 per acre) made economic as well as social and aesthetic sense.

4.5 ZONING AND THE SINGLE FAMILY HOME

While the inter-urban railroad, electric street car and omnibuses had been the major transportation innovation of the 19th-Century, one which had led to the first wave of town-extension, commuter, and garden suburb development, the private automobile was indisputably the transportation innovation of the 20th-Century, one which enabled the conceptualization of a very different kind of suburbia.

It has been demonstrated that a combination of the private automobile, collective transit, the process of zoning, and the "*security*" of single family home ownership led to a situation which encouraged an unprecedented exodus from the city to the suburb.

These same forces were also instrumental in transforming the nature of urbanization, enabling the development of a new form of suburbia that adhered to neither the town-extension nor garden city/suburb models, and which was considerably different in form and density to the commuter-suburb model. How events transpired to encourage such a radical departure from then existing models is worthy of review.

In America, by 1919, most of the "... basic infrastructure and public services ... had already been developed, and capital investment in the built environment was close to a standstill ... (hence) a search began for ways to stimulate postwar investment in the built environment in order to keep aloft an economy that had begun to show signs of weakness. Since the expansion of the productive forces increases the supply of commodities and goods, new consumption needs must simultaneously be created."[35]

Following the collapse of the building industry in 1919, there commenced, during the 1920s, a

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[35] Boyer, M. Christine. Dreaming the Rational City: the Myth of American City Planning, pg. 140.

tenuous, new-found economic prosperity: this was manifested by superspeculation in major new areas of investment, such as real-estate. Pent-up personal savings during the war years were the essential precondition for a major expansion of the single family housing sector: workers who were renters were to become homeowners. And to ensure that such investment would not miss its market potential, the entire process hinged upon the creation of "an apathetic, apolitical public ... privatized and depoliticized."[36] Enter thus the logic of homeownership and the single family detached residence: an enormously time and investment consumptive form of housing; once the population began to purchase, they would have too much to lose by entertaining radicalism. Thus government made a concerted effort to promote the "*stabilizing*" influence of homeownership, and to help to create consumers out of the labour force.

The transformation from infrastructural investment to consumption investment was part of an overall economic strategy which understood consumerism as the key to long-term economic prosperity. To maintain this dynamic, consumer credit strategies were instituted. In America, the federal government implemented various investment and consumption incentives, while at the same time seeking to stabilize these practices by promoting standardization and rationalization of various components of the economy. With the same objectives in mind, the national government in Britain argued that better housing would produce a more efficient and loyal (conservative) labour force. Thus, it initiated, through various housing acts, programs encouraging the development of owner-occupied housing estates, low-density neighbourhoods which permitted each home dweller to have independent benefit of a garden. It also actively promoted standardization in suburban planning and home-building practices. Planned industrial towns such as Saltaire, Port Sunlight, and Bourneville demonstrated the rationale that a healthy community led to greater productivity and fewer strikes. Thus, to maximize worker's efficiency, a form of paternalism was considered essential.

In America, "... zoning and planning (were considered) necessary to lure consumers and mortgage

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[36] Bolyer, M. Christine. Op. Cit., pg. 140.

lenders into the purchase or financing of a single-family home".[37] To make the single family home more attainable, builders, with the direct encouragement of government, sought to make the production of housing more efficient, aiming to reduce land and labour costs, and to reduce the cost of the house by modifying its size and design; and by standardizing its components (Fordism). The alternative to this approach would have been to raise the wages of workers.

Planning was to be employed as a "*disciplining*" order; a major tool which could be utilized to assist in the creation of a new land and housing market. As previously stated, however, in order to "... draw this money into (suburban housing) ... would require an insurance policy that the single-family homeowner's investment would be protected in stable neighbourhood communities through zoning ... although willing to acquire homes (many) were afraid to do so lest they later ruined their investment if an apartment, stable, laundry or public garage were built next door ..."[38] Thus, the establishment of protected residential zones became an inseparable component of the movement to promote homeownership, stable labour conditions, and the establishment of real-estate as a credible investment; zoning was to be a process that could secure an orderly and durable development of the urban land market. It had been demonstrated that once a neighbourhood of single family houses had been "*destabilized*" by the construction of an apartment building, little or no further investment in homes would occur anywhere near its vicinity.

In the 1920s, as today, criticism was levelled against the speculative housing profiteer; the prospective homeowner, seeking financing, had to compete for funds in a superspeculative market place: banks and savings and loans preferred to lend to corporations or builders as opposed to working-class individuals because there was less risk, and because they made greater profits on up-market construction. Much like today, suburban development in the 1920s was beset by exorbitant land costs, spiralling housing costs, many overbuilt or congested lots, congested streets, and an inadequate public infrastructure.

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[37] Boyer, M. Christine. Op. Cit., pg. 142.

[38] Ibid., pg. 148.

Zoning was originally intended to be only one aspect of a comprehensive city planning strategy, one which was to have three principle objectives: "... the stabilization of economic conditions and the control of land uses, the provision of adequate and proper facilities for industrial development, and the securing of wholesome housing conditions and the encouragement of homeownership."[39] However, zoning soon "... came to dominate planning and to provide the only solution in the 1920s to the vexing problems of the metropolis ... since business and real estate interests dominated the movement, zoning soon became divorced from comprehensive planning." This domination of zoning or "*nuisance control*" as the all-important aspect of planning, one designed to support an expansion of the single family dwelling type and its attendant components, meant that there occurred "... the consequent isolation and abstraction of the uses of land from the qualitative needs of the American city".[40] Urban land economics were preoccupied with the need to create exchangeable parcels of land legitimized by the creation of inviolable cells, guaranteed by a zoning by-law. Notions of the City Beautiful, of the desirability of comprehensive planning and design, were discarded by most municipal governments and by the business elite in favour of adoption of the much simpler zoning by-law practice, one that required little or no specialized knowledge.

In the United States, it took a Supreme Court decision to support zoning because many lower courts in various states had rejected the practice. Significantly, in 1920, one court had "... rejected the right of its cities to exclude multiple dwellings from single-family residential districts. Only after an outpouring of sentiment in the newspapers, an action that revealed a real estate lobby in support of these ordinances, would the court reverse the decision."[41] California, for example, ruled that single family districts could not prohibit multi family dwellings, a practice that led to the unique development patterns of Santa Monica and Venice, whereas a town in Massachusetts ruled that small shops must be prohibited from residential districts or all houses could risk conversion for these purposes.

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[39] Boyer, M. Christine. Op. Cit., pg. 153.

[40] Ibid., pg. 153.

[41] Ibid., pg. 161.

It was of considerable concern that if lower courts failed to consistently support the practice of zoning, that its very legitimacy, and hence constitutionality, would be in jeopardy. "The concept of zoning rested upon the right of the state to impose a restriction upon the economic return a property owner could rightfully expect from the use of his land."[42] Hence, the most reductionist idea of zoning, that of the division of the city or suburb into distinctive, monofunctional, segregated cells, was considered to be the "*safest*" course for individual municipal planning departments to adhere to.

In the 1920s critiques emerged about the practice of zoning, particularly its social ramifications. Questioned was the fairness of a practice which consciously implied economic, social, and racial segregation (two prime examples being Atlanta, Georgia, and Halifax, Nova Scotia). Given the opportunity, "... the wealthier (tended) to live apart from the problems of the social totality, while the working classes were ... far removed from the amenities of the better classes. By 1920 the middle class disappeared behind walls marked off by zoning restrictions in areas of monotonous character."[43] Owing to its inherent limitations yet universal application, the legacy of zoning is that it "... produced a gap between the techniques of regulatory control, and the aesthetic and social form of the American city."[44] By the manner in which it was applied, zoning as an exclusionary process left much to be desired.

4.6 THE NEIGHBOURHOOD UNIT

The Neighbourhood Unit idea, in which the origin of the modern notion of a hierarchical suburban community is most germanely posited, was advanced by Clarence Perry of New York during the 1920s. It was "... the first definitive description of a completely self-contained community within a surrounding urbanized territory, a community of about 5000 people on an area of about 160 acres."[45] Accepting that most North American cities were to grow by the practice of town-extension planning

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42 Boyer, M. Christine. Op. Cit., pg. 164.

43 Ibid., pg. 167.

44 Ibid., pg. 167.

45 Carver, Humphrey. Cities in the Suburbs, pg. 38.

or accretion rather than by the creation of New Towns or Garden Suburbs *à la* Hampstead, Perry sought to devise a model that would offer a measure of protection for families from the "*evils*" of the surrounding city. It was based upon the following principles: an elementary school (community centre) was to be the focus of each neighbourhood; "*interior*" streets would be designed to discourage through traffic; shops and apartments would be situated at the periphery along arterial roads and at major intersections; ten-percent of the overall acreage would be devoted to parkland.

An immensely significant contribution, particularly post-1945, the Neighbourhood Unit idea has served as the basic model guiding the preparation of most secondary draft plans in Canada, the U.S., the U.K, and Australia. It proposed setting a reasonable limit on the size of a community, a boundary that had merit socially, economically, and politically (i.e., it could form the basis of a ward); it was also premised on the notion that most facilities would be within a five to ten-minute walk (1/4 to 1/2 mile), thus enabling a resident to "*know*" and identify with a manageable territory, an area in fact not dissimilar in size to that of a small town.

4.7 THE AUTOMOBILE AND THE RADBURN PLAN

The arrival of the automobile *en masse* in the mid-1920s as the principal means of private transport spawned a revolution in the development of suburbia. No longer required to be located in close proximity to collective transport lines, the automobile, and the rapidly growing network of highways, enabled suburbia to be built virtually everywhere in the immediate hinterland. The concept of town-extension planning occurring following the concentric accretion or linear path models dissolved: the new wave of automobile-spawned suburban expansion would lack any formal basis: it would occur wherever inexpensive land could be assembled, as long as it was within a reasonable distance of either an existing highway or within a short drive of a commuter rail line. While enabling a hitherto unknown spread of low-density development to occur across the former countryside, the automobile was also to have a significant impact on the design and layout of individual suburban communities.

While seen as a welcome innovation in most of the literature of the time, the automobile's ability to be "*ubiquitous*" was challenged by some architect/planners who were concerned about its impact at the neighbourhood level.

One of the most progressive responses to the design of a community which directly confronted the situation of the automobile was that of Radburn, New Jersey, located near a major highway some ten miles to the northwest of New York City. Designed by architects Clarence Stein and Henry Wright, the basic premise of the Radburn Plan (1928-1933) was a "*reconsideration*" of the traditional concept of a continuous residential street pattern (grid or curvilinear); it was replaced with a radically new hierarchical network comprised of through roads and residential cul-de-sacs, ideas which went well beyond the initial conception of the Neighbourhood Unit. The traditional relationship of house to street was also reconsidered: houses were organized to face onto a continuous finger-park network, turning their backs to the street.

The Radburn Plan prioritized the relationship between the single family house and semi-public, leafy paths, at the expense of the relationship between the house and the street, which, in theory, was reduced to a service road. To this reconsideration can be traced the beginning of the end of the "*traditional*" notion of the form of a residential community. In summary, the Radburn Plan was intended to relate suburban residents to nature, to promote the concept of a sylvan setting unimpeded by the outside world (and its messenger, the automobile), and to ensure that all school-age children in this radically revised "Neighbourhood Unit" could safely access the primary school without having to cross a vehicular roadway at grade.

4.8 NEW TOWNS AND THE PLANNED CORPORATE SUBURB

In Britain, following upon the relative popular successes of Letchworth and Welywn, and as a means of expressing national goals at the local level, government introduced the New Towns Acts, and realized the first of a series of new towns, that of Stevenage, in 1946, and latterly East Kilbride, Cumbernauld, and Milton Keynes, amongst others. There was considerable conflict between the national policy which sought to establish new towns over the redevelopment of, or investment in, deteriorated inner-city areas of existing communities. The new town idea, a product of centralised planning and decision making, was also pursued by large private-sector development corporations in North America, "... in almost every area the planners of new towns have shown that they can produce a product which is better than that of the old towns or cities ... housing estates with their local

shopping centres and generous provision of public open space and amenities for children are better than most new suburbs ... most new towns in Britain have proved to be attractive locations for many types of employer ... and have been the only major centres of employment growth in Britain in recent decades."[46] It "... appears that new towns are often favoured, in Britain and elsewhere, because they give national governments (and private-sector developers) the opportunity to engage directly in urban development without the encumbrance of local democratic control."[47] Of their shortcomings, however, none of the British new towns has given priority to provision for walking and public transport over access by car.

In Canada, the 2000-acre community of Don Mills, Ontario, is considered to be one of the country's most influential and sophisticated post-World War II residential developments. Located five miles northeast of downtown Toronto, accessed readily by the Don Valley Parkway, Don Mills (1952) was designed to be an exemplary Canadian variation of the self-contained British New Town idea: on its strictly land use segregated territory, it was to contain a range of housing types (single family, duplexes, and apartments), parkland, and shopping facilities, and providing for a substantial quantity of employment facilities (office and light industrial). It was predicated on the Neighbourhood Unit concept and designed to be accessed primarily by the automobile.

Undertaken on a greenfield site by entrepreneur E.P. Taylor, Canada's first large-scale "corporate" planned suburb "... sought to re-establish the ideal (community) by distancing (itself) from the city and providing (its) own employment base. (It) introduced a radical reorganization of roads, pedestrian paths, parks and housing areas which were realigned with the natural topography, focused on centrally located elementary schools and shopping centres, and surrounded by industrial parks."[48] The resultant community was then protected from changes which could negatively impact properly values through the institution of a broad range of restrictive covenants, zoning codes, and building bylaws.

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[46] Howard, Ebenezer. Garden Cities of Tomorrow, pg. xxvii.

[47] Ibid., pg. xxiii.

[48] van Nostrand, John. A New Approach to Seaton, a working paper, pp. 2-3.

The plan adopted by Don Mills varied greatly from that of most pre-World War II suburban models realized in Canada in a number of ways. The traditional pattern characterized by a repeated process of supplemental subdivision and residential expansion, or town-extension, one that generally reflected the gridded pattern of land ownership in exurban or country areas, was usurped. A single large landowner, unhindered by incremental land assemblies and development, could adopt a pattern of roads and development which responded to other objectives. The planner of Don Mills, Macklin Hancock, influenced by the work and ideas of Clarence Stein (Radburn), F.L Olmsted Jr. (Forest Hills Gardens), and Clarence Perry's Neighbourhood Unit concept, produced a community design that was "... wildly popular ... the Don Mills, style of development was repeated (elsewhere) in Toronto and in (virtually) every other city in Canada. As an approach to urban planning it was an instant success, and in fact it has continued to be the cornerstone of all additions to urban areas over these 30 years."[49] An automobile-dependent community, due to its low density spread, crescent and cul-de-sac road structure, the organizational principles of Don Mills were considered radical in view of the practice of Canadian town-extension planning from the mid-19th until the mid-20th-Centuries. In Don Mills, the strict segregation of land use became the principal generator of urban form. "Land was designated for one particular use, and often designated for one very specific kind of activity: commercial activities were isolated from residential uses, industrial from office uses, apartments from duplexes and semi-detached houses, and single-family houses from other forms of residential accommodation. Before Don Mills, (pre automobile-dependent Canadian) cities had been quite permissive about the kinds of activities that found themselves on the same street ... mixed-use ... was rejected for single discreet uses that stood apart."[50]

Features of Don Mills were a population density significantly less than that realized by town-extension planning (8 units per acre versus as much as 20 per acre); a sinuous, hierarchical road system: arterials, collectors, and local roads comprised of crescents and cul-de-sacs, designed to permit access

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[49] Sewell, John. The Canadian City, pg. 33.

[50] Ibid., pg. 32.

by the automobile, and to control its "*penetration*"; a strictly segregated pedestrian and vehicular network: pedestrians were directed to experience the community "*off-street*" via a network of finger-parks, as no sidewalks were provided along residential streets; employment opportunities were provided (in theory) for fifty-percent of the residents.

Intended to be a model for a self-contained new town community, the highly segregated and hierarchical pattern adopted by Don Mills was used as a planning model for town-extension and/or corporate suburb planning instead.

In America, Levittown, a seminally influential community built between 1947-51 on a Long Island, New York potato field (the forerunner of two others), advanced considerably the concept of "*standardization*" in house construction. A long-held objective of government and the private-sector, standardization was pursued as a means of rationalizing the production of housing, thereby making it more accessible financially, and permitting it to be constructed and occupied much more rapidly.

Levittown, New York, offered none of the functional or intellectual qualities of the "*progressive*" New Town models which appeared in the United States between or after the wars (i.e., Greenbelt, Maryland; Columbia, Maryland), but it did adopt some of the aesthetic aspects: a community of 17,450 identical, mass produced, single family detached houses, ostensibly intended for returning GIs (servicemen) and their families, situated on a modified, gently curving gridiron. It did not have a clear hierarchy of roads, was not related to a commuter rail station, was not planned with schools as the focus of community design (although land was set aside for their construction), and had no village centre. However, it did incorporate a recent innovation, the auto-oriented "*strip*" shopping plaza Significantly, the mass-produced Levittown "... did for the house what Henry Ford did for the car."[51]

In Ontario, throughout the 1960s and 70s, provincial and municipal governments supported the development of "*planned suburbs*" whenever possible. Unrelated to, or situated along an inadequately serviced system of collective transport, and providing relatively few resident-based employment opportunities, a "*hybrid generation*" (post-Don Mills) of new communities emerged: Meadowvale and

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[51] Stern, Robert. Suburbs: Arcadia for Everyone, Pride of Place: Building the American Dream, Video.

Erin Mills in Mississauga, and communities such as Bramalea and Malvern. These developments, plus a vast array of "*unplanned*" suburbs, spread across the hinterland of Toronto. Once they were approved and under construction, it was then necessary for the public-sector to construct an extensive network of expressways and urban arterials "... which not only further isolated neighbourhoods from each other, but also encouraged increased automobile usage".[52] By the recession of the early 1970s, however, a new set of social and economic conditions prevailed: rising inflation and high interest rates began to render the "*planned suburb*" development model unprofitable. As housing and land prices rose, it soon became evident that, in order to afford a house in the suburbs, both partners had to work. Changing demographics "... resulted in a severe reduction in family size ... (with) fewer children around, less emphasis was placed on elementary schools (the heart of the neighbourhood unit concept) in spite of the fact that neighbourhood structures had been specifically geared to child-rearing families ... little provision was made for different types of households - co-ops, housesharing, single heads of family, etc."[53]

4.9 THE GRID: FROM UBIQUITY TO OBSCURITY

In many western and eastern cultures, the street grid has been employed as the main organizing element of community design.. It was usually adopted as "... a symbol not for greed but for rational human life. In its adoption in ancient Greek colonies, In the Roman castrum (a fortified place), and particularly in medieval bastides, the grid of equal, almost interchangeable blocks symbolized the emancipation from traditional restraints and the achievement of relative egalitarianism and geometric order."[54]

The grid plan "... has been the mark of the founded town since ancient times (i.e., Greece, China). It produces an efficient circulation system, and a distribution of equal, rectangular parcels. Most (North) American towns ... developed. on the basis of a single grid or a cluster of them ... peripheral

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[52] van Nostrand, John. A New Approach to Seaton, Op. Cit., pg. 4.

[53] Ibid., pp. 4-5.

[54] Urban Architecture, Harvard Architectural Review, Vol. 2, Spring, 1981. pg. 69.

growth (however) occurred in circumstances more comparable to those of Europe, encountering fragmented land ownership and a scattering of established forms and villages."[55]

Well into the 20th-Century, the vast majority of suburban land developers employed the grid layout, a pattern that was designed to intermesh with the pattern of neighbouring tracts of land in terms of orientation and block dimension, as well as to readily integrate with the context of adjacent towns. The "... near universality of the grid at least established a basic pattern for the (North) American city which allowed the planning debate to focus on other elements in the urban structure."[56]

Adoption or non-adoption of a grid as the formal structuring element of community design has produced a lively debate of its own. Those who are amongst its detractors denigrate the grid as being akin to a "*planning straight jacket*". Those who promote it refer to its egalitarian appeal, and frequently point to how the New World, in particular Canada and America, readily adopted the grid as the pattern for land division because of its inherently "*democratic qualities*", not to mention because of the ease, equitability, and order it represented in the division and subdivision of a vast, sparsely populated continent. The much-admired town plans that resulted from an application of the grid as the underlying structure are legion: in North America alone, New York, Montreal, San Francisco, and Los Angeles, amongst dozens of other cities, developed according to a grid, yet each has a unique character due to its context, topography, and the urban morphology ultimately created.

With respect to traffic planning, "... the grid serves to disperse traffic rather than channelling it in the hierarchy of collector streets typical of most Planned Unit Developments."[57] With respect to urban form and aesthetics, the street grid does "... not necessarily create mechanical monotony in urban design and may, in fact, be the best possible provision for "organic" growth in a city's future."[58] In fact, outside the island of Manhattan, most North American cities were not derived from the

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55 Sutcliffle, Anthony. Op. Cit., pg. 91.

56 Ibid., pg. 93.

57 Kaplan, Sam Hall. The Holy Grid: A Skeptic's View, Planning, November, 1990, pg.

58 Urban Architecture, Op. Cit., pg. 70.

application of a single, continuous grid pattern, but rather from "... a jumble of minigrids which create(d) many special architectural sites at their junctures." [59] While It was the jumbled grids which created special urban situations, it was the application of the regular grid which, when used resourcefully, did much to generate an intelligible and memorable urban form.

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[59] Urban Architecture, Op. Cit., pg. 74.

5.0 CONTEMPORARY SUBURBIA: AN ANALYSIS AND CRITIQUE

We have seen that the critiques of 19th-Century town-extension (tract) developments, the advent of zoning, the appearance of private financing, and the evolution of collective transport, spawned early 20th-Century residential environments such as Hampstead Garden Suburb and Forest Hills Gardens. The subsequent introduction of the automobile and the later wide availability of mortgage loans (U.S., 1939; Canada, 1947) once again prompted a radical reconsideration of the nature of development on the periphery, ultimately enabling projects as conceptually divergent as Levittown and Don Mills to be realized. Since the 1960s, and especially during the 1970s, critiques concerning the physical and socio-economic ramifications of the corporate-scale suburbs were advanced by various individuals and groups, including environmentalists, architects, feminists, sociologists, and city planners.

Realizing that the Levittown model of low density suburbia had succeeded in becoming the predominant form of residential development across the hinterland of most major North American cities, many critics, including such urban observers as Lewis Mumford, expressed alarm about the dreariness of the post-1945 "*formula*", and its attendant environmental and socio-cultural consequences.

In order to preserve the "*treasured*" farmland and villages encircling most major cities, Mumford espoused the need for comprehensive regional planning, as opposed to uncoordinated planning at the town and/or country level. In 1961, Mumford described post-1945 suburbia as "... a multitude of uniform, unidentifiable houses, lined up inflexibly, at uniform distances, on uniform roads, in a treeless communal waste, inhabited by people of the same class, the same income, the same age group, witnessing the same television performances, eating the same tasteless prefabricated foods, from the same freezers, conforming in every respect to a common mold, manufactured in the central metropolis".[60]

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[60] Kwon, Miwon. Suburban Home Life: Tracking the American dream, pg. 3.

While promoted as the personification of Jeffersonian democratic idealism (i.e., individual freedom, personal initiative), other "*ulterior*" motivations behind the apparently benign and natural move out of the shared collective space of the city into the isolated private space of the suburb have been explored. Called into question was the ideology behind efforts to physically and psychologically separate the "*savage*" city and the "*civilized*" suburb, one that conceived the "... city/work world (as being) the melting pot of immigrants and strangers, (one) characterized by technology, accelerated mobility, social instability, and the degradation of physical and moral values ... (whereas) life at home (in the suburbs) came to be defined by all the virtues missing in urban life-tranquillity, a sense of rootedness and community, physical and individual cleanliness, individual privacy".[61] Whether this was a "*legitimate*" response to the problems encountered by existing cities, the problems of crime, pollution, commercialization, overcrowding, the lack of sufficient or adequate parkland or recreational facilities, or whether the flight to suburbia and its promotion by a conservative "*elite*" was not merely a convenient middle class rejection of responsibility, was also considered.

Questioned by Marxist social critics was the concept of a linkage between Jeffersonian democracy and suburbia and its attendant requirement of homeownership, an apparent contradiction in terms, as this form of settlement and tenure was predicated on a system of domination and exploitation by capitalists (speculators, banks), one which actually restricted individual freedom (indebtedness, versus mobility) and promoted conservative, selfish values, versus a progressive, co-operative spirit.

Central to the critiques are suburbia's most readily perceived failings: its ubiquitous land-consumption, auto-dependency, and doctrinaire land use segregation. At the root of many criticisms is that contemporary suburbia is not so much a manifestation of an all-pervasive ideology as it is a brilliant representation of the seductiveness of marketing and the power of corporate advertising. From the Lower Mainland of British Columbia to Canada's two largest metropolises, developers continue to produce a product for which, logically, there should no longer exist a substantial market: prohibitive housing and land costs, increased traffic congestion, transforming demographics, a lack of housing

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[61] Kwon, Miwon. Op. Cit., pg. 1.

choice, the evolved and evoking status of women, a shortage of schools and other socio-cultural amenities, have forever altered the once "*utopian*" quality of post-1945 suburbia. "Furthermore, it is curious that despite the dramatic changes in the American family structure and the current national housing crisis, the detached single-family house remains the housing model of choice. The ideals invested in the suburban landscape of forty years ago are apparently still deeply embedded in the American psyche."[62] This, despite the fact that less than thirty-percent of households in contemporary suburbia are composed of the traditional "*nuclear family*", the one for which the Levittown model of suburbia was initially created.

There is an even more insidious allegation which can be levelled against suburbia, a criticism which is not unique to the post-1945 model, but one which has been exacerbated by it. This has much to do with analyses and assessments of the factors encouraging the development of suburbia since the mid-19th-Century. Sociological critics decry the "... characteristic denial of reality that has been associated with the flight to the suburbs..."[63], the abandonment of a shared sense of responsibility in society. It has been demonstrated that the transformation of suburbia from a process of town-extension to one of independent community has closely paralleled the evolution of society and the economy. In America, the decision by the middle-class to relocate to such idyllic environments as Riverside and Forest Hills Gardens had as much to do with the desire to live closer to nature as it did to be removed from the perceived or actual evil of the city. As the hinterland was commodified in the form of increasingly isolated and well-off residential suburbs, the concept of community, the idea of the public, was transformed. No longer living and working in the same community, the life of a middle-class businessman was split between the two. With an enormous personal investment in a home in the suburbs, it was entirely predictable that allegiances would shift, and that the city, experienced from the office, car, or commuter train, would be left to fend for itself. The rise of the suburban cannot help but be understood in terms of the decline of the urban as a "*legitimate*" idea.

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[62] Kwon, Miron. Op. Cit., pg. 5.

[63] Some Detached Houses, Vancouver Art Gallery Exhibition Catalogue, pg. 8.

There is ample evidence demonstrating that the expansion of the suburban continues to occur at the expense of the urban. Peripheral extension often undermines publicly-financed initiatives aimed at reversing middle-income population loss and at restoring economic vitality to depressed inner-city areas, while at the same time absorbing an increasingly disproportionate share of a static or declining capital funds and maintenance budget. As freeways and arterials are erected on the periphery to serve an elite population, in the city, roads are left unrepaired, and schools are shut and abandoned.

As articulated by American M. Christine Boyer, and Brijesh Mathur of the University of Winnipeg, since its origins in the 19th-Century to the contemporary situation, the "*rise*" of suburbia has very much paralleled the decline of the historical city, both as an idea, and as a physical being. Hence, the growth of suburbia can be examined in light of what has come to be considered as the "*crisis of modernism*". Boyer contends that modernism "... led to the destruction of traditional modes of physical planning and the abandonment of conventional forms of the American city."[64] There has been the perception, one exploited by many individuals and groups, that the quality of life which could be achieved through interaction with the urban was inferior to that which could be experienced in the suburban. However, at least a minimum of effort had to be directed towards a "*continuation*" of the urban, as, until the last few decades, it had remained the locus of political and economic power.

Following the application of zoning as the primary determinant of the form of the city, it was possible for architects and planners to conceive of generalized "*categories*" of people - the poor, the middle class, the rich - and to design for each category a generic, rational community. "*Functionalist*" planners and architects, particular in the public-sector, sought to transform the city "... not for a given family, but for a typical family."[65] While the European (German/French) practice of comprehensive planning by a central authority apparently necessitated a dependence on these statistical categories and individuals, many North American architects and intellectuals disapproved of such a relationship. M. Christine Boyer contends that this disapproval, plus disagreement over the universal application

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[64] Boyer, M. Christine. Op. Cit., pg. 283.

[65] Ibid., pg. 285.

of zoning, and the death of the "*aesthetic*", led to a definitive split between architects and planners. Private-sector architects, responding to an individual client's directives, increasingly pursued "*formal*" architectural (versus urban) considerations; public-sector planners, responding to a combination of special interest groups, social concerns and overt political pressures, pursued and supported increasingly innocuous solutions. "In consequence, architects and planners, each intent (required?) on expressing a different set of needs, no longer had a (common) language with which to communicate. As a result the postwar American city suffered an incredible shock for no one paid attention to urban form."[66] Architect and planner Leon Krier claims that "zoning, which destroyed the complex urban codes (informal, unregulated) of the nineteenth century, must be the root cause for the broken dialogue between the architect and urban form."[67] Unlike the "*traditional*" city, in the post-1945 planning of suburbia, the community was to be created as an "*end run*" proposition; transformation would not be built-in, because transformation was neither considered desirable nor "*predictable*". The possibility of change raised the prospect of uncertainty, a state of being abhorred by investors.

In a recent exhibition on suburbia held at the Whitney Museum of American Art in New York, artist-architect Dan Graham criticizes post-1945 suburbia for its mass-produced uniformity, one which accentuates the stark contrast between resident and non resident. He professes that corporate-built planned suburbs or town-extension (tract) developments were never as "*egalitarian*" as they were depicted. "Distinctions of class and race (of insider and outsider) continued to be encoded into the landscape ... as within the home owner regulations of new developments. William J. Levitt, the creator of Levittown ... claimed in 1954 that "*if we sell one house to a Negro family, then 90 to 95 percent of our white customers will not buy into the community.*"[68]

Other sociological criticisms attack suburban loneliness, alienation, the need for conformity, and the

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66 Boyer, M. Christine. Op. Cit., pg. 285.

67 Ibid., pg. 286.

68 Kwon, Miwon. Op. Cit., pp. 2-3.

relative isolationism underlying the desire for suburban privacy. Rebellious responses to attitudes such as "*keeping up with the Joneses*" and the pressure to accept and adopt the community's social, moral, and aesthetic values are reflected in "*antagonistic*" projects such as architect Frank Ghery's "*dumb little house*" in suburban Santa Monica. A non-conformist development, it intentionally seeks to confront a fundamental contradiction in suburbia, one which encourages the expression of individuality yet demands conformity to strict community standards.

In a contrary argument, architect Robert Stern, in the video "Arcadia for Everyone", extols the virtues of the single family detached house as being the quintessential representation of a democratic society. Over time, he argues, monotonous, uniform suburban communities will take on an individual identity, following the growth of the landscape and the unfolding of an individual family's life story. Thus, the banal house on an identical lot will be transformed "... into a temple in a garden".[69] Architect Peter G. Rowe supports this contention, claiming that "Even standardized Levittown (N.Y.) offered greater opportunity for individual creativity than life in dreary urban apartment blocks ... After a decade of homeownership, the individual taste of homeowners had tempered the monotony of the streetscape and had produced rows of distinguishable houses".[70]

The idea that "... individual and family values could be communicated through ornamentation of the home - the aesthetics of lawn, and window display - is perpetuated by a consumer circuit in which the ornaments themselves, often simplified icons, are produced on a mass scale".[71] Dan Graham's Whitney exhibit considers as well the cultural significance of the automobile, its stationing in the driveway in front of the home, the size, placement, and style of the garage, the manner in which the facade of individual house will be "*personalized*", and the representation of familial evolution in the construction of appendages to the original house.

Other critics, such as architects Robert Venturi and Denise Scott Brown, authors of "Learning from Las

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[69] Stern, Robert. Op. Cit., Video.

[70] Rowe, Peter G. Making a Middle Landscape, pg. 54.

[71] Kwon, Miwon. Op. Cit., pg. 5.

Vegas", a work which eulogizes the qualities of the commercial "*strip*", seek to understand the important cultural messages generated in contemporary suburbia: "... rather than dismissing the personalized symbolism and decoration in suburbia as low culture or kitsch, (they) perceive them as clues to the social aspirations of the American people."[72] Other critiques have sought to confront perceptions of family structure and the assumed role of women as implied in both the planning of the house and implied meaning in the design language associated with the suburban plan.

The isolationism inherent in the planning of post-1945 suburbia and its rejection of the city and all its attributes/problems has been criticized as being the major contributing factor in the decline of the concept of "*the public*". In his work "The Fall of Public Man", Richard Sennett attempts to trace and attribute the dramatic shift from an emphasis on the public to an emphasis on the private, as witnessed in everything from contemporary societal attitudes, to art and literature, to the built environment. Quoting de Toqueville, he considers some of the inherent inconsistencies with the concept of democracy, or equality: as democracy (equality) gains a foothold, then those who deviate from the perceived acceptable "*norm*" will be singled out and repressed. And, as society "*advances*" to become ever-more egalitarian, then the intimacies in life take on an additional significance, and "*convention*" becomes ever more the appropriate public expression. As citizens become increasingly similar, they would become increasingly confident of the state's ability to assume responsibilities that they once individually assumed: this would further encourage individual isolationism, leading to an abandonment of concern for whatever was happening outside the intimate realm. "The more privatized the psyche, the less it is stimulated, and the more difficult it is for us to feel or to express feeling".[73]

This movement towards the individual, away from the collective, is a process whose origin can be traced to the trauma of the 19th-Century metropolis, an era in which the will to control and shape the public realm eroded, and hence people placed greater emphasis on protecting themselves from it. This is a process which can be clearly traced in the evolution of planned suburbs in the early 20th-Century,

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[72] Kwon, Miwon. Op. Cit., pg. 4.

[73] Sennett, Richard. The Fall of Public Man: The Social Psychology of Capitalism, pg. 5.

and especially of contemporary suburbia; from the simple tract houses on gridded roads, to the current predilection for semi-public cul-de-sacs, versus public through streets: an expression of the psychological condition of defense through withdrawal. The contemporary suburb reflects the thesis of "*visibility yet social isolation*"; and much so called public space in suburbia is designed to be an area "... to move through, not to be in."[74]

The modern concept of "*the public*" traces its roots to 18th-Century *Ancien Régime* Europe, an idea which was both prompted by, and a result of, the development of large urban parks, pedestrian "*strolling*" streets and the advent of a *café* society. In criticizing the contemporary societal trend towards nostalgia and neo-traditionalism, Sennett argues that "One way to picture the past is through the images of the rise and fall of a prized way of life. These images naturally produce a sense of regret, and regret is a dangerous sentiment. While it produces empathy for the past, and so a certain insight, regret induces resignation about the present, and so a certain acceptance about its evils".[75]

Sennett addresses the issue of contemporary planning, and especially the applications of the practice of zoning. He criticizes the simple-mindedness of horizontally segregated zoning; citing preferred examples of pre-zoning urban environments, such as in *Ancien Régime* Paris where "... there were, of course, rich and poor districts - but the meaning of a "rich" district was that many rich people lived there. The term did not mean that prices for food or drink or housing would be consistently higher than in a district with less rich people ... it is difficult to imagine the pre 19th-Century neighbourhood as it actually was with an intermixing of diverse classes in neighbouring buildings, if not in the same building."[76]

With respect to the great "*liberation*" that the automobile was supposed to provide: "Today, we experience an ease of motion unknown to any prior urban civilization, and yet motion has become the most anxiety-laden of daily activities. The anxiety comes from the fact that we take unrestricted

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[74] Sennett, Richard. Op. Cit., pg. 14.

[75] Ibid., pg. 259.

[76] Ibid., pg. 259.

motion of the individual to be an absolute right ... space becomes meaningless or even maddening unless it can be subordinated to free movement".[77]

Although many critics attempt to condemn suburbia on aesthetic grounds, this would appear to be the weakest and most subjective of all articulated critiques. In a 1965 Life magazine special issue on the future of the American city, Paul Vivisaker, director of the Ford Foundation, attacks this sentiment directly when he states: "... the problem is a problem not of aesthetics but philosophy - of definition - values, motives, purposes."[78]

Vivisaker continues by declaring that, although there was nascent criticism about the form of post-1945 suburban developments before changes could be expected to occur to a planning typology that appealed to many consumers (and in many respects was the very embodiment of the majority of society's values), Americans would have to remember that in "... the struggle for more attractive cities, the American people are pitted against themselves."[79]

Environmental critiques concerning the post-1945 suburban model focus on the loss of farmland, natural areas, the lack or apparent shortage of open space, the impending collapse of a once functional ecosystem, and water, air, and noise pollution.

They express concern about the typical post-1945 subdivision planning practice whereby all remnants of the existing countryside, be they farm buildings, hedgerows, orchards, hillocks, meadows, were to be annihilated. They decried a practice in which all extrusions were levelled, all depressions filled: *tabula raza* on a grand scale. M. Christine Boyer attempts to explain how the public-sector, how architects and planners, could have considered the landscape in such a contemptible and nihilistic fashion, by claiming that "... the architect and urban planner failed to allow a clash, a collage of the new with the old."[80] Once the site was stripped and made ready for new development, critics

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77 Sennett, Richard. Op. Cit., pg. 14.

78 Vivisaker, Paul. The U.S. City: Its Greatness is at Stake, Life, Dec. 24, 1965, pg. 94.

79 Ibid., pg. 94.

80 Boyer, M. Christine. Op. Cit., pg. 286.

decried the fact that the more than two-hundred year history of urban development in North America was entirely disregarded when it came to the planning of suburbia. Boyer contends that this was possible because "... the dialogue between planning and history was silent, so that the (urban) structural elements of the traditional street, district, or public square were not allowed to aid (in the design of the suburb) ... architects and planners had given up trying to understand the structure and morphology of urban form and the overlaying of historical and interpretive elements".[81]

Critiquing the contemporary practice of planning, Manfredo Tafuri, an Italian architectural historian, contends that planning needs to be reinterpreted. He proposes that history (culture, environment) "... be allowed to preside over planning, and planning then must become a programmatic guide for architecture and urban design ... (The entire urban context) must be drawn with critical awareness: the regulatory controls, the political and economic conditions, the technical and social means of production, the cultural milieu".[82] He therefore advocates a multivalent approach to planning, one which respects historical permanence and promotes or permits morphological change.

The near disappearance in suburban planning of the twin concepts of building typology and spatial morphology, and their dynamic interrelationship, is seen as being a critical factor in the current impoverishment of the planning structure underlying the suburb. Leon Krier states that "The building block ... must be isolated as being dialectically the most important typological element to compose urban space, the key element to any urban pattern ... if the future is to allow for a new urban form, then the block must be the basic instrument in forming the public realm".[83]

Canadian architect/planner Humphrey Carver raises a fundamental issue confronting both suburban and town-extension development: that of the relationship between city and country, and more specifically, that of what the nature of the boundary between the two is to be. He also considers the problem of the "*shadow zone*", or exurbia, that belt of land, constantly shifting outwards, which first experiences

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[81] Boyer, M. Christine. Op. Cit., pp. 286-87.

[82] Ibid., pg. 287.

[83] Ibid., pg. 289.

development pressures through outward expansion of existing towns.

With respect to the nature of suburbia, Carver argues that the Neighbourhood Unit is an inadequate structural system, that it does not fulfill all the requirements of social diversity and integration which the town, his real paradigm, portrays. He believes the Neighbourhood Unit provides a logical and adequate place for the newly formed nuclear family, but inadequately provides for households or individuals at other stages in their "*cycle of life*". His comments about other forms of "*family housing*" is prescient when he states that "... there has been a further exclusiveness in the rejection of any forms of family housing that do not adopt the stereotype of the single family home. Younger families, older families, and poorer families, have not been welcomed as good neighbours in neighbourhoods."[84]

Carver believes the concept of the Neighbourhood Unit, as first advanced by Clarence Perry and later as employed in contemporary planning, is an insufficiently large "*cell*". He advocates employment of a planning cell with a minimum 15-20,000 population base, essentially that of a large town; one that would be comparable to that of Don Mills, Letchworth, and the British new towns of Stevenage, Harloe and Crawley; one that would have facilities concentrated in a single centre, as opposed to having all facilities decentralized and located in separate neighbourhoods.

The resultant town centre would have both civic and market aspects: a dynamic mixed-use heart replete with employment opportunities. He believes that a larger cellular unit would circumvent the lack of "*regional*" planning, by allowing for a planning module of sufficient size that it could be considered "*comprehensive*", or semi-autonomous. In his estimation, towns should be encouraged, as opposed to planned suburbs and subdivisions, as these forms of development are still reliant upon a "*mother*" city. Carver recognizes the difficulty that any single developer would have in assembling enough land to build what essentially would be a "*new town*"; eschewing government land ownership as an alternative, he proposes an alterative in which land would be "*zoned*" so that many players in the marketplace could contribute towards the town's development. "Only at the scale of a town,

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[84] Carver, Humphrey. Cities In the Suburbs, pg. 59.

rather than at the neighbourhood unit, is it possible to provide a systematic arrangement of living communities. The town is the essential component of which the metropolitan city must be constructed."[85]

Carver proposes that the town centre be ringed by higher density structures - apartments and townhouses - a house form and location ideally suited to the probable residents (singles, elderly, childless married couples) who seek sociability outside the residence, and therefore who would benefit from being in an area of intense activity. He believes that "... for those without a family, the sprawling spaces of single house neighbourhoods have little attraction."[86]

Carver lambastes suburbia by stating that "... to a large extent the suburbs have been an accident, the consequence of an elaborate interplay of forces in land speculation, in traffic arrangements, and in a bid for consumer markets ... making the suburbs has been a complex, impersonal, greedy, industrial process for converting raw land into a finished saleable product ... (an area) not made by the people who live there (since) they arrive afterwards."[87]

The pursuit of private property as an ideal has been roundly criticized. Such a socio-economic attitude permitted the rise of the Planned Unit Development (PUD) phenomenon in America, an outgrowth of the original Radburn Plan concept which advocated semi-private enclaves. These "Master planned communities ... provide an organized, comprehensively designed environment with a character that people will pay extra to get."[88]

Since the late 1960s, over 100,000 PUDs have been built in the United States, ranging in size from one-acre to over 50,000; they now are home to ten-percent of the country's population. PUDs feature shared amenities (i.e., golf courses, equestrian tracks, tennis facilities), building and design restrictions, and a flexible zoning plan that provides common open space in compensation for clusters of higher -

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85 Carver, Humphrey. Op. Cit., pg. 62.

86 Ibid., pg. 99.

87 Ibid., pg. 118.

88 Langdon, Philip. A Good Place to Live, Atlantic Monthly, March, 1988, pg. 50.

density housing. Typically, a PUD is intended to be comprised of numerous building "*pods*" or residential areas of typically ten to twenty-acre increments, each of which is assigned (tendered) to a builder. The master plan lays out the major PUD collector roads; the road network of individual pods are then designed by builders who work in virtual isolation one from the other. The population of a residential area is generally based upon market build-out potential: they are sized to be "*brought to market*" in approximately two years. Amongst the many criticisms of PUD communities is that they limit opportunities for employment or shopping within the development; residents are therefore required to exit their enclaves to commute to neighbouring areas, along the network of arterial roads. Bottlenecks occur because of infrequent access points onto too-limited a road network with few or no alternative paths: with PUDs being disconnected and lacking through streets, it is necessary to increase commuting time to circumnavigate these developments.

Boca Pointe near Boca Raton, Florida, typifies the PUD concept. Some forty-percent of the site consists of parks, greenbelts, lakes, and golf course fairways, laid out so that the majority of residences view onto them directly. Other features include clubhouses and recreation centres for racquet sports, exercise, and swimming. The plan is premised on the community being an enclave accessed from bordering arterial roads at gated entrances; isolated behind walls from the surrounding context, it is also internally segregated into separate, cul-de-sac, cluster developments, linked by a curvilinear network of collector roads.

Social critiques of the PUD concept object to the project's "*mummification*" of social life: the "... scarcity of informal socializing within many of the enclaves ... hardly anyone out walking or in conversation with neighbours ... the shared outdoor space ... is rarely defined tightly enough to invite people. The buildings, even when beautiful, are not arranged to create places that feel semi-enclosed and therefore special ... The streets and walkways ... suffer from another deficiency as well: they connect to few of the things that people need in their everyday lives. Recreational features may be abundant, but they are not necessarily within walking distance ... (a) lack of connection except by automobile ... (and a) village too small to have services within its boundaries and too isolated to

provide easy pedestrian access to services outside".[89]

According to Peter G. Rowe, "On the face of it, there is nothing wrong with people congregating together in a spirit of goodwill and common interest ... (there) is however, a problem when they band together at the punitive exclusion of others".[90]

Finally, suburbia as a phenomenon has fundamentally changed in the last thirty years. The "... label "suburb" is certainly no longer synonymous with bedroom "community". The subregional centres of urban realms are now major employers, providing a continual push toward further socio-economic diversification."[91] Thus, where "... downtown employment once dominated, suburb-to-suburb traffic now produces greater commuting distances and time. Throughout the country (U.S.), over forty-percent of all commuting trips are now between suburbs."[92] This shift in the nature and location of the work place was prompted by the massive growth and decentralization of service industries to lower-cost peripheral sites, and the result of a fundamental change in the demographic composition of households, with single occupants, single parents, the elderly, and modest double-income families becoming significant consumers. In California, polls indicate that traffic congestion heads the list as the major regional problem, closely followed by the difficulty of finding affordable housing, as home ownership has become a largely unattainable objective, even for double-income households.

Post-1970, those seeking the single family detached dwelling as their residence have had to move ever further into the periphery of built-up areas: the continued outward expansion of the metropolis reflects the constant search for less and less expensive land. This process results in the loss of irreplaceable agricultural lands and natural areas, forcing, in a vicious circle, states and provinces to construct more and more arterial roads and freeways to access these ever more distant communities.

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89 Langdon, Philip. A Good Place to Live, Op. Cit., pg. 52.

90 Rowe, Peter G. Op. Cit., pg. 37.

91 Ibid., pg. 37.

92 Kelbaugh, Doug. Op. Cit., pg. 7.

6.0 CURRENT TRENDS: AN ANALYSIS AND CRITIQUE

In the past decade, particularly in the United States, there has emerged what could be described as a movement to formulate alternative strategies to contemporary suburbia. In the words of one of the proponents of an alternative paradigm, "we see the urbanization of suburbia as one of the next clarion calls for architects and planners to answer ... an ambitious, even heroic agenda".[93] Spearheaded primarily by architects amongst the design professions, this latest reconsideration of the urbanization of the peripheral territory is influenced by aesthetic, cultural, socio-economic, and environmental concerns. There is an evident trend towards the development of compact, mixed-use "*cluster*" communities in a response to commuter "*burn-out*".

Advocates of compact mixed-use communities argue that there will be an increasing demand for these types of environments as commuting times increase and congestion gets worse, leading to "*no growth*" movements. Decentralization of employment sources into residential neighbourhoods has been demonstrated by the Southern California Association of Governments to be the most viable means of easing traffic congestion.

In 1989, a two-day symposium was held at the College of Environmental Design, University of California, Berkeley, with the intent to bring together architects, planners, developers, economists, and transportation specialists, professionals who viewed suburbia as a "*calamity*". The conference attributed the no-growth movement in California to a "... citizens revolt against planners, architects, landscape architects, traffic engineers and developers ... (demanding) a new leadership in these disciplines and new models of growth. As sprawl and gridlock consume cherished places ... the need for a better way to make suburbia becomes more obvious and more politically topical."[94] It condemned the fact that "... in newly developed land and on the periphery of established towns there

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[93] Kelbaugh, Doug. Op. Cit., pg. viii.

[94] University of California, Berkeley. College of Environmental Design. Symposium Paper, 1989, Introduction.

is loss of place, loss of history, loss of community and loss of precious landscape. The automobile which was formerly an instrument of personal freedom has now made us its captive for every daily task. Mobility and union with nature which motivated suburban growth have been lost in the cataclysm of gridlock and sprawl."[95] Participants held that it is a common perception that the chaos of suburbia is partially a result of the "enormous schisms that exist amongst the four environmental disciplines: planning, architecture, landscape architecture and engineering. The isolation of each discipline from the others has produced a destructive cycle in which the tasks of each are rendered more difficult by the activities of the others."[96]

Amongst the many proposals being advanced, two strategies, those of the Traditional Neighbourhood Development (TND) and the Pedestrian Pocket, manifest considerable equivalence and have garnered significant media, public, and professional attention. It is evident that both of these initiatives owe much to a re-examination of historically significant suburban planning ideas and projects, ranging from the traditional town to the commuter and garden suburb. It is also evident that the idea of the small town appears to have reasserted itself once more.

6.1 THE TRADITIONAL NEIGHBOURHOOD DEVELOPMENT (TND)

The most renowned of the strategies, known as the Traditional Neighbourhood Development or TND, is generally referred to as a "*neo-traditional*" concept premised on the notion that suburbia, to be tenable, must be designed projecting the hitherto forgotten qualities of the American town. Hence suburbia must be comprised not of a continuous spread but of a series of discrete, compact, "*town-sized*", mixed-use units. Neo-traditional developments are predicated on the notion of interconnectedness; that is, of a comprehensible street network that has an origin, a direction, and a terminus. They are also based on significantly increased density, partially in reaction to high suburban land costs which require commercial buildings to be built in much closer proximity or contiguously.

The concept, conceived by the Florida-based architects Andres Duany and Elizabeth Plater-Zyberk,

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[95] University of California, Berkley. Op. Cit., Introduction.

[96] Ibid., Introduction.

hinges upon implementation of an innovative "*zoning*" ordinance, one meant to substitute tor traditionally segregated land use rules and regulations, controls that seldom permit creation of the form of community desired by architects, planners, the public, and, of late, developers.

Presented in a simple matrix, the TND ordinance is comprehensive in that it lays out a regulating (master) plan supported by the codification of urban, architectural, and landscape regulations. In the process, it conceives street and architectural types, and prescribes measures to create a community exhibiting many of the formal features of the neo-traditional American town, such as the grid and the town square. An "*intent*" statement specifies required components of the TND, such as: civic buildings, commercial town centre, and residential neighbourhoods. Each TND is required to be surrounded by open space along the majority of its perimeter.

Although conceptually intriguing, the formulation of the TND should be considered in relationship to the American proclivity towards the Planned Unit Development or PUD, essentially large corporately-owned and developed "*enclave*" projects premised on the provision of significant recreational amenities (i.e., golf courses). While PUDs have proven enormously popular with their residents, their exclusionary, gated quality has led to much criticism, as previously discussed.

Unlike the PUD, which generally caters to a privileged income group, and is manifested by cul-de-sac enclave planning, the proponents of the TND profess that "*progressive*" social engineering underlies their concept. While they incorporate such social "*diversification*" notions as the workshop and rowhouse, it is doubtful there is anything prescriptive enough in the TND ordinance which will actually ensure the creation of a "*mixed*", socially interactive community, although certain features, such as the adoption of a grid, interconnected streets, and houses situated close to streets, could help, in a limited way, to encourage this.

In this contemporary era manifested by social and political conservatism, one in which a kind of Disneyland version of history prevails, and one in which faith lays neither in the present nor the future, but rather in a highly edited past, it is no mere coincidence that the most highly acclaimed of the TND models is not a "*planned suburb*" at all, but rather a planned resort village.

Seaside, located about a hundred miles west of Tallahassee on the Florida Panhandle, is an

aesthetically attractive community comprising some 350 houses. and approximately 200 apartments situated on eighty acres; it has been the testing grounds for both the TND ordinance and the social-engineering exercise. An upscale community of vacation and/or weekend homes, most of which are variants of "*traditional*" single family detached residences with detached garages, Seaside has proven to be a seductive model that has generated considerable media and professional attention. An unincorporated community offering eight housing types to select from, it is "... by regulation, a place of wood-shingled, clapboard, and board-and-batten houses with deep front porches and shining tin roofs like those of old houses in rural America."[97]

Seaside is situated adjacent to the existing community of Seagrave Beach, representative of the strip type of "*unplanned*" development which proliferates along the coast. One of the stated objectives of Seaside's developer was to create a community in which people could live "*differently*" than in the usual suburb or resort - ostensibly, the goal being to foster a friendly, stimulating social atmosphere. This "*social*" objective is manifested in the narrow (18 feet wide, brick paved, on-street parking) streets and network of pedestrian paths running through the middle of most blocks.

Seaside, like many government built public housing projects, attempted its own version of social-engineering. Strictly regulated, some critics view Seaside as being overtly paternalistic, in the manner of 19th-Century company run towns. There exists a requirement that each house have a front porch at least eight feet deep, a picket fence, and that the house be situated no further than sixteen feet from the street. The comprehensive building "*code*" proposes a clear set of systematic guidelines for proportions, dimensions and materials: the erstwhile objective being to stimulate sociability, an attempt to re-create at Seaside a "*front porch society*".

The plan is premised on a modified grid intersected by three diagonal streets: essentially short sections of straight-run streets (some are curvilinear) that have a visual termination. In addition to the residences, there exist two commercial areas, one adjacent to the beach (featuring a restaurant) and one at the community's "*focal point*" centre, which includes a hotel, offices, grocery store and shops,

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[97] Langdon, Philip. A Good Place to Live, Op. Cit., pg. 40.

which are currently or soon to be under construction.

Duany associate Alex Krieger articulates the three principle objectives of Seaside: the desire to build a community which emulates that of a favourite historic town; the desire to challenge contemporary zoning convention; and, working with developers, the desire to build in harmony with, or at least not in variance to, the physical environment. The practice "... lifted their heads to survey the cul-de-sac, and ... discovered what is so hard for us (professionals) to admit: that the suburb, not the city, is ubiquitous in modern American life. And they (Duany, Plater-Zyberk) reason that unless we confront the suburb directly - by understanding both Its hold on the American imagination and its liabilities - the liabilities will overwhelm us ... their (Duany, Plater-Zyberk) mission is to alert us as to the consequences of pursuing this future by emphasizing the cost at which conveniences such as easy mobility and a preference for privacy over sociability have been purchased".[98]

Krieger presents some of the issues that need be addressed in any reconsideration of suburbia, a form of urbanization which he refers to as the middle landscape between city and country. "Most contemporary environments cannot be historically understood as either urban or rural, though they appear to offer many of the choices and opportunities associated with town life - all, that is, except for propinquity ... the most important criterion for true civility ... many of our dreams - to live in the presence of nature, to live near city and country, to own and control our own property, to have constant freedom of movement; to move up; to move away; to portray our individuality; to cherish our privacy all tend to work against establishing good communities in which to live".[99]

As did Humphrey Carver, Duany believes that the saviour from an omnipresent and omnipotent suburbia is the town; he professes an unshakeable faith in the "... scale and spatial organization of the traditional town as the basic building block for human settlement".[100] While Duany employs a high degree of rhetoric in trumpeting the merits of the town, he fails to see or acknowledge the inherent

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[98] Duany, Andres, and Plater Zyberk, Elizabeth. Towns and Town Making Principles, pg. 10.

[99] Ibid., p. 11.

[100] Ibid., pg. 12.

contradiction between the product he has produced, Seaside, and the generic article he so admires. A small resort village built by a single developer, lacking an employment base, and being inhabited by a wealthy elite, Seaside can hardly be described as a "*town*", and even less as a suburb. It can, nevertheless, be described as a resident's and developer's dream come to: the employment of aesthetically pleasing, neo-traditional features such as narrow streets and a highly prescriptive building code have proven attractive to residents, as they ensure property values, and a bonanza for the developer, as they help generate enormous profits. Socially homogeneous, Seaside demonstrates that it is highly doubtful a single, profit-motivated developer can build a socially-balanced community. The experience of Seaside would appear to justify this claim: since its inception, land values have tripled, and the desired social mix (i.e., from artists to lawyers) has largely failed to materialize. Of concern is that the approach adopted by Duany can be regarded as being both a subjective and "*aesthetic*" one. A town is not "*imagery*" alone, but rather an extremely complex, multivalent, physical, socio-economic, and political environment. Ebenezer Howard envisioned a "*town*" that would be a collective experience, one that would be socially diverse, that would offer a healthful, balanced alternative to the exploitative capitalist city, one in which land was not to be an exchangeable commodity, one which was to be neither built nor operated by a private developer for profit. There are, of course, many kinds of towns, including company towns, a type that Duany often refers to as providing an exemplary model. However, unlike Seaside, these towns are socially diverse, if somewhat weighted in favour of the workers. The towns most frequently referred to by Duany as being most admirable are "*traditional*" American towns. Enamoured with their aesthetics, Duany refuses to recognize that these were not built by a single speculative developer in a short timespan, and were not inhabited by a single socio-economic group. Duany's "*principles*" for town planning do not have the neo-Rousseauian "*social contract*" basis that Ebenezer Howard's did. Being founded upon a highly suspect interpretation (empirically-based) of how a town "*works*" (aesthetically), it is extremely doubtful that Duany's town making "*principles*" could be considered as "*fundamental truths*" which could assist in achieving a solution to suburbia's most perplexing problems. Unfortunately, another major failing of Seaside and other Traditional Neighbourhood Development (TND) communities is that they remain auto-dependent:

the densities achieved probably ensure this, but they are also not located on, or approximate to, systems of collective transport.

However, the zoning or regulatory codes proposed, although representing a highly subjective and personal vision of how best a subdivision can be made to look like a town, do have substantial merit in terms of urban design.

Highly prescriptive building by-laws, the regulatory codes were created as a means of controlling suburban development, and of achieving a particular urban design quality, one of the more important components which needs to be examined in any reconsideration of suburbia.

The regulatory codes consist of five documents, which are entitled as follows: The Regulating Plan, The Urban Regulations, The Architectural Regulations, The Street Types, and The Landscape Regulations. (Detailed information about the contents of these codes is provided in the Appendix).

Basic premises of the TND include mixed-uses, reduced street widths, and increased residential densities. The Traditional Neighbourhood Development objectives are summarized in a one page matrix ordinance (see Appendix) designed to be voted into law. It would be used as an alternative to the Planned Unit Development (PUD) bylaw, replacing single-use PUDs with mixed-use developments designed to feature many of the components of a town. Being limited to the PUD process, however, means that a "full range of uses is absent from the T.N.D. and therein lies the rub. Implemented by suburban developers, the T.N.D. will inevitably reflect the bias of the market it serves. Affordable housing and public transit are just two of the ingredients that these essentially private developments are likely to lack ... Also missing ... beyond a rather utopian call for artisan workshops, is anything approximating the massive office development common in contemporary suburbia.[101]

Some of the major features of the TND ordinance are the call for streets and alleys: streets twenty-feet wide with parking on one side, house lots which have their rear lot line coinciding with an alley ten-feet wide. The community would be distended from its surrounding context through an open area (greenbelt) along 75 percent of its perimeter, being no less than 50 percent of the total area of the

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[101] Reordering the Suburbs, Progressive Architecture, May, 1989, pg. 87.

community, and being no less than 200-feet wide at its narrowest point. The greenbelt would be preserved in its natural state, or used for farming, golf courses, or house (park) lots of no less than 5 acres each.

Responding to the possibilities demonstrated by higher density suburban development, some enterprising investors have attempted to capitalize on the notion of "*town-making*": essentially, they see it as an opportunity to earn a greater profit from a marginal investment. In the example of Mashpee Commons, Massachusetts, the developer (Fields Points Partnership) desired to transform an inefficient post-1945 shopping centre (with acres of surface parking) into a denser development, one that, as a prime "*attraction*", would feature a symbolic and functional "*town*" centre.

To generate this symbolic centre, the developer donated land around a new "*town green*" for civic and religious buildings, these included a library, a church, a town hall or inn, as well as a commercial structure.

6.2 THE PEDESTRIAN POCKET

The second of the strategies, that of the Pedestrian Pocket, is a much more provocative and intellectually stimulating concept. It was conceived and "*tested*" in 1989 in a charette undertaken by the University of Washington School of Architecture. Teams of students led by high-profile architect/ planners proposed various solutions for a collective transport accessed site situated on the periphery of Seattle. Each of the teams was requested to respond to a program devised by chief proponent Peter Calthorpe, which articulated the concept of the Pedestrian Pocket as being that of "... a simple cluster of housing, retail space and offices within a quarter-mile (five minute) walking radius of a transit (light rail) station".[102]

The Pedestrian Pocket posits a higher density, mixed-use, living and working environment. A typical pocket would accommodate approximately 2000 housing units or 5000 residents (the population of a Neighbourhood Unit), have employment for 3000 in 1 million square feet of back office space, and be built at typical (averaged) residential densities and four-storey office configurations on a 50-to-

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[102] Kelbaugh, Doug. Op. Cit., pg. 3.

100-acre site separated from other development by a greenbelt.

In contrast to the TND concept, the Pedestrian Pocket is premised upon a finite community centered on a station in a regional collective transport system, one which would traverse the metropolitan periphery linking a constellation of pockets and providing a viable alterative to the car. Significantly, at the heart of a pocket is not just a main street, but a major employment centre, predicated on contemporary demands for service sector back-office accommodation.

While the pocket features many of the aesthetics of a "*town*" (i.e., a formal square, civic buildings, mixed-use centre, etc.), it does not pretend to be a town in function. The 100-acre maximum area was determined both on the basis of what constitutes an acceptable walking distance, and on the typical subdivision "*increment*" which a developer would undertake. While the community would be zoned for a broad cross section of uses within the central "*transit area*" market forces would be expected to dictate what specifically would be built and when. Unlike the TND, the pocket would not be dependent upon a doctrinaire style and typological encoding ordinance.

The TND and Pedestrian Pocket concepts have much in common. "Both models posit a new vision of the old small town, bounded by a greenbelt centered on a commercial and retail district, and composed of collected neighbourhoods, each in turn centered on a school or other civic building. But where the TND depends upon developers for implementation, the Pocket requires significant government intervention, not only in setting the site and size of a town or "pocket" but most significantly in building the light rail line that links one pocket to the next."[103]

In contrast to the TND approach advocated by Duany, therefore, the Pedestrian Pocket is predicated upon two major and fundamentally important concepts: those of a direct linkage to a collective transport system, and the provision of significant local employment opportunities (specifically back-office service industries). It combines the 19th-Century idea of the inter-urban rail accessed suburb with Ebenezer Howard's concept of a semi-autonomous community. And, unlike the TND, it emphasizes the functional aspects of buildings and planning, versus more formal (and aesthetic)

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[103] Reordering the Suburbs, Op. Cit., pg. 88.

considerations: "... the specific style of buildings in each precinct matters very little, and a diversity of ... types is actually encouraged".[104]

In theory, people are not necessarily expected to work in the same cluster in which they live, but are to have that option. A network of pockets built in the suburban territory would create opportunities throughout a transit region, thus the Pedestrian Pocket is very much the antithesis of a self-sufficient town. Pockets are intended to balance growth in a developed metropolitan region; a constellation of small clusters versus a few large towns. In this way, each would be realized sooner, each would be more varied from the next, and would encourage participation by a broad range of developers, much like how town-extension (subdivision) projects pre-1945 projected the diverse character of the city out into the country. And, like the town-extension projects, residents would see themselves as both citizens of the cluster and of the larger region, versus residents of a semi-autonomous town.

Calthorpe argues that to build a town versus a pocket would be too onerous a proposition: "... in the United States, New Towns have proved to be financially too demanding for private sector developers. The massive cost of infrastructure and its long gestation period drives New Towns costs beyond the staying capacity of non-public institutions".[105] Calthorpe points to the examples of Reston, Virginia, and Columbia, Maryland, as exemplars of the New Town problem. Reston went through several "*owners*" before it came to be considered financially viable. He cites the examples of Sweden and England as being the only tenable way to realize New Towns, owing to strong centralized governments. Calthorpe also criticizes new towns for being too isolated and sterile, a product of their size and lack of history. Calthorpe beliefs that by creating a highly diversified, high employment concentration community, and by having a minimum 5,000 population (enough to support a school), it would be possible to obtain an active place, one where it would be economically viable to house large numbers of amenities (i.e., restaurants, cafes, bookstores, etc.) that would thrive off the daytime employee population.

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[104] Reordering the Suburbs, Op. Cit., pg. 88.

[105] Kelbaugh, Doug. Op. Cit., pg. 4.

Calthorpe also proposes the 100-acre size as a maximum as it corresponds to the typical subdivision "*increment*" which a developer would engage. By its smaller size, it "... never gets too far ahead of market demand or creates massive front-end infrastructure costs."[106] Pedestrian Pockets would be zoned for a broad cross section of uses within the "*transit area*"; market forces would dictate what specifically should be built and when.

6.3 NEO-TRADITIONAL PLANNING AND THE TRAFFIC ENGINEER

Advocates of neo-traditional (gridded) town planning argue that traffic engineers are to blame for "... the ills created by conventional suburban development. Long practised principles, such as the three level street hierarchy (local-collector-arterial) and 30-foot wide streets, coupled with low densities and segregated uses, create communities that are better suited to cars than to people".[107]

In order to determine the "*efficiency*" of neo-traditional (gridded) versus contemporary community planning, a study was undertaken. The travel miles in the neo-traditional prototype "... amounted to only 57 percent of those travelled in the conventional development. More direct routing of trips, made possible by the gridded street network, is credited with the reduction. Heavier reliance on local streets as major routes, instead of just for property access, resulted in a reduction of traffic on arterials alone by 10 to 20 percent."[108]

The study found "... lower travel speeds under the traditional patten but slightly higher travel times in the conventional development. Reduced speeds are due to narrower street widths and on-street parking. One would expect reduced speeds to cause travel times to increase, but shorter travel distances in the traditional grid get drivers to where they are going in roughly the same amount of time. The slightly higher travel times experienced in the conventional development pattern are caused by the greater number of traffic signals, which, due to the absence of arterials and collectors, are installed

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[106] Kelbaugh, Doug. Op. Cit., pg. 5.

[107] PAS Memo, American Planning Association, November, 1990.

[108] Ibid.

at many fewer intersections in a traditional grid."[109]

With respect to safety, a study conducted by the National Association of Industrial and Office Parks "Development Magazine" determined that: "One school of thought argues that on-street parking provides a necessary buffer between pedestrians and cars. The other claims that on-street parking is particularly hazardous to children who, despite warnings dating back to the invention of the street, often neglect to look both ways before crossing and sometimes dash out from between parked cars. The article argues that there is no statistical evidence to show that accidents rates are different for local streets than for major arterials. But reduced trips through major intersections, reduced travel overall, and lower travel speeds - all of which are found with a traditional grid pattern - are factors that would suggest a safer environment for car passengers and pedestrians."[110]

With respect to the land area consumed by streets, the neo-traditional development consumed "... 25 percent of the gross land area, versus 22 percent in the conventional development. This may put into question the neo-traditionalist's contention that the cost of infrastructure in these towns is significantly cheaper, at least in terms of roads."[111]

While these analyses indicate how the neo-traditional development might be expected to "perform", certain questions remain. If the TNDs are not adequately connected one to the next and to the neighbouring context, then while "... the success of the gridded, nonhierarchical street pattern may help internal circulation ... it could easily break down between villages."[112]

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[109] PAS Memo, American Planning Association, Op. Cit.

[110] Ibid.

[111] Ibid.

[112] Ibid.

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8.0 APPENDIX

8.1 TRADITIONAL NEIGHBOURHOOD DEVELOPMENT (TND): REGULATORY CODES*

1. *The Regulating Plan*. This drawing fixes, with technical precision, the information which is more loosely rendered in the Master Plan. It identifies the street types which are shown in the Street Sections, and shows the public tracts reserved for squares, parks, and civic buildings. It also shows the platting of the private building lots and assigns their corresponding building types.

2. *The Urban Regulations*. This matrix regulates those aspects of the private building types which pertain to and help form the public realm. It is different from conventional zoning codes not only in format, but also in that, rather than being general proscriptive, it is specifically prescriptive. For example, all buildings must place a specified percentage of their street facades on a common frontage line, and parking is relegated to the rear of the lots to avoid discontinuities in the street frontage. Social issues are addressed also: for example, outbuildings with rental apartments on single family lots are encouraged, to provide a range of ages and income levels in all housing districts. The Urban Regulations encourage the provision of certain building elements which influence social behaviour such as stoops, porches and garden walls.

3. *The Architectural Regulations*. This matrix regulates configurations, materials, and techniques of construction. The configuration controls are intended to produce harmony among buildings. The control of materials and methods encourages new buildings to relate to the history, geography and climate of the place. Because urban quality can be enhanced by architectural coherence, but is not necessarily dependent on it, the Architectural Regulations range from the strictly deterministic, as in Windsor, to the liberal, as in Avalon.

   Only private buildings are subject to the provisions of the Urban and Architectural Regulations, since private buildings are the material used to define public spaces. Public buildings, on the other hand, are monuments intended to be differentiated from this basic material.

4. *The Street Types*. This drawing depicts the character of the public spaces. The intention is to make places where pedestrians feel safe and comfortable, as well as to provide for adequate automobile movement. The proportion of building height to street width is clearly specified, together with the width of travel and parking lanes, the alignment of trees, and the sidewalk width. The variations are related to the intended urban or rural character of the street as much as to utilitarian concerns. A full range of streets may include highways, avenues, and boulevards to carry regional traffic, streets for high density residential and commercial traffic, roads and lanes for low density residential areas, and service alleys.

5. *The Landscape Regulations*. These specify the planting for streets, squares and parks to support the character of each place. With few exceptions, native species are preferred, and planting on private lots is limited to species selected for drought-tolerance and suitability as habitats for local fauna The choices are limited, and directed toward the goal of achieving a naturalistic reforestation of the town.

Occasionally a summary of standard building types and a plan for a composite block are included to illustrate the Urban Regulations.

8.2 TRADITIONAL NEIGHBOURHOOD DEVELOPMENT (TND): DEVELOPMENT GUIDELINES

Objectives:

To ensure the development of open land along the lines of traditional neighbourhoods. Its provisions adopt the urban conventions which were normal in North America from early settlement times to the 1940s.

Traditional neighbourhoods share the following conventions:

- Dwellings, shops and workplaces, all limited in size, are located in close proximity to each other
- A variety of streets serve equitably the needs of the pedestrian and the automobile
- Well-defined squares and parks provide places for informal social activities and recreation
- Well-placed civic buildings provide places of purposeful assembly for social, cultural and religious activities becoming symbols of community identity
- Private buildings are located along streets and squares forming a disciplined edge unbroken by parking lots.

Traditional neighbourhoods achieve certain social objectives:

. By bringing most of the needs of daily living within walking distance, the elderly and the young gain independence of movement
. By reducing the number and length of necessary automobile trips, traffic congestion is minimized and commuters are granted increased personal time
. By walking in defined public spaces, citizens come to know each other and to watch over their collective security
. By providing a full range of housing types and workplaces, age and economic class are integrated and the bonds of an authentic community are formed
. By promoting suitable civic buildings, democratic initiatives are encouraged and the organic evolution of the society is secured
. Until the advent of postwar zoning ordinances, traditional neighbourhoods were commonplace in Canada Many survive as examples of communities which continue to be practical and desirable today
. The street and pedestrian experience
. Town centres with that "downtown sense of being somewhere". The automobile cannot dominate, reduce use by half
. Grid, as an effective method of distributing pedestrians and traffic.
    - as cul-de-sacs mean privacy, the grid means community
    - through streets are • open ended and democratic"
    - the grid is more accepting of diversity
. "User perception" rather than "designer perception"
. Designing "suburbia" to evolve into the city

8.3 TRADITIONAL NEIGHBOURHOOD DEVELOPMENT (TND): TRAFFIC ENGINEERING PRINCIPLES

- Grid pattern for streets, resulting in multiple available routes from one point to another within the development

- Reduced street widths to accommodate only two 10-foot traffic lanes, with adjacent eight-foot parking aisles on both sides, and no additional right-of-way to widen the streets later

- Reduced or nonexistent hierarchy of streets

- Reduced clearance between the street and objects on the sidewalk, such as benches, trees, etc.

- On-street parking to buffer pedestrians and to enclose and help define the streetscape

- Traffic-signal cycles of no more than 60 seconds (typical cycle at arterial intersections are 120 to 150 seconds) and those only the two-phase type (i.e., no left-turn arrows)

- Reduced curb radii to 10 feet or less to lower the speed of turning cars and to reduce the amount of time necessary for pedestrians to cross the street

8.4 SUMMARY OF SALIENT FEATURES OF THE TRADITIONAL NEIGHBOURHOOD DEVELOPMENT (TND)

1. Concept:

Traditional Neighbourhood Development (TND): Produced by architects Andres Duany and Elizabeth Plater-Zyberk, the TND standards prescribe measures to help create traditional communities with town squares, a grid system, and other elements of neo-traditional planning. The TND standards are meant to substitute for traditional zoning rules and regulations that often do not allow the form of community envisioned by neo-traditional planners.

2. Grid

Streets are to be laid out within a TND so that no occupied lot is greater than 1 000 feet from a through street nor greater than 450 feet from a neighbourhood street. The average perimeter of blocks formed by the streets is not to exceed 1 500 feet, excluding blocks which are otherwise restricted to larger block sizes by natural topography, wetland or bodies of water. Street layouts should be generally rectilinear with "deformations" as may be physically proper to adapt to topography, natural conditions, or to afford vista terminations.

3. Connections and Linkages

There shall be a continuous network of pedestrian or vehicular alleys generally to the rear of lot within the TND, and all streets must terminate at other streets or at public land within a TND and provide connections to existing or proposed streets outside a TND where practical. Street and pedestrian way design shall be done to minimize pedestrian crossings at through streets, and lot layout and pedestrian way design shall ensure pedestrian access to all lots.

4. Public Realm

The primary building entrances for commercial establishments shall generally open to the front sidewalk. Streets shall be designed to generally:

- minimize the alteration of natural site features
- improve views of and from buildings and other prominent vistas
- promote active pedestrian way design so it is more convenient and pleasant to walk short distances
- promote the creation of vista terminations

- create safe pedestrian and vehicular circulation

All sidewalk systems are to be handicapped accessible and generally parallel to the streets they adjoin. Street lights shall be provided along all active pedestrian ways at not less than 100 foot intervals.

Street and pedestrian way design shall minimize pedestrian crossings at through streets. Pedestrian crossings shall provide advance tactile warning to motorists.

The primary building entrances for commercial establishments shall generally open to the front sidewalk. Generally, continuous head-in or parallel parking shall be provided all streets where commercial uses are predominate. Parallel parking Is permitted along all other streets.

Depending on the uses allowed in a particular area, a specified percentage of a building's street facade must be located on a build-to line that is coincident with the sideline of the adjacent street. Also, minimum and maximum setbacks established for most building types. For example, an office building located in a so-called Type I area must have 60% of its street facade located on a build-to line that is coincident with the sideline of the adjacent street.

Parking lots and areas shall be located at the side or rear of buildings and are prohibited from being located on a corner lot. All parking lots must be screened.

5. Mixed Use

An essential characteristic of a traditional neighbourhood Is the close proximity of dwellings, shops, and workplaces.

Uses broken down into four major categories. Generally, a variety of uses allowed within same area, except that light industrial uses allowed in only one "zone". Planning commission given wide latitude in permitting other uses that are determined to be in accordance with the intent of the T.N.D.". Gas stations, car washes, and certain other uses allowed only by special permit.

6. Civic Centres, Town Squares

Intent statement specifies essential characteristics of a TND to include civic buildings for assembly, or for other civic purposes, sited to act as visual landmarks and symbols of identity

within the community. Also, a recognizable, functionally diverse, visually unified neighbourhood or town centre that is often focused on a major civic space.

Each development must provide a specified percentage of land for "civic" functions, ranging from 3% to 5%. Civic uses include meeting halls, library, day care centre, and similar uses. Buildings located in civic use areas must be located adjacent to village greens, parks, squares, or at a vista termination.

A lot must be dedicated for a daycare centre for a TND with more than 50 residential units. A community meeting hall must be constructed with an enclosed area of no less than 25 square feet for each residential unit.

Civic buildings have no height limits (vs. three stories for all others).

7. Open Space

Open space areas may be used solely for parks, village greens, squares, and natural areas. No enclosed structure is to be built until certain conditions met, and then the structure must be to further promote the use of the open space area

Construction of open colonnades on open space areas adjoining Type I buildings is permitted. For TNDs greater than 40 100 acres, 20 3096 of the area shall be reserved for open space; for TNDs greater than 100-150 acres, 18-30% of the area shall be reserved for open space; for TNDs greater than 150-200 acres, 15 30% of the area shall be reserved for open space. No hierarchy of open space or uses prescribed.

* Source: Planners Training Services Document, American Institute of Certified Planners, Chicago, 1991.

8.5 SUMMARY OF THE SALIENT FEATURES OF THE PEDESTRIAN POCKET**

1. Concept

The Pedestrian Pocket-Laguna West (California) model: Proposed by Peter Calthorpe and associates, the pedestrian pocket proposes a high-intensity, complete living and working environment located within one-quarter mile of a transit station. Other elements of neo-

traditional planning are also obvious in the pedestrian pocket approach - town squares, landscaped streets, and the like. The Pedestrian Pocket is geared to handle modest increments of growth -- no more than 100 acres with 5,000 houses and jobs for 3,000 people.

2. Grid

The Pedestrian Pocket embraces the grid concept in some variations, but as can be seen in the Laguna West development, cul de sac streets are still a prominent feature. Improving transportation and reducing traffic revolves much more around provision of public transit than reliance on the grid system.

3. Connections and Linkages

The Calthorpe model surrounds its open space network with cul-de-sacs fingering into the neighbourhoods to facilitate automobile access to each home. A segregated pedestrian system makes it possible to walk through the parks to the town centre by crossing only one street. Automobile streets form a network connecting homes to common facilities.

In the Laguna West plan, the town centre is connected to the rest of the community by streets and walking and bicycling trails. Streets flanked by wider walkways. A 30 foot wide landscaped esplanade encircles the lake to provide an attractive walking and jogging trail. Attractive "radial boulevards" connect single-family neighbourhoods with the town centre. They are designed to shade pedestrians, joggers, and bicyclists with double rows of trees.

4. Public Realm

The Laguna West design guidelines establish strict setback requirements to create a comfortable street edge for the pedestrian and to reduce the visual impact of the garage and car in residential areas. Porches or strong entry features facing the street required. Restrictions on front-yard fencing -- 50% must remain open to provide visibility and no more than 3' high.

Street trees required (4' from sidewalk edge) to create a canopy over sidewalk. Tree boxes in parking lanes used to narrow and modify street widths.

5. Mixed-Use

In the Calthorpe model, the transit station and the Town Hall are the only prominent buildings in the pocket, befitting their civic status. Large "back offices" straddle the central place and commercial space while offices above are located on the main street.

Four "market place" buildings line the main street and act as urban pedestrian market plazas and link the housing precincts to the town centre. Retail, mass transit, entertainment and recreation are within a walkable radius. There are three housing districts - two high density clusters, each arranged around a central green with paths leading to the town centre, and a single-family neighbourhood. A hierarchy of open space connects the cluster neighbourhoods to the town and station.

** Source: Planners Training Services Document, American Institute of Certified Planners, Chicago, 1991.

ANDRES DUANY AND ELIZABETH PLATER-ZYBERK APRIL 11, 1991

THE TRADITIONAL NEIGHBORHOOD

There are two patterns for low density urbanism: the Traditional Neighborhood, which was the model in the U. S. from the first settlements to World War II, and Suburban Sprawl which has been the model since. They are similar in their initial capacity to accommodate people and their activities; the principal difference being that the Suburban Sprawl contains environmental, social and economic deficiencies which inevitably choke sustained growth.

The Traditional Neighborhood has the following physical attributes:

*The Neighborhood is a comprehensive planning increment: when clustered with others it becomes a town, when standing free in the landscape, it becomes a village. The Neighborhood varies in population and density to accommodate localized conditions.

*The Neighborhood is limited in size so that a majority of the population is within a 5-minute walking distance of its center (1/4 mile). The needs of daily life are theoretically available within this area. Excellent for medical care, high grade retail, specialized cultural activities and leisure travel.

*The streets are laid out on a grid or network, so that there are alternate routes to every destination. This permits most streets to be smaller, with slower traffic as well as parking, trees, sidewalks and buildings.They are equitable for both vehicles and pedestrians.

*Streets are spatially defined by buildings which enfront the sidewalk in a disciplined manner uninterrupted by parking lots.

*The buildings are various in function, but compatible in size and in disposition on their lots. There is a mixture of houses, large and small, outbuildings, small apartment buildings, shops, restaurants, offices and warehouses.

*Civic buildings (schools, meeting halls, theaters, churches, clubs, museums, etc.) are often placed on squares or at the termination of street vistas. By receiving important locations, these buildings serve as landmarks.

*Open space is provided in the form of specialized squares, playgrounds and parks.

Suburban Sprawl has quite different physical attributes:

*Sprawl is unlimited in size, disciplined only by separate "pods" dedicated to single uses such as "shopping centers", "office parks", and "residential clusters", all of which are inaccessible from each other except by car. Housing is strictly segregated into large clusters of equal cost, hindering socioeconomic diversity.

*Open space is often provided in the form of "buffers", "pedestrian ways", "planters" and other ill-defined residues.

*Vehicular traffic controls the scale and form of space, with streets usually being wide and dedicated primarily to the automobile with parking lots dominating the public space. Civic buildings do not normally receive distinguished sites.

*There is a high proportion of cul-de-sacs and looping streets within each pod, with through traffic possible only by means of few "collector" streets which consequently become easily congested.

*Buildings are often rotated on their lots and set back from streets with the result that spatial definition is lost, thereby destroying the sense of place.

The Traditional Neighborhood has several positive consequences:

*By bringing most of the activities of daily living into walking distance everyone, but especially the elderly and the young, gain independence of movement.

*By reducing the number and length of automobile trips, traffic congestion is minimized, the expenses of road construction are limited, and air pollution is reduced.

*By providing streets and squares of comfortable scale and defined spatial quality, neighbors, walking, come to know each other and to watch over their collective security.

*By providing appropriate building concentrations at easy walking distance from bus stops, public transit becomes a viable alternative to the automobile.

*By providing a full range of housing types and work places, age and economic classes are integrated and the bonds of an authentic community are formed.

*By providing suitable civic buildings and spaces, democratic initiatives are encouraged and the balanced evolution of society is secured.

Suburban Sprawl has several negative consequences:

*By assuming that the people will drive to and from all activities, the need for large streets and parking lots is a self-fulfilling prophecy. The exhaust emissions resulting from such trips are the single greatest source of air pollution in the United States.

*By the construction of an excessive asphaltic infrastructure, the natural landscape is destroyed, with each automobile generating, roadways as well as, a parking place at the dwelling, one at the work place, and one at the shopping center.

*By consigning the bulk of the available public budget to pay for asphaltic infrastructure, the human infrastructure of excellent schools, post offices, fire stations, meeting halls, cultural buildings and affordable housing is starved.

Certain Classes of citizens who suffer particularly from the pattern of Suburban Sprawl include:

*The middle class, which is forced into multiple automobile ownership. The average yearly cost of car ownership is $4,500. which is the equivalent of a $40,000. mortgage payment. The possibility of owning one car less is the single most important subsidy that can be provided towards affordable housing. Furthermore, by forbidding mixed use areas, the investment of personal time in the activity of commuting is mandatory. A person who drives two hours a day spends the equivalent of 8 working weeks a year in the car.

*The young who, below the legal driving age, are dependent on adults for their social needs. They are bused from schools, from which they cannot walk, and isolated with TV at home until their working parents arrive. The alternative is to relegate one parent to a career as the childs's chauffeur. The single family house with the yard is a good place for childhood only if it is structured as part of a Neighborhood, where the child can walk or bicycle to school, to play, to the store, to the movies and to friends.

*The elderly, who lose their self-sufficiency once they lose their drivers' licenses. Seniors who may continue to live independently within a Neighborhood are consigned to specialized retirement communities in sprawl.

Suburban Sprawl usually accommodates the correct balance of work places, living places, schools and open space, in what appears to be proximity, However proximity is not enough; the detailing of the public space to accommodate the pedestrian is also necessary:

*Buildings must be aligned along streets and squares. The current fashion of staggering or rotating buildings hinders the creation of public space defined by the buildings.

*Trees along streets must also be aligned in a disciplined manner. This is particularly important to remedy spatial definition when over-large setbacks cannot be avoided. Picturesque planting patterns should be reserved for parks and squares, not for streets and avenues.

*Parallel parking must be provided on most streets. A layer of parked cars psychologically protects the pedestrians from traffic. Parking lots, when they are needed, should be placed to the rear of buildings to avoid the gaps which make sidewalks uninteresting to walk along. House lots, if less than fifty feet wide, should be provided with alleys so that garage doors do not overwhelm the street facades.

*At intersections, the radius at the curb should not exceed 15 feet to maintain a viable pedestrian crossing distance and to reduce the speed of automobiles making the turn.

*High capacity streets within urbanized areas should have the geometry of avenues and not of highways. Highways are unpleasant for pedestrians, and deteriorate adjacent building value,while avenues are compatible with buildings and people. Highways should be reserved for the countryside and built free of strip development.

In a Traditional Neighborhood affordable housing occurs naturally and in a highly integrated manner. This is achieved by the following means:

*The affordable housing looks like the market-rate housing, using similar exterior materials, windows, and building forms. Affordable housing is not segregated, and never clustered in large numbers. A good ratio is one affordable to ten market-rate units.

*Housing is provided above retail establishments. This type of dwelling can be provided for the cost of construction alone, as the cost of land can be assigned to the retail component of the buildings.

*Garage apartments or cottages are available in backyards of single family houses. These rental units of limited size, provide extremely affordable housing interspersed with market-rate housing. This also allows teenagers to stay at home, and the elderly to live with their families.

Current codes monitor only traffic flow, parking counts, the segregation of building use and the safeguard of wetlands. New codes must be written that include effective provisions for the human habitat, in all its complexity.

TRADITIONAL NEIGHBOURHOOD DESIGN

Development Guidelines

Intent

To ensure the development of open land along the lines of traditional neighbourhoods. Its provisions adopt the urban conventions which were normal in North America from early settlement times to the 1940's.

Traditional neighbourhoods share the following conventions:

- Dwellings, shops and workplaces, all limited in size, are located in close proximity to each other
- A variety of streets serve equitably the needs of the pedestrian and the automobile
- Well-defined squares and parks provide places for informal social activities and recreation
- Well-placed civic buildings provide places of purposeful assembly for social, cultural and religious activities becoming symbols of community identity
- Private buildings are located along streets and squares forming a disciplined edge unbroken by parking lots

Traditional neighbourhoods achieve certain social objectives:

- By bringing most of the needs of daily living within walking distance, the elderly and the young gain independence of movement
- By reducing the number and length of necessary automobile trips, traffic congestion is minimized and commuters are granted increased personal time
- By walking in defined public spaces, citizens come to know each other and to watch over their collective security
- By providing a full range of housing types and workplaces, age and economic class are integrated and the bonds of an authentic community are formed
- By promoting suitable civic buildings, democratic initiatives are encouraged and the organic evolution of the society is secured
- Until the advent of postwar zoning ordinances, traditional neighbourhoods were commonplace in Canada. Many survive as examples of communities which continue to be practical and desirable today

THE TRADITIONAL NEIGHBORHOOD DEVELOPMENT ORDINANCE (T.N.D.)

A new zoning ordinance

The congested, fragmented, unsatisfying suburbs and the disintegrating urban centers of today are not merely products of laissez-faire nor of the inevitable results of mindless greed. They are thoroughly planned to be as they are: the direct result of zoning and subdivision ordinances zealously administered by planning departments.

America since the war is largely the result of conventional subdivision and planned unit development (P.U.D.) ordinances. If the results are dismaying, it is because the model of the city being projected is dismal. These ordinances dictate three criteria for urbanism: the free and rapid flow of traffic, parking in quantity, and the rigorous separation of uses, with the result that car traffic which has become the central, unavoidable, experience of the public realm.

The traditional pattern of walkable, mixed-use neighborhoods has been inadvertently proscribed by these ordinances. Thus, designers find themselves in the ironic situation of being forbidden from building in the manner of our admired historic places. One cannot propose a new Annapolis, Marblehead, or Key West, without seeking substantial variances from current codes.

The TND Ordinance restores that option by prescribing the following physical conventions:

1. The neighborhood area is limited in size, and physically articulated with clear edges and a focused center.

2. Shops, workplaces and residences, for all income groups, are provided and located in close proximity.

3. Streets are sized and detailed to serve equitably the needs of the automobile and the pedestrian.

4. Buildings are controlled in size and disciplined to spatially define streets and squares.

5. Squares and parks are distributed throughout and designed as specialized places for social activity and recreation.

6. Well-placed civic buildings act as symbols of identity and provide places of purposeful assembly.

These physical conventions pursue certain social objectives:

1. By a compact organization, infrastructure is minimized, automobile use and pollution is decreased and public transit is made viable.

2. By providing a full range of housing types and workplaces, all age groups and economic classes are integrated and the bonds of authentic community are formed.

3. By providing habitable public places, citizens come to know each other and watch over their collective security.

4. By providing most of the activities of daily life within walking distance, the elderly and the young gain independence of movement.

5. By providing suitable civic buildings, democratic initiatives and the balanced evolution of society are encouraged.

Land Use

General

The TND Option shall constitute an overlay district available by right where current zoning allows any use except industrial.

The TND Option requires a minimum contiguous parcel of 40 acres and a maximum of 200 acres. Larger parcels shall be developed as multiples, individually subject to the TND provisions below.

The developer of the TND shall demonstrate availability and adequacy of access roads and utilities.

Public

Public tracts contain publicly owned parks, squares, greenbelts, streets and alleys.

Civic

Civic Lots contain publicly or privately owned buildings of communal use such as Neighbourhood Halls, libraried, post offices, schools, day care centers, clubhouses, religious buildings, recreational facilities and the like.

Shopfront

Shopfront lots contain privately owned buildings for retail, restaurant, office entertainment, lodging, artisanal and residentail use.

Rowhouse

Rowhouse lots contain privately owned buildins for residential, limited office and limited lodging uses.

House

House lots contain privately owned buildings for residential, limited office and limited lodging uses.

Workshop

Workshop lots contain privately owned buildings for automotive and light manufacturing.

Land Allocation

General

The entire land area of a TND will be subdivided into public tracts and lots

Similar lot types will generally enfront across street tracts. Dissimilar lot types may enfront across square and and park tracts or abut at rear lot lines.

Public

A minimum of 15% of the land area of a TND shall be permanently allocated to Park or Square tracts.

Natural vistas such as waterfront and promontories shall hve 50% of their perimeter allocated to Street Tracts

Golf courses shall be located within greenbelt tracts.

Civic

A minimum of 5% of the land are of a TND shall be allocated to Civic Lots.

Civic lots shall be located within or adjacent to Square or Park tracts or on a street vista.
The developer shall convenant to construct a neighbourhood hall on a civic lot upon the sale of 75% of the lots.
The construction of buildings on a civic lot shall be supported by an ongoing assessment through the Homeowner's association.
For each increment of 50 dwellings, there shall be a civic lot of 5000sq. ft. reserved for day care use and dedicated to public ownership.

Shopfront

A minimum of 5% and a maximum of 50% of the total land area of a TND shall be permanently dedicated to Shopfront Lots.

Rowhouse

A Maximum of 8 Rowhouse lots may be consolidated for the purpose of constructing a single apartment building containing dwellings equal in number to the lot consolidated.

Setbacks on consolidated Rowhouse lots shall apply as in a single lot.

House

A maximum of three House Lots may be consolidated for the purpose of constructing a single building.
Setbacks on consolidated House Lots shall apply as in a single lot.

Workshop

A minimum of 5% and a maximum of 25% of the total land area of a TND shall be permanently dedicated to Workshop Lots.

LOTS/BUILDINGS

General
All Lots shall share a Frontage Line no less than 15 ft. long with a Street or Park Tract.
All buildings shall have their main entrance opening on to a Street or Park Tract.
Stoops, open colonnades and open porches may encroach up to 10 ft.into the front setbacks.
Portions of buildings having a footprint of not more than 150 sq. ft. shall be exempted from height limitations.
Building wallsplaced less than 5 feet from a side or rear lot line shall remain sindowless and doors shall be fire rated.

Public

Balconies and open colonnades shall be permitted to encroach up to 10 ft. into a Public Tract. Such encroachments shall be preceeded by easements.

Civic

Buildings located on Civic Lots shall be subject to no height or setback limitations.
Buildings located on Civic Lots shall be painted a consistent colour throughout the TND.

Shopfront

Buildings on Shopfront Lots shall have the Facade built directly on the Frontage Line along 60% of its length.
Buildings on Shopfront Lots shall have no required setbacks from the side lot lines.
Buildings on Shopfront Lots shall cover no mre than 70% of the lot area.
Buildings on Shopfront Lots shall not exceed 4 stories in height.

Rowhouse

Buildings on Rowhouse Lots shall be setback between 5 and 15 ft. from the Frontage Line. Buildings at street intersections must be setback 5 ft. from both Frontage Lines.
Buildings on Rowhouse Lots shall have no required setbacks from the side lot lines.
Buildings on Rowhouse Lots shall cover no more than 70% of the lot area.
Buildings on Rowhouse Lots shall not exceed 3 stories plus raised basement in height.

House

Buildings on House Lots shall be setback between 15 and 35 feet from the Frontage Line.
Buildings on House Lots shall be setback from the side lot

lines equivalent to no less than 20% of the width of the lot. The entire setbakc may be allocated to one side.
Buildings on House Lots shall be setback no less than 20 ft. from the rear lot line.
Buildings on House Lots shall cover no more than 50% of the lot area.
Buildings on House Lots shall not exceed 2 stories plus attic in height.
Buildings on House Lots with front setbacks exceeding 20 ft. shall have a Streetwall built along 80% of the Frontage Line.

Workshop

Buildings on Workshop Lots shall not require setbacks from any lot line.
Buildings on Workshop Lots shall cover no more than 50% of the lot area.
Buildings on Workshop lots shall not exceed 2 stories in height.
Workshop Lots shall be separated from other lot types at the side and rear lot line by a continuous masonry wall no less than 10 ft. in height.

UNPLANNED SUBURB (1850-1940)

- Grid Pattern
- Mixed Use
- Cars and pedestrians share common rights-of-way
- Integrated with the city
- Set in opposition to nature
- Linear public spaces
- Diversity of land use
- Encourages private enterprise small builders and developers

PLANNED SUBURB (1940-present)

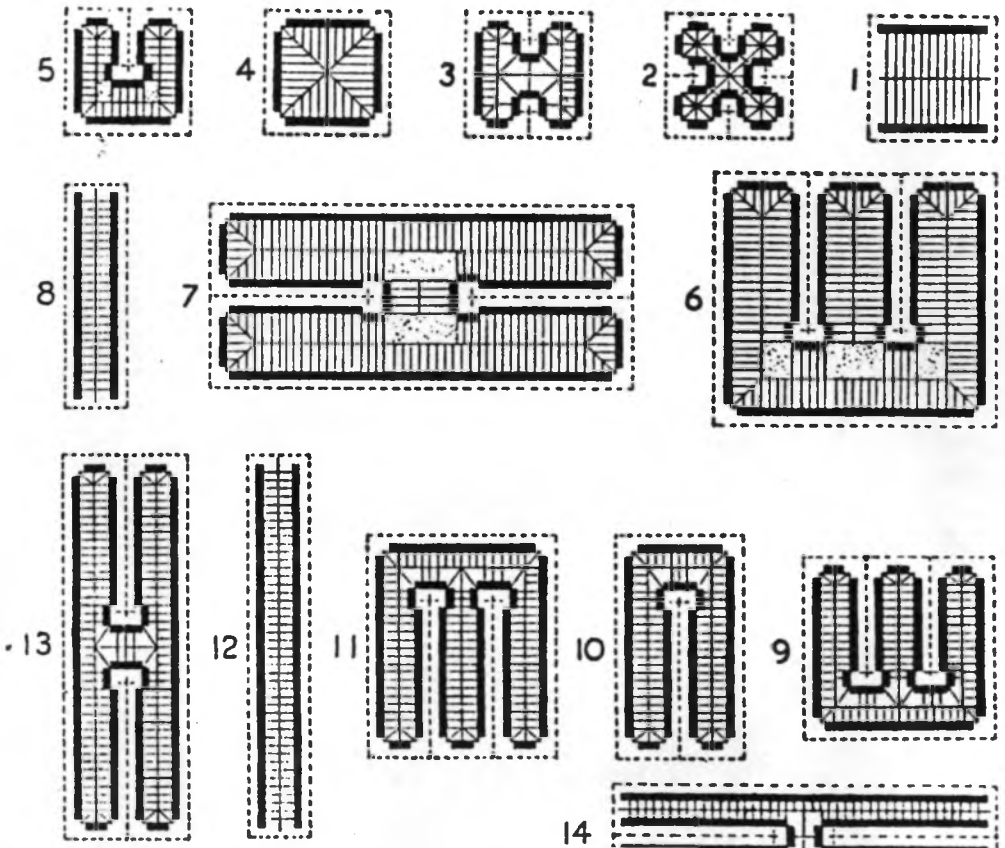
- Curvilinear pattern
- Zoned use
- Cars and pedestrians separated
- Separted from the city
- Technology integrated with nature
- Nodal public spaces
- Land-use restricted
- Encourages corporate development

Source: John van Nostrand

TABLE 1: MAJOR PHASES OF URBAN AND REGIONAL GROWTH: CANADA. 1945-1990

Period	Early post-war 1945-1964	Later post-war 1965-1978	Recent 1978-1990
Geographical Trend/ Scale	Urban boom and Concentration	Deconcentration and Decline	Reconcentration and Revitalization
National Economic and Demographic Systems	rapid population growth; high fertility (baby boom), high immigration; economy booming	declining rate of growth; lower fertility and immigration; intense economic restructuring, service-led growth and manufacturing decline	slower population growth; stable natural increase; aging population; service economy dominates growth, selective manufacturing revival
Level of Urbanization and Urban/Rural Balance	rapid increase in % urban; rural farm decline	stabilizing level (%); rural farm decline, rapid non-farm growth	stable level (76%); rapid rural farm decline, slower non-farm rural growth
Regional and Urban Systems	rapid growth in industrial heartland and selected resource locations; some growth almost everywhere	slower growth in heartland; rapid growth in many resource regions; decline elsewhere	renewed growth in heartland; slower growth in the west and resource periphery; decline widespread; retirement/leisure regions boom
Urban Size Hierarchy	massive concentration in metropolitan areas; most cities grew, relative decline of small towns	slower metropolitan growth; middle size cities growing rapidly (deurbanization); selective growth of small towns	modest metropolitan revival; city size influences growth; widespread small town decline, except in urban commuting fields and leisure areas
Intraurban Form and Development Patterns	highest growth in suburban areas; inner cities declining; slow growth on rural-urban fringe	rapid decentralization; outer suburbs and exurbs growing rapidly; jobs spreading to suburbs; core jobs increase, but pop. declines	continued rapid decentralization; outer suburbs and rural-urban fringe booming; downtown growth accelerates; central areas stable or growing slowly

Source : CMHC



No.	DEPTH BACK COVE (FEET)	ROAD FRTGE (FEET)	HOUSES	FRTGE PER HOUSE (FEET)	SIZE OF BLOCK (ACRES)	DENSITY HOUSES PER ACRE	COST PER HOUSE ROAD (40-FT)	LAND (£750PA)	TOTAL (£)
1	170	1760	86	47·7	4·858	5·35	270·9	140·8	411
2	55	2720	45·3	60·5	4·858	9·33	248	80·4	328
3	55	2220	42·6	52·1	4·858	8·77	208·4	85·5	293·9
4	170	1760	40	44	4·858	8·23	176	91·1	267·1
5	58	2220	51	43·5	4·858	10·5	174	71·4	245·4
6	110	6250	180·6	34·5	22·01	8·21	138	91·3	229·3
7	110	6760	198	34·1	24·04	8·24	136·4	91	227·4
8	55	2040	50·6	40·1	4·382	11·55	160·4	65	225·4
9	55	4460	121	36·9	10·770	11·23	147·6	66·7	214·3
10	55	3700	100·3	36·9	8·765	11·44	147·6	65·6	213·1
11	55	5360	151·3	35·4	13·167	11·61	141·6	65·1	206·7
12	55	3320	90	35·8	7·497	12·01	143·2	62·4	205·6
13	55	6100	176	34·7	15·101	11·65	138·3	64·4	202·8
14	38	5860	174	33·7	12·103	14·21	134·8	52·8	187·6
15	55	5360	216	24·8	13·147	16·43	99·2	45·6	144·8

SCALE IN FEET 0 200 400

The drawings in Fig. 84 are numbered in descending order of the combined cost of land and roads. A glance at the table will show, however, that the separated amounts for land and roads do not descend in the same order. For example, in the case of No. 8, the cost of road per house is higher than for Nos. 6 and 7, though the total cost is lower because the density is much higher. Conversely the cost of land in No. 9 is higher than in No. 8, though the latter's total cost is higher.

It is also interesting to find that road costs do not fall as densities rise in any regular way.

Road and Infrstructural Cost Comparison
Source: Anthony Sutcliffe, Towards the Planned City

movement and quiet areas far from major highways. Second, the layout fosters social interaction among its residents, which may lead to local social identity. Residents may use the common green area for recreation and leisure and should be responsible for its maintenance. Green areas in this layout may be stretched along the backyards of houses to form a special pedestrian pathway between the boundaries of the superblocks and thus improve their environmental quality. This leads to greater marketability and land value.[14]

The clustered layout offers further advantages over the grid and curvilinear layouts. This form allows mixed land uses not available in the other designs. Costs of constructing and maintaining infrastructure, utilities, and streets are lower than for conventional layouts.[15] The clustering decreases the length of streets and with it the amount of paved surface. Therefore, rainfall as runoff is less and may enrich groundwater. The reserved green areas may foster a country environment and lead to reserved woodlands not available in conventional patterns.[16] For a comparison of a conventional subdivision and a clustered layout on equal parcels see Table 8.3 and Figure 8.16.

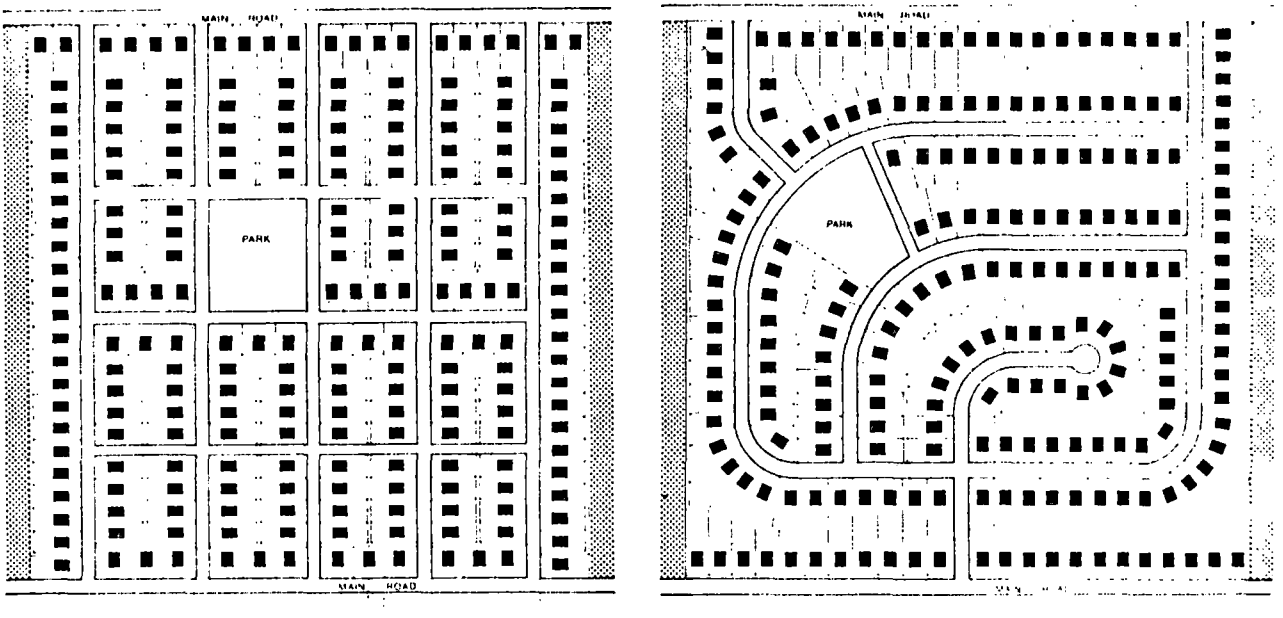
TABLE 8.3 COMPARISON OF LAND USE IN A CONVENTIONAL SUBDIVISION AND A CLUSTERED LAYOUT OF EQUAL SIZE

	Conventional Subdivision	Cluster Subdivision
Acres in streets	32	24
Linear feet of street	22,500	16,055
Percent of site in street	29	19
Acres in building sites	80	41
Dwelling units	590	604
Acres of usable open space	0	51

Source: *Cluster Development.*

Density. A major goal of the residential area is to create an attractive atmosphere where people will be active during the day as well as at night, and this requires diverse land use. Each residential unit within a neighborhood should have convenient access to nearby recreational facilities, shopping areas, medical services, neighborhood centers, schools, and offices such as banks and loan services. By providing local space for recreational and other services the new town prevents overloading of transportation corridors while it makes minor services readily available for its inhabitants.

In a new-town center or in designated sections within a neighborhood, mixed density may be desirable to bring together a mixed population and justify economically the variety of immediate services. Thus apartments, high-rise buildings, and single detached



A: GRID B: CURVILINEAR

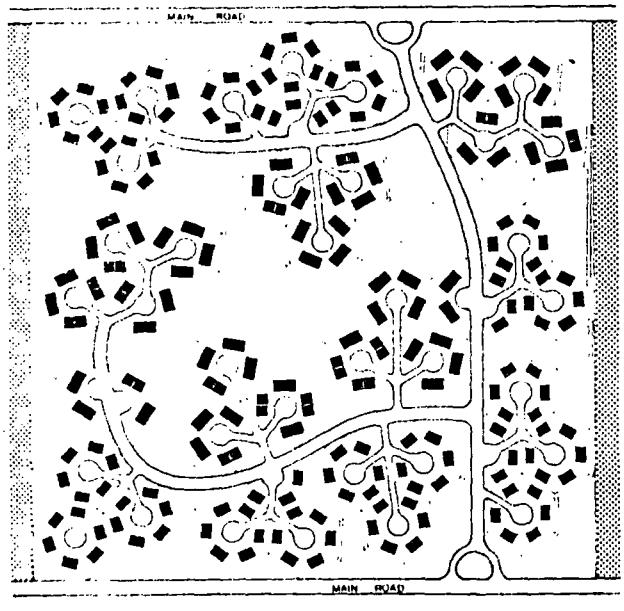
Figure 8.16. Comparison of three alternative designs for a 50-acre site.

nits may also meet the housing needs of various oups, such as single people, young married couples, lderly, or low-income people. (See Figure 4.7.)

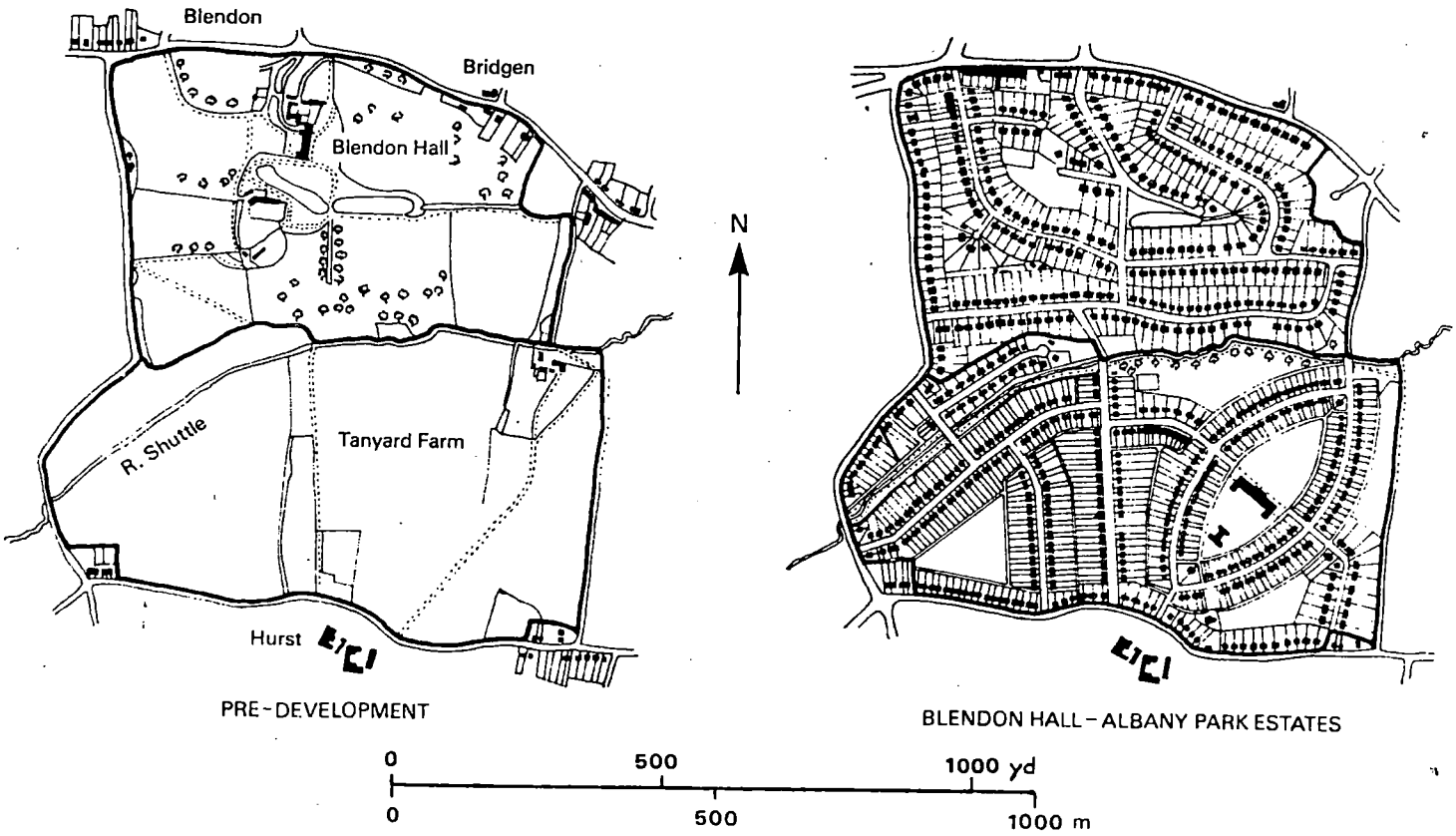
To insure that the positive features of residential lensity are maintained, the residential land-use plan nust contain provisions for zoning restrictions, laws, nd regulations as well as for community education, to levelop and maintain a positive community image. If he members of the community have a clear idea of the alue and importance of density for the quality of life within their community, they themselves will control lensity. (See Figure 8.17.)

A recent comparative study between a prototypic, high-density development of 70 percent apartments and 30 percent townhouses and a development of single-family residences, of which 75 percent were layed out in a grid and 25 percent were clustered, revealed that the high-density pattern saves 44 percent of the capital investment cost of the low-density development. "The largest cost savings are for housing construction, although significant savings are also found for roads and utilities (55% lower in high-density 'planned' than low-density 'sprawl') and land consumption."[17] The cost share of a local government in constructing services in a high-density prototype is less than that in low-density sprawl construction.

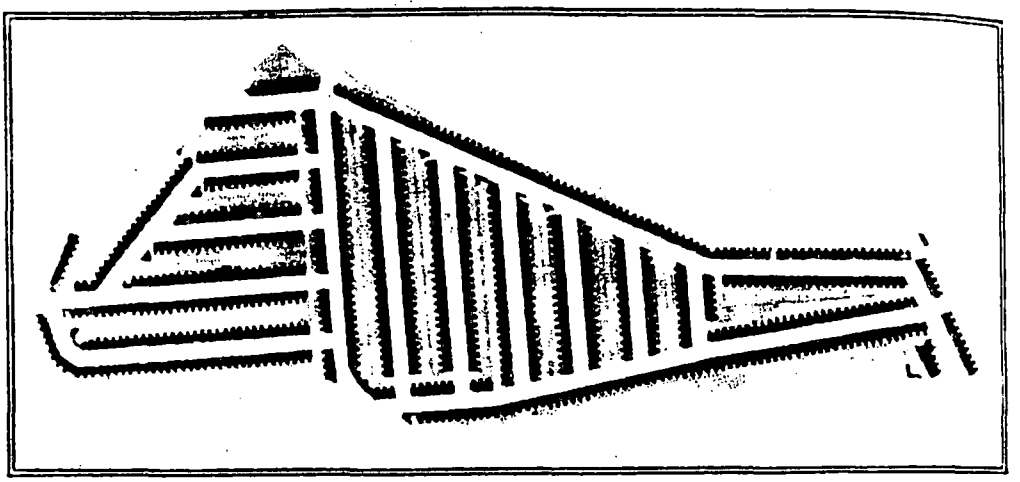
Planned high density generates less air and water pollution than low density does since they "use less energy per unit." The study found that "overall reduction in air pollution emissions from home energy consumption and transportation is 45%." Energy used in high-density dwellings is less than that in low-density sprawl, and the saving in consumption may even be 14 percent, resulting from reduced use of gas and electricity and transportation demand. In a well planned, high-density development, saving in energy may reach 44 percent.[18]



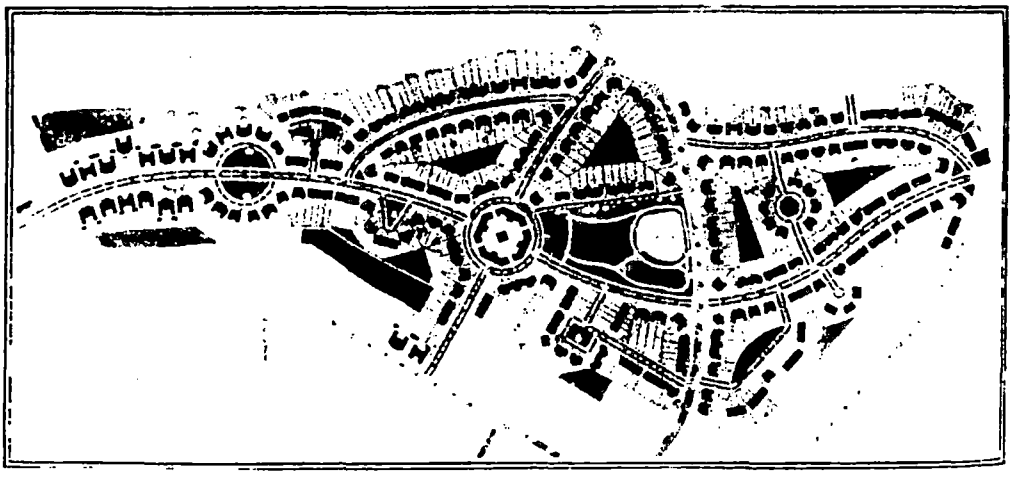
C: CLUSTER



The loss of a cherished landscape
Source: Anthony Sutcliffe, Towards the Planned City

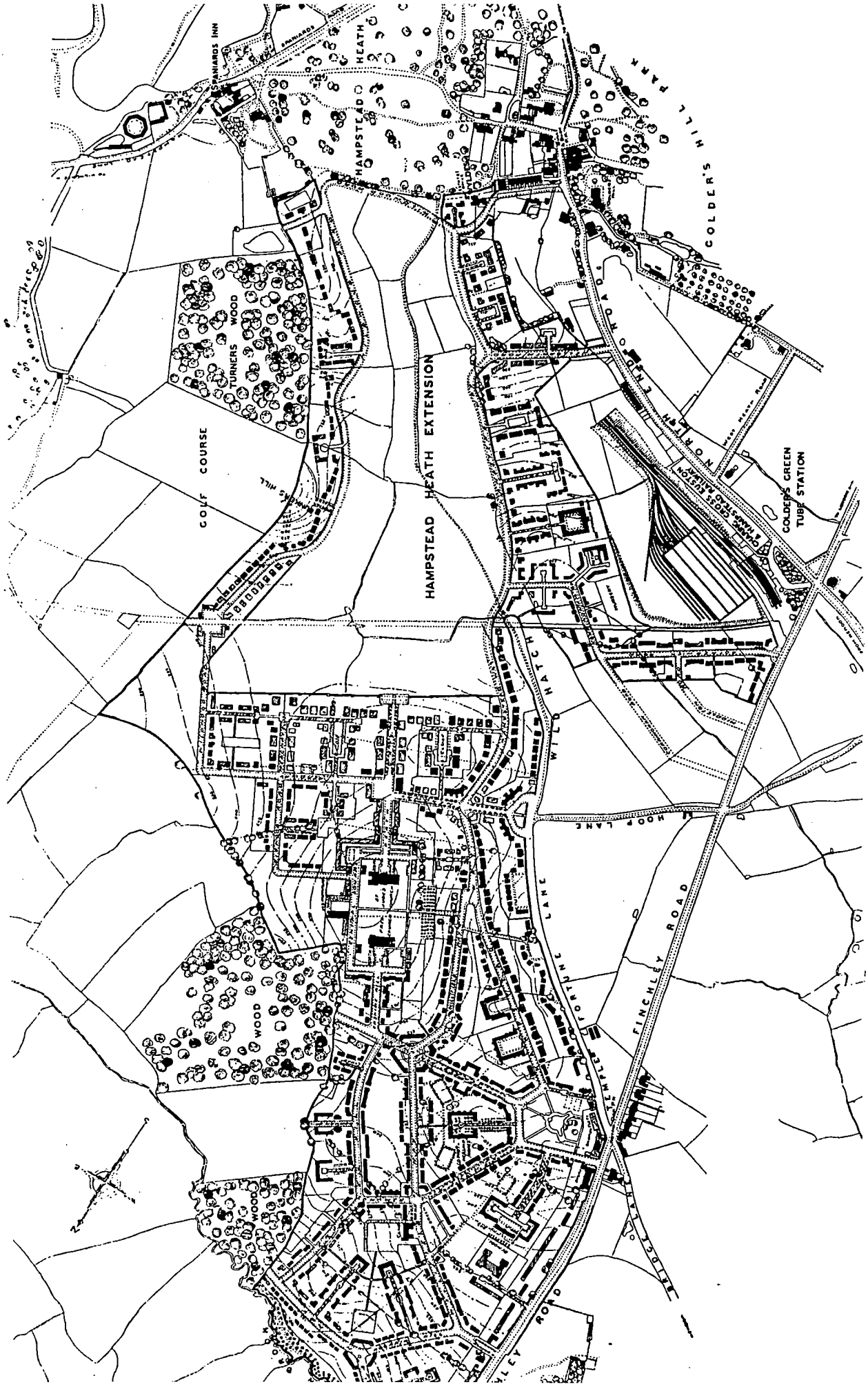


ORDINARY TYPE OF SITE PLAN, SHOWING 40 HOUSES PER ACRE

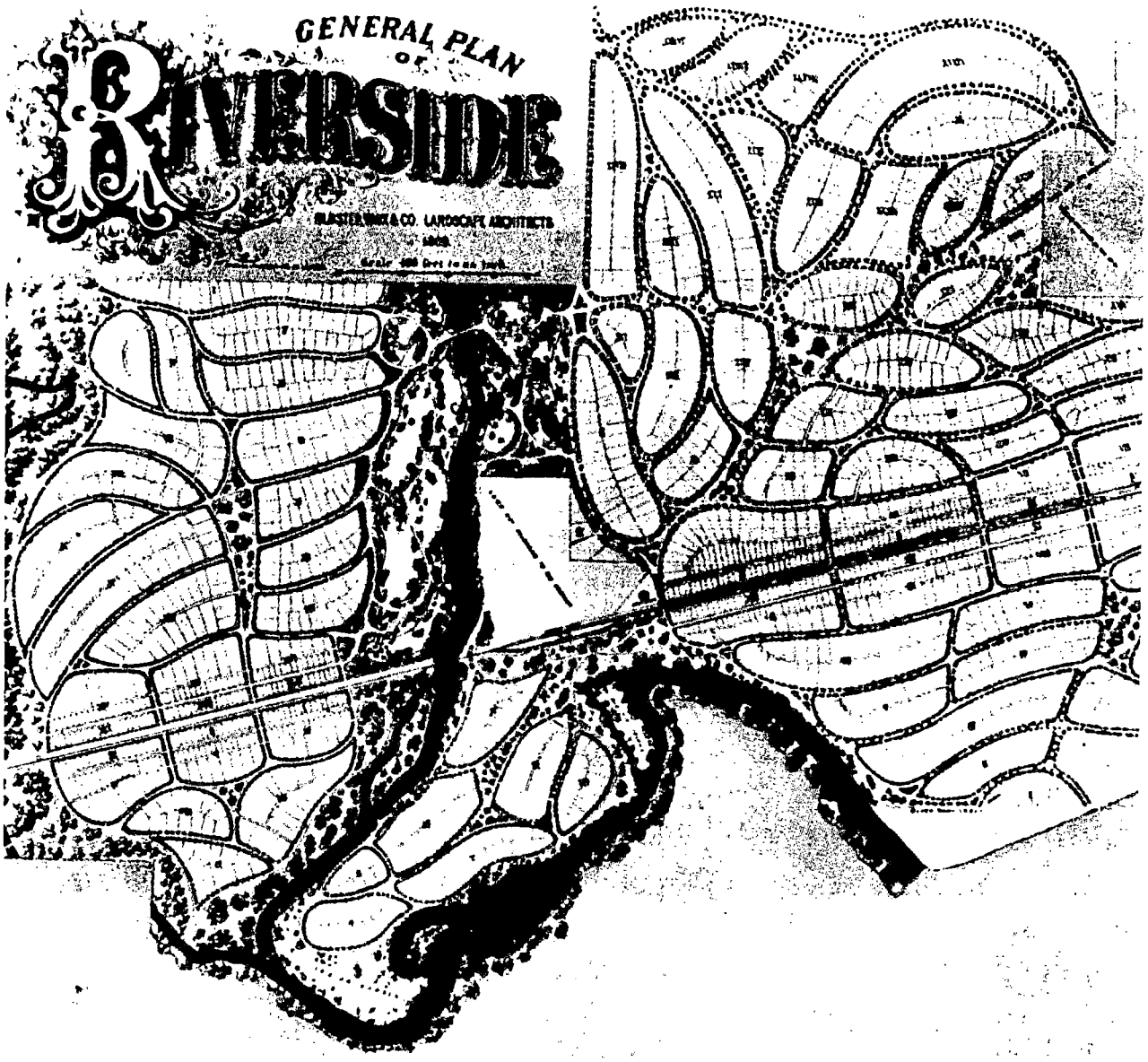


SITE PLAN OF HABBORNE TENANTS SHOWING 10 HOUSES PER ACRE

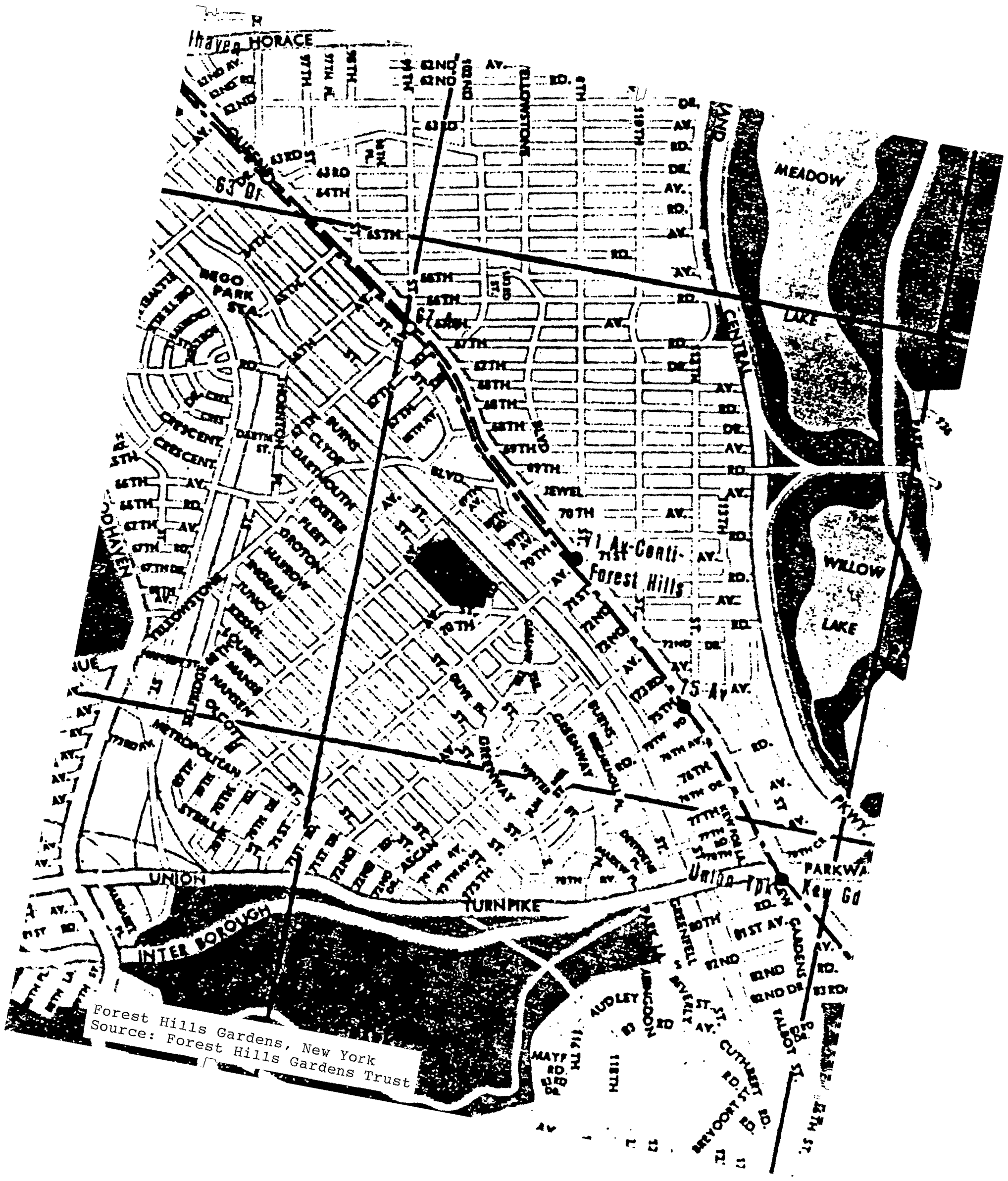
The Bylaw Plan versus a lower density landscape architecture plan
Source: Anthony Sutcliffe, Towards the Planned City



Hampstead Garden Suburb, London, England
Source: Hampstead Garden Suburb, A Conservation Study

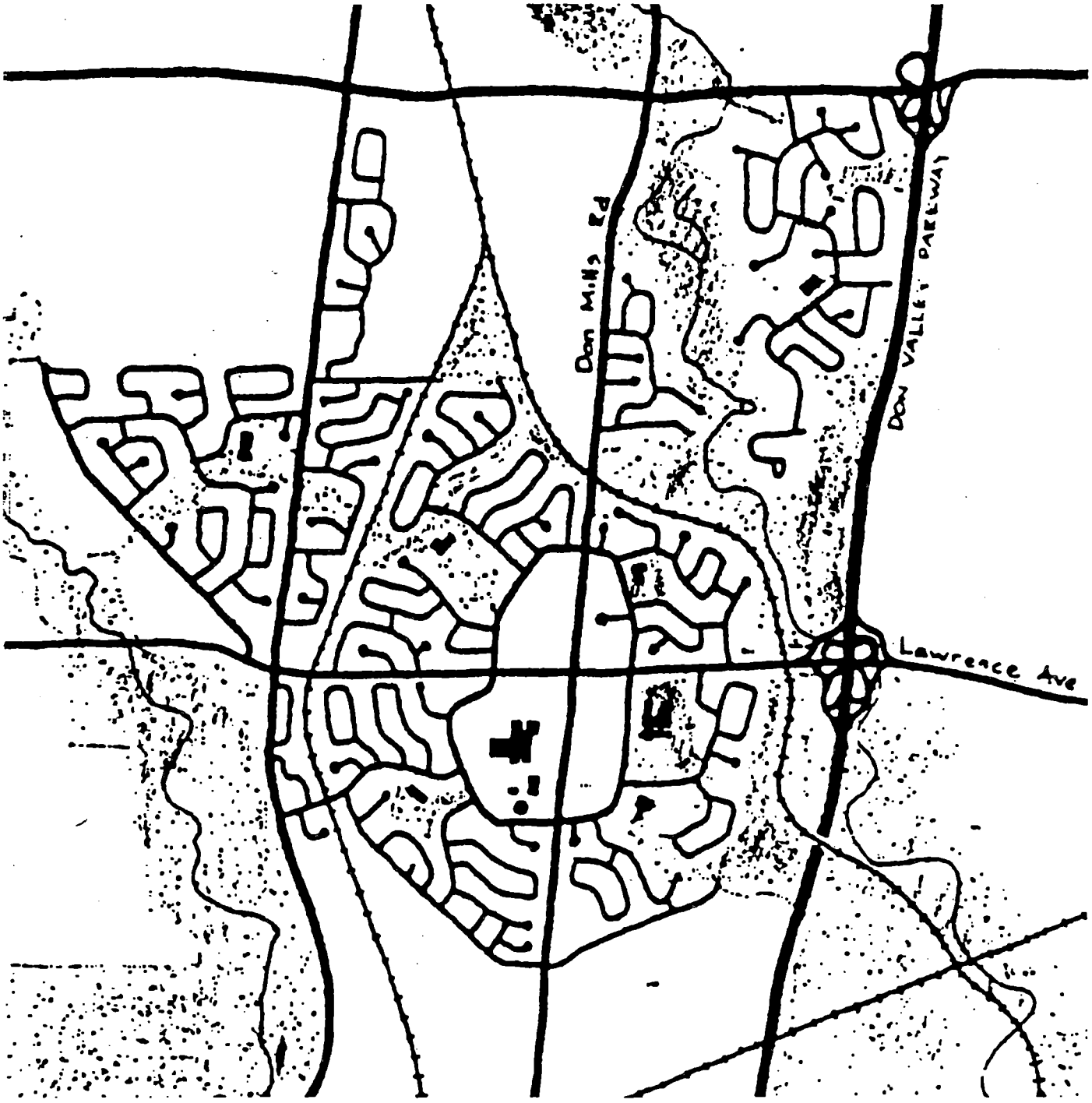


Riverside, Illinois
Source: John Stilgoe, Borderlands

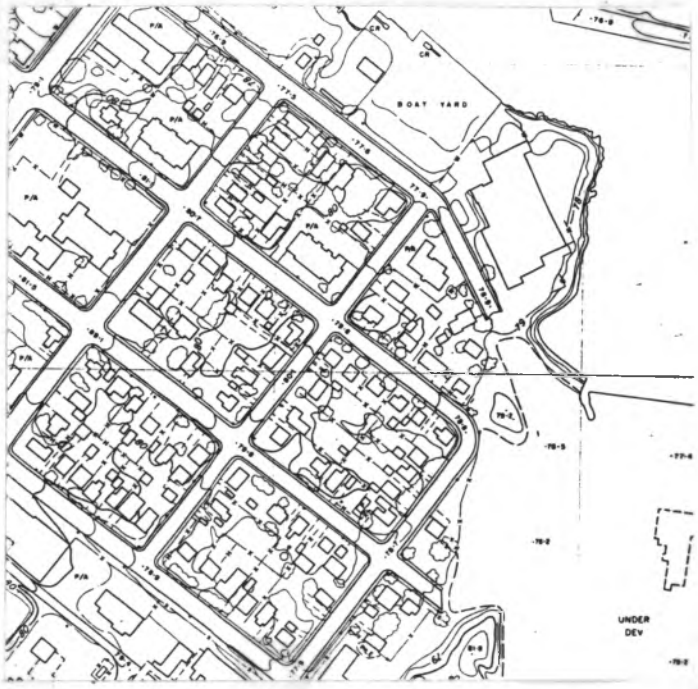


Forest Hills Gardens, New York
Source: Forest Hills Gardens Trust

Radburn, New Jersey
Source: Manfredo Tafuri, Modern Architecture/1



Don Mills, Ontario
Source: John van Nostrand, A New Approach to Seaton



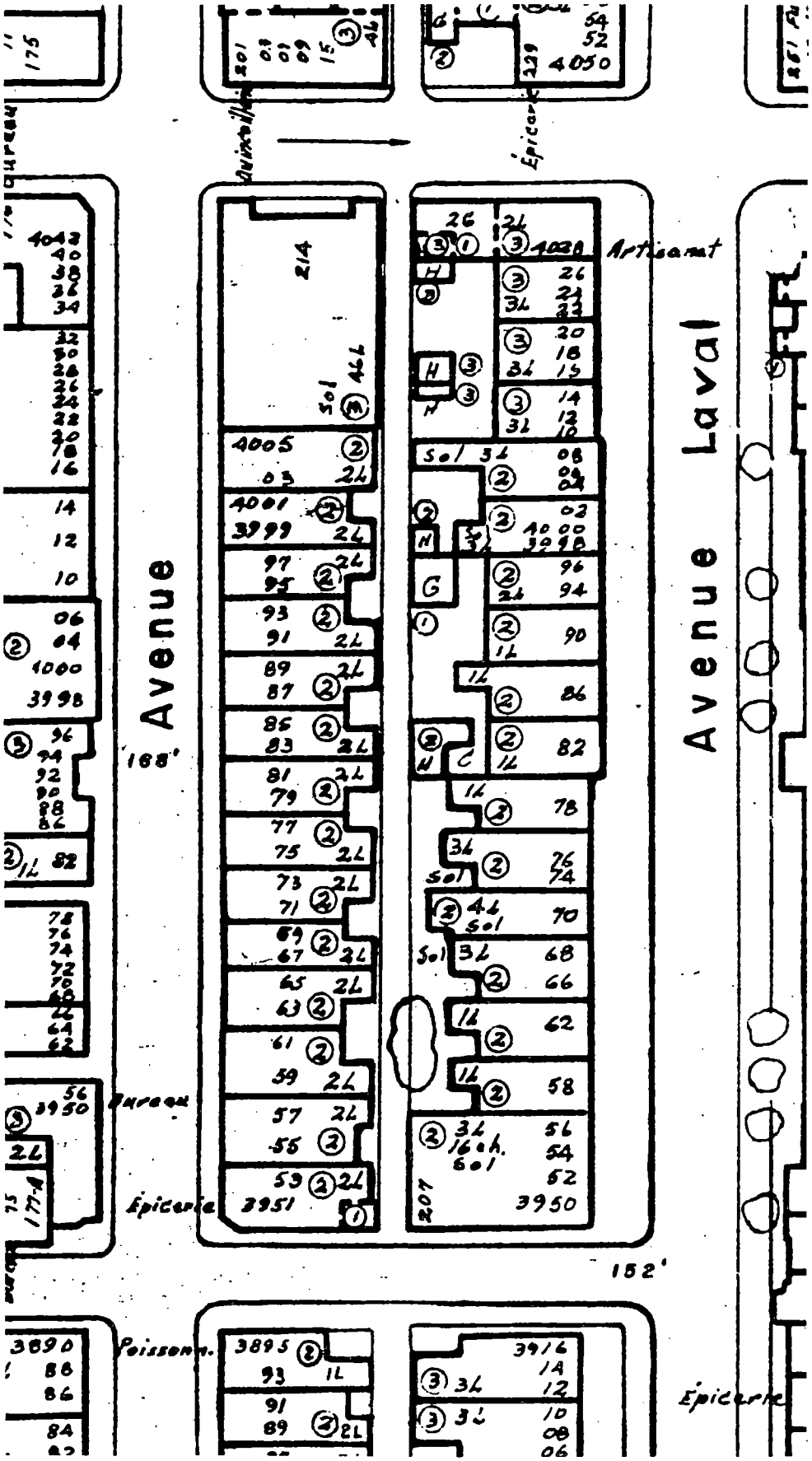
Circa 1900

Circa 1920

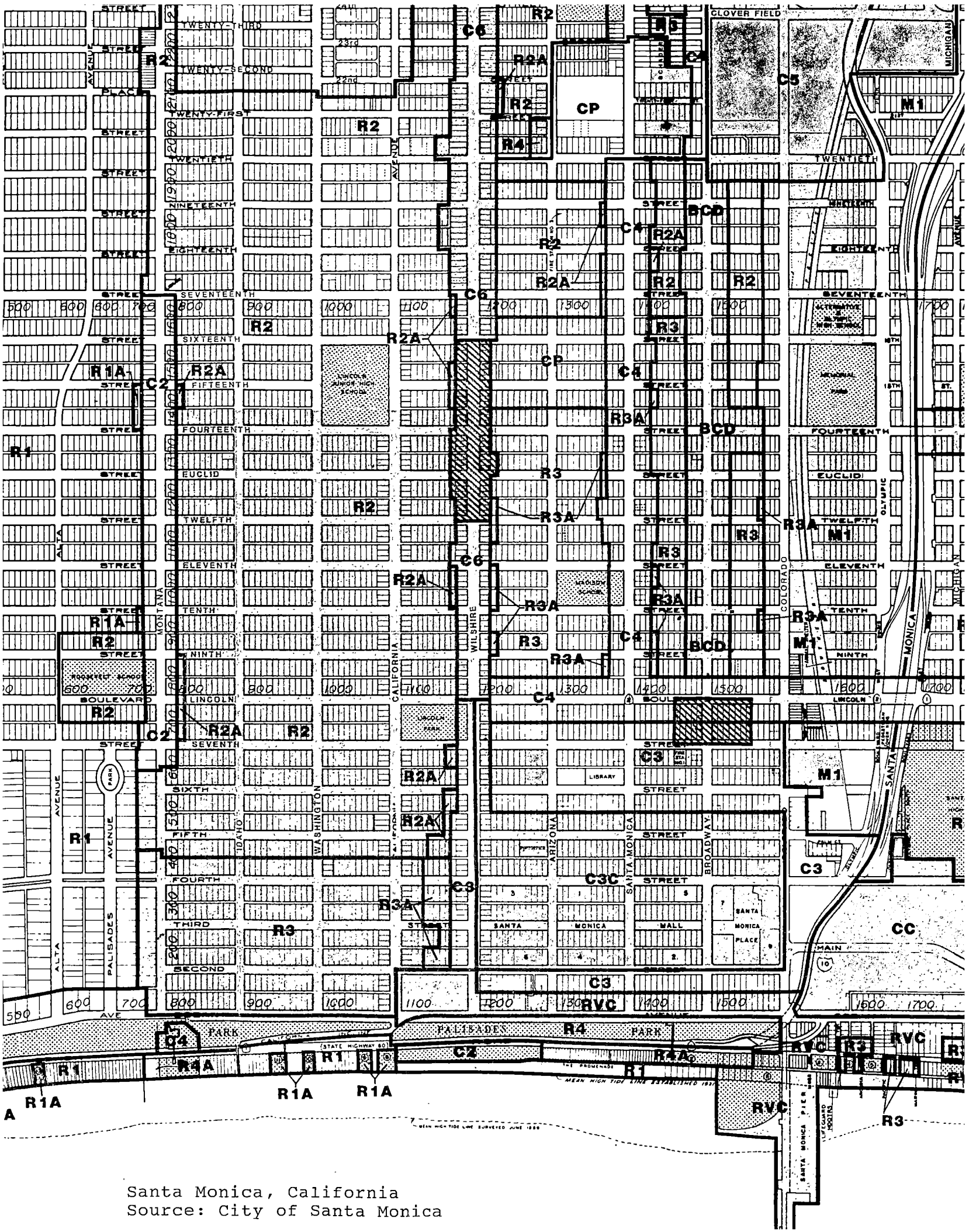
Circa 1960

Circa 1980

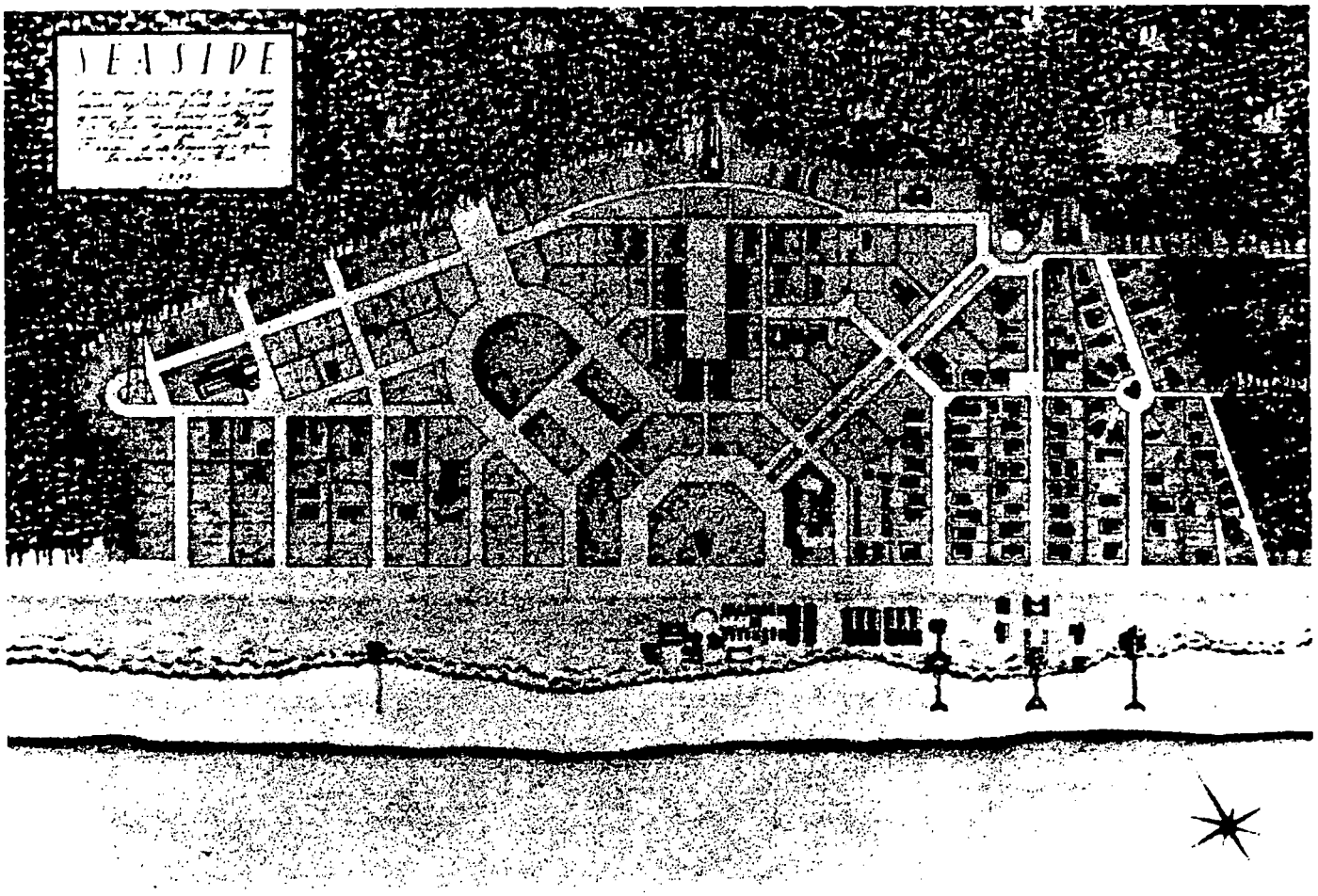
Evolution of the morphological structure of suburban Mississauga
Source: City of Mississauga



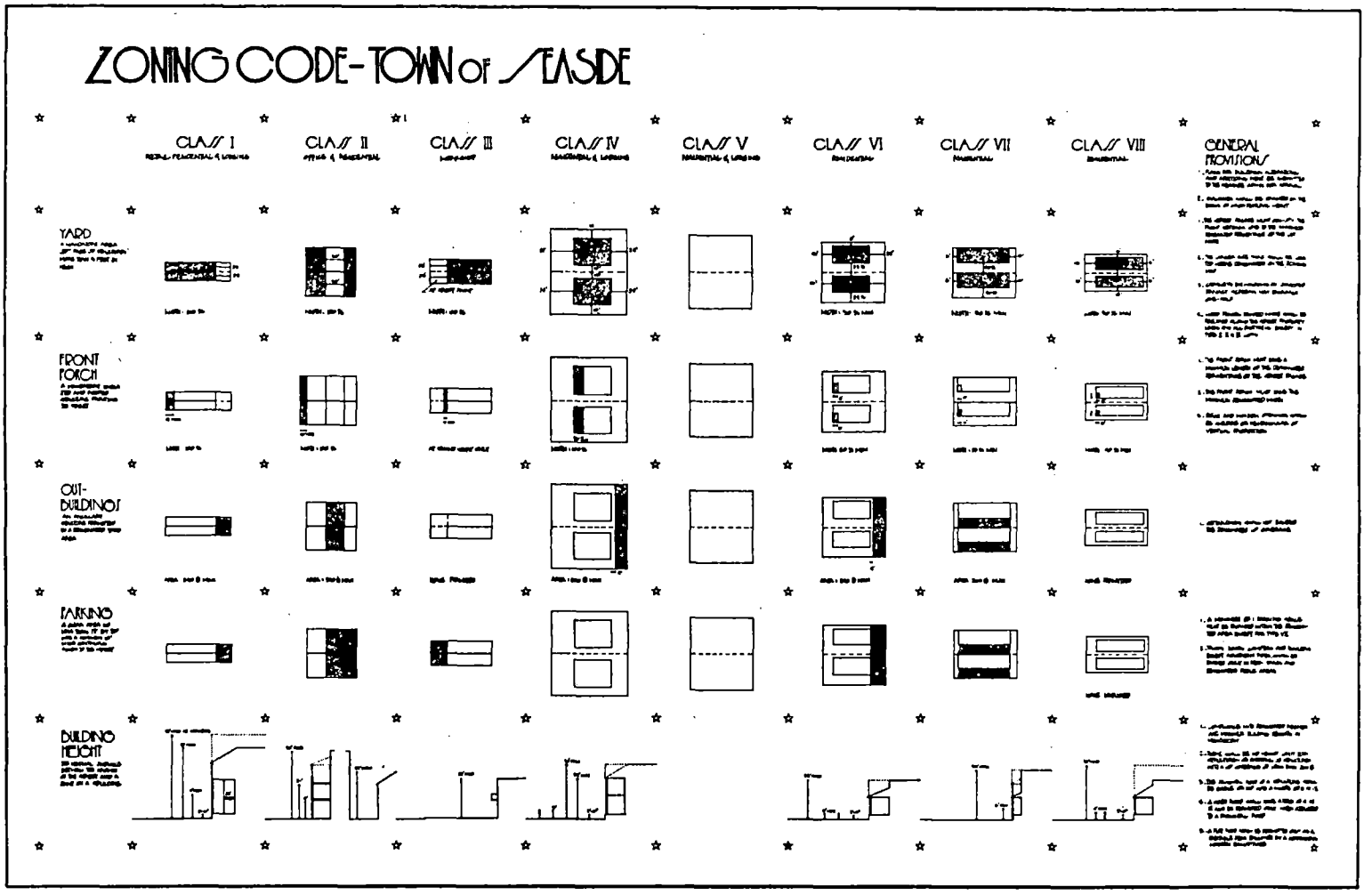
Block Structure, Montreal
Source: Ville de Montreal

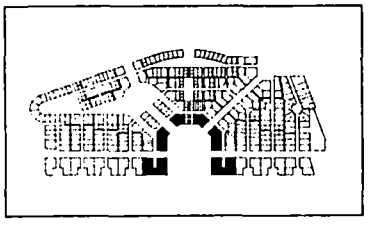


Santa Monica, California
Source: City of Santa Monica



Plan of Seaside
Source: Andres Duany, Towns and Town Making Principles





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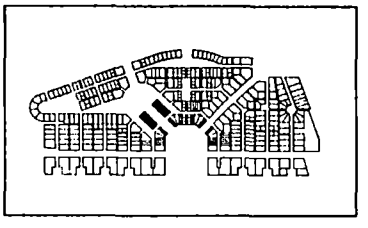

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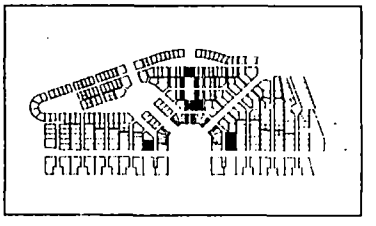

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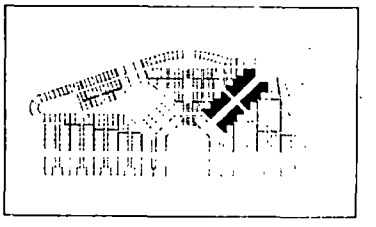

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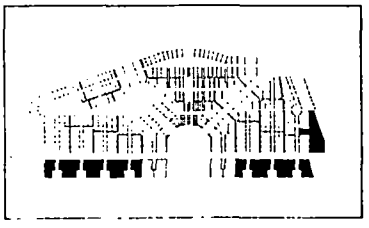

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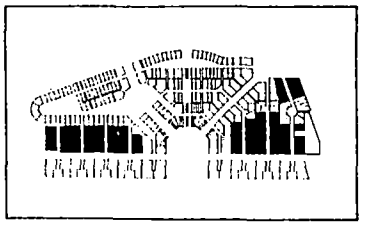

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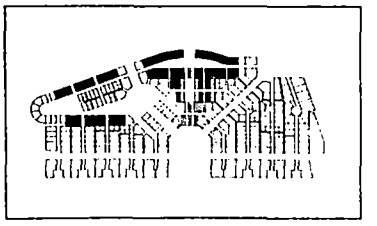

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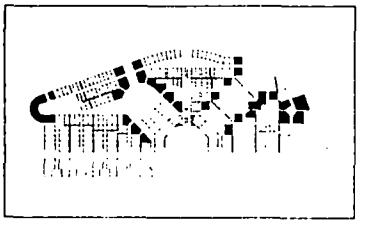
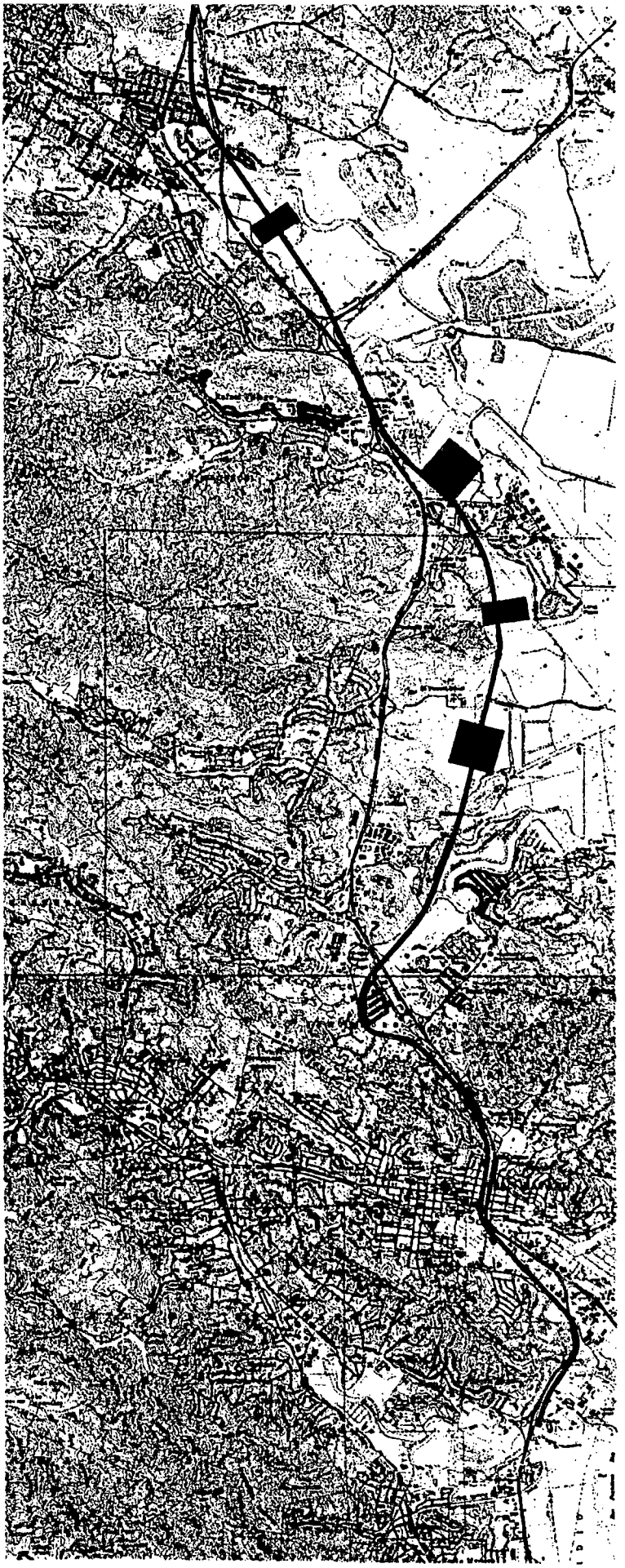


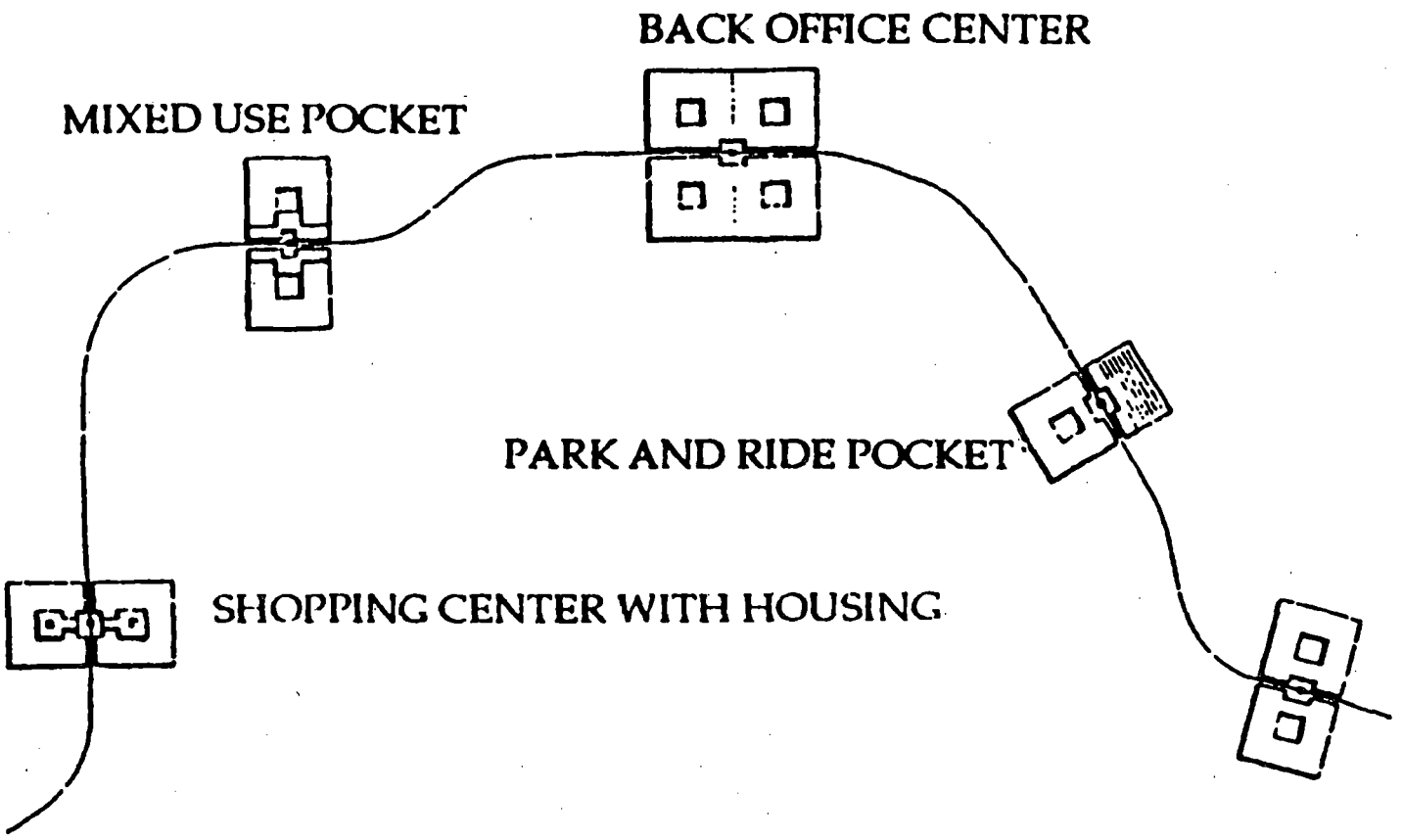
VIII

Zoning Code for Seaside, Florida
Source: Andres Duany, Towns and Town Making Principles

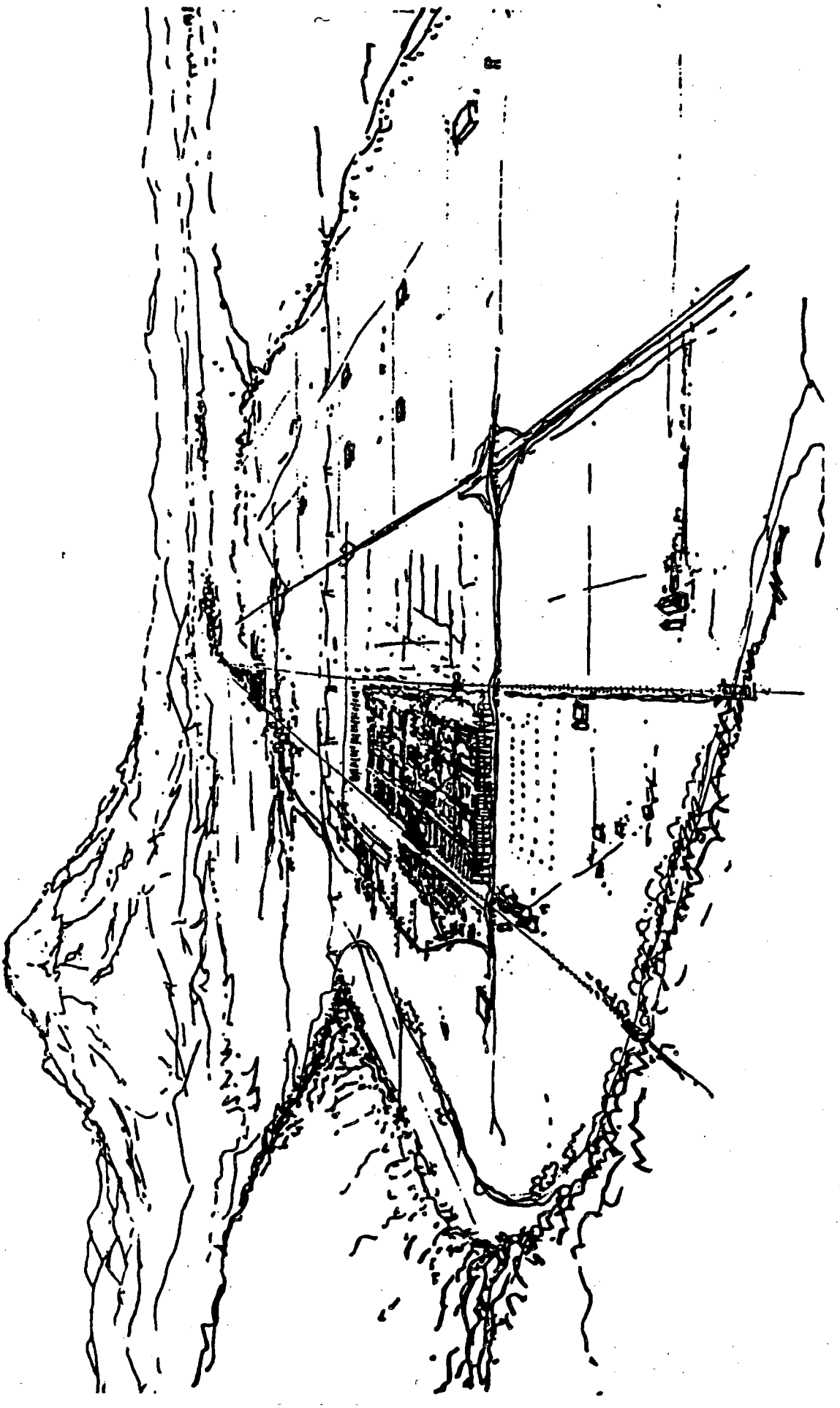


An example of Pedestrian Pocket growth projected for Marin County in California. The map shows an abandoned railroad right-of-way which can be converted into a light rail system connecting the new growth with existing major towns and a ferry to San Francisco. The four Pockets shown to scale would accommodate fifteen years of the county's projected growth.

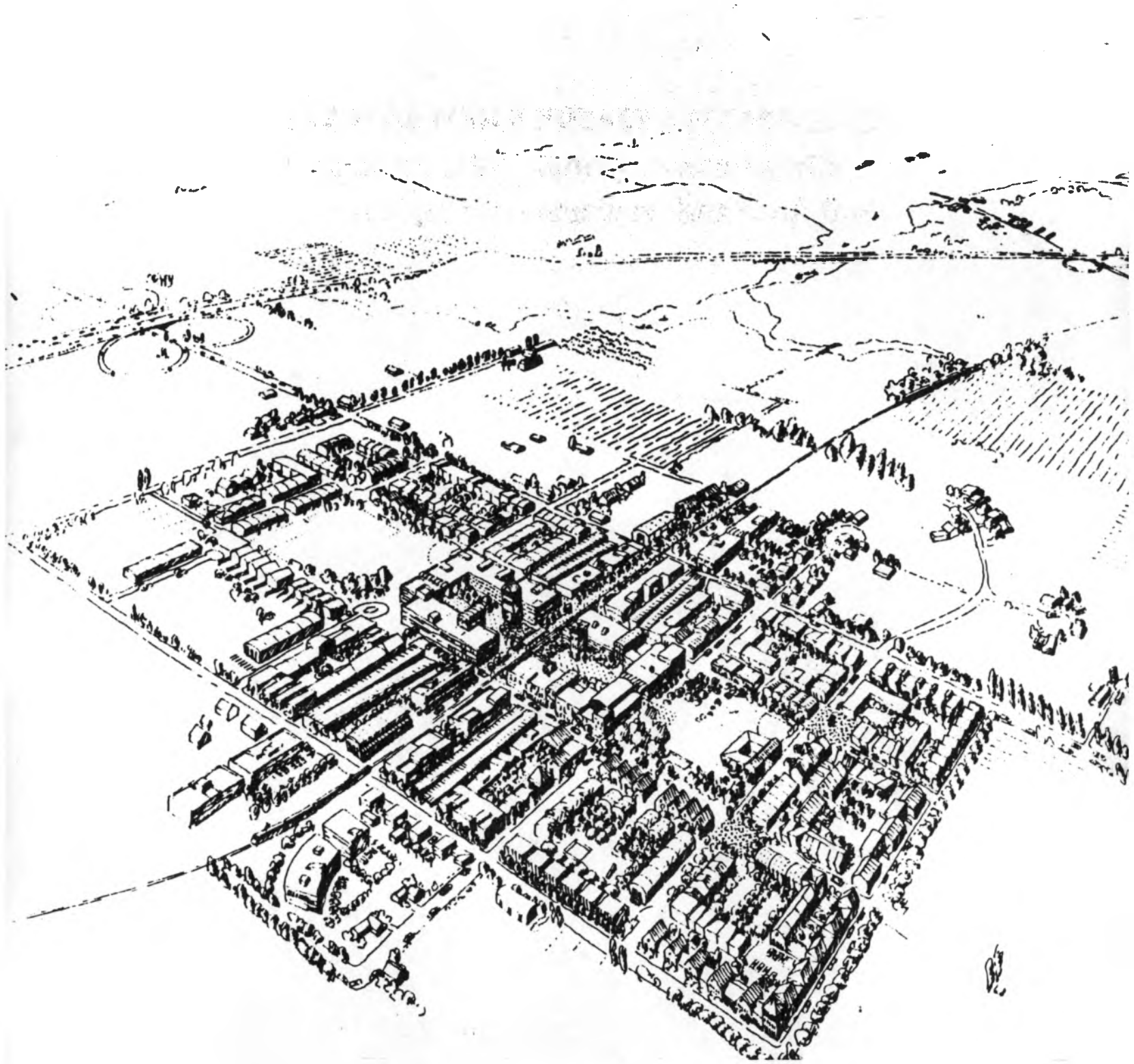
Pedestrian Pocket Metropolitan Plan
Source: Doug Kelbaugh, The Pedestrian Pocket Book.



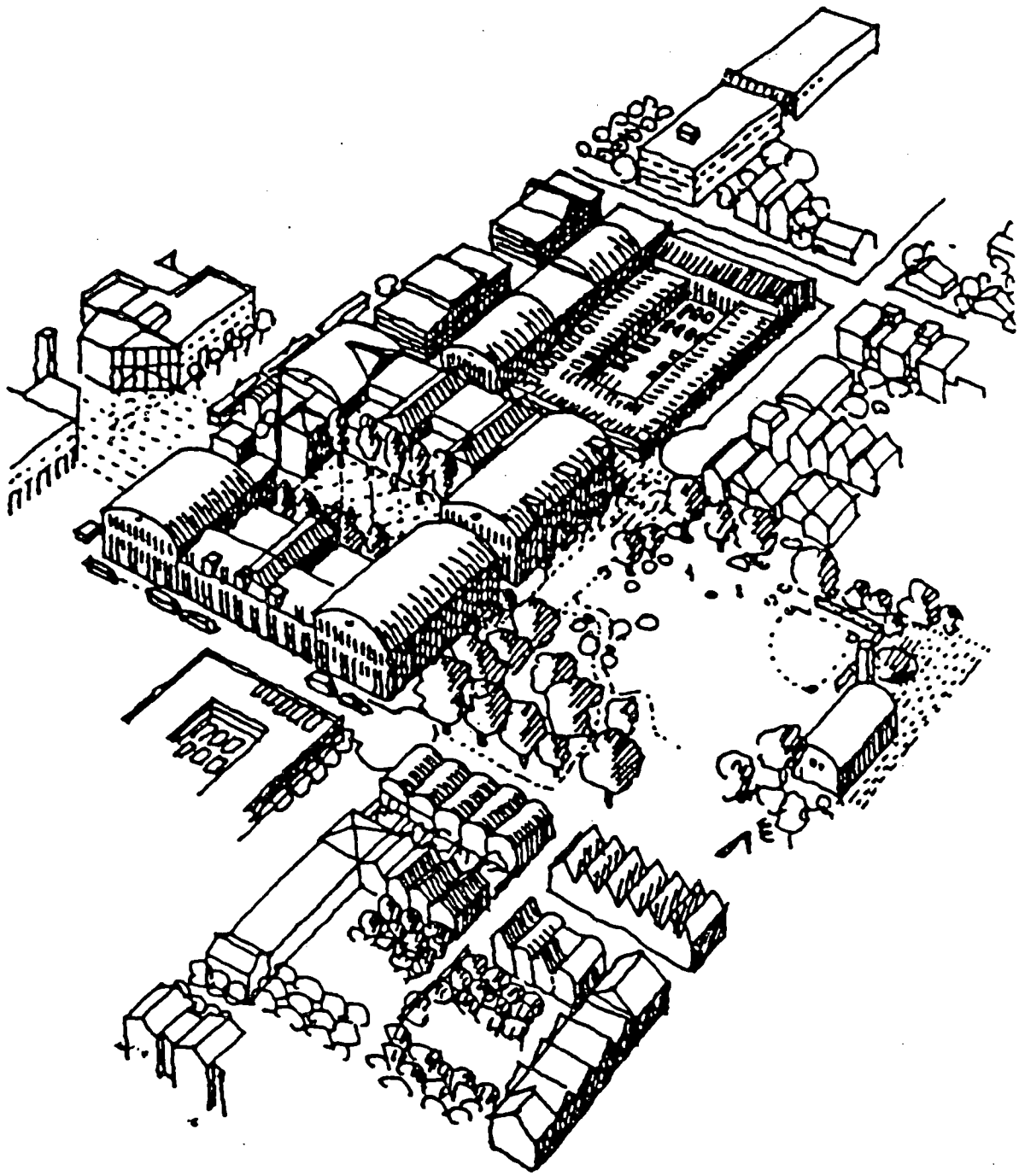
Possible funtions of metropolitan system of Pedestrian Pockets
Source: Doug Kelbaugh, The Pedestrian Pocket Book



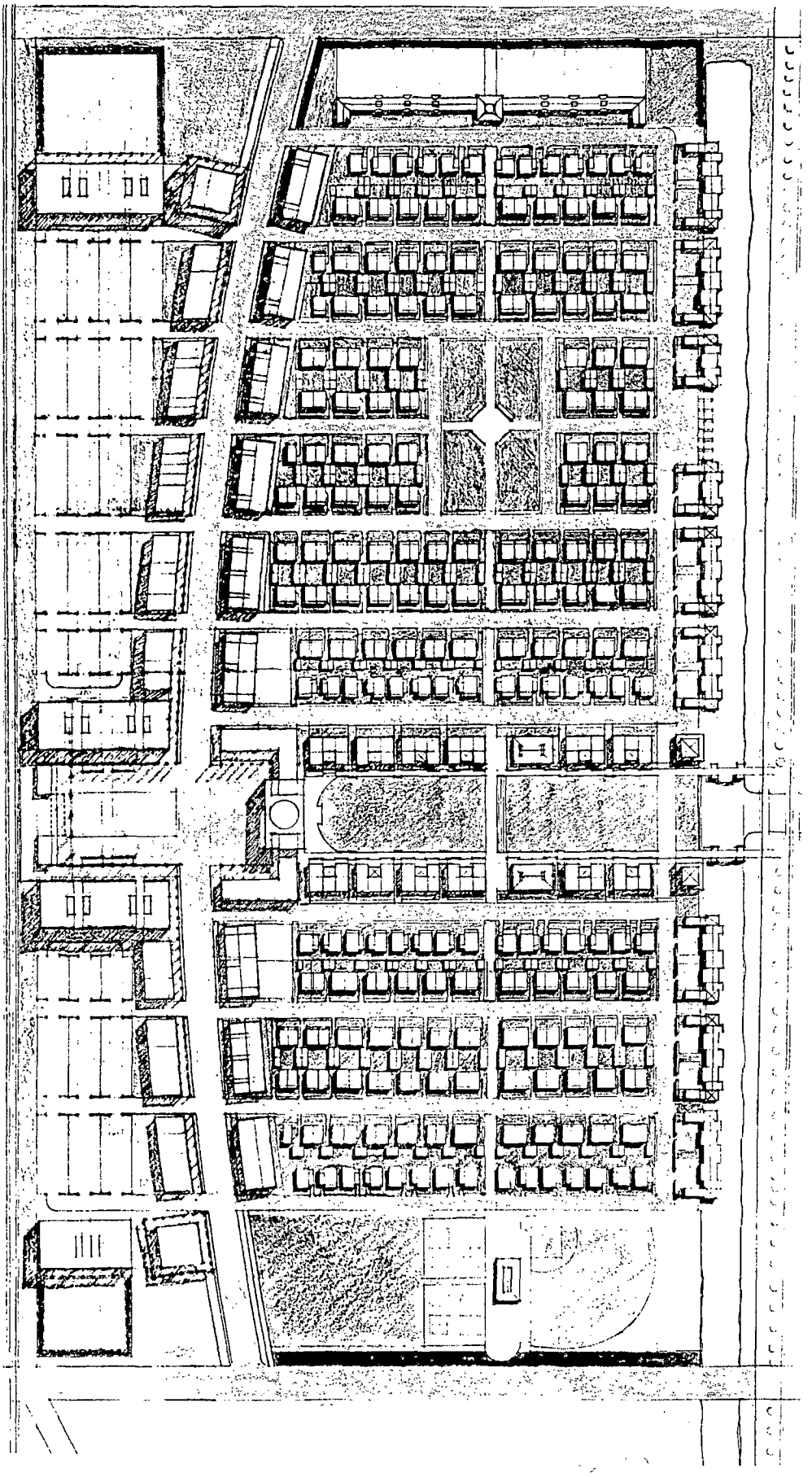
Aerial view of proposal for Pedestrian Pocket charrette
Source: Doug Kelbaugh, The Pedestrian Pocket Book



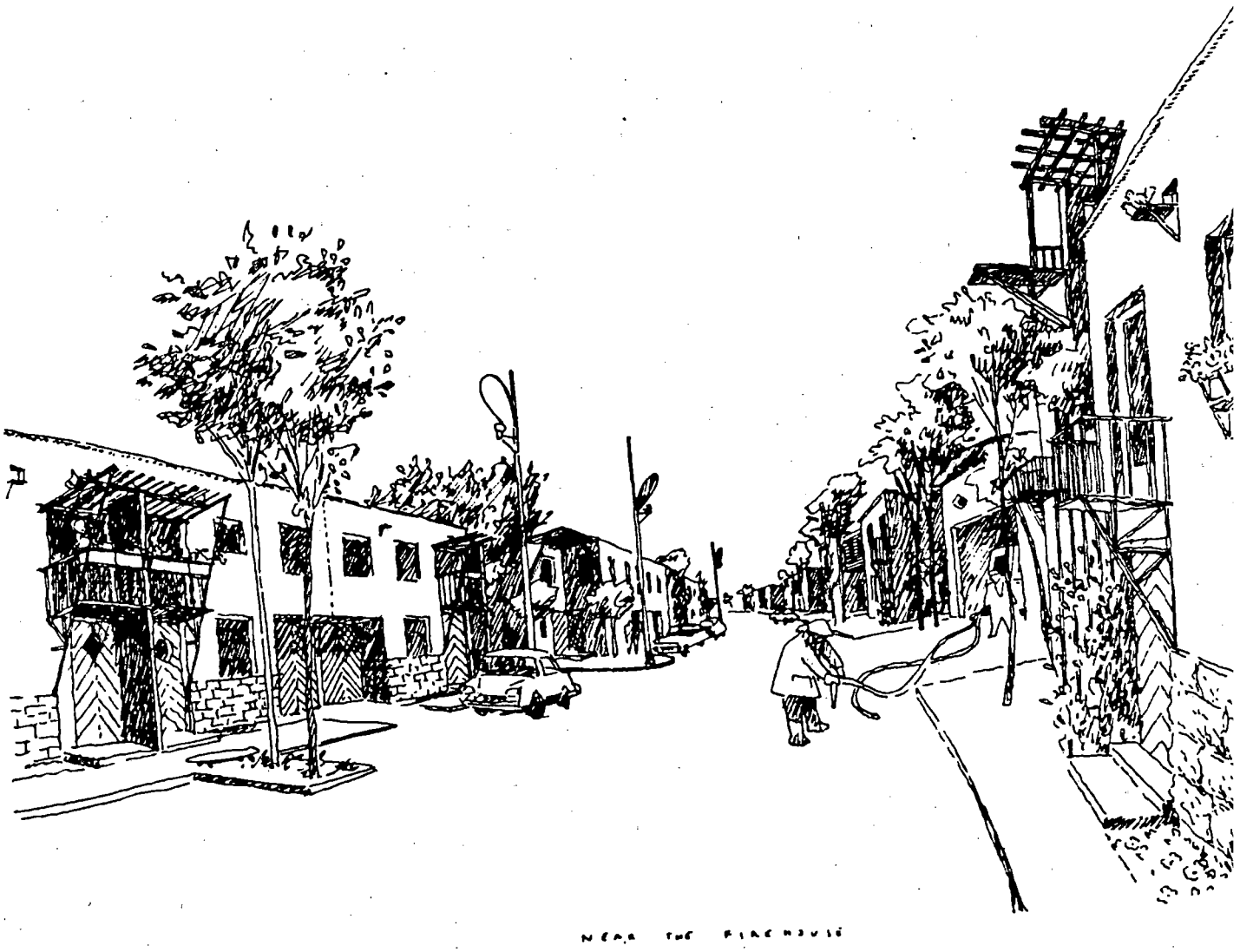
Aerial view of p oposal for Pedestrian Pocket charrette
Source: Doug Kelbaugh, The Pedestrian Pocket Book



Commercial-Office and Residential Core, Pedestrian Pocket
Source: Doug Kelbaugh, The Pedestrian Pocket Book



Pedestrian Pocket proposal for design charrette
Source: Doug Kelbaugh, The Pedestrian Pocket Book



Residential Street, Pedestrian Pocket
Source: Doug Kelbaugh, The Pedestrian Pocket Book