

SUBURBAN PLANNING:

An Investigation for Future Open Space
Development and Allocation in Winnipeg,
Manitoba

Practicum Presented to The Faculty of
Graduate Studies
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for the Degree of Master of Landscape
Architecture

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I 

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standards, and 2) standards not adhered to. The emphasis is placed on criteria which recognizes the present economic, social, and physical needs of suburban residents within North American cities. This unit attempts to identify the standards which appear to no longer be applicable to current development. As an alternative, it is perceived that living accommodations will change, that land will become a more valuable resource and that the image of suburbia will be more closely aligned with existing urban areas.



*Preface
& Introduction
Unit I*

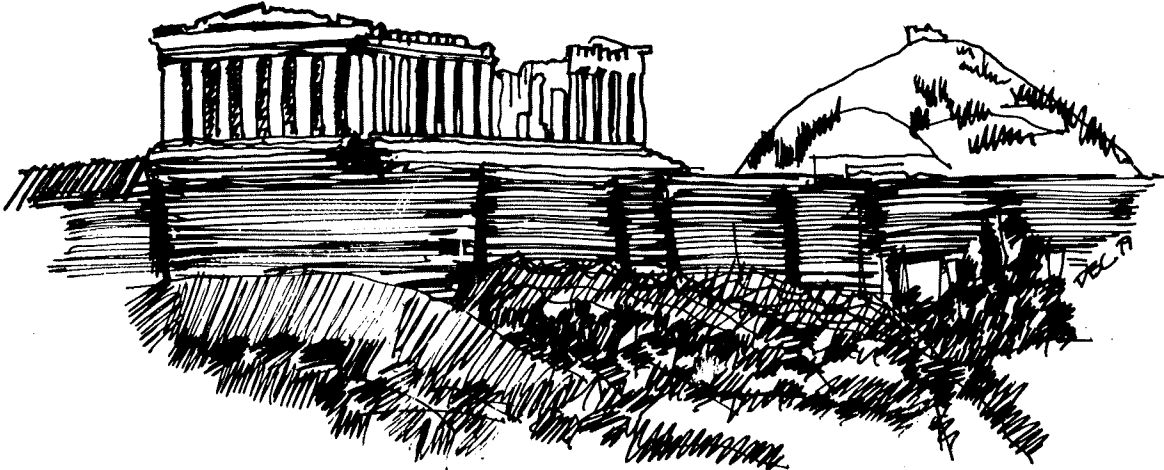


fig. 1

I A PREFACE

"There was time when urban open space fulfilled a communal function or set off some important civic building, when a hill was a place for an acropolis, a river to drink from: and when towns were built to give weather protection or maximize climatic virtues. Land, like all other natural resources, was precious and there was little of the attitude that there's more just around the corner.

Urban spaces are now what is left over between individualistic buildings, of no communal importance; a hill is something to be flattened or a place to erect high-rise apartments; a river is a sewage dump and its banks a convenient repository for junkpiles; and climate is something to ignore because we can pay the price of air conditioning or a trip to a more equable vacation spot...." (Crane, 1960, p.280)

It is the aim of this paper to sufficiently explore the subject matter of open space planning, both from an historical and a contemporary perspective.

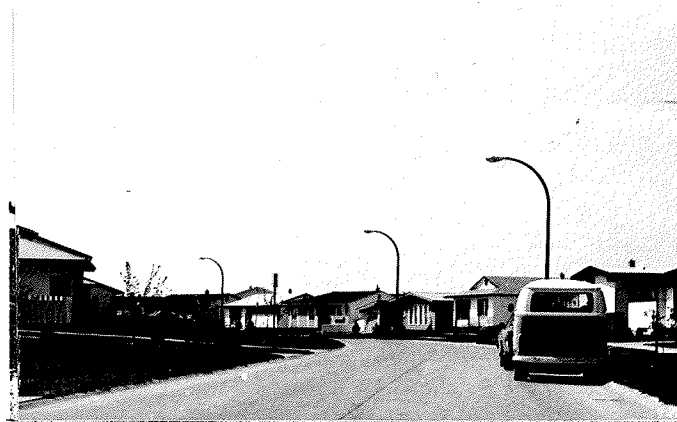


fig. 2,3,4,5

IB STATEMENT OF PURPOSE

This paper will examine the present economic, energy, and user concern research for the purpose of identifying criteria which should be considered in developing an alternative approach to suburban open space planning, in the Winnipeg region.

a) Objectives

1. To examine the historical origins, roles and functions of open space in North American cities and relate these findings to the current Winnipeg suburban context.
2. To identify the current standards which affect the acquisition, ownership and development of the private and public suburban open space in Winnipeg.
3. To synthesize the applicable research data as it pertains to open space user preference and user needs.
4. To identify the relevant climatic conditions, and natural site features applicable to the Winnipeg region.
5. To assess the current open space suburban situation, in light of the information gathered and identify the major problem areas.

6. To illustrate in the conclusion alternatives which could be adopted for the future allocation and distribution of public or private open spaces.

b) Study Data Sources

Residents rarely occupy proposed development sites, nor are surrogate consumer groups usually created to provide residential input into future housing development. Therefore, resident response in terms of use and attitudes toward suburban open space has been primarily derived from a variety of research documents prepared in response to the North American housing environments.

Further information has also been gathered from the author's own observations and analysis of various suburban developments in the Winnipeg area.

I C DEFINITIONS

Open space is a general term which has been defined, in terms of its' unique relationship to the built environment, by the following authors:

Urban open space is:

"the basic physical resource of an urban park system of which vegetation is its most important attribute" (Edmonton Parks Board, 1969, p.14)

"land adjacent to an urban concentration which is not covered by buildings or other permanent structures" (Clawson 61, Cordell, 76)

"part of the three dimensional void of the landscape not occupied by man made features..." (Cotton, 64)

"an outdoor area which is open to freely chosen and spontaneous activity, movement or visual exploration" (Lynch, 71)

"outdoor space dedicated to the purposes of production, preservation, recreation, aesthetics, and education, in an attempt to provide for the health, welfare and well being of urban residents" (Eckbo, Dean, Austin and Williams, 1965)

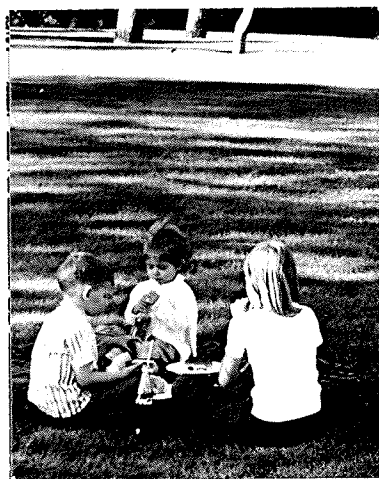


fig. 6,7

A synthesis of these definitions in conjunction with the analysis presented by Wright et al (1976) produced the following definition which has been adapted for the purposes of this study.

'Suburban Open Space'

All land and water, within the suburban city zone, which is open to the sky and reasonably accessible to freely chosen activity or visual exploration, both publicly and privately owned, which serves man and the natural environment in an educative, aesthetic, productive, protective, recreative or supportive way.

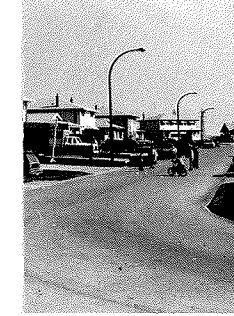
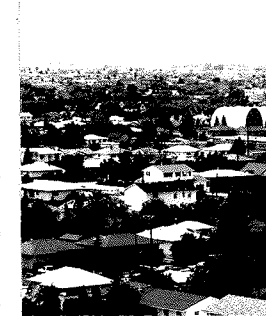
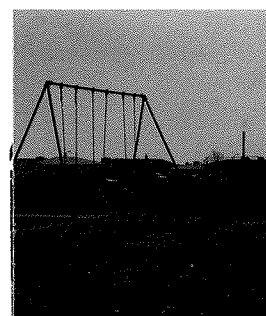


fig. 8,9,10,11

The distinction made between the terms 'urban' and 'suburban' may seem unwarranted since urban generally encompasses the entire developed area of cities, towns or villages. However, to avoid

confusion the following definitions and photos are utilized to distinguish between the four levels of city growth around Winnipeg and illustrate the specific characteristics of each.

Urban: (figure 12) Usually refers to the older, original settlement area of a city. Urban centers are usually dedicated to servicing the commercial, cultural, business and entertainment interests of the entire city area. The older suburban residential areas immediately adjacent to these city centers are usually also included within the changing boundaries of the urban city. These early suburbs are usually characterized by 2-3 story houses set on narrow lots, organized on a grid structured street system.

Suburban: (figure 13) Is a term which generally refers to the ring of housing development which surrounds most city centers. The suburban phenomenon as we recognize it today, followed the aftermath of World War II in 1945. Suburban areas have characteristically been low density 1 and 1 1/2 story housing, set on wide lots, arranged along wide curving streets, focused around the local shopping center, school or church.

Exurban: (figure 14) Beyond the last developed bay, cul de sac or loop road of suburbia, is situated an area of semi-agricultural land obviously in the process of transition between the suburban and rural zones. Here urbanization is evident on small acreages

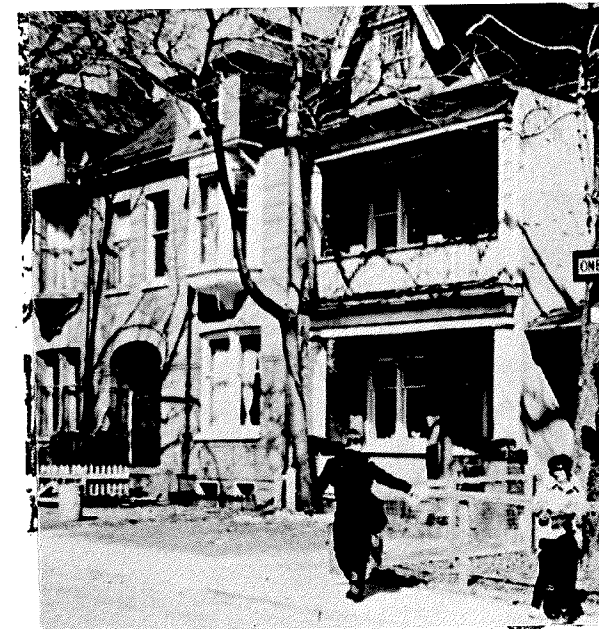


fig. 12

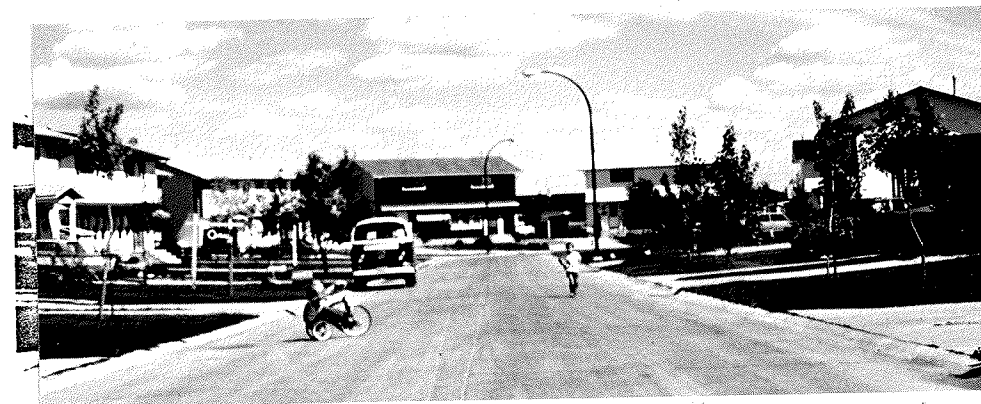


fig.13



fig.14

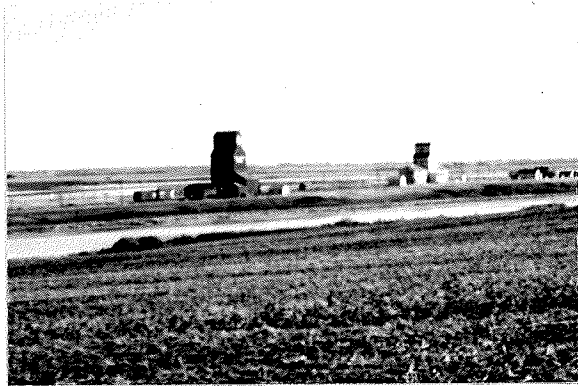


fig. 15



fig. 16



fig. 17

but is not yet predominant. The rural landscape still dominates the buildings.

Rural: (figure 15) In most instances, quite separate from the development pressures of urbanization are the rural farmland and natural landscapes.

Suburban development as illustrated by the following plans and sketches is composed of four types of open space. These open space distinctions are generally characterized by varying degrees of real or perceived ownership and control.

Private open space: (figure 16) Space which is visually and psychologically enclosed and generally uninviting to passers by. Usually fenced or screened space around the dwelling unit devoted to family activities such as eating, entertaining and maintenance functions.

Semi-private space: (figure 17) Space which may be visually open and observable, but which has defined edges delimiting a change of ownership rights. Typical of front yards, partially enclosed back yard spaces, or grounds around privately owned buildings.

Semi-public space: (figure 18) Space which is publically owned yet may not be psychologically inviting to public use, typical



fig. 18



fig. 19

of public spaces enclosed by a group of residents, who become the 'owners' of such space.

Public open space: (figure 19) Land which is publically owned, maintained, supervised and utilized. Road right of ways, alleys, some parks, and school sites.

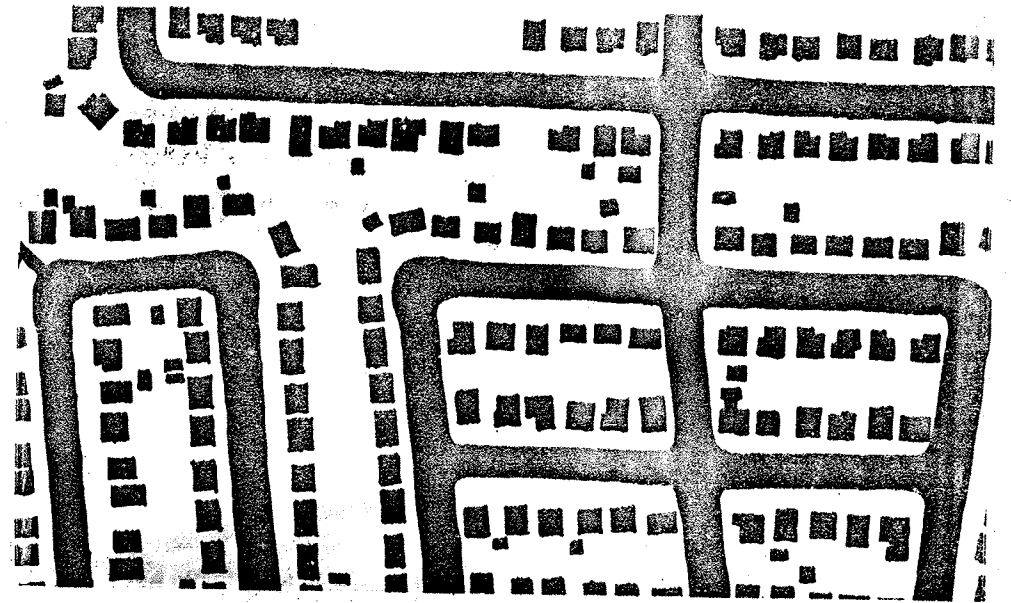


fig. 20

I D INTRODUCTION

One of the most immediate problems facing current residents and administrators of Canadian cities is the provision and attainment of adequate, affordable housing. Suppliers of housing have been confronted with continuous increases in land costs (up 80% since 1965), labour costs (up 184% since 1965), and material costs (up 95% since 1965), (Bloxom, 1975, p.8, 29, 49), which they must inevitably pass on to consumers. As a result of these increases the average new single family detached suburban home is no longer readily affordable by 90% of the purchasing households in most major Canadian cities. (Sewell, 1977, p.40). While there are other types of housing alternatives, the single family detached house is still perceived by the majority of new home purchasers to be the most desirable option from the point of view of privacy, status and guaranteed investment.

In an attempt to reduce costs and produce "affordable housing" developers have generally adopted the building and site development standards which had previously been set as minimum acceptable levels by the various administrative housing authorities. The cost savings and relative ease in obtaining development approval have encouraged these minimum standards to become the norm, generally precluding any opportunities for direct responses to natural site factors, climatic conditions or alternative human wants and needs.

Road widths, easements, the amount of public open space reserve, lot sizes and housing setbacks have been standardized at the expense of user or site specific information, in order that plans may be expedited and costs, seemingly reduced.

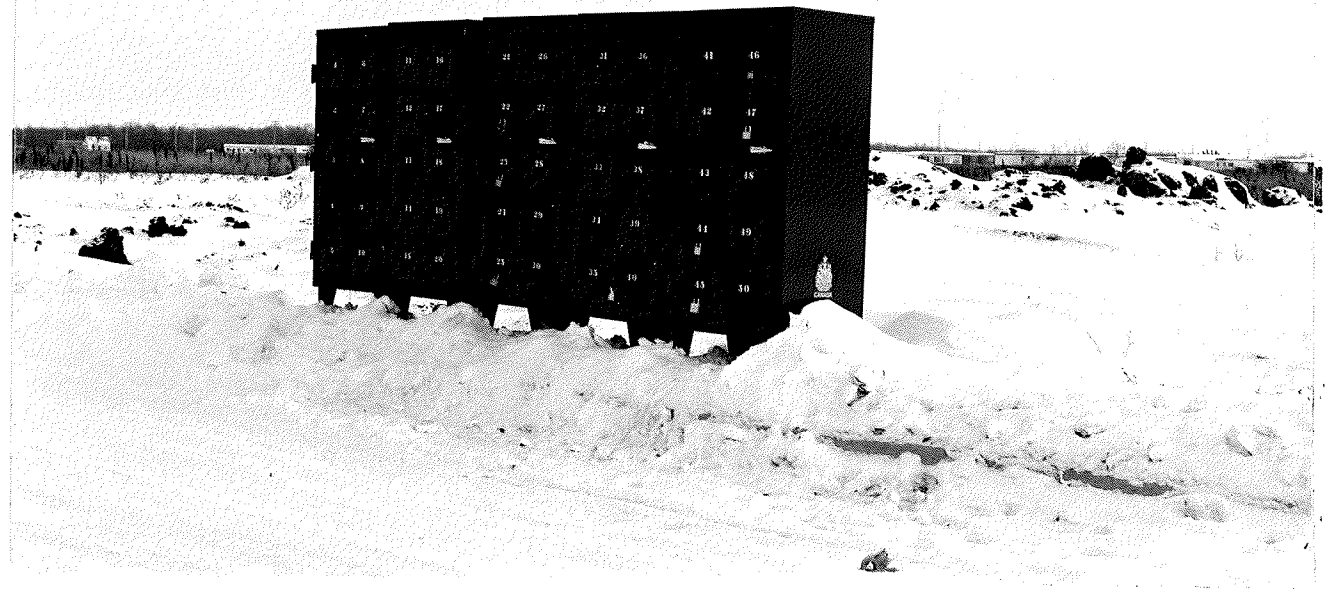
Consumers have been forced to become more selective in their efforts to purchase single family detached housing which offers the best value for their housing dollar. Such value may be in the form of a larger house with more household amenities or it may simply mean a house location in proximity to community facilities or conveniences.

From a position of land utilization it seems apparent that some savings, in overall development costs could be realized by re-evaluating the current standards, methods of allocation, utilization and development of suburban public open space.

Such open areas were initially incorporated into cities as breathing spaces, to improve the physiological living environments, by introducing sunlight and fresh air. "Today, developments are planned with open space as the predominant design element. Sites are laced with walkways, bicycle paths and other forms of open space. Grass is everywhere, around schools, churches, highrise apartments and roads. One senses the land is deliberately being underused." (Sewell, 1977, p.37)

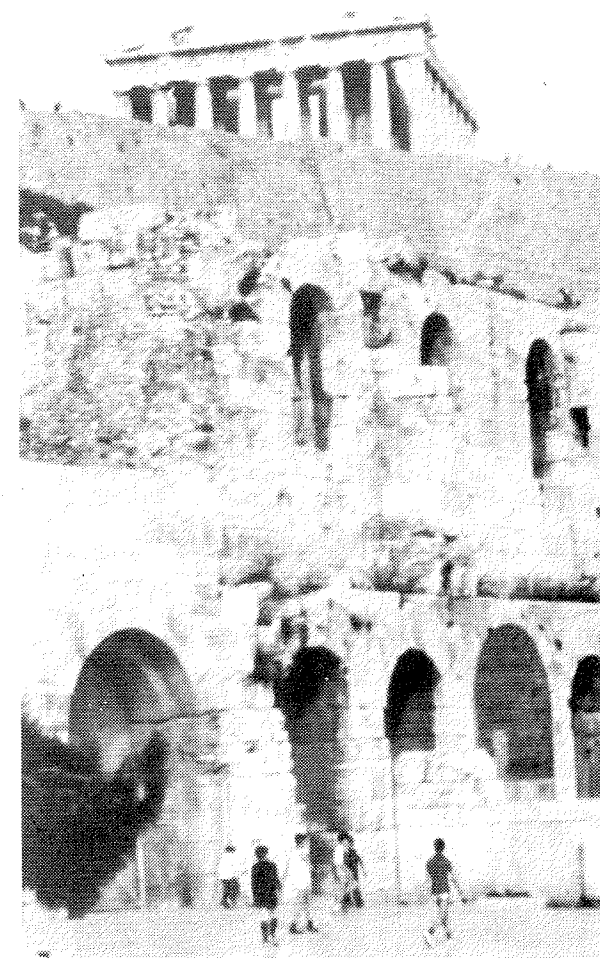
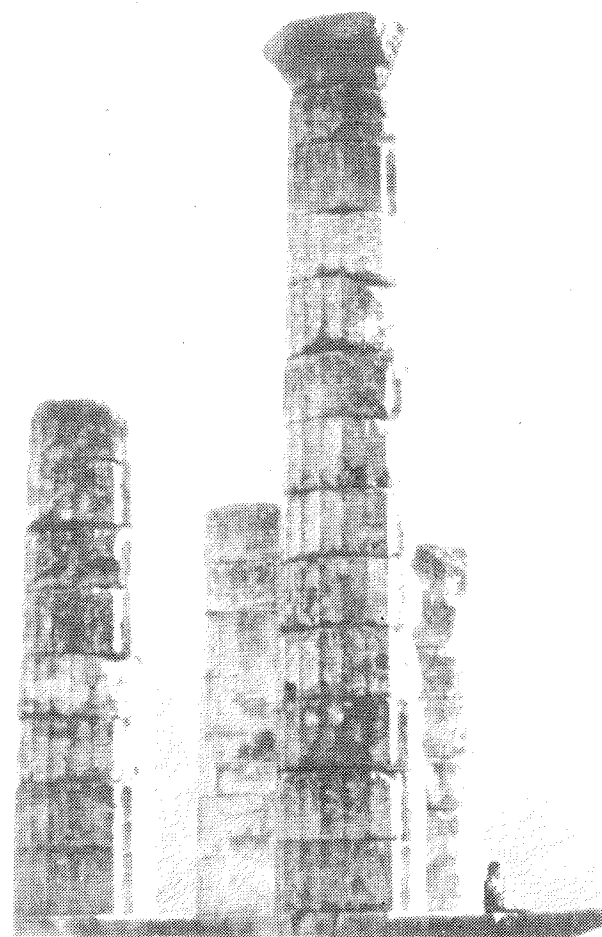
Modern day suppliers and creators of new subdivisions seem to be preoccupied with the physical construction of houses and have lost sight of the purposeful roles, values and interactions which the various housing environment components occupy.

The following section traces the key historical events which preceded current development and attempts to redirect the focus to the design of residential environments.





Historical Evolution
Unit II



II A NORTH AMERICAN CONTEXT - UTOPIAN PLANNERS

Open space in North American suburbs is largely the result of current planning and social ideologies. However, many of these current principles emerged from historical examples, some of which were alluded to during the historical development of the Parks and Recreation movement, while others were more closely related to ideologies of the British Town Planning movement.

The early colonization of America during the seventeenth and eighteenth centuries was carried out under the auspices of visionaries such as William Penn and James Oglethorpe. Their plans for Philadelphia, Pennsylvania in 1683 and Savannah, Georgia in 1733 were similar in purpose with respect to their design of open space squares and in the attitude that rural country-side was to be subjugated before becoming a part of the urban fabric. The plan of Philadelphia, which Thomas Holme set out for William Penn featured a central square with four other squares placed symmetrically around it. (figure 21)

The grid was initially established with open space as a principle component of the whole. Even today, in spite of the modern complexities which have been added, the historic central square and other open spaces exist in a functional sequence as reminders of the original plan. (figure 22)

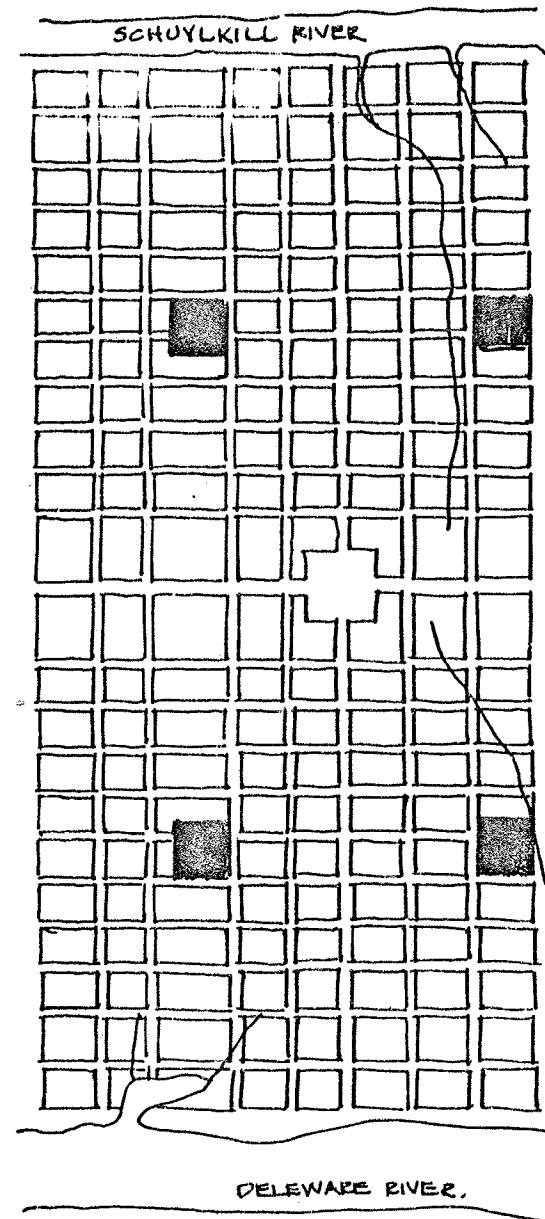


fig. 21 Philadelphia 1683

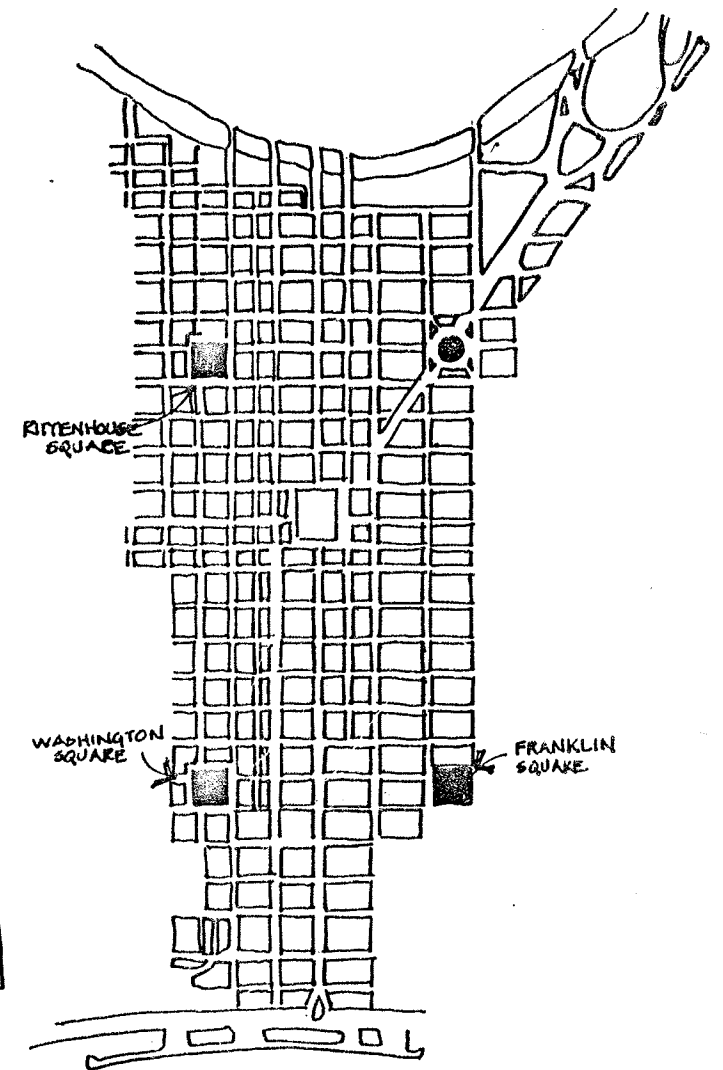
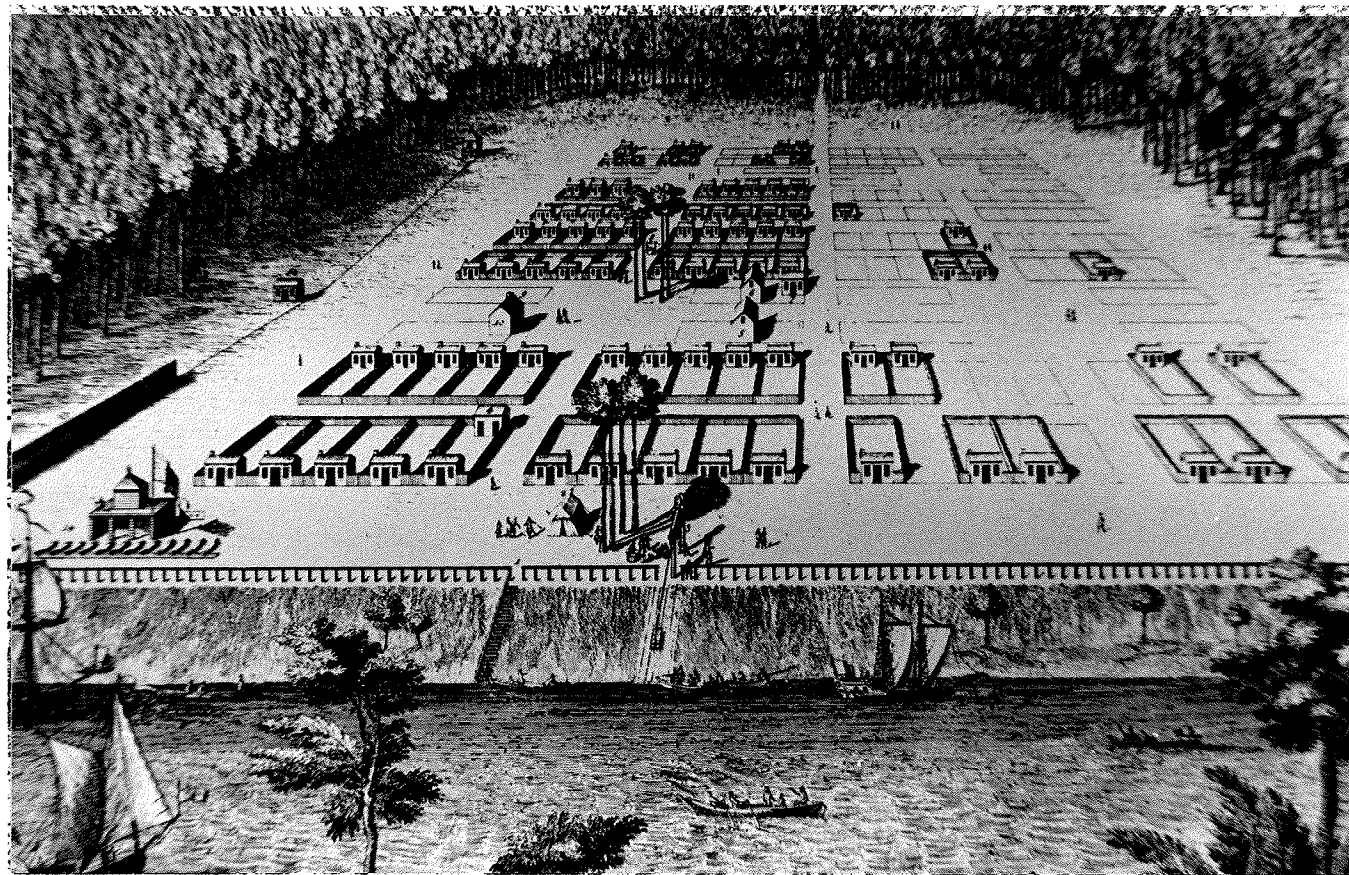


fig. 22 Philadelphia 1977

Source: Hecksher 1977



Savannah *fig. 24*
Source: Bacon (76)

The river orientated town of Savannah was developed fifty years later in a manner very similar to Philadelphia. The cellular unit of a central green and twelve block units "provided not only an unusually attractive, convenient and intimate environment but also served as a practical device for allowing urban expansion without formless sprawl." (Reps, 1965, Bacon, 1967, p.220)

The plans and perspective (figures 24,25,26) reveal the regular pattern of growth and the attitude of caution which prevailed in the incorporation of vegetation within these early settlements. The attention to this open space planning which corresponded to the grid road system also revealed the degree of internal focus which prevailed within early settlements.

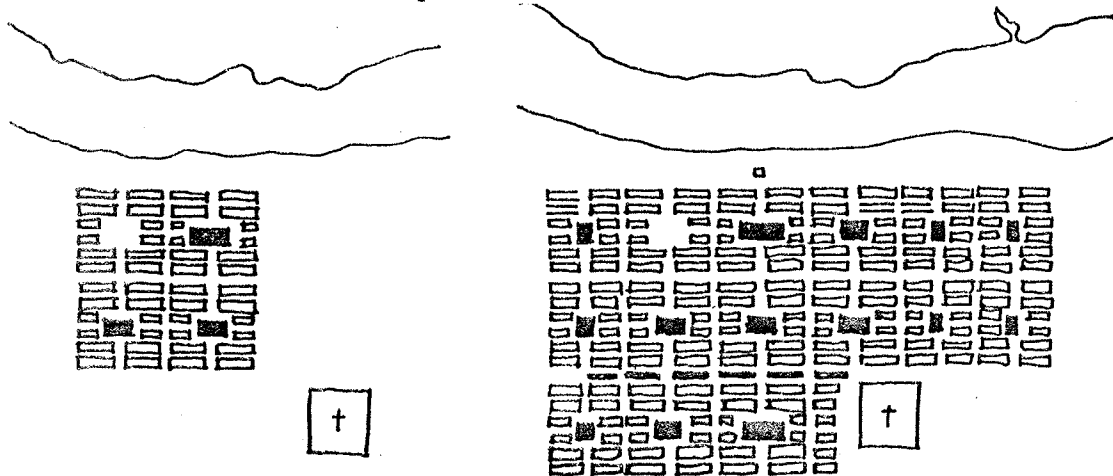
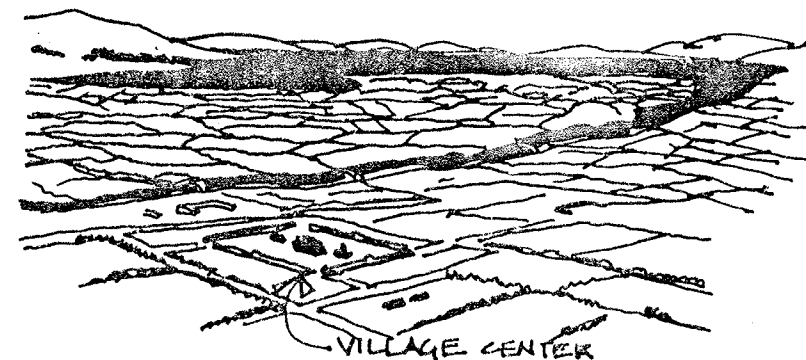


Fig. 25 Savannah 1733

Fig. 26 Savannah 1816
Source Bacon (76)

Squares were initially utilized as burying grounds, grazing areas, parade grounds or sites around which public buildings or the homes of prominent residents were constructed. Though a principal component of older European cities, the square today is recognized as the oldest form of North American Public open space. (Heckscher, 1977, p.139)

The Industrial Revolution in Britain during the mid nineteenth century led to a further resurgence of Utopian planners who attempted to establish new colonies in North America. Brigham Young, Robert Owens (figure 27) and Charles Fourier were among the many early founders who, in a period of fifteen years had established over 130 North American Utopian settlements, many of which are in existence today. These innovative communities were generally founded on the strength of one leader to promote religious beliefs, philosophical ideas or various socialist tenets.



Robert Owen's Ideal Village Fig. 27
Source: Benevolo (71)

As such, the planning of these settlements tended to reflect a greater sense of design control over development, to the point of being synonymous with current zoning by-law legislation. There did, however, appear to be a conscious reasoning for the ordering of the various components, as illustrated by the following quotation from C. Fourier in 1841 referring to his proposed Utopian community.

"The city will consist of three enclosures; the first containing the 'cite' or main town, the second containing the suburbs and main manufactories; the third for the 'avenues' and extreme outskirts. Each of the three zones shall adopt different measurements for its buildings, none of which shall be constructed without the approval of a committee of experts... The three zones shall be separated by fences, hedges, and plantations which must not obstruct the view.

Each house in the 'cite' must possess as much free space, in the form of courtyards or gardens, as that taken up by the building itself; these spaces will be double in the second zone and triple in the third.

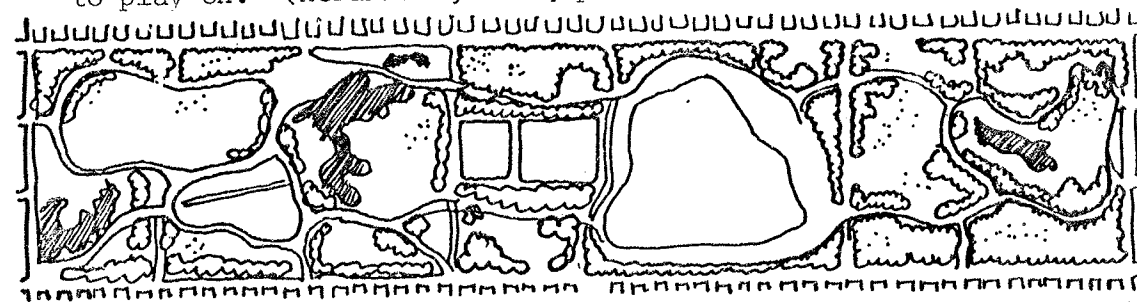
The distances between dwellings shall be calculated horizontally, even on sloping ground, and must be equal to at least half the height of the facade abutting unto it.

The view at the end of each road shall be of a country landscape or a public or private architectural monument; a regular network of streets shall be forbidden. Some will be curved and winding, to avoid monotony. At least one eighth of the surface area will be occupied by squares. Half the streets will be planted with trees of various kinds." (Benevolo, 1971, p.57-59)

This system of rules, the first to be presented in anticipation of 19th century planning, represented to Fourier only a

transitional element "in the progress towards universal harmony." (Benevolo, 1971, p.58). Such Utopian planners firmly believed that a harmonious life-style was very much a component of the physical design of a city and the ordering of its components.

The influence of the English Gardenesque, of the mid nineteenth century, which placed an emphasis on the romantic landscape as a contrast to the growing cities, gave rise to the development of public parks and private leafy suburbs in America. Social reform in response to overcrowding in North American urban areas saw the initiation of a public park movement in 1853. Prior to Olmstead's design and construction of Central Park in 1858, (figure 28) parks were conceived of as spaces where people could stroll and drive their carriages in quiet serenity, away from the dirt and noise of the city proper. Many parks were created as gardener showplaces, where manicured lawns and flower beds were created to view and admire, but certainly not for children to play on. (McFarlane, 1970, p.16)

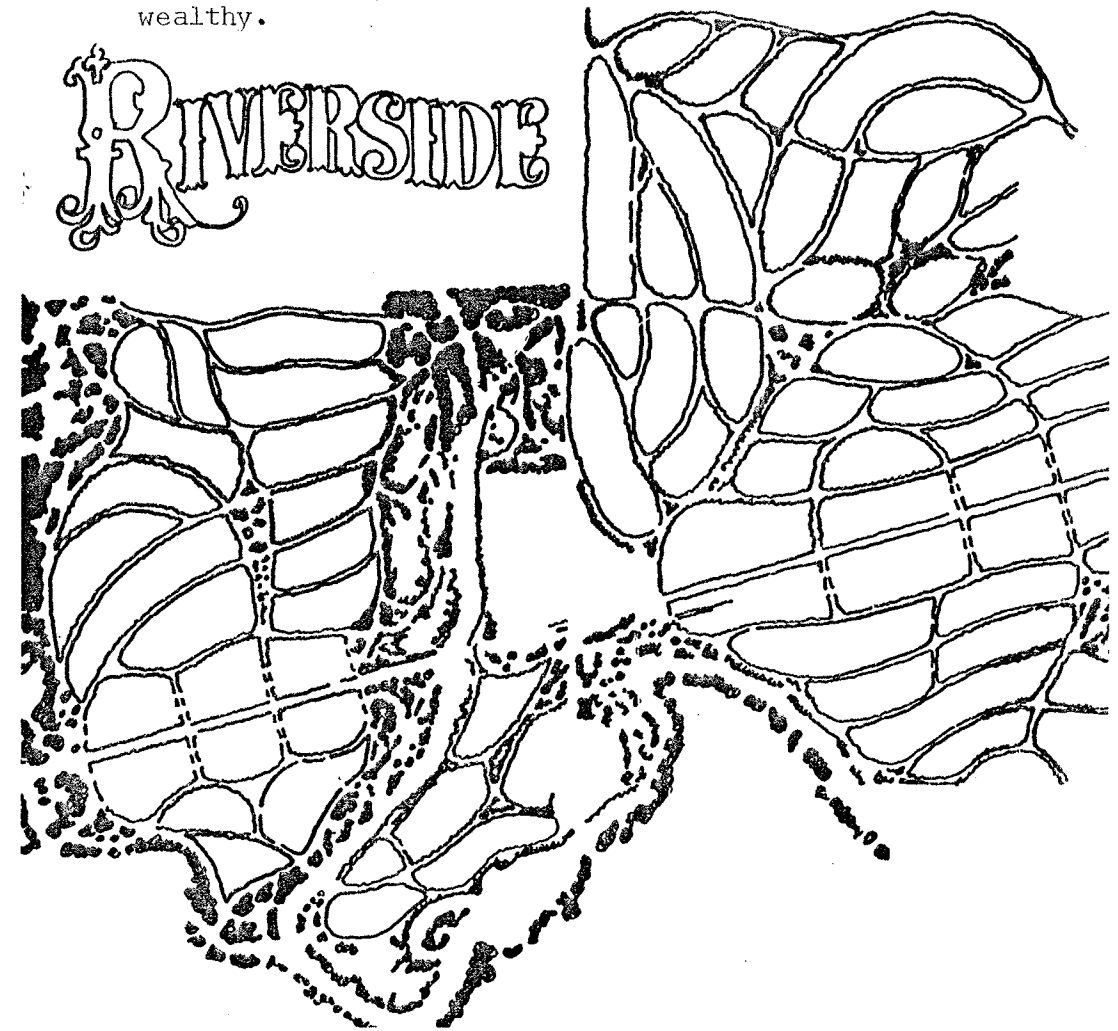


Central Park fig. 28 Source: Laurie (75)

At this time, the American public were primarily influenced by the writings of Andrew Jackson Downing who echoed the efforts of Thoreau "in demonstrating the relationship of man to Nature, and stressing the need of conservation of resources and renewal of blighted landscapes. Downing's 'Beautiful' style 'of mastering the natural character or prevailing expression of the place' was to be primarily responsible for influencing the romantic suburbs at Llewellyn Park, New Jersey and Riverside Park in Chicago (figures 29,30) and Public Parks such as Central Park in New York. In 1852, Alexander Davis developed Llewellyn Park as a spacious suburban housing development in which housing on large lots, amidst trees and shrubs was integrated with a central landscaped park and winding roads.

In 1869, Fredrick Law Olmsted and Calvert Vaux (designers of Central Park, 1858) applied a similar treatment to a suburban development called Riverside in Chicago. "The buildings or villas were spearated from a close association with the street and were embosomed within a green landscape and deliberately absorbed by it." (Laurie, 1975, p.75-76) Such planning was the first example of the continuous city/park garden concept, where a continuous matrix of greenery fingered its way throughout urban areas to the rural countryside. The romantic suburbs closely resemble the spaciousness of contemporary suburban

developments, yet are now no longer strictly reserved for the wealthy.



Riverside fig. 29 Source: Chadwick

II B BRITISH CONTEXT

Garden City Movement

Ebenezer Howard, a law court clerk in Britain, apparently had visited Chicago in the 1860's and possibly witnessed the work which Olmstead and Vaux had completed. It is uncertain about how this may have influenced Howard, but in 1898 this social reformer was to propose a concept primarily intended to eliminate the slums and urban squalor in Britain and thus improve living conditions. Such a concept was to affect town planning to the present day. Howard first put forth his concept of a garden city in a book entitled Tomorrow: A Peaceful Path to Real Reform. (1898), republished in 1902 under its more popular title of Garden Cities of Tomorrow. The contents of this book in conjunction with the actual construction of examples of the garden city concept. (Letchworth, 1903, (figure 31 and Welwyn - 1919) have been responsible for influencing the political outlook on town structure and growth, since that date.

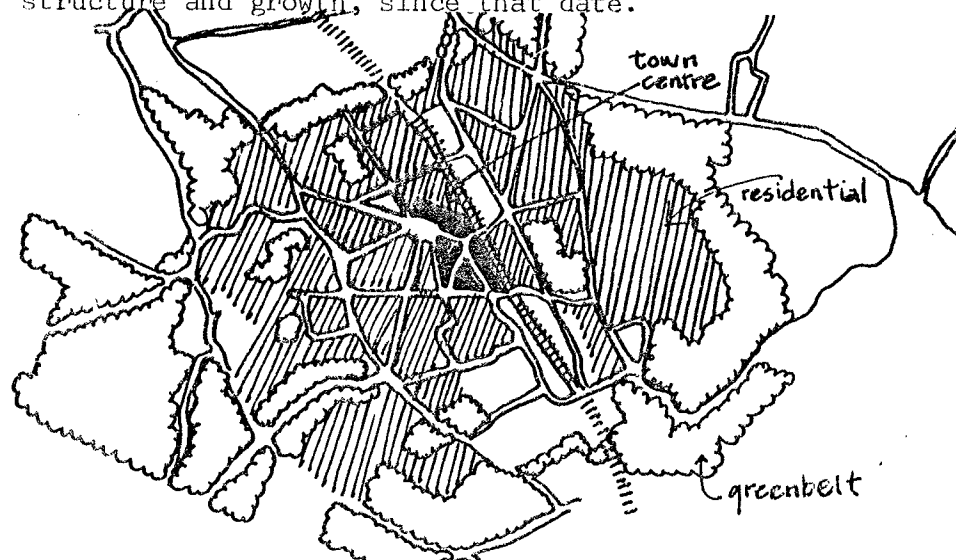
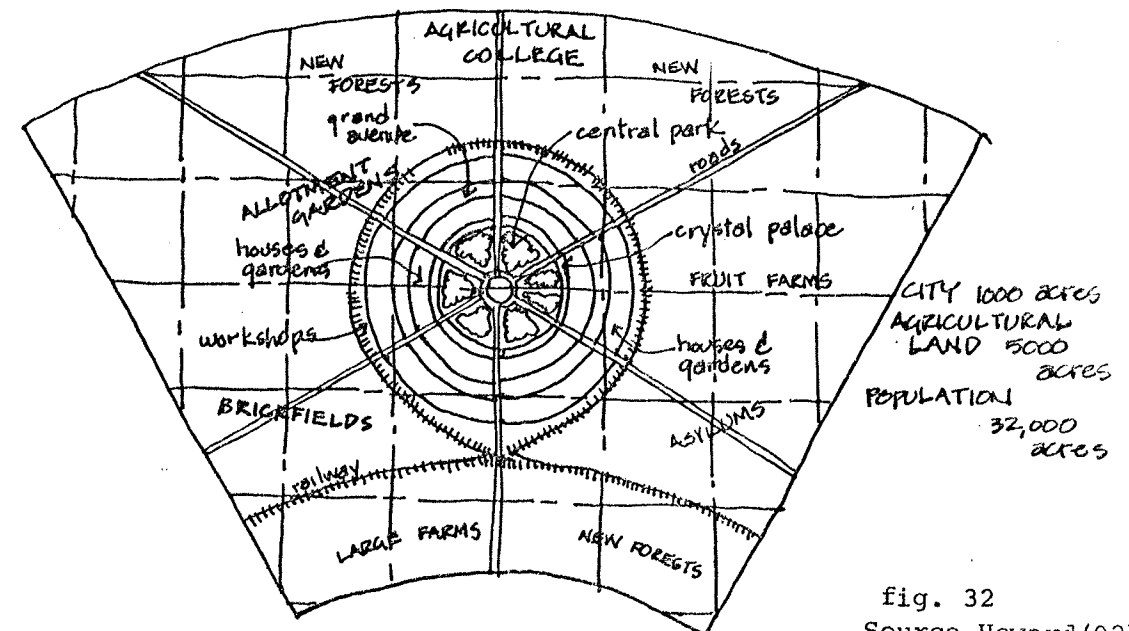


fig. 31 source: Howard(02)

The 'Garden City' movement, first promoted the establishment of finitely sized communities, girdled by greenbelts with working places within walking distance of homes. The basic goal was to combine the advantages of town life with that of the country.

The 'garden city' proposal preceded and influenced the concept of neighbourhood planning, consequently Howards 'suggested' layout will be elaborated upon by the following descriptions.

As noted in the regional diagram (figure 32) the Garden City was to be constructed in the centre of a 6,000 acre agricultural area.

fig. 32
Source Howard(02)

- Built up area to be 1,000 acres; of possibly a circular form 1,240 ft. (3/4 mile) from the centre to circumference.
- 6 major boulevards - 120' wide traverse the city from centre to circumference dividing it into 6 'wards'.

Local characteristics (figure 33)

- Centre garden - 5 1/2 acres, "laid out as a beautiful well-watered garden", surrounded by public buildings set on their own 'ample' grounds.
- To the centre is a 145 acre public park which "includes ample recreation grounds within easy access to all the people."
- Running round and opening on to Central Park is a wide glass arcade called the "Crystal Palace".
"This building is one of the favorite resorts for people during wet weather", whilst the knowledge that its bright shelter is ever close at hand, tempts people into Central Park.
- 'Crystal Palace' also to be used as a winter garden and for shopping -- its circular form brings it to within 600 yards of every dweller in town.
- The 'Grand Avenue', 420' wide separates the Garden City into two residential belts. This Avenue constitutes an additional park of 115 acres - which is within 240 yards of the farthest removed inhabitant. In this Avenue there are 6 sites of 4 acres,

each occupied by public schools and their surrounding playgrounds and gardens.

- Approximately 30,000 people live in the town itself in average lots of 20' x 130' which front on tree lined avenues or boulevards.
- About 2,000 people live in the agricultural estate outside the city.

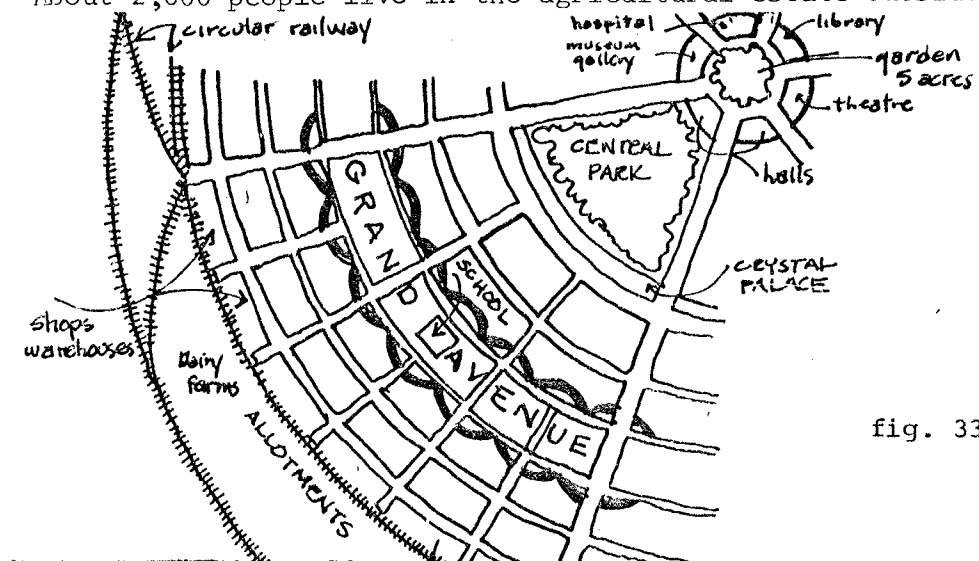


fig. 33 Howard(02)

- On the outer ring of the town are factories warehouses and various other industrial ventures. These facilities front onto the circular railway which encompasses the whole town.
Of the 1,000 acres, 289.5 acres were seen as gardens or park space, primarily within 600' of every towns person.

Raymond Unwin designed the housing layouts at Letchworth and Hampstead Garden suburb as extensions of Howards Garden City philosophy. Unwin's plans, however, are valuable for their density which is experienced in terms of delineating the various types of rural and urban open space. The passage of a Garden Suburb Act in 1907 allowed for a unprecedented flexibility in the detailed design of streets, pathways, housing lots and open spaces at Letchworth and Hampstead. In Hampstead Suburb, Unwin utilized a short cul-de-sac type road which led to the formation of many group of houses around greens, tennis courts and squares. Unwin's attention to building placement relationship to road junctions, corners, and open spaces emphasizes the role of enclosure sight lines, vista's, contrast of solid and void. This detailing of the inner town space enhanced the surrounding green belt which was generally composed of larger natural spaces.

The plans for 'Garden Cities' never fully realized the complexity of details which Ebenezer Howard had imagined. However, these concepts were to be carried on by planners around the world.

IIC PLAY AND MODERN NORTH AMERICAN LIVING ENVIRONMENTS

The importance of children's play became recognized as a supplemental component of the previously constructed park show-places at the beginning of the twentieth century by a number of socially conscious committees. Influenced by earlier accomplishments in the United States and sponsored by the philanthropic efforts of the National Council of Women in Canada, playgrounds were first introduced into the crowded areas of Toronto.

The purpose was to "protect children from the heat, danger and dust of the city, and the immorality of city streets, and to protect the parents in town from being annoyed by children who were engaged in unsupervised play." (Gold, 1973, p.21) As the public park and playground movements fused together, the show-place parks were integrated into a much broader comprehensive park system.

Neighbourhood Concept

The 'Garden City' movement cause was furthered in America when, in 1929, Clarence Perry submitted a report to the Committee on the Regional Plan of New York and its Environs. In the report Perry enunciated his "Neighbourhood Unit Concept Theory". The theory suggested that the neighbourhood unit should be delineated to become the basis for planning social and institutional needs. (figure 34)

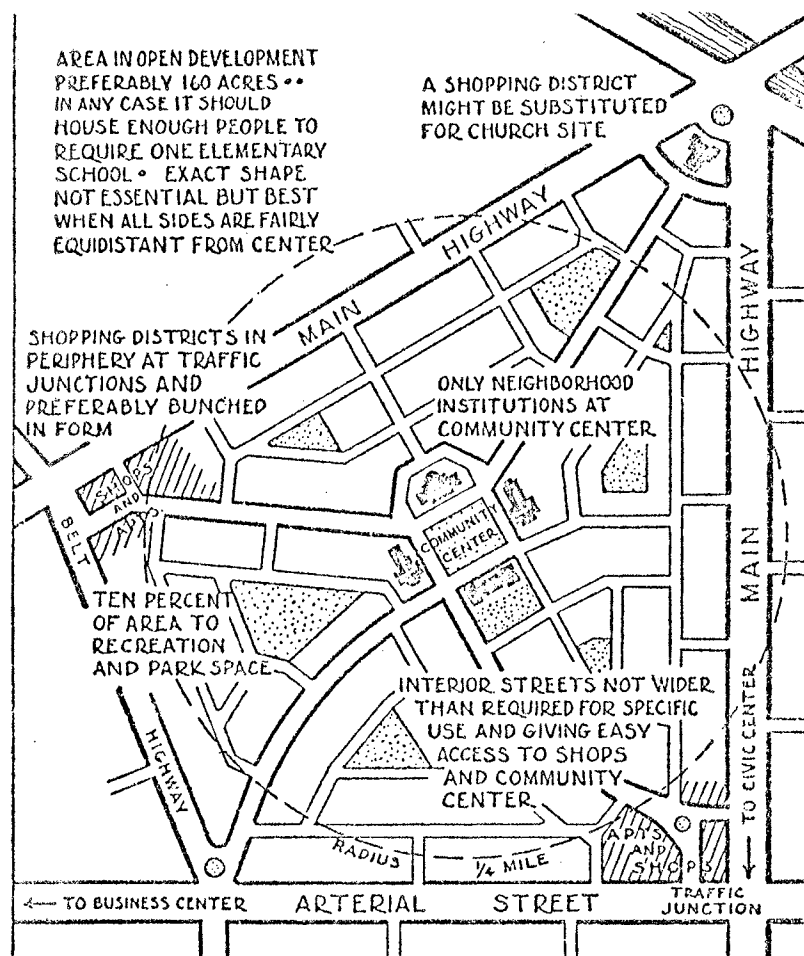


fig. 34 Perry's Neighbourhood Concept
Source: Koppelman (75)

Characteristics:

1. The neighbourhood would occupy approximately 160 acres with a density of 10 families per acre.
2. The shape would be such that no child would walk more than one-half mile to school.

3. The neighbourhood focal point should be the elementary school, centrally located on a common or green, along with other institutions.
4. The population of the neighbourhood should be that which is necessary to support the elementary school (about 5,000 persons).
5. Interior roads should be designed and constructed through use of cul de sacs, curved layout and light duty surfacing, so as to encourage a quiet, safe, low volume traffic movement.
6. Major arterials should not act as through traffic routes, but provide the boundaries of the neighbourhood.

By the late 1920's the 'Garden City' ideology coupled with Perry's 'Neighbourhood Concept' had become very influential in North American planning. Clarence Stein and Henry Wright, two main proponents of the concepts, united to produce a number of influential residential products in which 'landscaping and greenery' were to become integral parts. Of the many projects which Stein and Wright collaborated on: (Towards New Towns for America - C.S. Stein, 1957) including Sunnyside at Long Island, New York, (1924-28) and Chatham Village, Pittsburg (1929-35) none received more national acclaim than the plan for Radburn, New Jersey (1929). (figure 35,36,37,38)

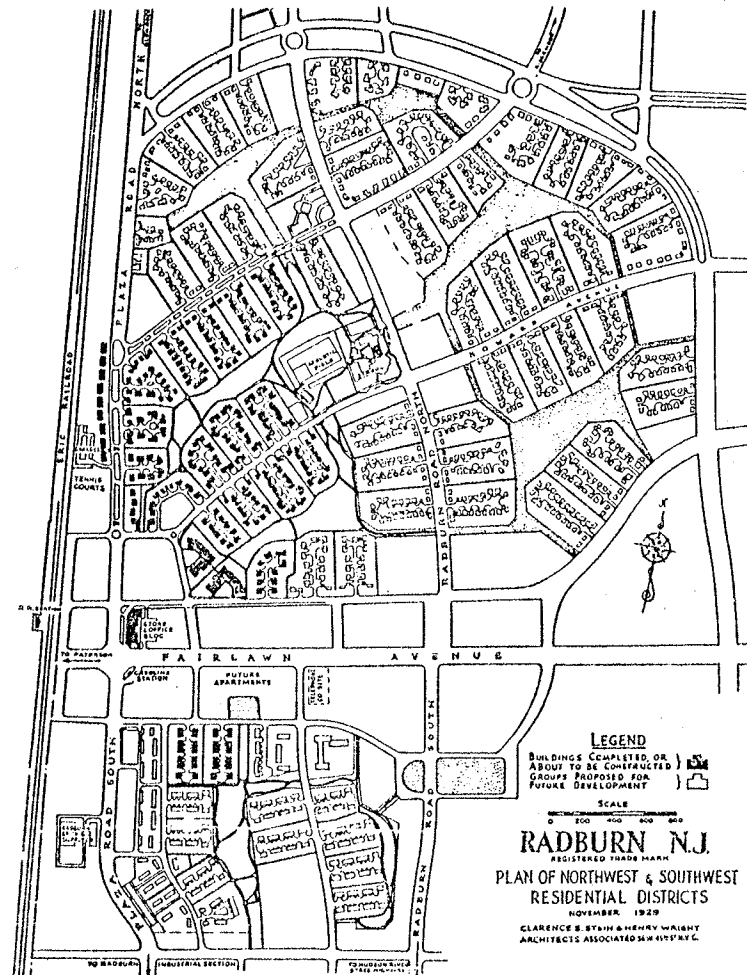
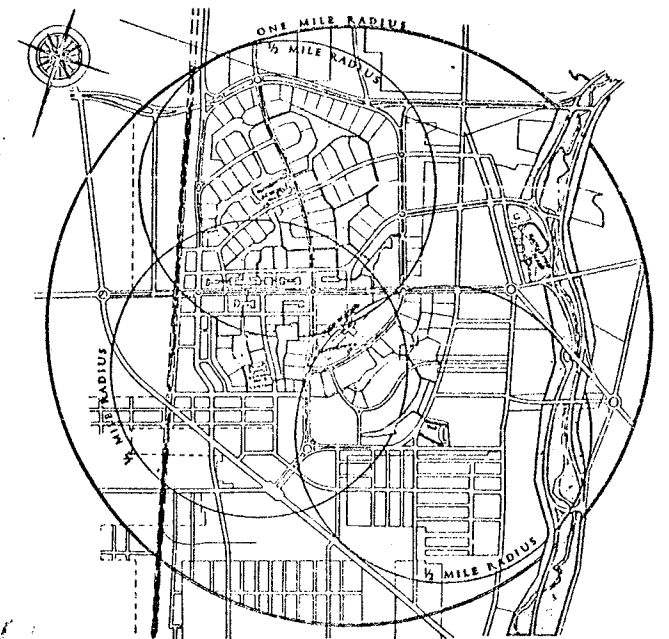


fig. 35 Radburn Residential Districts
Source: Stein (57)

The intent at Radburn was to apply the theme of Ebenezer Howard's 'Garden City'. However, there was not adequate area to surround the proposed site with a broad protecting greenbelt.

Thus, this essential element of the garden city was sacrificed because of the greater emphasis on other objectives related more specifically to the house and private yard space.

In Radburn, Stein and Wright proposed to link three neighbourhood units (7,500 - 10,000 persons each) into a 'superblock' the main feature of which was to be separate pedestrian and vehicular traffic. At Radburn, in partial response to the precepts of the Garden City movement houses were grouped around a series of cul de sacs that were linked by walkways with the interior park, in which the schools and shops had been located.



Proposed Neighbourhoods
Radburn Fig 36
Source: Stein (57)

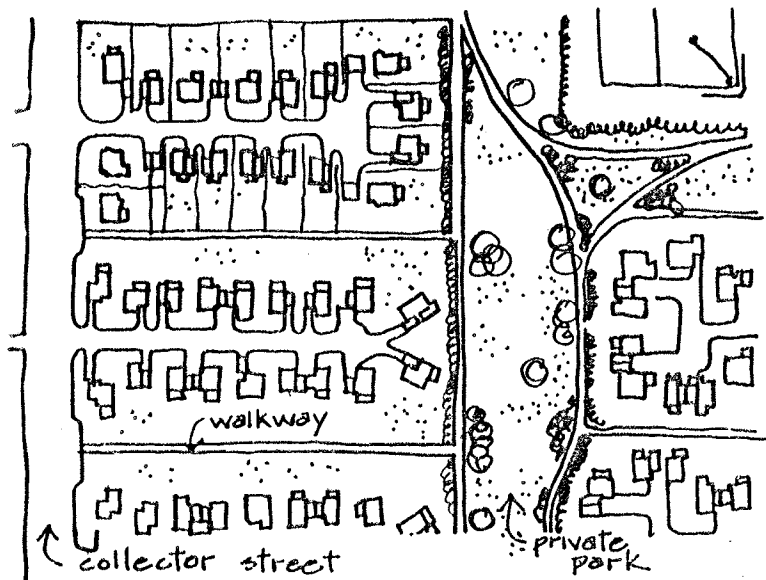


Fig. 37 Radburn Cluster Source: Stein(57)

1. The cul de sac acted as a service lane only; it provided vehicular access to the houses and garages, allowed for parking, general deliveries and children's play.
2. Foot paths were provided around the garden side of the houses.
3. Houses were orientated with bedrooms, living rooms, and porches facing the garden side, with kitchens and storage facing the lane.
4. Dwellings were informally arranged around the cul de sac and landscaping predominated.

Radburn was originally conceived as a new town for 25,000 people. However, the depression during the early 1930's caused the City Housing Corporation to discontinue construction after only one-tenth of the project had been constructed. In retrospect, Clarence Stein concedes that Radburn never became the Garden City they would have liked it to become. He suggests, however, that it was the idea which was to become important. "The Radburn idea overshadowed the Garden City idea. In large part it superseded it. For instance our thoughts as planners, were concentrated on the value of the living green close to homes in the midst of the superblocks: it seemed more essential than greenbelts." (Stein, 1957, p.67-69)

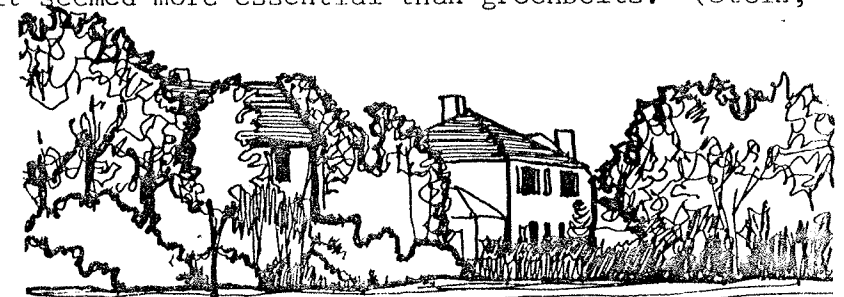


Fig. 38 Radburn Source: Stein(57)

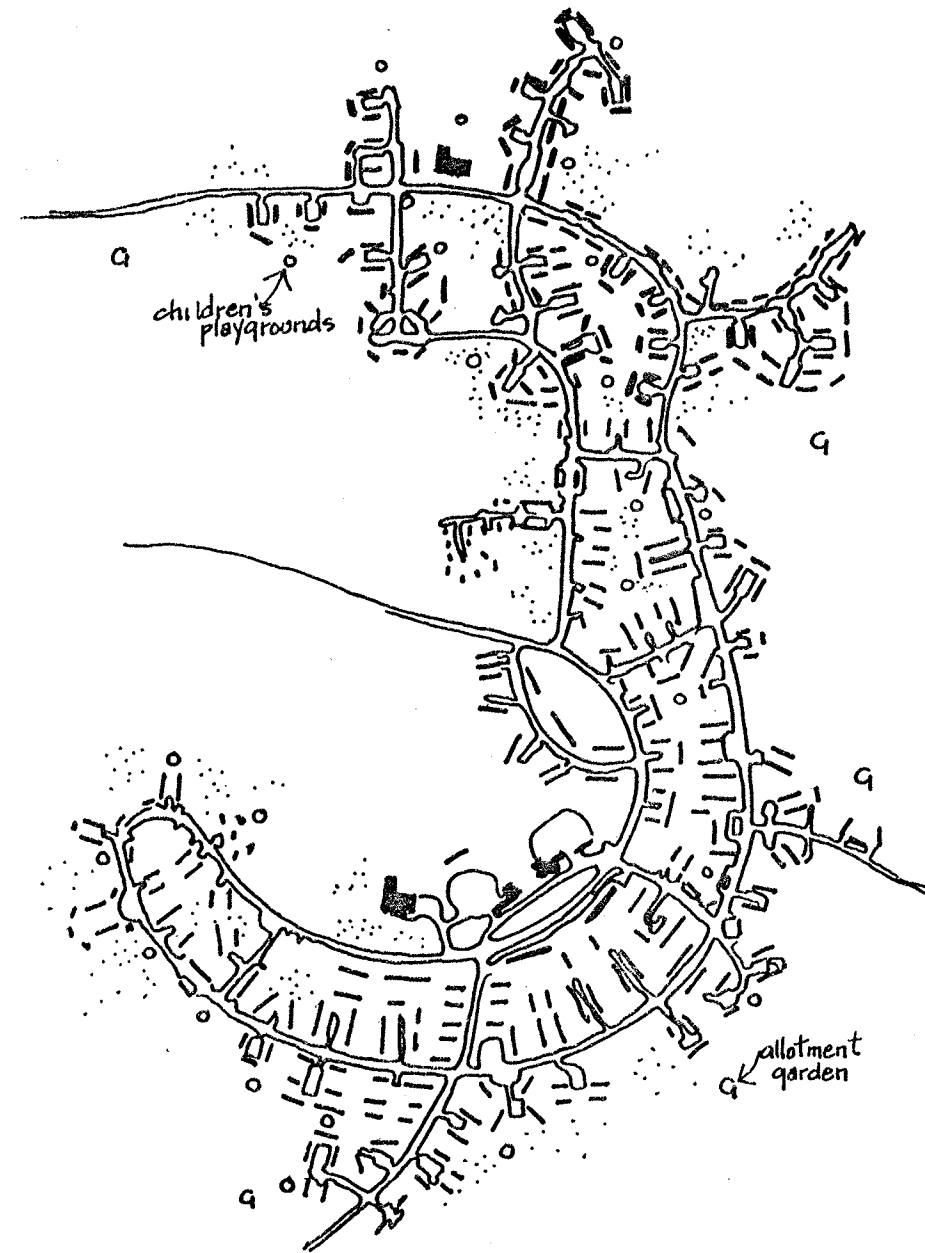
Stein and Wright were also responsible for influencing other planners through their designs for the Greenbelt towns which were quick to follow as a result of the cumulative practices of the "Garden City Movement", 'Neighbourhood Plan' and the Radburn 'Super Block'.

The need for employment forced Franklin D. Roosevelt, President of the United States in 1933, to propose the construction of Greenbelt for the following purposes:

1. To give useful work to men on unemployment relief.
2. To demonstrate in practice the soundness of planning and operating towns according to certain Garden City principles.
3. To provide low-rent housing in healthful surroundings both physical and social for families in the low income bracket.

Greenbelt, Maryland was constructed in 1937-39, 13 miles from the centre of Washington (figure 39). Eventually two other towns were constructed, Greendale, Wisconsin (1945-46), seven miles from Milwaukee, and Greenhills, Ohio (1947), five miles north of Cincinnati. These centres have primarily continued in the role of suburbs, because they failed to effectively encourage sufficient local industry in order to be self-sustaining.

In recognition of Howard's influence, however, the three greenbelt towns were generously endowed with ample amounts of open space around and within the built up area. For example, in Greendale, only 300 acres of a total 3,140 have been developed. Outside the town in the greenbelt zone are approximately 20 small farms or dairies of 200 acres each, rural homes, allotment gardens



Greenbelt Maryland Fig. 39 Source: Stein (57)

and recreational spaces.

Despite the inability of these new Greenbelt Towns to fully develop into the expected role of 'Garden Cities', they did play an important role in North American planning. They were to represent North America's first attempt at New Town Development.

Prompted by an increase in leisure time and prosperity the North American recreation movement of 1934 changed from a popular movement to a municipal function. Programs and facilities were increased by a newly formed group of recreation professionals. Such momentum led to the formation of The National Recreation Association (N.R.A.) in 1900's and eventually the Outdoor Recreation Resources Review Commission (ORRRC) in 1958. The ORRRC established policy for standards and acted as an advisory agency to local administrators. Codification of standards began in the 1890's and 1900's when participating individuals began stating ideas of service radii and size concepts of playgrounds. By 1934, the N.R.A. had accepted a set of playground standards which is essentially still in use today. These standards were based on the following premises:

1. an average playground size of 250 sq. ft. per child
2. low-density, single-family, middle-class neighbourhood centered around elementary schools of 600 pupils.

3. maximum use of the facilities by all children at the same time.

Soon, square feet per child was translated to acres per thousand population. By 1934, the N.R.A. was recommending as a minimum standard, the familiar 10 acres of parkland per 1,000 persons.

In Canada, there were no similar moves to codify standards on a national basis. This factor was possibly due to the lack of a powerful national agency such as the N.R.A. and the fact that the population base and recreation system were small and wide spread.

Following World War II a period of fast growth occurred in North America. In most major centers municipalities responded by increasing expenditures for development and through the establishment of combined parks and recreation departments. The American N.R.A. creators of open space standards issued the usual cautions that standards were only guidelines and that each community must analyse its needs individually. However, standards were accepted with minor or no further analysis by the majority of communities and recreation planners. In a period of fast growth, there seemed ample justification for applying the rule of thumb approach and little time to look back or probe into the relationships of changing leisure behavior, community goals, user satisfaction, design

innovation or cost-benefit analysis.

Two planning theories which were prevalent of that time period, were being considered as possible housing alternatives. Le Corbusier's 'Radiant City' (figure 40) in which sky scrapers dominated a park-like setting was viewed by some as an alternative, while others preferred the opposite approach in which decentralized residential areas existed independently within a greenbelt; the Garden City or Radburn approach. Both were to be used extensively, though the majority of residential development in North America tended to favor adoption of the Radburn principles.

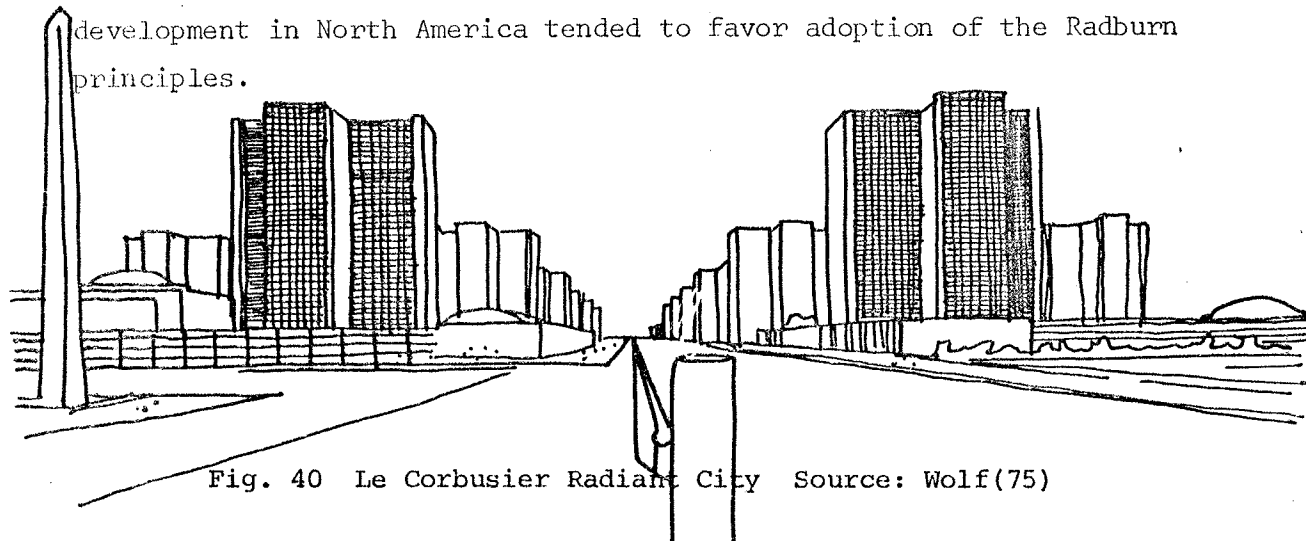


Fig. 40 Le Corbusier Radiant City Source: Wolf(75)

Apart from these two recognized planning philosophies, there existed in the background another alternative to providing fast economical housing which was to be even more influential in setting the trend for development which has become unique to North America.

"November 8, 1951, is a day to be remembered throughout America. It was a day the largest residential home builder in the world changed the life style of thousands of American citizens. It was the day that people of low and moderate income became a partner and sharer of the opportunities in the free enterprise system. It was the day a \$100 deposit bought you a ranch type home, on a minimum lot of 70' x 100' in a proposed planned, fully landscaped open spaced, garden community with paved roads and all utilities. It was the day, which five years later, would produce 17,311 homes and involve a population of over 67,000 residents. It was the day Levitt and Sons opened their sales office at the intersection of Route B and Levittown Parkway." (Popenoe, 1977, p.112)

Since that time, Levittown, Pennsylvania, the second of the major housing developments built after the War by the Levitt Organization, has become established as one of the best-known suburbs in America. As a building and development process, Levittown was the first example of planning "American style": "the comprehensive development of a large land area by a private builder" as distinct from the unplanned, piecemeal development by a municipality of small builders or individual owners. "It was 'planning' with little public or community input and represented mainly the views of the Levitt organization." Early articles about Levittown, Pennsylvania referred to it as the first large city in the United States to be preplanned since L'Enfant laid out Washington, D.C." (ibid. p. 113)

Certainly there was evidence of the Radburn principle in effect as exemplified by the following:

Characteristics:

- 17,300 - single family detached homes. Grouped into 7 or 8 superblocks.
- each bounded by major arterial roadways with public schools at the center.
- houses face inward from arterials.
- access at a few locations along collectors.
- superblocks divided into 40 named neighbourhoods. Ranging in size from 51 - 990 homes.
- each neighbourhood is bounded by a circumferential collector which is intended to inhibit through traffic.

Neighbourhood:

- Streets - few four way intersections.
- curved rather than straight.

- Housing - every house in a single neighbourhood is the same type on approximately the same lot.
- the exact design and external color of the houses are varied so that "only once in every 28 houses" does the same shape and color occur.

Levittown was not intended as a 'new town', though some have interpreted it as such. Levittown was basically a large, preplanned housing development on the edge of a metropolitan area. (figure 41)

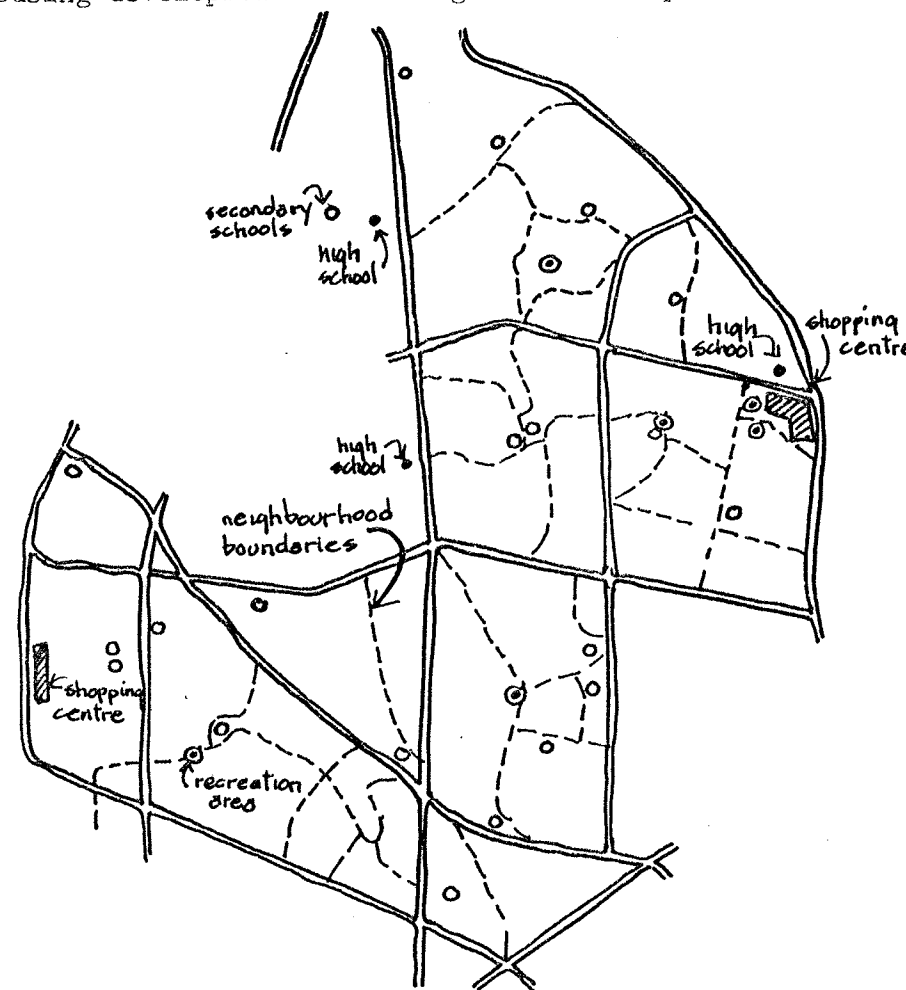


Fig. 41 Levittown Pennsylvania Source: Poponoe

The development proved to be an instant market success primarily because of the economics of scale, standardization of construction items and the preconstruction of many house components off the site.

Large scale residential development became more common place in North America as the push for increased housing development became apparent. To provide housing within the context of environments away from existing cities the concept of 'New Town' developments was started in the United States. Unlike the British Government sponsored examples, North American New Towns were initially carried out on a limited scale by privately financed interests. The individuals who sought to develop the new towns in the early 1950's were much like the utopian planners. Though motivated by investment purposes and not thoughts of social reform, individuals such as, James W. Rouse, the principle force behind Columbia, and Robert Simon of Reston possessed equally powerful and influential personalities as their former utopian counterparts.

The development of New Towns transferred the design focus from singular lots, streets, and buildings, to the whole community. It represented the next level of development from what had already been tried, while still attempting to embrace all that was good about existing urban centres with the prominent garden city planning theories. "In New Towns nature will dominate, all cities

will be green cities, man's desire for the good life and his love of nature will determine the form of the town." (Nunn, 1971).

Park Forest, Illinois developed in the late 1940's is considered the first private, wholly new community initiated in the United States. It was designed as a greenbelt town for 32,000 people with 21 recreational areas, and first introduced the concept of the regional shopping centre as the hub of the community.

Ten years later the two most popular new communities in the United States were constructed. Reston, Virginia and Columbia, Maryland most closely achieved the concept of a new community in that they were planned large scale efforts designed to provide for 10,000 or more people, over a period of time, under the control of one developer.

Reston began in 1962 on 6,750 acres of Virginia countryside. Residential, industrial and commercial uses were integrated under Residential Planned Community (RPC) Zoning.

Robert E. Simon had a number of goals in mind for the new community. The main ones as they relate to the planning and development of open space, were as follows:

1. to provide the widest choice of opportunities for full use of leisure time.

2. to create an environment flexible enough for people to remain in a single neighbourhood throughout their lives.
3. provide an opportunity for people to live and work in the same community.
4. preservation and encouragement of beauty.

James Rouse's Columbia, started in 1965, recognized similar goals but introduced a new concept in community planning. For the first time, a multidisciplinary group of planners, researchers, and related professionals worked at determining people's needs and making known their own concerns. "The result led to the development of a system of communities, usually separated by open space, based on housing clusters, neighbourhoods (800 - 1,200 families), and villages (304 neighbourhoods with 10,000-15,000 people) (figure 42)



Fig. 42 Village of Wilde Lake-Columbia

Accessibility to, and use of schools became a prime objective of the system of overlapping communities." (Miels, 1973, p.18).



Fig. 43

In general the two communities have proven to be successful and were probably responsible for initiating later government new-town involvement under a series of Housing and Urban Development (H.U.D.) Acts. Government involvement was less successful,

however, for the 1970's witnessed the initiation and demise of approximately eleven potential New Town projects including Jonathon, Minnesota; Flower Mound, Texas; Cedar Riverside, Minnesota.

At a smaller scale, however, developers in the 1960's - 1970's responded with projects near major centres which attempted to duplicate some of the earlier New Town principles. Planned Unit Developments (P.U.D.'s) were being constructed with mixed density housing in clusters around generous amounts of active or passive open space. P.U.D. zoning allowed developers to waive the traditional restrictions which plague normal single family projects, while capitalizing on added recreational and cost saving benefits. The overall density would remain the same but a greater variety of housing types could be constructed on less land thus making it possible to develop integrated golf courses or major water recreation areas. (figure 43).

IID CANADA

The application of planning principles in Canada have in the most part been borrowed from the practitioners in Great Britain and the United States. Thus when the demand for housing was created following World War II, it was to these countries that Canada sought planners and planning expertise.

To encourage residential construction the Canadian Government sponsored the 1944, National Housing Act, which provided large amounts of mortgage money for the purchase of single family detached housing. As a result the many existing small builders found that they could not readily satisfy the increased housing demand. In addition, car ownership doubled in Canada between 1948 and 1960 and the result was a series of scattered roads, and irregular arrangement of lots upon which were primarily built three bedroom, single story houses.

Hymphrey Carver, in 1948 published an influential book entitled, "Houses for Canadians" in which he proposed that a large scale building industry was needed in order to meet the current housing demand and ensure cost reductions.

E.P. Taylor, who until the late 1940's, had been a small scale developer, decided to respond to Carver's suggestions and seriously pursued the concept of a large scale housing industry. By 1953, Taylor had amassed a 2,000 acre parcel of land seven

miles north-east of downtown Toronto for the intended purpose of developing a new community.

The new residential community of Don Mills, Ontario was a significant venture in Canada and represented the best which planners were able to borrow from the United States, British, Swedish and European new town or satellite town construction. (figure 44).

✓ The neighbourhood concept, vehicular and pedestrian separation, community based jobs, liberal amounts of open space and architectural control were the principle elements to be advocated by the first large scale single development company.

✓ Neighbourhood

The neighbourhood unit, with the elementary school and playgrounds, created as a focus, was typical of these neighbourhoods. This centre was also tied to a town centre which contained a high school, library, regional centre, etc.

Circulation - separate vehicular traffic and pedestrian traffic.

- pedestrian walkways led to the elementary school
- a hierarchial road system was introduced for the first time in Canada
- principle use of T intersections
- collectors and local roads designed as a maze in order to discourage thru traffic.

Open Space
was to be

- a major design element of the plan reflected through the pedestrian walkway system, and preservation of major trees
- natural topographic features were designed around

Design
Elements

- houses to be designed by architects approved by the company
- only approved materials could be used.
- lots were made 60' x 100' (instead of standard 40' x 125') in order to allow the longer side of the house to face the street.

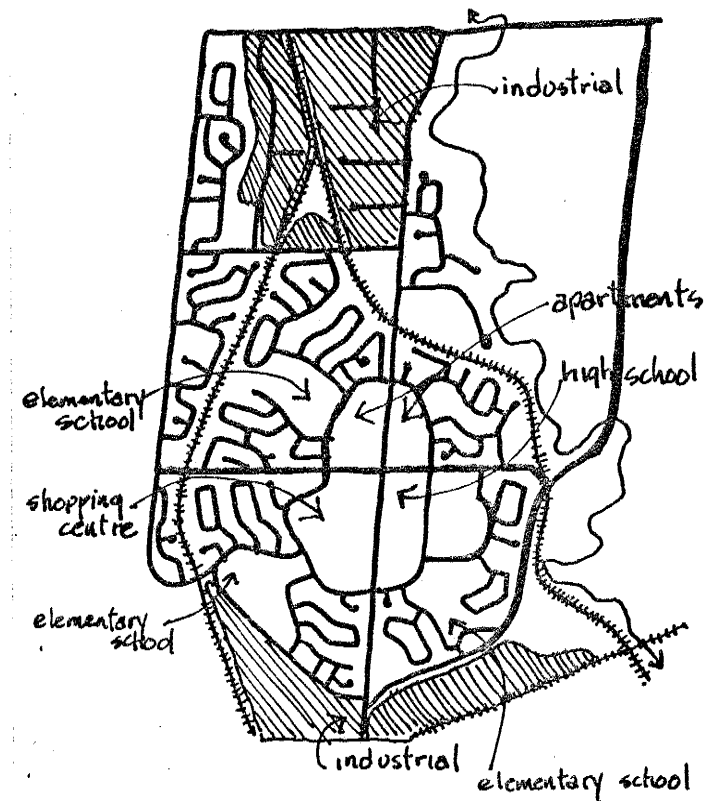
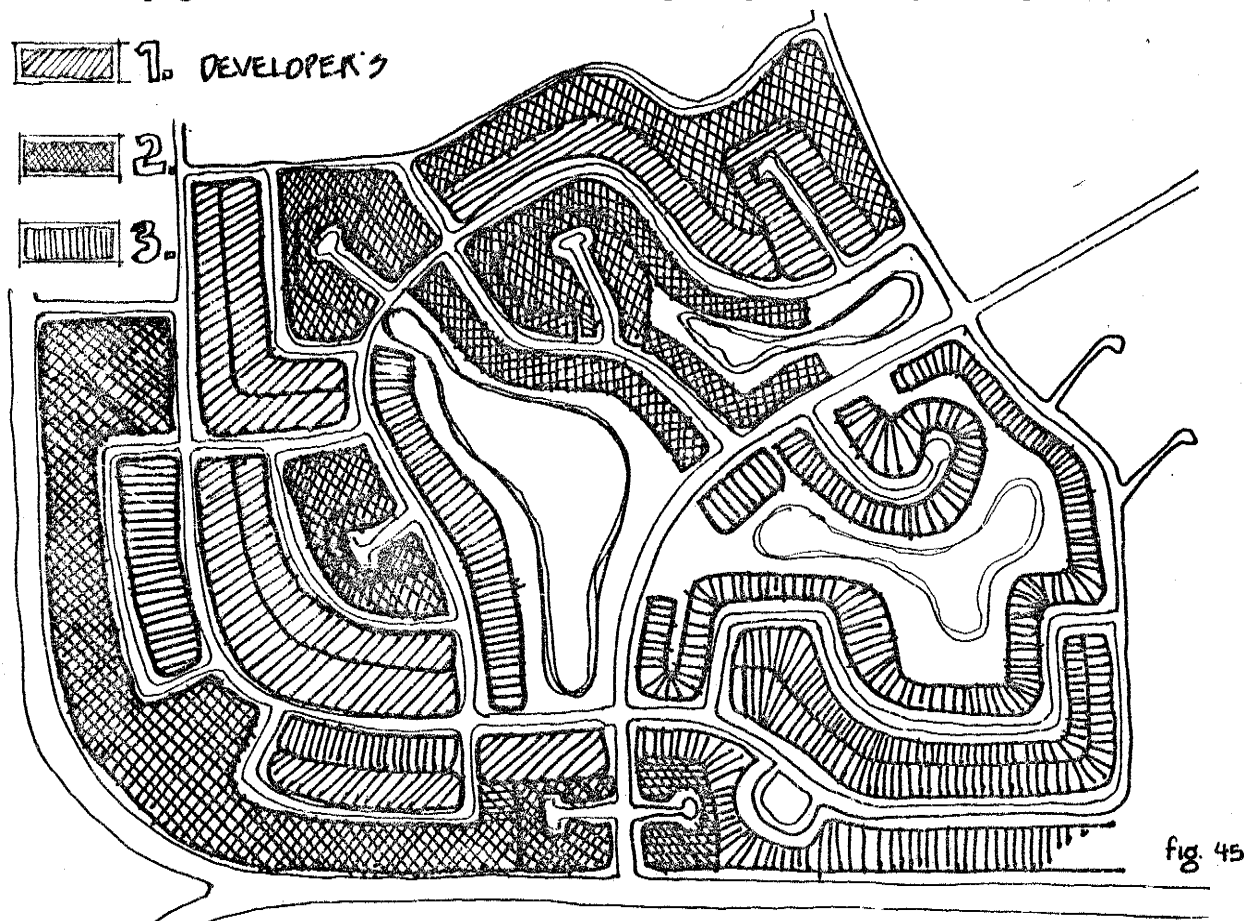


Fig. 44 Don Mills

Sewell suggested in a City Magazine article that Don Mills, while not solely responsible for setting the pattern which was to exemplify suburban development in Canada, did however, define the basic elements and the business practices which were to be copied and used by other developers across Canada. (Sewell, 1977, p.19-57).

Following the advent of Don Mills a number of large building conglomerates were found in Canada, who were able to amass moderately sized (200-400 acre) parcels of land and develop mini-Don Mills projects throughout Canada. The following plan (figure 45) is a section of a recent example of such suburban development in Winnipeg in the late 1970's as developed by three major companies.



This chronological ordering of events has attempted to pull out the most significant persons or occurrences which have been most influential in affecting residential living environments and subsequently the rationale behind North American open space development. However, the question of whether or not these actions transpired in a continuous complementary fashion or whether they simply occurred as separate events throughout history may in part be witnessed by the state of the art in terms of current open space development and allocation policies. In fact, it does appear that there was a greater sense of spatial harmony between the residences and their context during the early Utopian period than there is today. Certainly these early Utopian planners and men like Ebenezer Howard and Clarence Perry were responding to personal beliefs and specific social injustices which occurred at their specific time. Whereas United States new town developers such as James Rouse, and Robert Simon, the Levittown organization and eventually E.P. Taylor and his planners of Don Mills were motivated primarily by financial interests and the pressure to produce housing units quickly. This attitude and the factor of increased mobility tended to focus the development on housing, rather than the housing environment.

The 20th century with its predisposition towards quantity rather than quality has generally witnessed in North America the application of all these previous planning principles or variations thereof, sometimes arbitrarily selected without a sense of complete awareness or understanding. To facilitate the administration of new developments and ensure that open space is provided as a compulsory component within residential areas the 'standard' approach has been created and adopted by most city parks and recreation departments. As a result, the goal has often become simply to supply the required acreage without consideration for the role or function that such space may contribute within a larger setting.

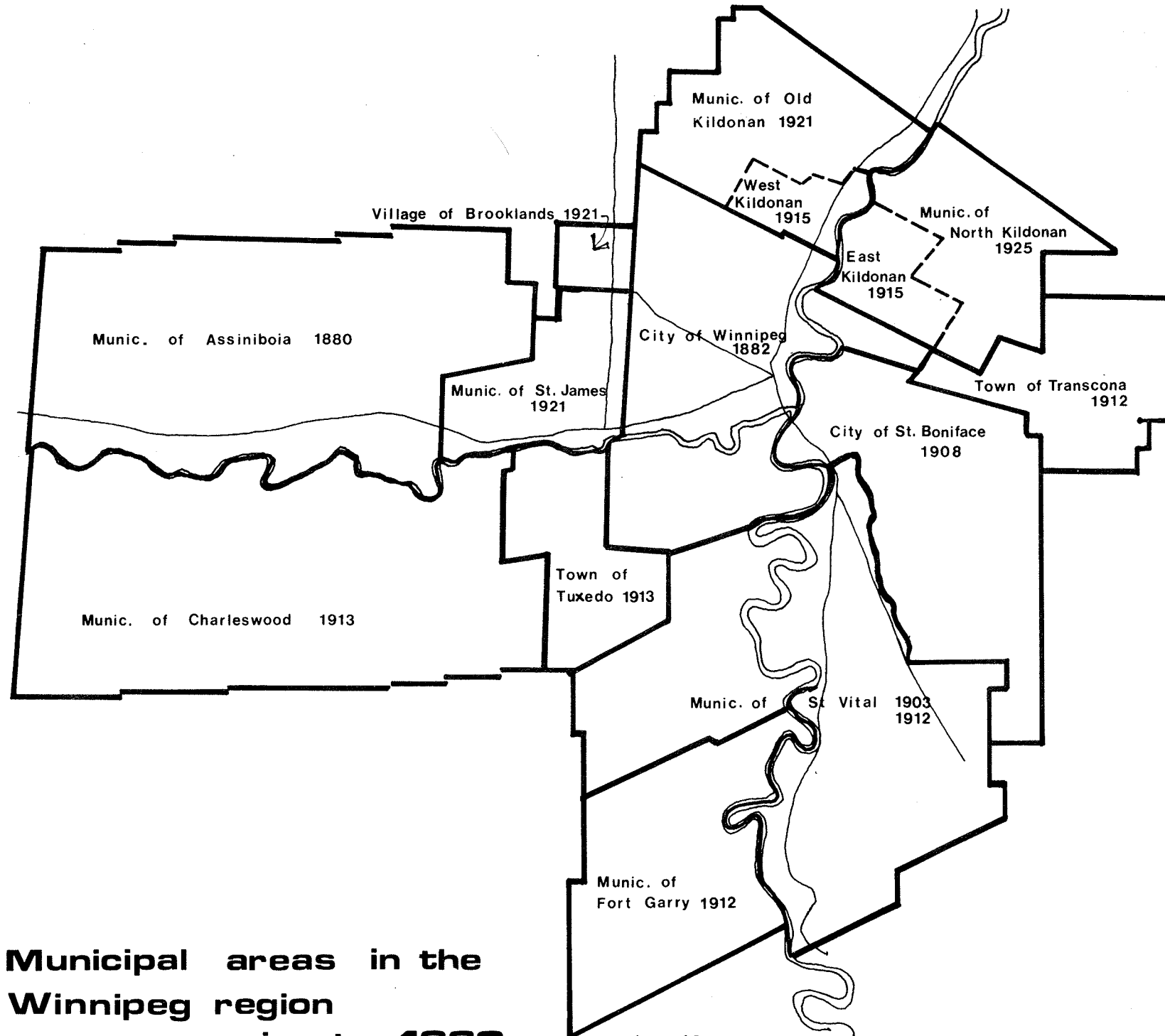
This period of development has also witnessed the increase of social science involvement in determining how and why persons utilize space. Unlike previous examples of planning in which one person or agency dictated a philosophy which was to be enacted, these social researchers are attempting to persuade designers that physical design should also respond to life styles and the manner in which various age groups relate.

Consequently, the design of residential areas and types of open space planning have become more complex as the variables are enlarged. It is no longer satisfactory to simply create a

residential environment within a "park like setting", though this would be more purposeful than most current projects. The needs of various age groups, the amount of time spent outside, the type of athletic facilities, the density allowed, the specific locality and climatic conditions, etc. have become the criteria which must influence residential design in this time period. Unfortunately, it appears that a preoccupation with individual goals (ie. the supply of affordable housing by focusing only on the construction of the house) has led to the loss of the qualities which prevailed during the historic times and accompanied projects like Riverside, Letchworth, and Radburn.



*Winnipeg Open Space
History & Standards
Unit III*



**Municipal areas in the
Winnipeg region
prior to 1960**

Fig. 46

III A WINNIPEG CONTEXT

In 1872, the 1500 people who lived in the Red River settlements applied to the Provincial legislature for the right to be incorporated into a city. Winnipeg was granted official status as a city in November of 1873. The establishment of a railway line through Winnipeg encouraged a rapid increase in population and necessitated the expansion of city boundaries during the boom period of 1881-82. By 1914, with the gradual addition of four adjacent parcels of land, the city encompassed 23.6 sq. miles, and was divided into seven political wards. (figure 47).

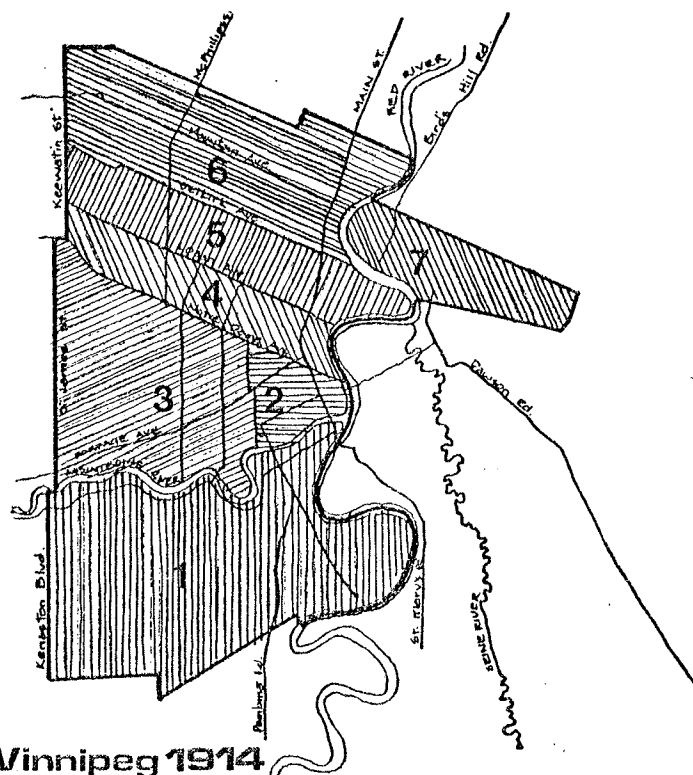


Fig. 47

Winnipeg 1914

While the city was expanding, however, other municipalities, villages, towns and even cities were being established in the surrounding area.

III A MUNICIPALITIES

In 1880, a Provincial Municipal Act partitioned the area surrounding the City of Winnipeg into three municipalities: Assiniboia, Kildonan and St. Boniface. By 1925, ten suburban municipalities, towns and villages had developed around the cities of Winnipeg and St. Boniface, each with their own municipal services and political structures. The rapid expansion outward from the original settlement was primarily influenced by improved methods of transportation.

Prior to mass automobile ownership, the street cars were the major means of transportation. In Winnipeg the street car system commenced in October 1882 and expanded rapidly thereafter. The construction of street car lines across the C.P.R. mainlines, the Assiniboine and Red Rivers, was necessary before any extensive residential development could take place to the north, south and east of these barriers.

The metropolitan development of Winnipeg grew sporadically in different areas around the initial city centre due to a number of influencing factors, such as drainage, circulation, river and rail line barriers.

Thus, by 1960, the twelve municipal units which comprised the area for Greater Winnipeg varied greatly in land area and population size. (figure 46). Some areas were almost entirely agricultural while others, particularly the City of Winnipeg were wholly urban in nature. (See Appendix I)

III B PARK DEVELOPMENT IN WINNIPEG PRIOR TO 1960

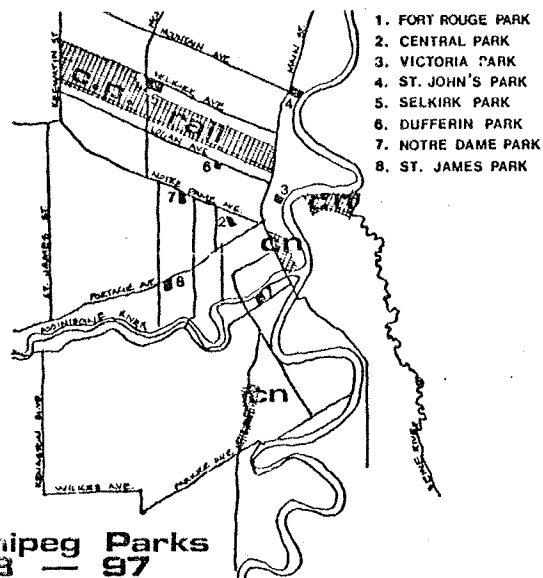
"Planning did not become a matter of public interest in Winnipeg until 1910 despite the formation of a Parks Board in 1893. Prior to 1910 the only concern for the physical development of the city was expressed in the setting aside of land for several parks and in a boulevarding and tree planting program. Early pleas for aesthetic development were not taken seriously in an era when most of those involved in the building of the city were interested solely in quick profits. Indeed, the growth of a "park movement" in Winnipeg after 1892 was even then not so much a response to the haphazard development of the city or even its unfinished appearance, as a reaction to the prospect that all the land in the city would soon be occupied. This would have meant that when parks were eventually planned the costs of acquiring suitable sites, both as to size and location, would have been either impossible or too costly." (Artibise, 1975, p.267).

The provincial Municipal Act, previously passed, had not mentioned public parks. Thus it was necessary to approach the provincial government with a draft proposal relating to the guidelines of establishing and maintaining public parks. In April, 1892 the Public Parks Act for Manitoba was passed. It was based on similar rules in existence throughout other Canadian provinces and the United States. An appointed board was to manage and control parks and an annual tax levy could be collected by City council upon receipt of a majority vote from rate payers.

The following sections of the Public Parks Act pertained to park acquisition development administration and approval standards in 1892:

- "6. All parks, boulevards, avenues and drives, and approaches thereto, or streets connecting the same, dedicated to public use in any city or town where this act is adopted, shall be open to the public free of charge, subject to such bylaws, rules and regulations as the board may make as to the use thereof."
- "36. Real and personal property may be devised, granted, conveyed, bequeathed or given to the city or town for the purpose of the improvement or ornamentation of the park or parks of the city or town, or of the approaches thereto, or of the streets connecting therewith; or for the establishment or maintenance on park property of museums, zoological or other gardens, collections of natural history, observatories, monuments, or works of art, upon such trusts and conditions as may be prescribed by the donor.

37. The board shall have power and authority to select and acquire, by purchase or otherwise, or to lease the lands (whether wholly or partly covered with water), rights and privileges needful for parks purposes.
38. The lands purchased by the board, together with those assumed by them as and for park purposes, at the time of the adoption of this Act, shall not together exceed, in the case of cities having a population of twenty-five thousand inhabitants and over, six hundred acres, and in other cities, four hundred acres, but lands in excess of these quantities may be taken by devise or gift."



**Winnipeg Parks
1893 — 97**

Fig. 48

During the period between 1893-97 the Parks Board set about the task of establishing "small urban parks, ornamental squares, or breathing spaces, throughout the city." (Artibise, 1975, p.268). (figure 48).

Following the construction of these small urban park spaces, discussion began to centre around the construction of a large suburban park, "so that suitable spaces could be set aside for playgrounds, ballfields, tennis courts, cricket grounds, etc. and for a pavilion." (Artibise, 1975, p.268)

Assiniboine Park was constructed on the banks of the Assiniboine River in 1904 and covered 282 acres. It was originally designed by Frederick G. Todd, a landscape architect from Montreal, in conjunction with the Parks Board and George Champion, (Superintendent of Public Parks Board 1907-1935). The zoo, duck pond, cricket fields, picnic ground, Palm House, and English Garden satisfied a wide variety of interests and contributed to the continued popularity of Assiniboine Park as Winnipeg's foremost example of early park development. (City of Winnipeg Parks and Recreation Department, 1972).

Following the establishment of Assiniboine Park in the vicinity of the future Tuxedo municipality, F.W. Heubach, manager of the Tuxedo Park Company made a proposal for integration of the Park with the relocation of the University of Manitoba and a residential development around such other features as Olmsted Park.

TUXEDO PARK

The Suburb Beautiful

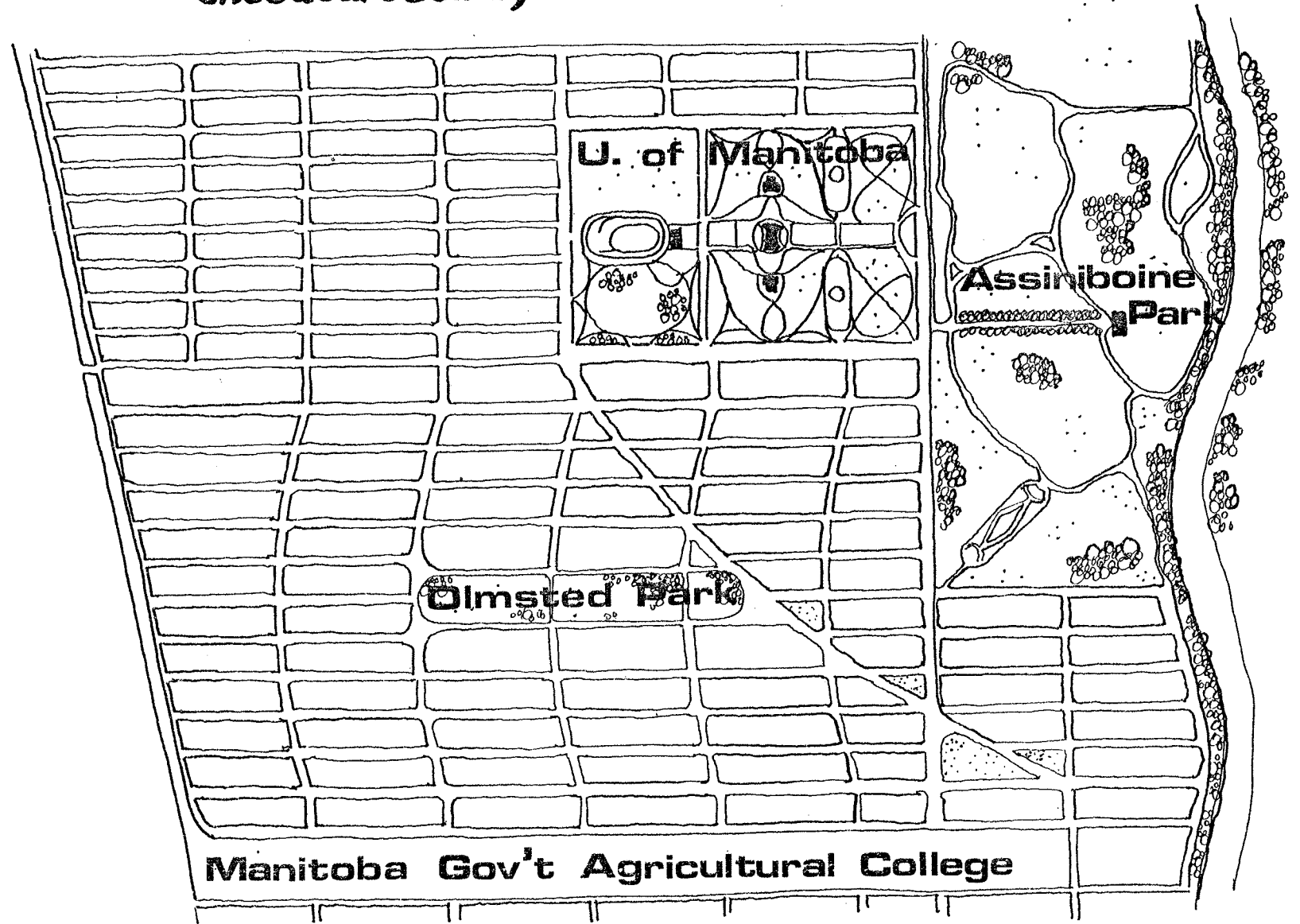


Fig. 49

The proposal for Tuxedo Park was initially laid out by the landscape architecture firm of Olmsted Brothers from Massachusetts, and represents the manner in which a number of residential areas were created at that time. (figure 49). Large parcels of land were acquired and planned by various individual companies. The plan was simply a proposal. Although the University of Manitoba did not become incorporated into this residential park proposal, Olmsted Park was eventually developed in 1965 to become Heubach Park.

At this time it appeared that the early development of residential park space was controlled by the individual programs of each city, town, village or municipality and the design objectives of individual developers and planners. The city of Winnipeg, however, pursued an active program of park and recreation development.

Mr. George Champion, in his superintendent's report of 1908 indicated that "it was imperative that steps be taken to acquire land in the various outlying sections of the city, for future park sites". It was further stated that "the growing city of Winnipeg was desirous of a large suburban park to the north of the city to fulfill its needs for outdoor recreation and relieve the congestion already apparent in Assiniboine Park. In 1909,

71.35 acres were purchased on the Red River in West Kildonan Park. The park was to be designed in the style which Frederick Law Olmsted had utilized extensively for his development of North American Parks. (City of Winnipeg Parks and Recreation Dept., 1972)

The city's Park Board, in an effort to further reduce the bleakness of the prairie landscape, instituted a program of 'boulevarding' and street tree planting throughout the city. "As the parks and boulevarding program progressed, it was noted with some degree of satisfaction that besides providing aesthetic enjoyment, these developments did much to increase property values. Many property owners in the city looked on boulevarding and tree planting as a form of landscaping for their own private benefit." (Artibise, 1975, p.269).

In the wave of a North American City Planning and City Beautiful movement, Winnipeg responded by establishing a City Planning Commission in 1911 to study and report on a number of issues (housing, social and health condition, traffic and transport and aesthetic development) and eventually prepare a physical plan. Despite a seeming lack of commitment from City Council the Planning Commission succeeded by 1913 in producing a relatively concise and objective document. The document made many suggestions related to the city's park program, which was felt at



be inadequate. For example, it was recommended that since the most marked deficiency was in the central district, more playgrounds or "neighbourhood centres" should be quickly established." (Artibise, 1975, p.277) Thus, by 1914 a number of additional city parks or squares had been acquired, bringing the total park area of the city up to 580 acres. (figure 50) However, like Assiniboine Park many were a considerable distance from city limits. From the onset cemeteries were not viewed as usable park space, as had been the case in many other early North American centres. The rivers were extensively used in the winter for skating and hockey and became the sites of large artificial toboggan runs.

Increased mobility during the late 1920's created the demand for a major park in the south. The City Parks Board entered into negotiations with the Municipality of St. Vital in 1928 and acquired 110 acres of riverbank property. A plan for St. Vital Park was completed in 1931 by George Champion following the English landscape style with its curvilinear system of traffic and pedestrian movement. (City of Winnipeg Parks and Recreation Department, 1973)

Municipalities at this time were almost exclusively responsible for administering their own individual park programs.

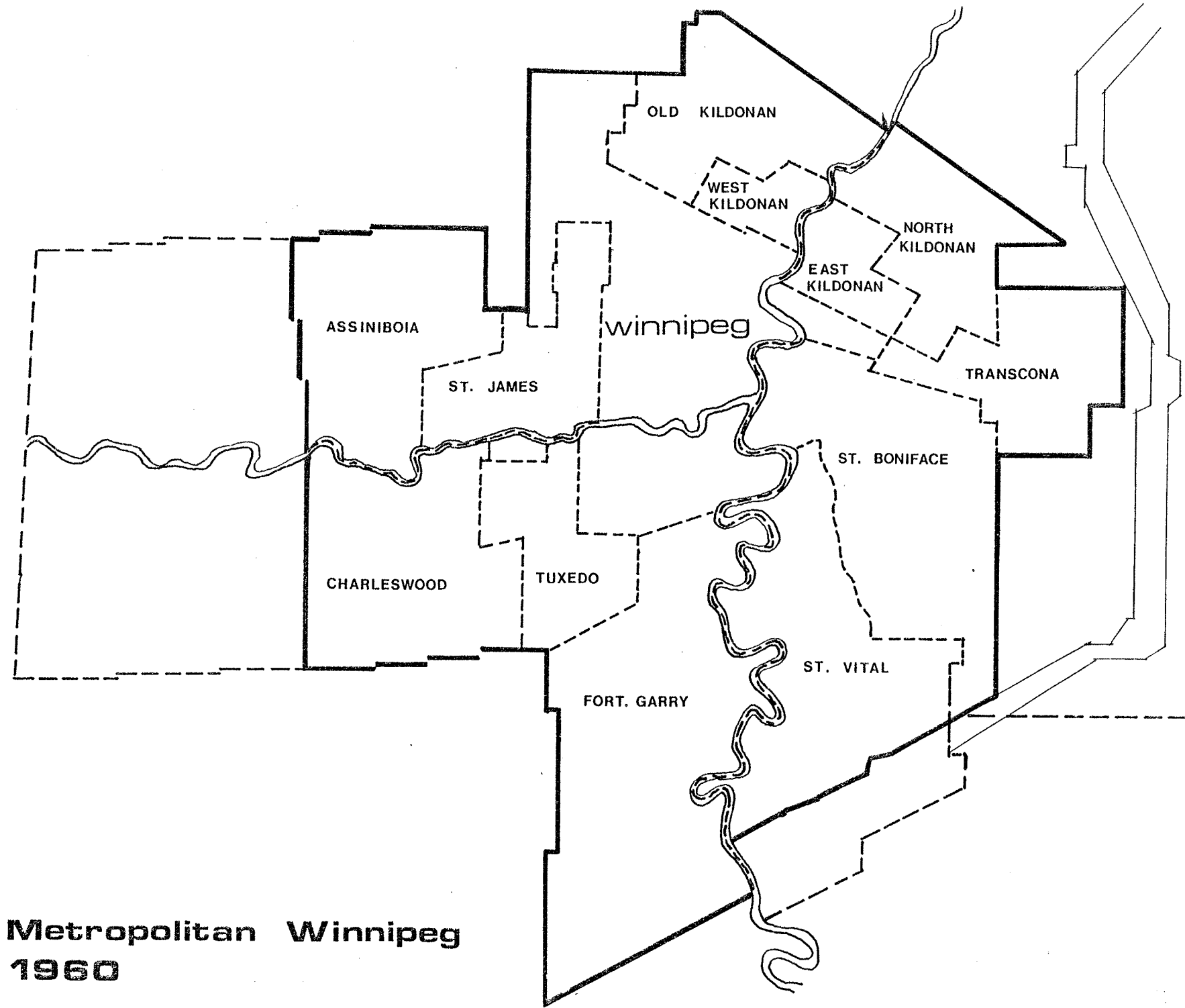
Each city, town or village was advised by an established department or private board. For example, in St. Vital the local parks and recreation Advisory Board was composed of: 2 citizen members, 3 Committee Councillors, 1 representative from each of the five community centres, and 1 representative from the school division⁽¹⁾

Prior to the formation of Unicity (1972) each of the municipalities also administered their own park and recreation systems and acquired land for these purposes from developers through the method of dedication. Though there were differences, most of the administrators were acquainted with the standards proposed by various National Parks and Recreation Journals. Land dedications from developers generally ranged from seven to ten per cent. Varying percentages of land were also purchased during this time by local areas, either in addition to or instead of the dedicated areas.⁽²⁾

The Depression of the 1930's brought construction and suburban expansion to a grinding halt in Winnipeg. It was not until after the war that development continued and economic prosperity once again began to return.

(1) (Source: Don Hart, Recreation Director '77, St. Vital)

(2) (Source: Jim Swail, Director of Recreation and Community Parks - City of Winnipeg)



**Metropolitan Winnipeg
1960**

In the mid 1950's a new Winnipeg Board of Parks and Recreation was created to administer park lands within the City of Winnipeg and the newly established regional parks.

III C METROPOLITAN CORPORATION OF GREATER WINNIPEG

A provincial-municipal committee was eventually formed in 1952 to study the political and financial problems of the Manitoba municipalities. Many of the essential inter-municipal services were controlled by single purpose boards or commissions but there was a growing awareness of the need for better co-ordination of services which could not be adequately provided by joint services or individual municipalities. Increasingly the central city of Winnipeg came to resent the services it provided to the surrounding municipalities, such as hospitals, major parks, recreational and cultural facilities. The satellite municipalities complained of their inability to raise revenues to match those of the central city, while at the same time they attracted Winnipeggers with the lure of lower taxes.

Following a period of extensive study it was recommended that a strong central authority be established with responsibility for a large number of inter-municipality services. In March, 1960, Bill 62 became law and the Metropolitan Corporation of Greater

Winnipeg was established.

On January 1, 1961, the elected Metropolitan Council officially assumed responsibility for the area's transit system, water supply, sewage disposal system, planning, and assessment. Parks, municipal golf courses, zoning and building permits, and inspectors were assumed as metropolitan services on April 1. With the passing of Bill 62 and the creation of Metropolitan Winnipeg, the newly formed Winnipeg Board of Parks and Recreation became known as the Metro Parks and Protection Division. The group assumed responsibility not only for park lands within the City of Winnipeg and district parks but metro routes and boulevards, riverbanks, golf courses, special sites, large shared recreational sites and pools.

✓ New boundary lines were also drawn for Metropolitan Winnipeg in conjunction with the passage of Bill 62. The area was composed of seven cities, five suburban municipalities; and one town; a total of thirteen municipalities with the City of Winnipeg forming the centre.

Despite the many criticisms, Metro government appeared to have made some positive contributions to the Greater Winnipeg area. In the field of planning it produced for the first time a master blueprint for the region called the Metropolitan Development Plan.

no. of councillors-3

**Unicity — 1972 & the
Additional Zone**

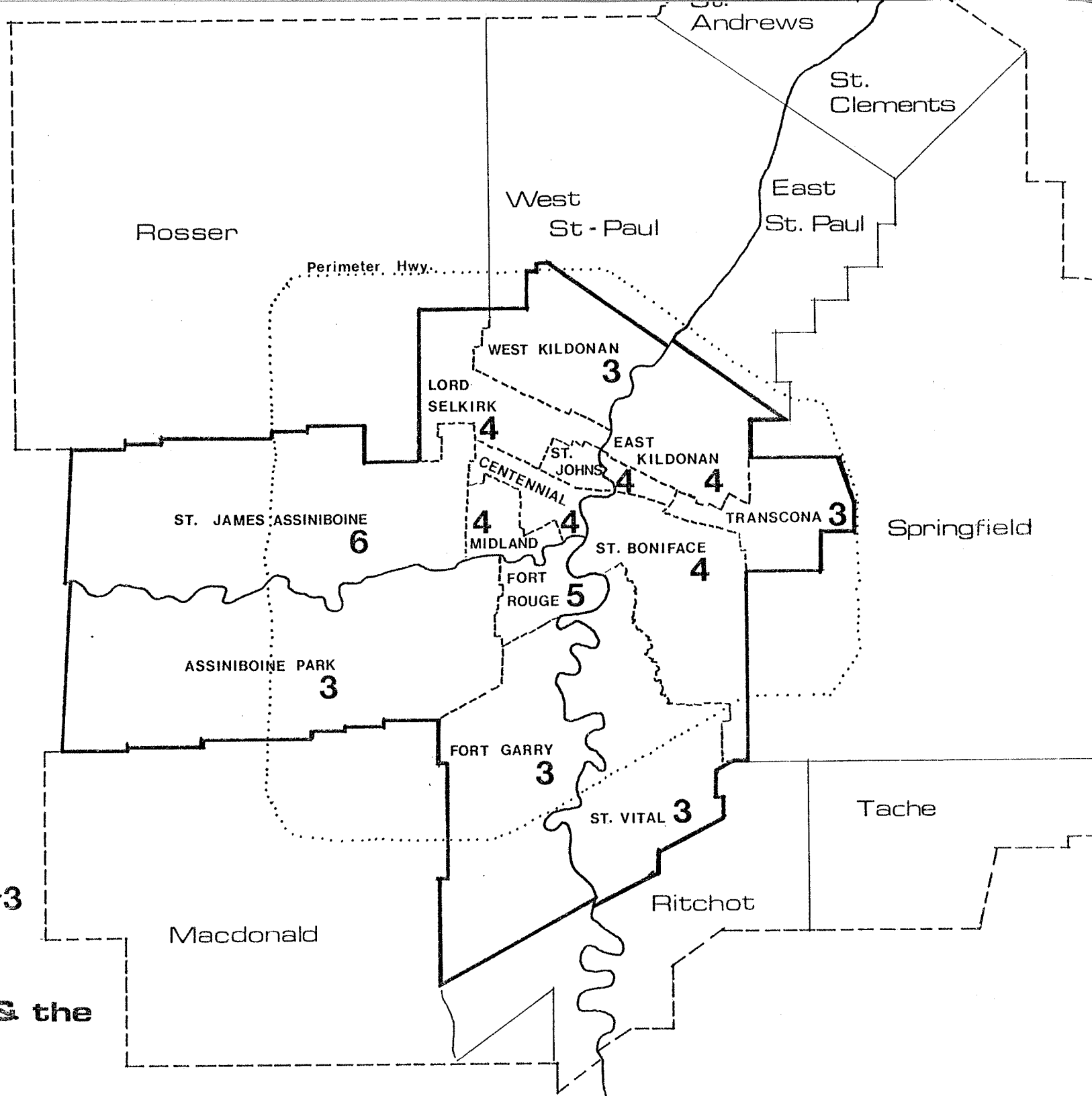


Fig.51

It laid out new thoroughfares, built several bridges and upgraded the transit system. It coordinated the use and distribution of water and the disposal of sewage. It equalized land assessment and provided an overall building and zoning code. Metro enlarged a number of parks, landscaped streets, built playgrounds and integrated river bank planning into the parks and recreation program.

The neighbourhood concept had been and continued to be recognized as a major planning mechanism within the new structure. In conjunction with central school site this method was utilized to encourage the establishment of neighbourhood community centres as important recreational and social focal points within municipal districts. This idea has been retained, so that presently there are eighty-one community centres in operation.

III D UNICITY

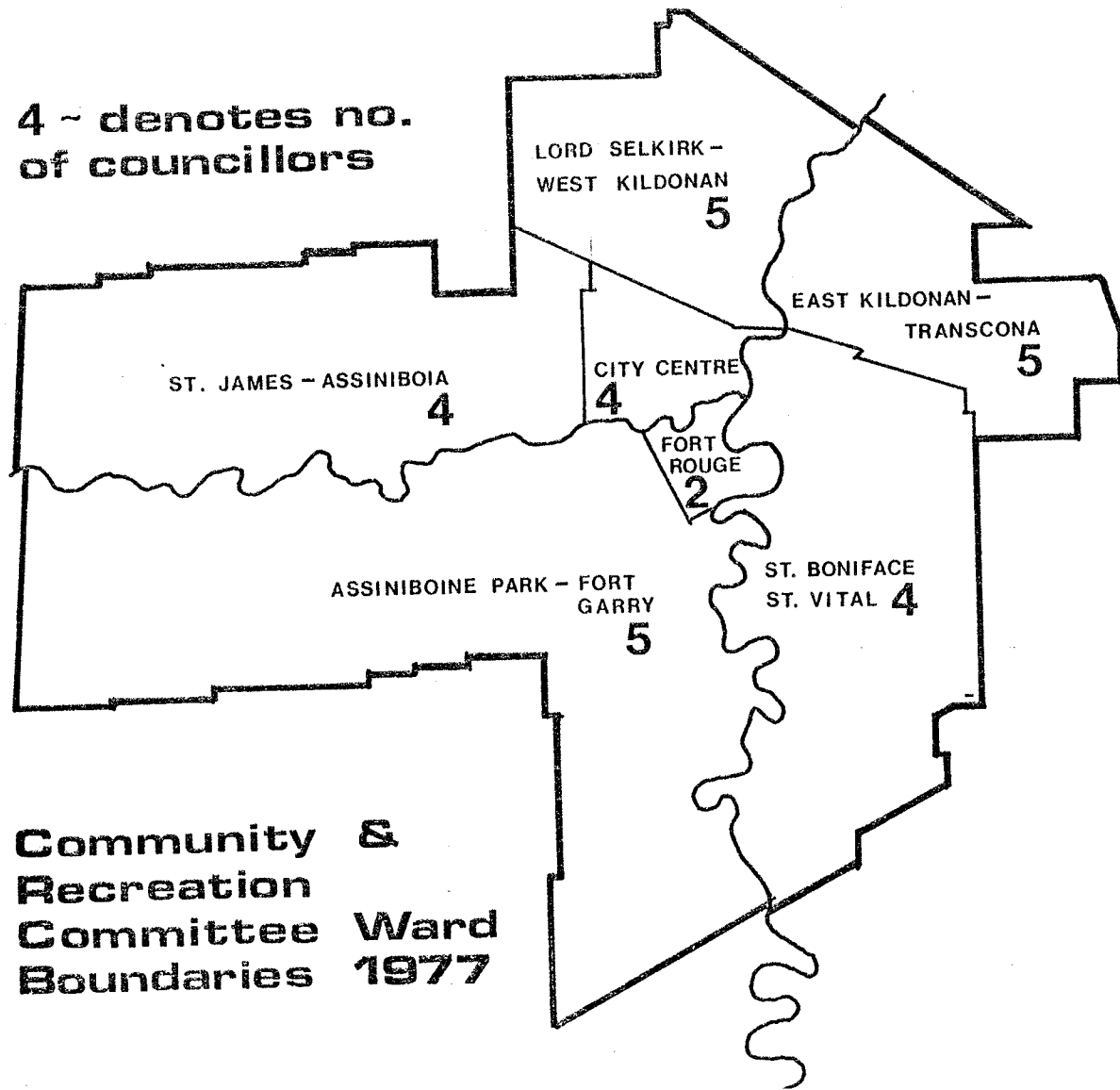
The introduction of metropolitan government in 1960 provided an improvement in the quality of certain services administered on a regional basis, but it also created new difficulty. "Problems stemmed from fragmented authority, segmented financial capacity, and lack of citizen involvement. The metropolitan system lacked authority to effectively equalize the tax burden and to distribute services rationally throughout the metropolitan area." (Artibise and Dahl, 1975, p.66)

After considerable discussion and debate the Manitoba Government created on January 1, 1972 a unique form of government for Winnipeg. On that day the eleven Winnipeg area municipalities (including the City of St. Boniface) and the town of Tuxedo ceased to exist. The local governments were replaced by a fifty member Greater Winnipeg Council. The new boundaries encompassed 106,080 acres. The city also became responsible for an "additional zone" surrounding the city. Thus, the whole territory is made up of the metropolitan area proper (218.4 sq. miles) and an additional zone (436.2 sq. miles). (figure 51)

In an attempt to improve the relationship between citizens and the local government a system of Community Committees was initiated. Thirteen community committees were established under Unicity. Each was composed of the elected councillors representing the ward who received input from local Resident Advisory Groups (R.A.G.).

In 1977, after five years of operation it was decided that the original boundaries and subsequently the number of councillors resulted in a very cumbersome political structure. Thus a revised act was passed the same year which redefined the city into seven wards instead of thirteen with twenty-nine councillors instead of fifty. (figure 52)

4 ~ denotes no.
of councillors



**Community &
Recreation
Committee Ward
Boundaries 1977**

Fig. 52

III E PARKS AND RECREATION UNDER UNICITY

a) Park and Recreation Boards

"Notwithstanding the other provisions of this Act, every park board and every park and recreation board established by an area municipality in existence immediately before this Act comes into operation is continued, and shall supervise the delivery of the parks or park and recreation services for which it was responsible at that time, and shall have the composition and duties provided in this section". (Bernard, et al, 1975, p.51)

Composition: a) not fewer than two nor more than four members of the Community Committee

b) not fewer than one or more than three citizens.

A majority of the members of the board shall be members of the Community Committee.

Duties: Each board supervises the delivery of the parks or park and recreation services in the community.

Number:	1) East Kildonan	4) St. James Assiniboia
	2) Fort Garry	5) St. Vital
	3) St. Boniface	6) West Kildonan (Public recreation commission)
		7) Winnipeg: Parks and Protection Division Inner City Parks and Recreation Division.

Six district boards were retained in conjunction with the existing Winnipeg agencies to supervise the delivery of parks and recreation services in their community. However, the role of

dealing directly with developers or establishing governing standards was to be retained at the Unicity level, and responded to by such groups as the Environment Committee and Advisory Committee Group (A.C.G.).

Park studies in 1967 internally by City of Winnipeg and 1969 by Problem's Research Ltd. - Saskatoon, suggested that uniform standards be adopted throughout the city and recommended a division of park and recreation responsibilities between the City municipalities and the province. In 1969 it was suggested that a standard of 8 acres per 1000 persons be adopted. Application of this standard resulted in four communities being deficient by approximately 1000 acres. (Winnipeg 876 acres, East Kildonan 96 acres, St. Boniface 86 acres, and West Kildonan 68 acres). However, of the existing 3,950 school yard and park acreages, 1,737 were deemed to be unused. (The criteria for this discovery is not made clear in the report).

As new departments and re-organization occurred under the Unicity structure a greater sense of these deficiencies and the inherent problems in providing a uniform delivery of park and recreation facilities was revealed. Developers complained of the unnecessary bulkiness of the ward system and the consequent time and numbers of approval steps which were required for subdivision approval. Changes were forthcoming.

In 1976, a reorganization of the Parks and Recreation Department was started. By July, 1977 City Council had adopted these departmental changes and streamlined them to coincide with new community boundaries.

A general manager of Parks and Recreation was appointed to oversee the operations of Directors for:

- 1) Planning Development and Central Services
 - a) Manager of Planning and Resources
 - b) Manager of Construction and Maintenance
- 2) Planning of Recreation and Community Parks
 - a) Manager of Regional Recreation Services
 - b) Manager of Inner City Parks and Recreation
 - c) Manager of St. Boniface and St. Vital
 - d) Manager of Transcona - East Kildonan
 - e) Manager of West Kildonan - Lord Selkirk
 - f) Manager of St. James - Assiniboia)
 - g) Manager of Fort Garry - Assiniboine Park)
- 3) Regional Parks and Operations
 - a) Manager of Regional Parks and Boulevards

b) Parks and Recreation Budget

Between 1966-1970 Recreation and Community Services received 5.7% of the total annual city budget. In 1972-73 under Unicity they received 7.2 and 7.3%. In 1976 Parks and Recreation was budgeted \$22,915,000 - approximately 13% of total budget. Of the total budget approximately one-tenth was used for capital works, the remainder was utilized for works, operations, maintenance, and management. Operating grants to community centres also come under the jurisdiction of the Parks and Resreation Program. Such increased operating and maintenance costs have necessitated a number of deviations from the previous Parks and Recreation Program:

- 1) joint use programs have been established between school boards and community groups for after hours use of schools.

- 2) individuals in suburban areas are now responsible for boulevard maintenance.

- 3) smaller parcels of land are deemed undesirable for dedication purposes because of the high development and maintenance expense.

- 4) more pressure is being placed on the developer to fully develop parcels of land before giving them to the City Parks and Recreation department (the costs incurred are usually passed on directly to the home purchaser.)

5) land is being developed more slowly by the city; development and maintenance standards have been reduced.

c) Amount and Allocation of Public Open Space

Under the Unicity agreement, three levels of planning were recognized:

- 1) The Metropolitan Development Plan (by-law 1117)
- 2) District Plans for each district in the city and the additional zone.
- 3) Action Area plans for each action area identified by the Greater Winnipeg Development Plan.

Such plans have not yet received a considerable amount of input from the newly organized Parks and Recreation Department thus the general nature of acquiring and development public 'green' open space is still handled primarily at the community level. At the community level it is 'lobby' planning which stimulates the

basic supply of goods and services. The location of dedicated park land is usually decided after numerous development meetings, and the Department will allocate funding for development of the space, once a request is received from local residents. Such requests are usually met if the residents limit their requests to the basic supply of: swings, slides, benches, baseball diamonds, etc.

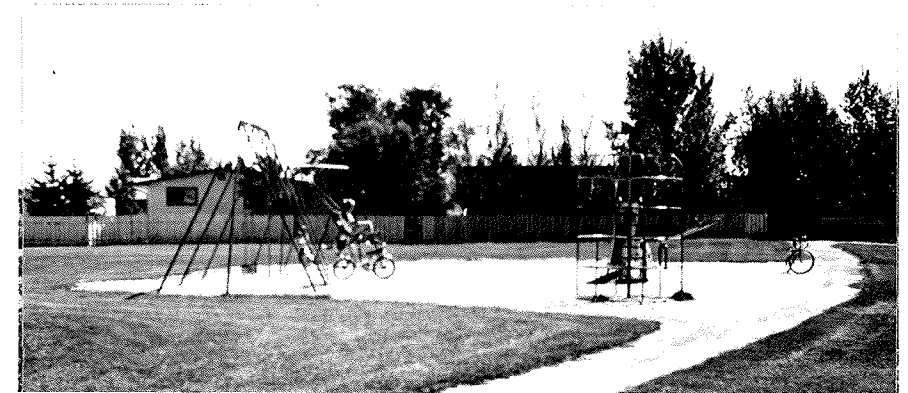
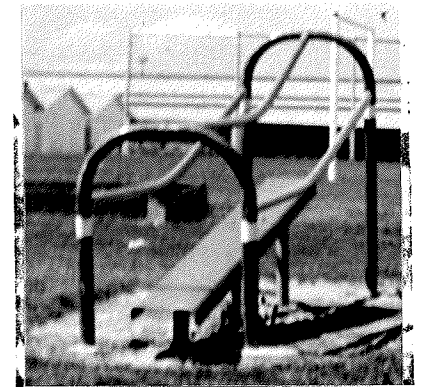


Fig. 53

III F SUBURBAN GROWTH AND THE DEVELOPMENT PROCESS - WINNIPEG

In general the growth of Winnipeg's suburbs was just getting underway when the war broke out in 1914. Yet even at this early date a district pattern emerged; one that was to be followed for several decades.

The areas of greatest growth were those to the west (St. James) south (St. Vital and Fort Rouge) and east (St. Boniface).

Development continued with the help of the street car and automobile at a slow even rate within each municipality until the end of World War II. During this time period land was developed entirely according to the grid system. Streets went north and south perpendicular to the Assiniboine River and Portage Avenue. North-East and South-East parallel to Main Street, Henderson Highway, and the Red River, though perpendicular to Notre Dame Avenue.

At this time small builders who generally constructed less than twenty-five units per year were the main housing contractors. In the case of luxury homes in Tuxedo Park, the Sparrow Building Company and Lount Building Companies built houses according to the individual tastes of their clients. Different plans, materials and construction methods led to the development of blocks which contained an amount of necessary variety.

The development of open park space was characterized by formal parks which occupied entire grid blocks or small corners of blocks. Road rights-of-way were generally fifty feet wide with twenty-four foot road ways and varying housing set backs. (15'20'). Local stores and commercial outlets fronted on main thoroughfares and block corners. Lots were usually twenty-five feet or thirty-three feet wide by one hundred feet with varying sideyards. (2-3'). Fences or hedges usually marked the front property lines or alley boundaries. (figure 54,55)

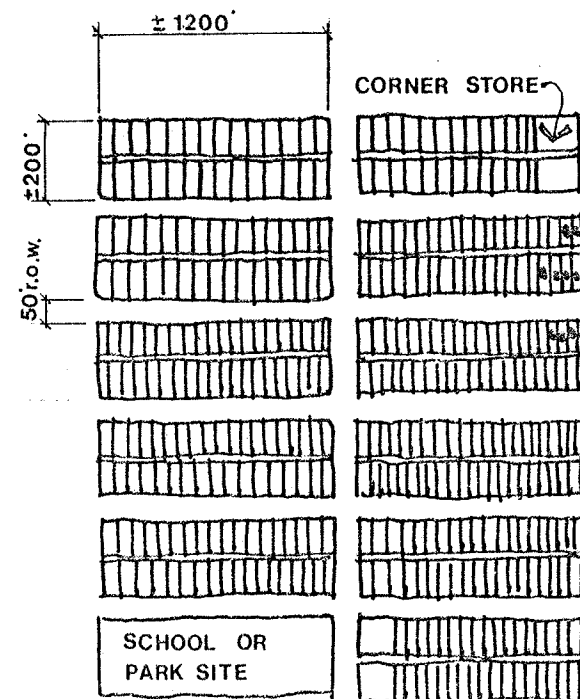
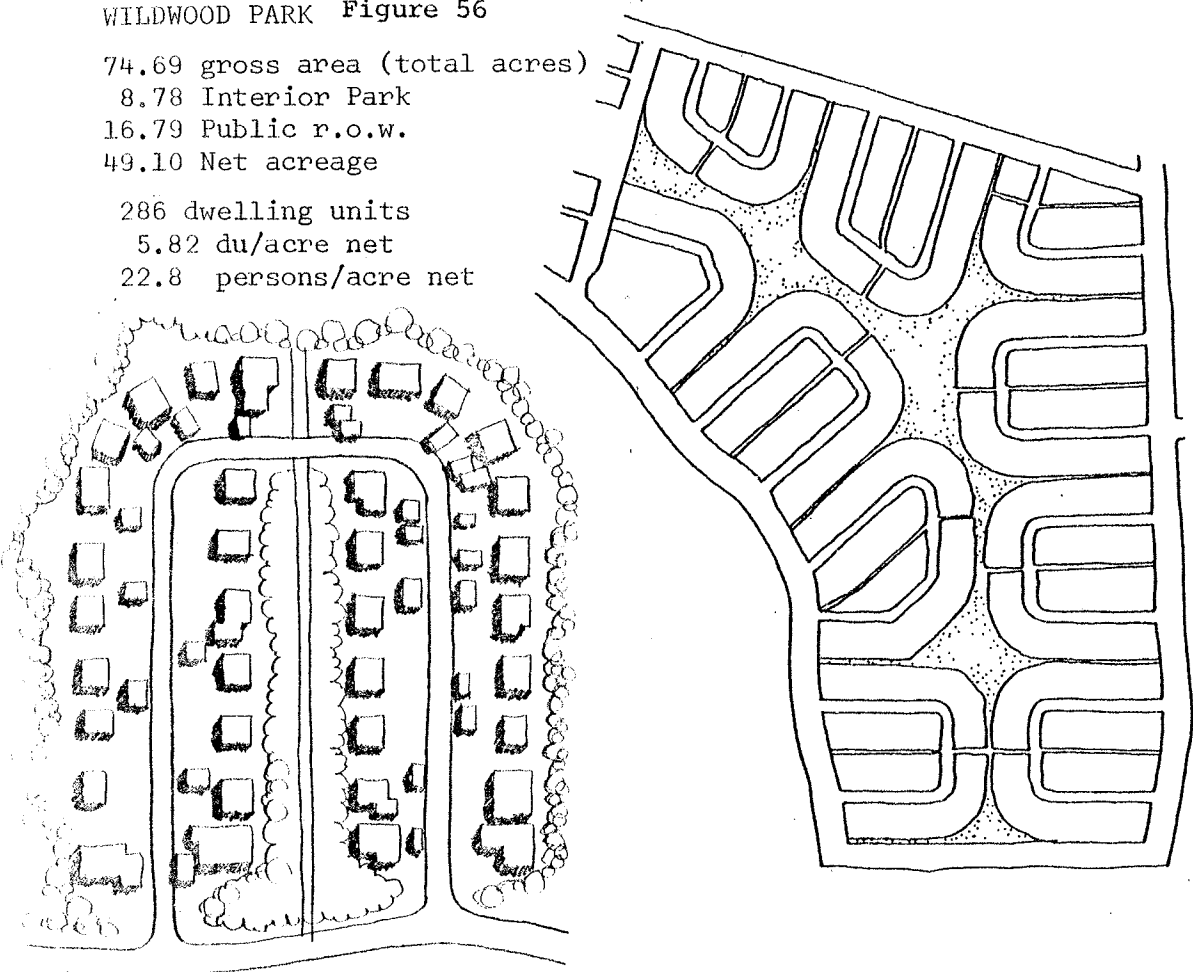


Fig. 54,55



WILDWOOD PARK Figure 56

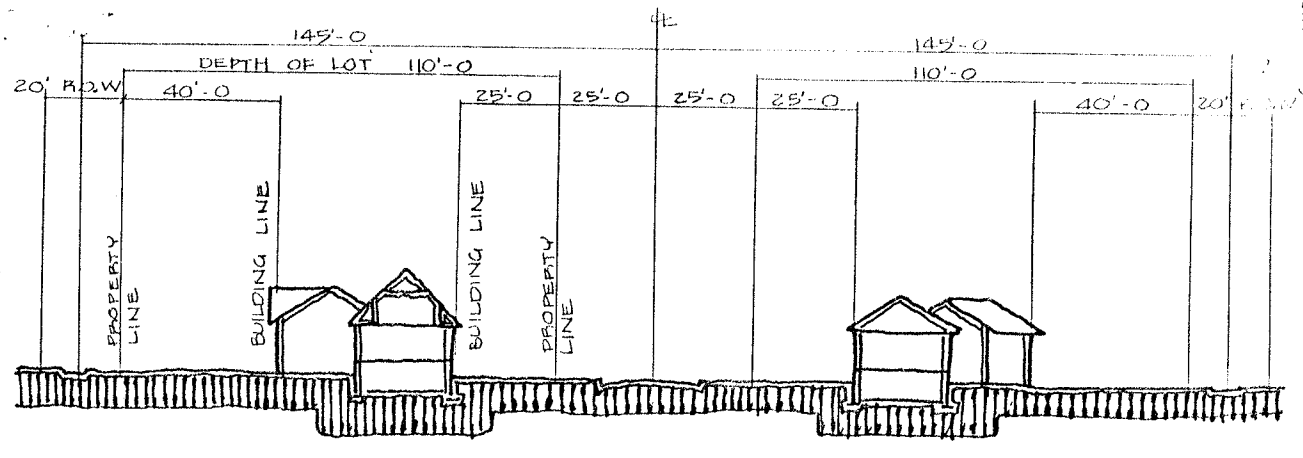
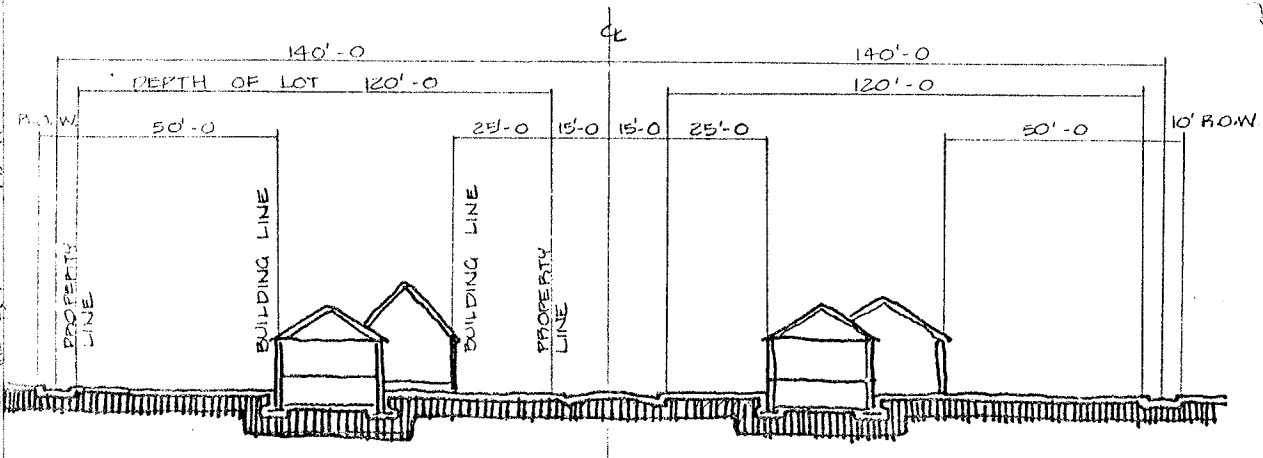
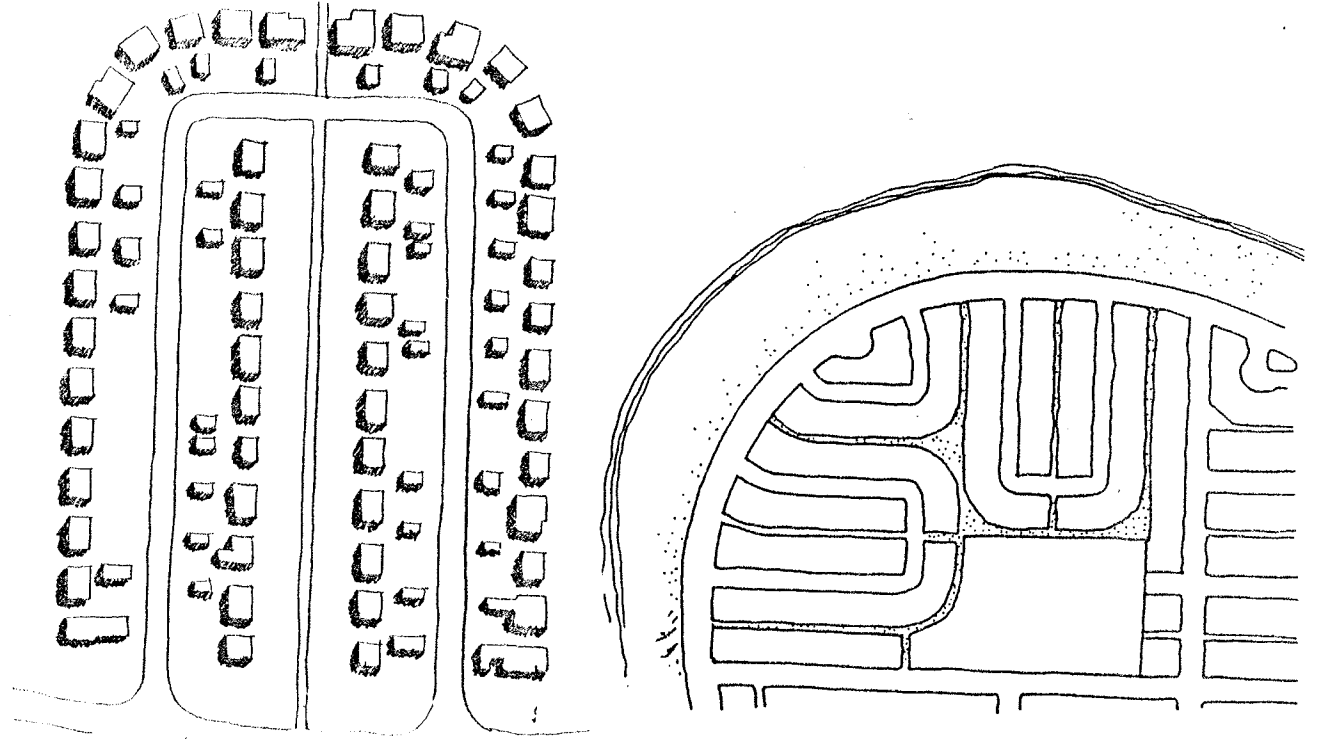
74.69 gross area (total acres)
 8.78 Interior Park
 16.79 Public r.o.w.
 49.10 Net acreage
 286 dwelling units
 5.82 du/acre net
 22.8 persons/acre net



NORWOOD

Figure 57

36.52 acres gross area
 2.83 Interior Park area
 8.45 Public r.o.w.
 19.36 net acreage
 5.88 school grounds
 157 dwelling units
 8.10 du/acre net
 31.5 person/acre net

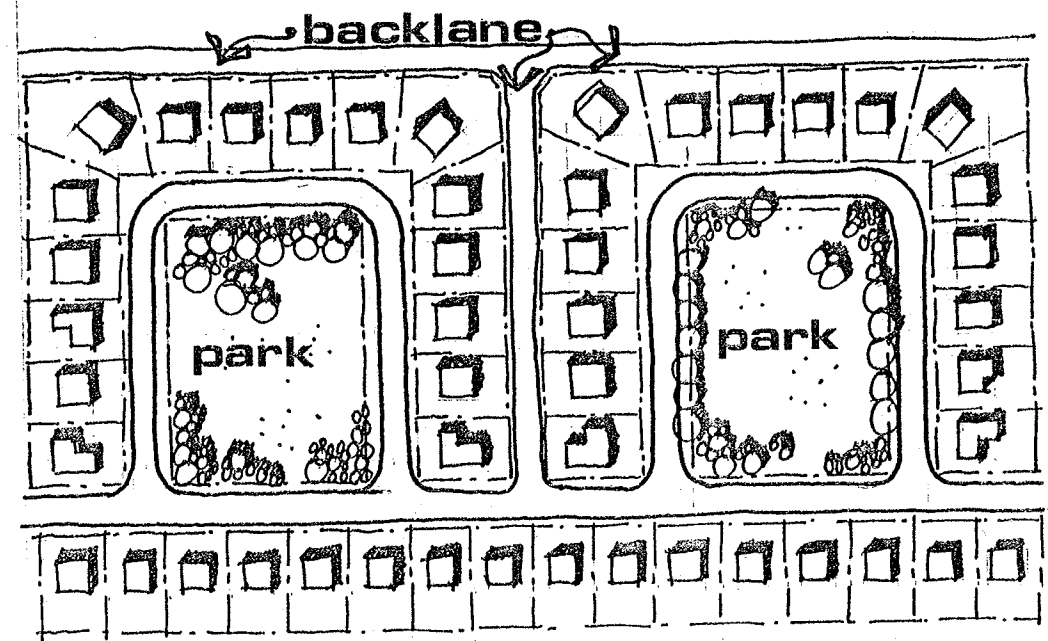


Two examples of residential planning however occurred at the end of World War II, which were to be in complete contrast with the previous grid style practices.

In April, 1946 - Wildwood Park was developed by Mr. H.J. Bird and the Bird Construction Company. Prefabrication building techniques utilized by the company during the war were carried into the residential business at the Wildwood site. The planning concept was molded after the Radburn example, which Mr. Bird had apparently noticed from the air while flying to New York during the war. (figure 56)

A similar application of the Radburn principles was also built in the Norwood area of St. Boniface. This post-war subdivision was constructed on the site of the former Norwood Golf Course. Originally the plan was to be a simple extension of the grid pattern already existing in the older parts of the area. However, the site was redesigned and twenty-six additional housing lots, as well as a 5.8 acre school site were obtained. (Marshall, 1966, p.27-29). (figure 57)

Although such 'modern' residential planning practices as loop roads with central green parks' were constructed on Lanark and Clifton Streets during the post-war construction boom few other non-gridline developments occurred until the early 1950's. (figure 58)



Lanark Bay Fig. 58

a) Suburban Development of the 1960's

Windsor Park in St. Boniface, Silver Heights in St. James/ Assiniboia, areas of Fort Garry, East and West Kildonan were examples of the fifties trend in residential planning. Streets, with wide (66') right-of-ways were curved, loop roads, bays, crescents and cul de sacs were utilized to create individual identifiable housing groupings. Rear service lanes were usually eliminated in favor of the front driveway. Commercial development and housing other than single family detached were used as

bordering elements to separate heavy traffic routes or industrial development from lower density housing. Churches, community buildings, schools, shopping centres and parks were generally clustered near the centre of the subdivision. T-intersections and pedestrian pathways were utilized to separate pedestrian vehicular traffic and contribute a sense of safety to these modern suburbs. Houses were characteristically single story 1,000 to 1,200 sq. ft. bungalows on 6,000 sq. ft. lots with 50' or 60' frontage. (figure 59)

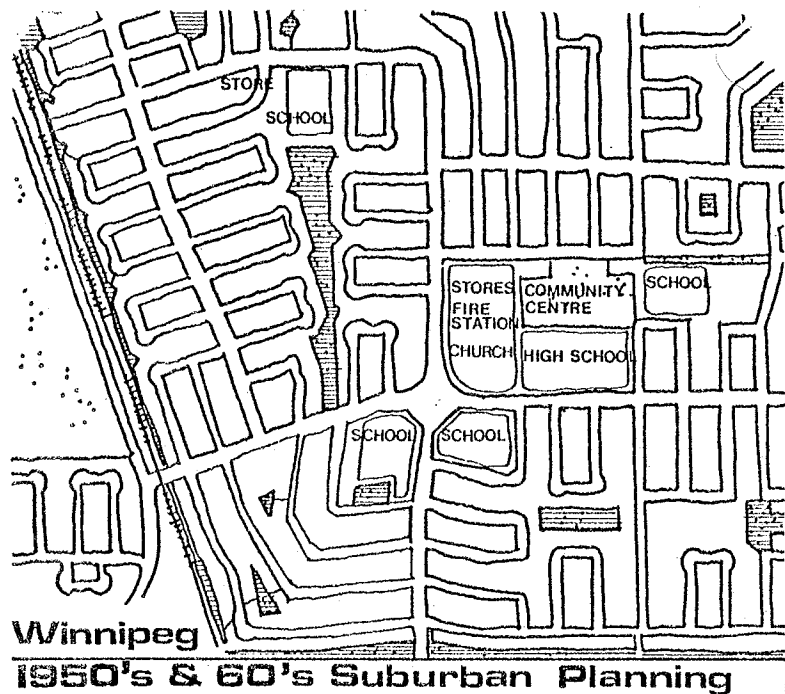


Fig. 59

The National Housing Acts in conjunction with C.M.H.C.'s involvement in the housing industry prompted the development of larger residential construction companies to meet the increased housing demand. The 1960's did not mark any radical changes in the way the events began to influence the suburbs or their expansion. Immigration and rural-urban migration continued as it had in the previous period. Suburban growth was steady despite the fact that a minor economic recession affected the rate of employment and number of Canada-wide housing starts. The 60's did however, reinforce the suburban ring growth around cities and result in large scale land speculation.

b) Supply of Serviced Land

Kent Gerecke, Head of the University of Manitoba's City Planning department, told Ruben Bellan the commissioner of the 1977 Royal Commission on land prices that: "In the early 1950's, virtually no profit was made from land. Lots in 1950 cost about \$1,000. By 1960, prices rose to \$3,700. But in 1977 the price is about \$17,000 a lot." (Winnipeg Tribune article, February 18, 1977). Thus, by the 1960's no longer were small developers competing in the house construction suburban development market. The larger corporation which evolved in the 1960's continued to establish greater economic power and control of the newer developments.

In Winnipeg at present there are six major agencies actively engaged in the residential land development process. Four of these firms are private or non-governmental while the two others are the Province of Manitoba and City of Winnipeg. Other smaller firms may become involved in the development business but only the above mentioned groups maintain large land banks and engage in long-range programs of providing serviced land. B.A.C.M., Metropolitan Properties, Ladco and Qualico currently own or control more than 50 per cent of the total developable future residential lands around the City of Winnipeg. This domination of the urban land market has made it possible for companies to receive fantastic land profits on their original investments (as much as \$9.5 million on a 236 acre parcel of land) and on homes purchased at inflated new housing costs.

c) Subdivision Approval Process

The formation of Unicity and the new Community Committee structure gave citizens a greater opportunity to raise their voices to development issues. Hearings can be held at the Community Committee Level, Environment Committee Level, in front of City Council and possibly even the Municipal Board and the Minister of Urban Affairs. At the onset it was estimated that ninety-two steps are required to gain approval on subdivisions.

If there is opposition to the proposal at any of the previously mentioned levels of approval a great deal of time can be wasted before approval is eventually granted. However, if developers meet with the involved agencies before submission, or relate to District and Action area plans (if available), or hold public participation meetings with neighbouring residents, eg. South St. Boniface subdivision - (Leaf Rapids Corporation - Summer and Fall, 1976), St. Norbert Subdivision - (Castlewood Homes - Barker, Guslits Consultants, Summer and Fall, 1978), then the possibility of responding to local needs or anticipating local opposition can occur and may in fact result in approval being granted in a faster time period.

Upon receipt of approval, a development agreement is drafted between the developer and the city in which the responsibilities of each party are clearly stated. Within this agreement are listed the dedicated properties, or cash payments in lieu of land, as well as extent of services, such as sewer, water, lighting, road construction, sidewalks, park development, curbing and drainage systems. Construction then usually proceeds according to the following structure:

Initial development: 1) grading of site and stock piling of topsoil -- generally sees the removal of all site features.

2) infra-structure construction; storm water sewers, sanitary sewers, water lines, gas and telephone lines, electricity, street and lane pavement, boulevards, street lighting and signage.

3) construction of individual company display homes on first lots at early stages of infrastructure development.

4) mass production and selling of lots and houses.

5) city development of elementary schools, if none readily available.

6) dedicated park space construction.

Junior and senior high schools, commercial facilities, and health services, churches, and institutions such as fire stations, are gradually added as the need appears to arise. At present, new subdivisions rarely can expect to receive individual mail delivery or, in some cases, even the circulation of public transit throughout the community.

d) Suburban Development in the 1970's

The principle development change that has existed is that developers now control and develop virtually all of potentially developable land. Parcels from 50-200 acres are relatively quickly brought onto the market and developed as entire separate neighborhoods and communities, each with their own developer coined name and image. (Twin lakes, River-West Park, etc.)

Residential development has also been characterized by a number of features brought on, in fact, by increased land, servicing, material and labor costs. The increase in multiple-housing construction of townhouses, apartments, and duplex units has influenced the character of new subdivisions and fulfilled a housing need for young couples, singles or elderly persons who require a minimum of upkeep or maximum mobility.

Single family houses still respect the lot restriction standards which were established in the late 1940's with regard to side yard and front yard setbacks. Roadways still occupy a 66' right-of-way of which 24-30' is paved while the remainder is grassed. Back lanes are utilized sparingly and most services are buried underground. However, the "old fashioned" titles of streets and avenues rarely exist in modern subdivisions. They have been replaced with: Places (cul de sac or eyebrow loops), Coves (cul de sac roads), Drives (minor curving residential streets), Lanes (minor residential streets), Crescents (minor collector streets), Bays (loop roads), Roads (minor curving residential streets) and Boulevards (major collector streets).

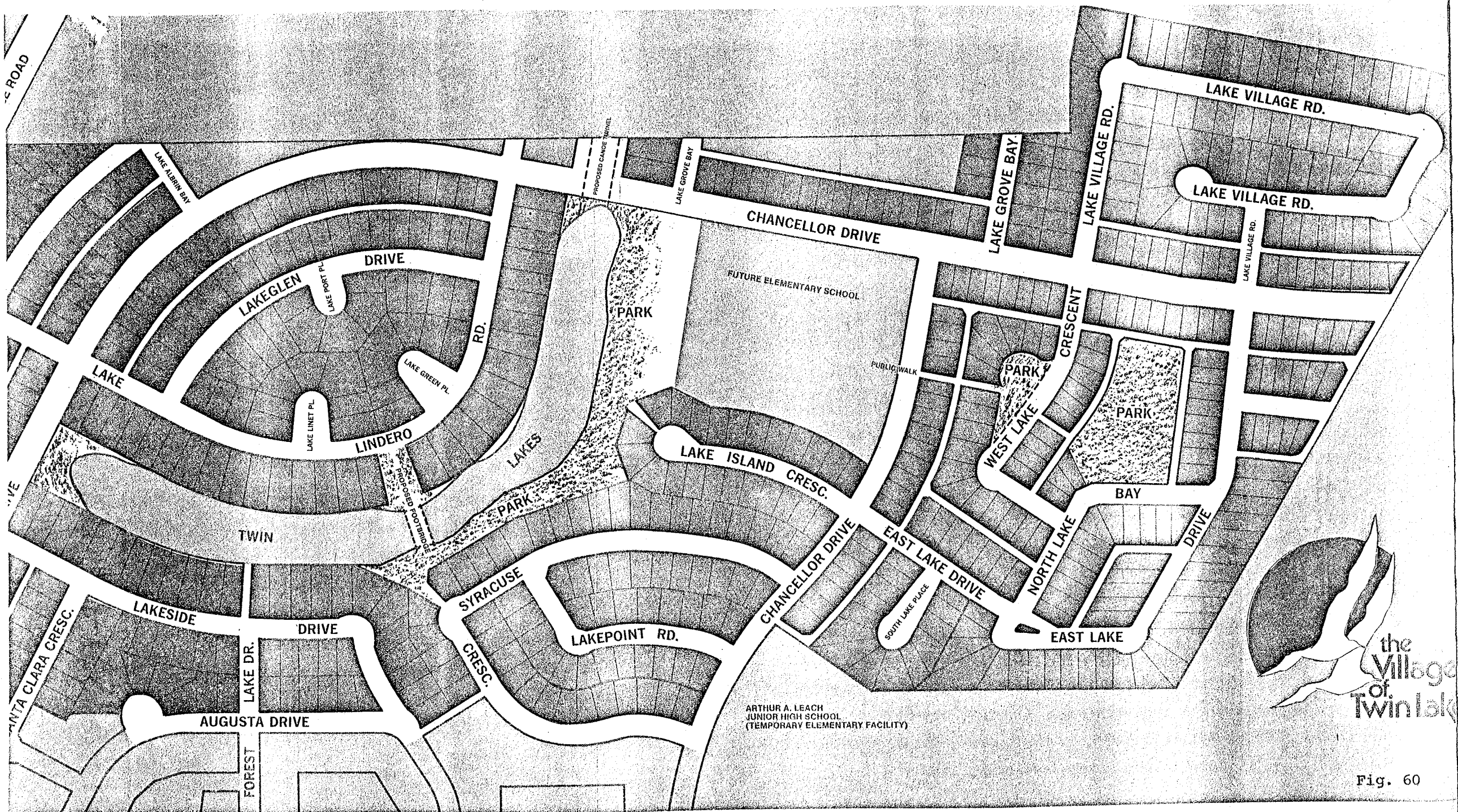


Fig. 60

The two examples illustrated in figures 60 and 61 reflect subdivision planning of the 1970's which illustrates two methods of relating and developing public green open space within residential areas.

The village of Twin Lakes (figure 60), the newest development in Fort Garry's Waverly Heights, is characterized by upper income homes, in some cases backing on storm water retention pond areas. Such water areas were integrated into the development to avoid expensive underground storm water piping while adding to the potential attractiveness and recreational variety of the subdivision. This principle has received wide use in the past few years throughout the Winnipeg region by most major developers. (eg. Southdale in St. Boniface - Ladco Development and All Season's Estate - East Kildonan - Qualico Development). The dedicated park spaces occupy large areas adjacent to major schools, ponds and act as buffer strips around the perimeter of the development. Very few small park spaces have been provided, as was the case with Windsor Park.

The Valley Gardens development (figure 61) while of a different economic composition, is characterized by evenly distributed 2 to 3 acre park spaces integrated within a block and surrounding a central school, arena, civic centre park area.

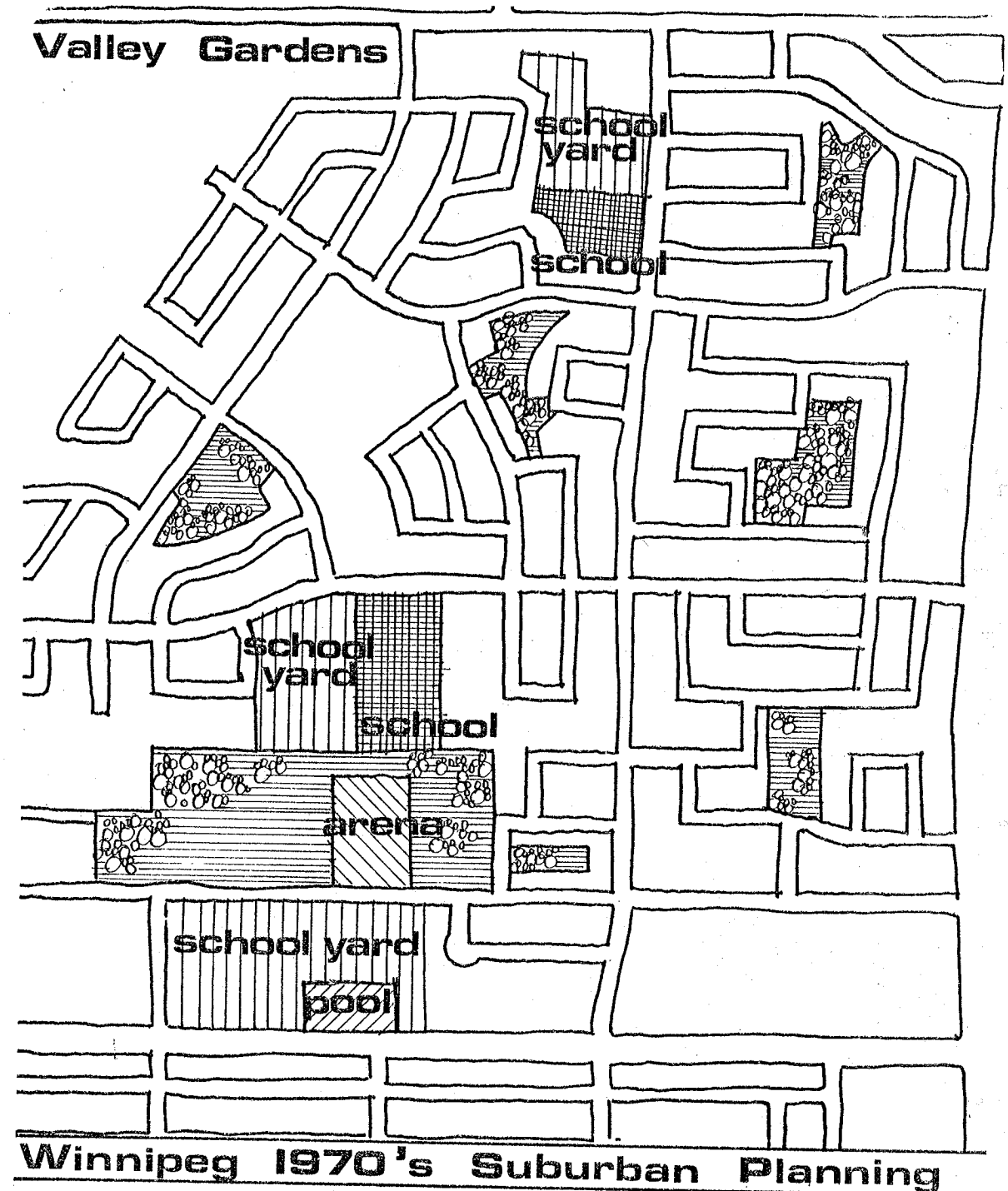


Fig. 61

The park spaces all have street access with private residential property backing on and surrounding them.

In both cases there is a sense of limited spatial variety or the establishment of a community focus with links to other spaces. The Valley Gardens project gives the pretense of providing a community focus through the clustering of a school, parks, arena, and pool, however, this focus avoids contact with major north south movement, is relatively confined, and occupies a space which is too large for the few seasonal activities which have been allocated. Much of the neighbourhood park space is land-locked behind residential lots with only a minimum amount of visible street frontage. In both examples the dominant residential elements one experiences while moving through the areas, are streets and the buildings which front onto them.

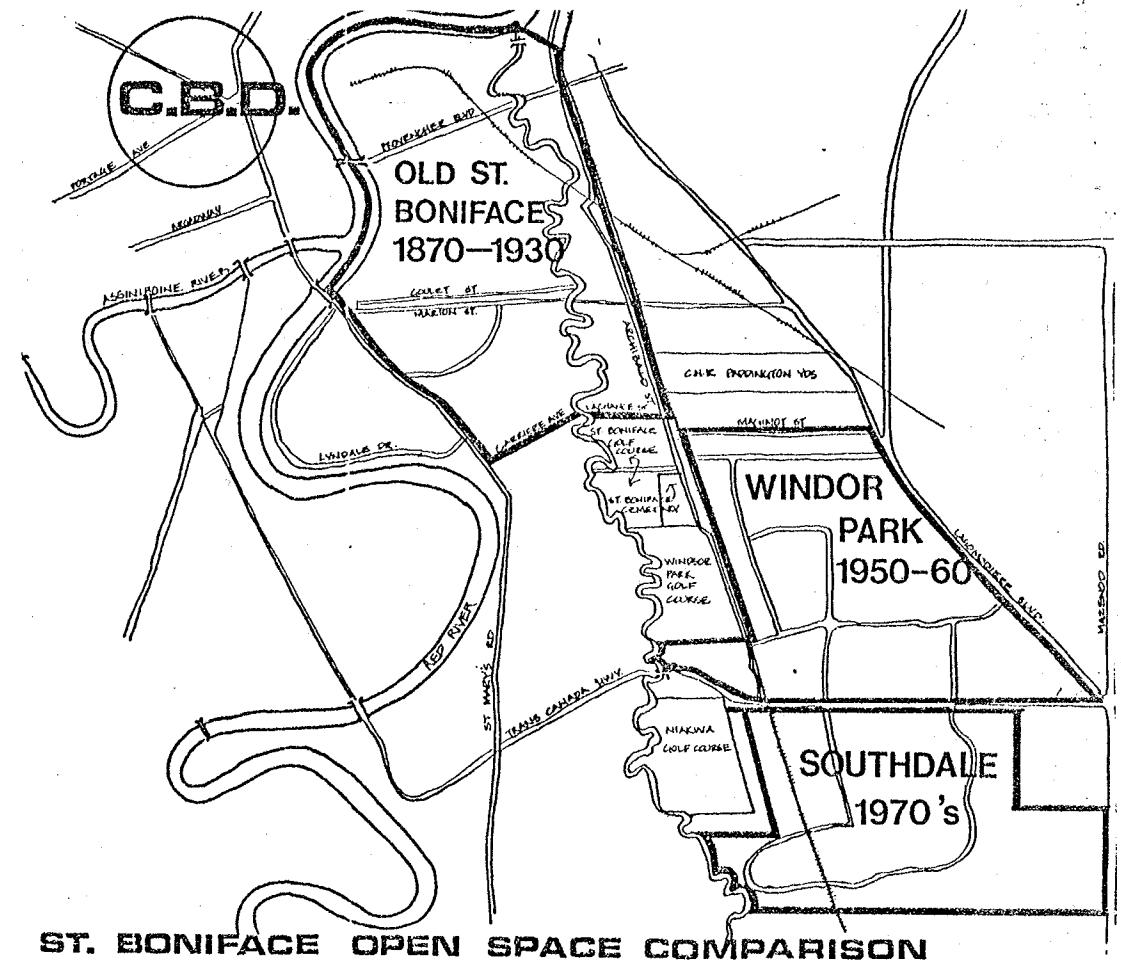


Fig. 62

Fig. 63

III G EVALUATION OF THE AMOUNTS AND DISTRIBUTION OF PUBLIC AND PRIVATE OPEN SPACE

To illustrate how historical attitudes have changed in residential development with respect to housing layout and the corresponding amounts of distributed 'open space', the following plans are presented of the three distinct sections in St. Boniface (figure 62).

a) Old St. Boniface ✓

Old St. Boniface was developed with single family housing during the late 1880's up until the 1930's. The area has undergone some urban renewal but generally retained the original open space characteristics, developed while it was an independent city. Five definite areas have been created in the old St. Boniface area as a result of major traffic routes, railway tracks and river boundaries. (figure 63)

Total parks, playgrounds, and totlots (18)	54	acres
Total school yards (9)	29.54	acres
Total community and recreation centres (3)	<u>5.75</u>	acres
Total public open 'green' space for 5 areas:	89.29	acres
Total area = approximately	1056	acres

Total population = approximately 20,450

4.36 acres public 'green' space per 1000 persons

8.2% public open 'green' space of total gross acreage

(See Appendix IIa for a more detailed description of spaces)

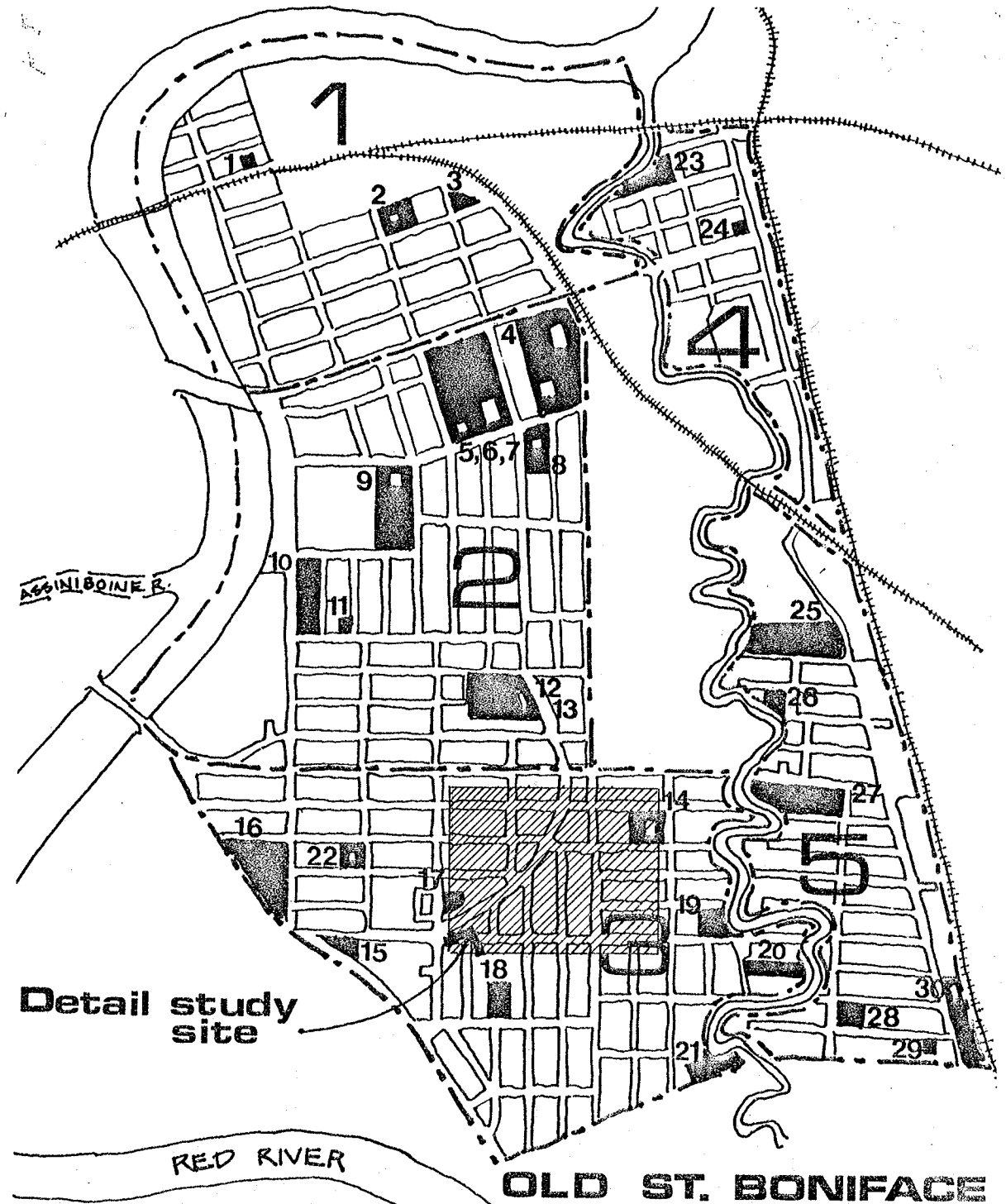


Figure 64 is an area selected from the Old St. Boniface site. A similar technique was utilized for all three proportions of built upon public and private open space for each of the historical time periods.

Total site acreage
80 acres
(32 ha)

Building Site
Acreage:
16 acres
20%

Public Open Space:
38 acres
47.5%

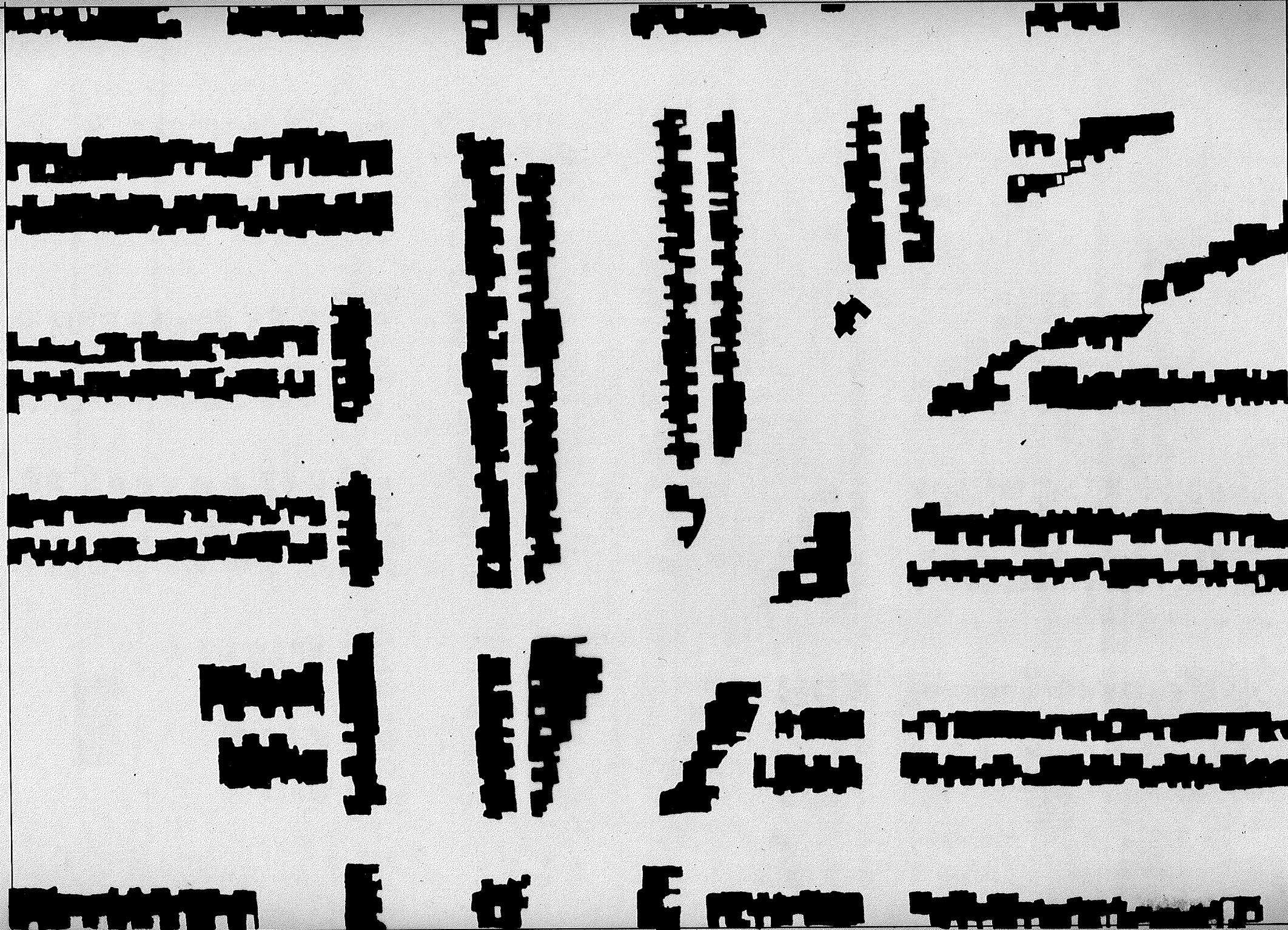
Public Ownership
32.5%

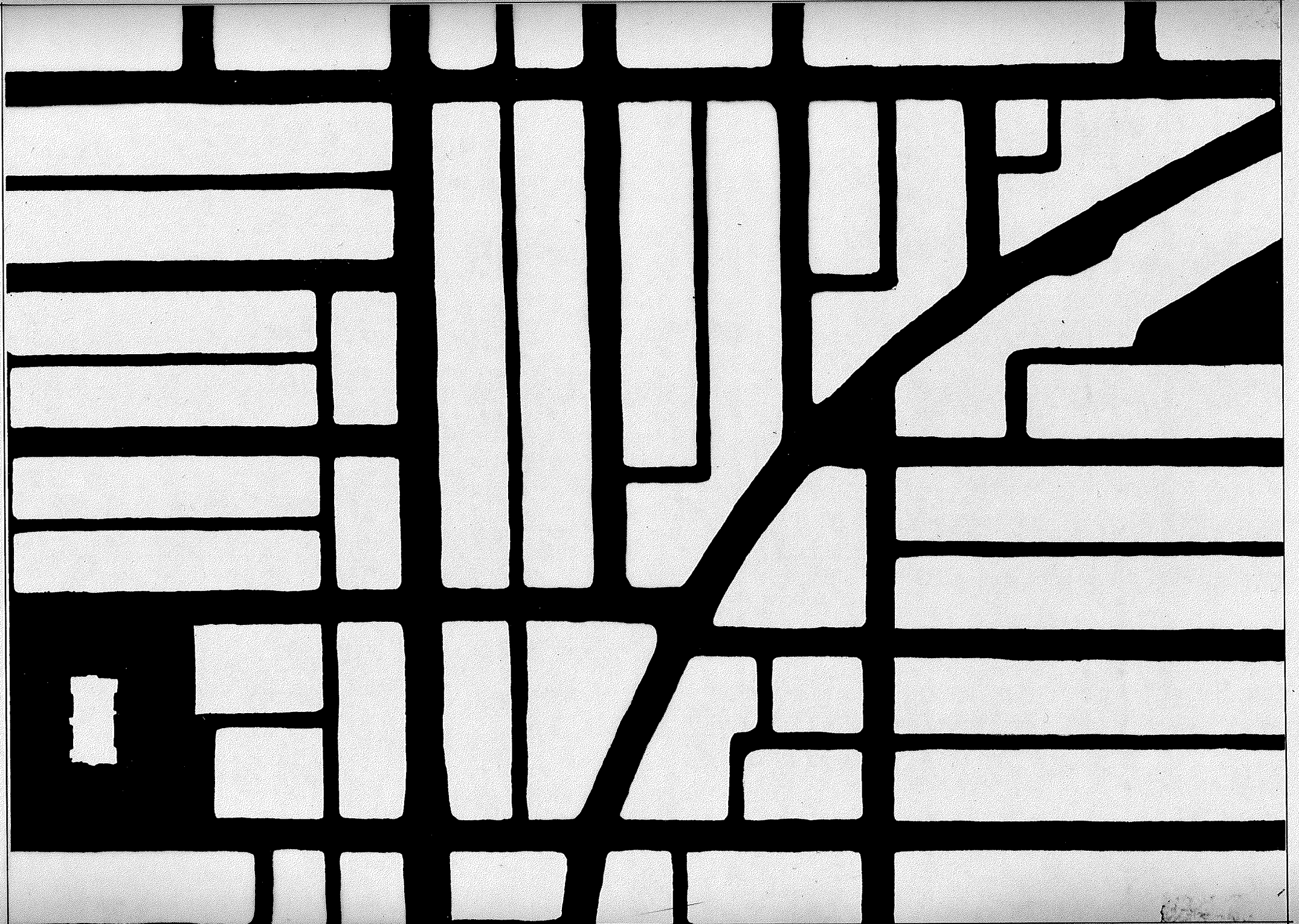
Private Ownership
67.5%

OLD ST. BONIFACE



BUILDING AREA FIG. 64





OLD ST. BONIFACE
Public Open Space

b) Windsor Park

Windsor Park was primarily developed during the 1950's and early 1960's. (figure 65). Because of the division created by the collector road system, it is felt that five distinct areas exist in this development. (See Appendix II b for detailed description of spaces.)

Total: Parks, playgrounds and totlots ⁽¹⁷⁾	32.09 acres
Total: School yards ⁽⁹⁾	43.19 acres
Total: Community or Recreation Centres ⁽²⁾	28.3 acres
Total public open 'green' space for 5 areas	103.58 acres
Total area = approximately 15,400 persons	
6.5 acres of public 'green' space per 1,000 persons	
11.6% public open 'green' space of total gross acreage	

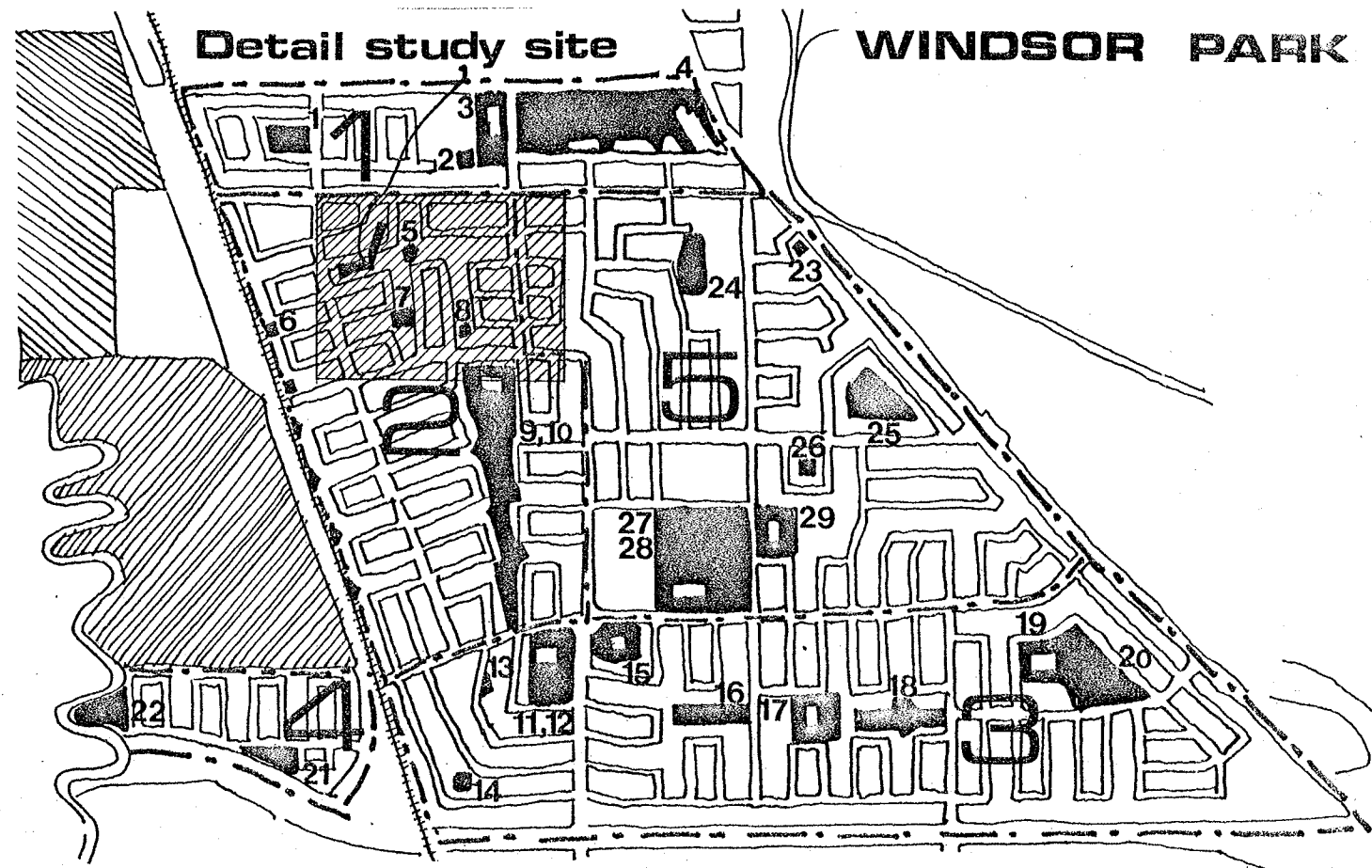


Fig. 65

Building Site
Acreage:
13 acres
16%

Public Open Space:
24.5 acres
31%

Private Open Space:
42.5 acres
53%

Total Acreage
80 acres

Public Ownership
31%

Private Ownership
69%



Figure 66
Building Area
WINDSOR PARK



WINDSOR PARK
Private Open Space



WINDSOR PARK
Public Open Space

c) Southdale

Southdale was developed primarily in the 1970's and continues to expand. The site is relatively small, so will be treated as one area. (figure 67)

Total parks, playgrounds and totlots (5)	37.68 acres
Total School sites (5)	22.32 acres
Total perimeter pond area parks	<u>15.2</u> acres
Total acreage (excluding 14.24 acres of "water" pond area)	75.2 acres

The public open spaces statistics were developed from the inventory work carried out by Ronald Leeder, 1976.

Total area = approximately 608 acres

Total population = approximately 5,800 persons

12.96 acres of public 'green' space per 1,000 persons.

12.4% public open space (% of total gross acreage, inclusive of pond area)

(See Appendix II c for more detailed description of spaces)

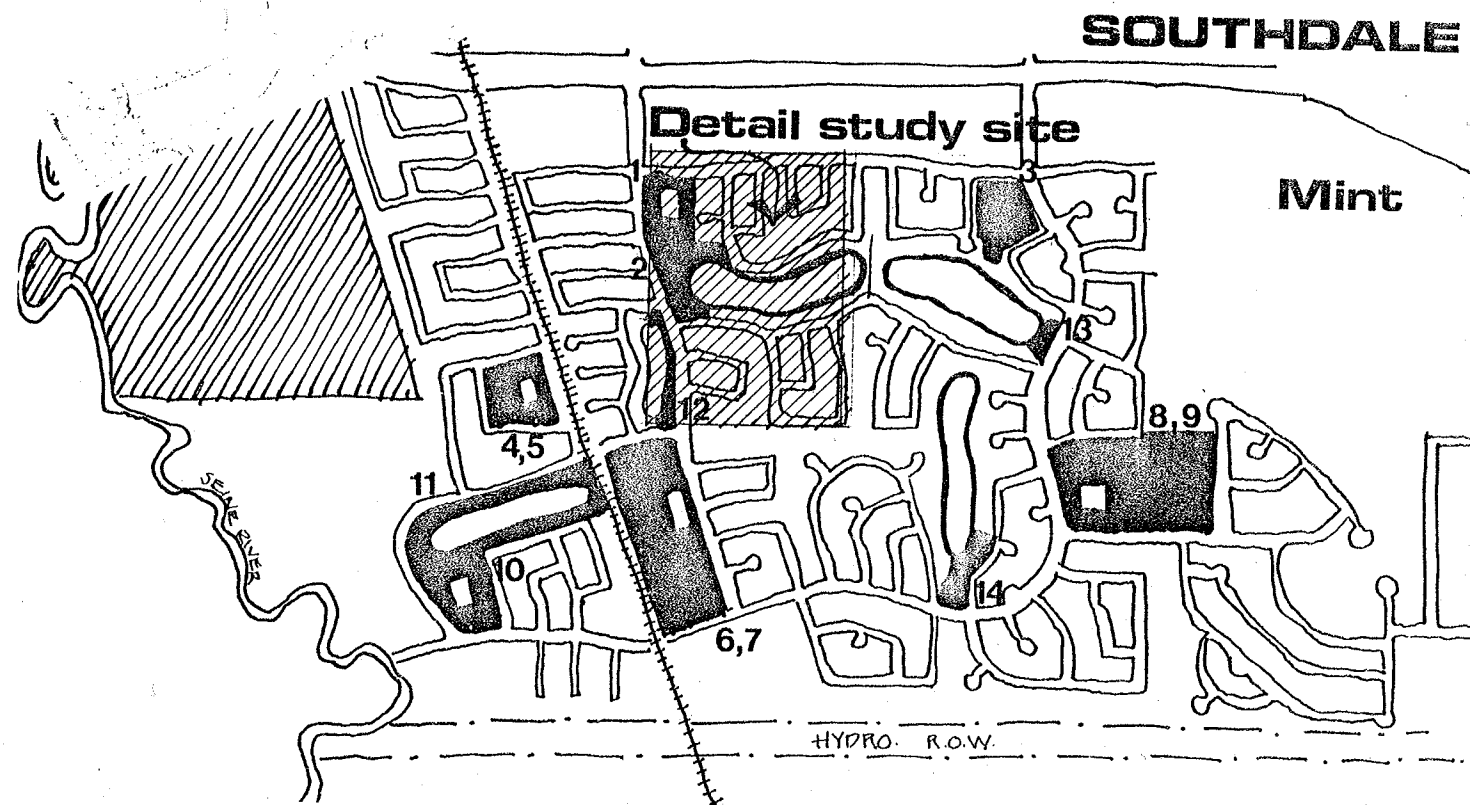


Fig. 67

Building Site
Acreage: 9 acres
11%

Public Open
Space: 29 acres
36%

Private Open
Space: 42 acres
53%

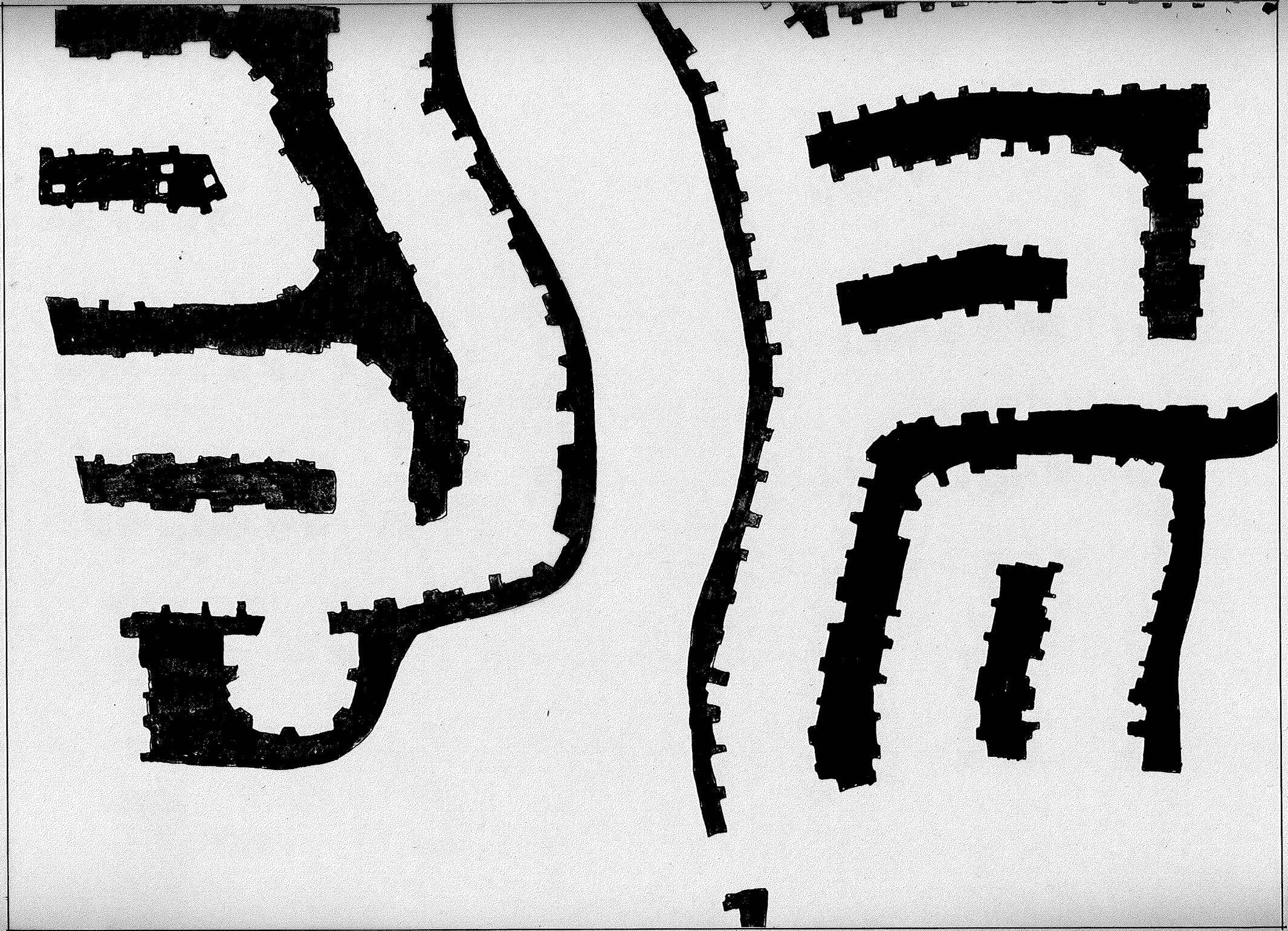
Total Acreage
80 acres

Public ownership
36%

Private ownership
64%



FIGURE 68
Southdale
Building Area



SOUTHDALE
Private Open Space



SOUTHDALE
Public Open Space

The most obvious statistical difference which may be derived from this comparison is that the newer (more affluent) developments have more public open space per capita than the older residential areas. Of greater importance, however, is the fact that there are obvious differences between the types, location and uses of the space which has been provided in each of the three areas.

Public Open Park Space in Old St. Boniface, composed primarily of small totlots, school grounds and formal parks generally is integrated into the established gridiron block layout. Boundary limits, are well defined for public as well as private spaces. Housing generally faced into the allocated public space so that residents might observe and if necessary, supervise the activities. Circulation routes to local facilities were generally accommodated along sidewalks, roads, alleys or through public park spaces. The sense is that open space is very much a regulated, though appreciated, component of a more urban environment. Obviously, the park systems in the area are not conducive to a wide variety of nature orientated activities which require linear routes, they are not linked nor are they well developed with facilities. They exist as supplemental space to the sidewalks, streets, alleys and private yards where the majority of play and outdoor activity occurs.

There exists in this part of St. Boniface an unplanned feeling which is attractive to some and scorned at by others. The trees are mature, but in many cases dying. The housing is old, in need of a facelift; getting it in some areas and not in others. The sidewalks, boulevards and roads are narrow. The corners of the blocks are usually well delineated by old stores turned into houses or porches that wrap around the house while keeping an eye out for what's happening on the street.

Kids play sidewalk, road or alley hockey at all times of the year. They build tree forts and 'huts' from the abundance of scrap materials which are always around. No doubt, the facilities and programs are lacking in this area, compared to the newer suburbs, but the residents (of a different age or interest group) seem to respond favorably to what they have, and do utilize it.



Fig. 69,70

Public open space in Windsor Park is also provided through small playspaces and school yards associated with parks. However, it is noticeable in this area that the space has largely been allocated in terms of what was left over after the bays and cul de sacs were positioned. In some instances corner parks were established by eliminating housing lots, or passage ways were provided into unknown left over spaces which were created when a number of loop roads met. School sites, however were enlarged through the addition of extra park space. The boundary limits of public space are generally well defined or hidden by the 5' - 6' fences which barricade the perimeter walls of a totlot or play-field.

In Windsor Park housing generally faces the street. Back lanes were eliminated so that the car also could face the street. To obtain privacy it was necessary to retreat to the back yard and construct a barrier against intrusions. It matters little that the view of a park might be there, because the public nature of a park is conducive to non-privacy, intrusion or vandalism.

Pathways provided through the parks routes to and from school, however, the crossing of collector roads necessitates that an older student supervise the journey home of the kindergarten aged group. The pathways can be used for cycling and do



Fig. 71



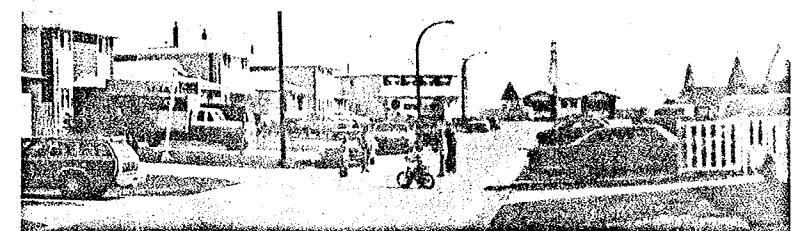
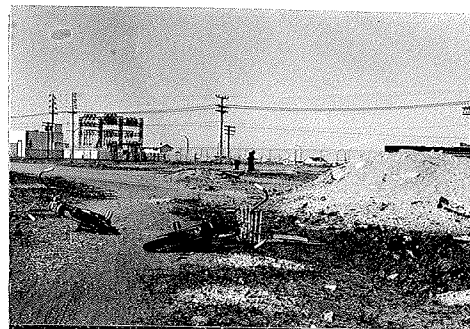
encourage circulation between bays but the intrusion on adjacent private property is a major concern according to Don Hart the former St. Vital Park and Recreation Director.

Despite the fact that more space is provided, (open park space, private yard space and road space), the range of opportunities is quite similar to the Old St. Boniface area. The main difference is with the provision of a central community complex orientated towards a wide range of organized sports. Such a facility does attract interested users from the whole community, however, less organized groups generally play scrub baseball, soccer, football or hockey on whatever spaces are available adjacent to their individual houses. Large recreation

fields are generally empty except for the occasional, summer orientated, team gatherings. It is most noticeable that public open space is primarily unused except for the previously mentioned organized sports or circulation routes which might pass across or throughout. The space is generally hidden from the casual passer-by and sometimes may only be discovered after intensive searching with the help of a 1" = 200' City of Winnipeg residential plan. (based on the author's experience.)

✓ Southdale, on the other hand, is representative of the progression which might naturally occur from Windsor Park, with a combination of a number of the qualities from Old St. Boniface. The park space is supplied in large quantities, primarily adjacent to schools or the retention ponds, and the space is visible to someone entering the community by car. Proportionately there is slightly more public park space per acre here than in Windsor Park where the space is less obvious. However, there is definite objection by residents of this area, to the nature and development of public park space, which they have been given. Residents generally resent the fact that maintenance levels and development standards of public owned property are below the standards which they have set for their own yards. A recent community committee decision resulted in a parcel of public open park space being sold to the residents whose yards backed into it. Individuals have

Fig. 72,73,74



also deliberately attempted to discourage public access along the pond edges by running fences or hedges down to the water's edge.

The spaces are so large and so developed that team sports are likely the only suitable activity. Like most new housing developments the quality of the spaces in terms of landscaping or development has probably not been fully realized. In the meantime, however, children manage to find play opportunities in the undeveloped lands within or adjacent to their community. (Railway r.o.w., hydro corridors, fringe construction sites.)

Schools are close by and children are either dropped off by parents or walk along the streets. Back yards back on to other

back yards and privacy is usually created throughout the construction of privacy fences between adjacent properties. The ponds have been utilized for canoeing and rafting, but swimming, skating and hockey are not encouraged due to inherent hazards.

Historically, standards, attitudes and the general approach to park and recreation space have changed. Quantities of open space have increased but since the 1940's yard space and road right-of-ways have stayed much the same. As stated previously, people generally adapt to what they have. What they have, however, should be determined primarily by what they want, what they can use, and what does in fact respond to the natural features and climatic conditions of the Winnipeg region. The following sections will focus on these issues in terms of gaining a greater perception of the future direction of open space planning.

III H OPEN SPACE STANDARDS

1) PARK AND RECREATION OPEN SPACE

The planning principles enacted at Don Mills virtually signalled the beginning and the end of single family residential development in terms of innovative site layout and pedestrian-vehicular circulation. The development of standards, controlled by changing political and economic climates began to dictate the developer's

allegiance and the city's control in regulating a minimum lot size, house location, circulation pattern and amount of open space. Standards, initially conceived to protect the home purchaser, quickly led in the seventies to the systematic construction of relatively economical, repetitive housing environments. It would appear, in Winnipeg at least, that the serviced land cost of approximately \$50,000 per acre has made it necessary that developers concentrate solely on providing satisfactory affordable housing within existing standards.

The following sections refer to standards which currently affect the amount and distribution of Winnipeg suburban open space.

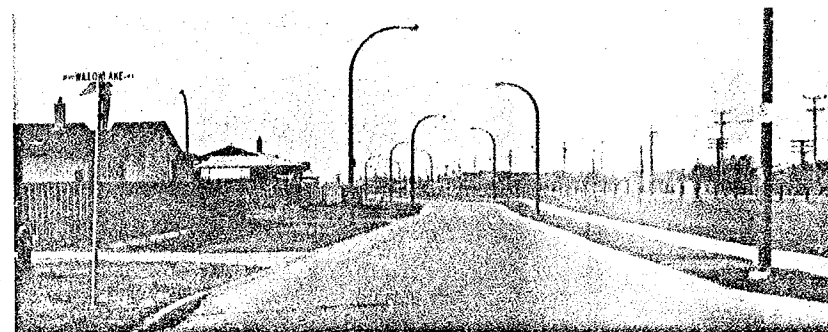
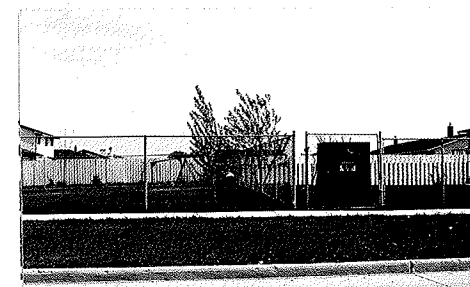


Fig. 75



a) City of Winnipeg Act

In 1971, the City of Winnipeg Act was prepared in conjunction with the formation of Unicity. This act dictates the roles of Council, and the other advisory and regulatory bodies of the city as they pertain to planning, development and maintenance within Winnipeg and the Additional Zone. Planning and development are subject to the provisions of the Greater Winnipeg Development Plan, the district plans and the action area plans. (Section 597)

Open space provisions in compliance with these plans are regulated in most part by zoning by-law (597(1)j) and subdivision control practices, (637(23)a). Section 637(22)(a-i) lists items such as adequacy of school sites, park sites and recreation areas as considerations which are relevant to the approval of a draft plan for subdivisions.

At present Winnipeg utilizes a codified standards method for acquiring and evaluating amounts of public open recreational space. The guidelines are outlined in section 637(323a) of the City of Winnipeg Act. "At least 10% of a planned subdivision area, or a portion of land which Council deems necessary, (or money in lieu of) be conveyed to the city for public purposes, other than highways, without consideration, or for a nominal consideration."

If additional public lands are required, over and above the normal 10%, such lands may be purchased outright. (fee simple).

"Money in lieu of" is to be used for purchase of additional or alternative recreational lands.

Legislation also exists, (section 534(2)) which states that "the city may accept as a gift for public park purposes any land previously dedicated or set aside, as a park or garden..." (eg. Richardson property on Wellington Crescent).

The parks and recreation department in conjunction with the Rivers and Streams Agency also have available legislation which enables them to acquire riverbank flood plain lands below the 160 year flood zone.

A recent City of Winnipeg publication entitled "Conveyance of Land for Public Use", discussed the problem of multiple dwelling zoning being utilized to a greater degree in suburban areas. The document suggests that two standards be utilized in determining the amounts of land which the developer should dedicate for city purposes. The reasons for these two standards is that the per capita standard makes allowance for open space usage where densities are above average and the percentage standard makes sure the areas with lower densities are adequately covered in

the future. The status of this document is not known at this time however, and the standard 10% land dedication is still utilized as the most consistent document.

b) City of Winnipeg Developer Agreement Parameters

Developer Agreement Parameters are prepared for the Committee on Environment by a Technical Advisory Committee composed of Executive Policy Committee members from various departments. Managers of the various city departments are able to request specific reviews of policy and implementation procedure from the Technical Advisory Committee. After study of these reviews, recommendations are made and forwarded to the Executive Policy Committee.

Adoption of these recommendations by council is generally achieved upon suggestion by the Executive Policy Committee. These parameters then act as guidelines for the city administration throughout their preparation of the development agreement documents. Such agreements, though specific to each development, are generally most influential in determining the final characteristics of a subdivision area. The following guidelines represent the most current recommendations as adopted by Council on May 3, 1978.

Public Open Space Dedication - Developer Agreement Parameters

In 1974, the Council of the City of Winnipeg adopted a resolution requiring developers to pay for 52% of the cost of grading, seeding or sodding public open space dedicated to the city. The city would then pay the remaining 48%. (Such a percentage breakdown appears to have been derived from development of the Fort Richmond area in which Ladco controlled 52% of the development and the city controlled 48%. Costs were thus split on this basis.)

File EP-2 - "Amendments to Development Agreement Parameters" indicated that the General Manager of Parks and Recreation was concerned about the high cost of developing the open space dedication together with the undesirable time lag between completion of surrounding property development and approval of capital funding by Council. The situation has resulted in a number of complaints from the residents involved.

The Technical Advisory Group on April 27, 1978 recommended that the developer pay the full cost of:

- landscaping, tree and shrub planting, installation of water outlets, installation of chain link fencing.

It would cost the Developer an average of approximately \$25,000 per dedicated acre of open space compared to the present cost of \$7800.00. This would amount to an increase of approximately \$8.00 per front foot of serviced property within the subdivision. It was the opinion of the group that residents moving into the subdivision would derive a much earlier benefit from the park facilities than they receive now under the present system. It would also eliminate the undesirable position in which the City finds itself at the present time when the developer is prepared to proceed with its share of the work of landscaping and the City is unable to budget for its share in a given year.

Using the same rationale as is used for all other services, it follows that the park improvements should be paid for by the property owners benefiting.

Clause 20 of Development Agreement Parameters, subsection C was thus amended to read:

"The developer shall be responsible for the landscape development of all developable park areas dedicated to the city, as well as adjacent boulevards in accordance with plans and specifications approved by the General Manager of Parks and Recreation and included in the Development Agreement.

The aforementioned landscape development shall include not more than the following items:

- filling, cutting, grading, contouring
- sodding
- preparation of planting areas
- supply and planting of nursery stock
- installation of asphalt areas and walkways
- preparation of sanded play areas
- installation of watered outlets
- installation of post and chain link fencing

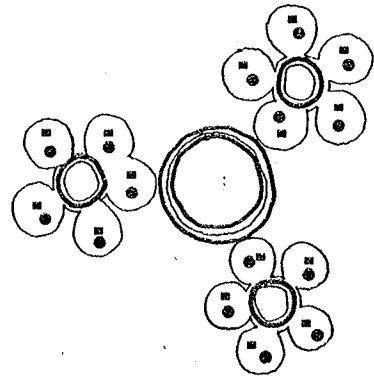
The developer shall complete all required park improvements within the time frame as specified in the Development Agreements."

Although this agreement was adopted by Council on May 3, 1978, this component of open space development has yet to be exercised.

Developer Agreements further recommend that a minimum amount of street frontage be provided per acre of dedicated land. For the first acre the developer should provide a minimum of 80 feet of street frontage and up to 60 feet for each additional acre.

Dedicated land is usually received by the Parks and Recreation department for distribution in terms of the five recognized park levels: totlots, vest pocket parks, neighbourhood parks, community parks and city parks. (See Appendix III).

● 1 tot lot / 1000 persons
 ○ 1 vest pocket park / 1000



○ 1 neighbourhood park & school / 5000
 ○ 1 community park & high school / 15,000

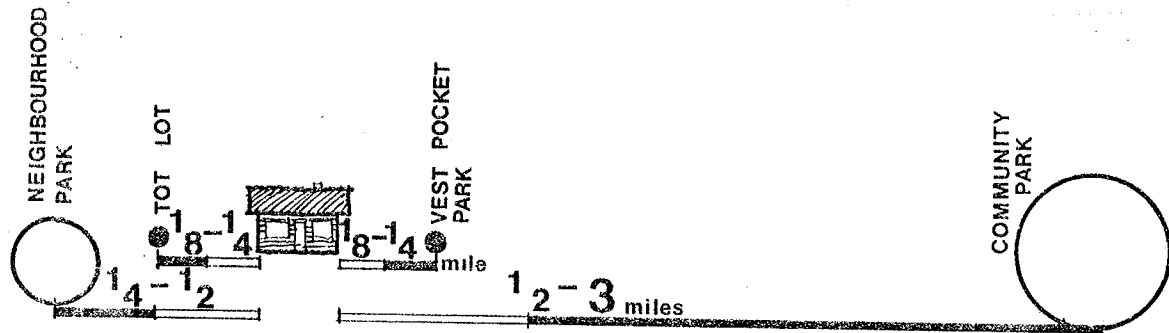
Winnipeg park hierarchy

Fig. 76

The City of Winnipeg does have flexible legislation which regulates the amount of acquired open space (figure 76,77). Radii distance standards and developer agreements deal more specifically with the distribution of park and recreation open space. The process is described more completely under the section of 'open space acquisition' Appendix IV, which suggests that the District Planner, District School Superintendent and the Local Parks and Recreation Director, in the absence of a District or Action area plan are the primary influences in the selection of school sites and major park facilities. The distribution and size of the local park and recreation public open space has, however, been primarily the responsibility of developers.

The City of Winnipeg, in association with the Province of Manitoba and the Government of Canada, is presently (1978-79) involved in the review and updating of the City of Winnipeg's Development Plan. For the first time since the formation of Unicity in 1972, a study of the recreational and open space services of the six Winnipeg districts is being conducted as part of the five year review process. Douglas Paterson, Co-ordinator of the Parks and Recreation Review component, indicated that the anticipated product could be outlined by the following five items:

Fig



1. Update the study proposal and indicate how the process was actually conducted.
2. Summarize Public Participation results, of in-house, specific interest groups and public nominal group questionnaire data. Prepare content analysis.
3. Prepare an historical report of the Parks and Recreation movement in response to the Winnipeg context and existing standards.
4. Document the inventory analysis of all Park and Recreation lands.
5. Develop and illustrate the goals of a proposed long range open space master plan.

It is hoped that the document, though prepared for in-house discussion would influence the eventual method of acquisition, quality of development, and long range open space planning in Winnipeg.

2.) CIRCULATION: PUBLIC OPEN SPACE

It is estimated that 20-30% of all developable land is utilized for circulation roads and right-of-ways. The importance of the automobile has demanded that a sophisticated hierarchy of road networks be established on which we can conveniently and safely drive to work, shopping areas and numerous other daily destinations. Road right-of-ways also contain fire hydrants, lighting poles, sidewalks, street trees and the underground

services for gas, water, and sewer.

a) City of Winnipeg Standards

Traffic engineers, in response to movement patterns, vehicle trips, vehicle ownership, and transportation habits have established the following road hierarchy standards:

Arterial roads	-	2-4 lanes	100'	R.O.W.
Collector roads	-	2-4 lanes	70-80'	R.O.W.
Local roads	-	2 lanes	60-66'	R.O.W.
Minor roads	-	2 lanes	60-68'	R.O.W.

(A more detailed description of road systems is contained in Appendix V .)

It is recognized that curb side parking lanes should be 8' wide and about 19' long. (2.4 meters x 5.7 meters). Traffic lanes should be 9-10' (2.7-3.0 meters) on minor roads and up to 12' (3.6 meters) on highways. The additional land remaining unpaved is utilized for services and snow piling. It is recommended that these edges should be at least 7' (2 meters) wide if tree planting is to occur and 4' if intended only for grass or hard surface material.

In most residential areas circulation is generally regulated by the following control documents and standards.

A. Road Form	Control Document	Existing Standards
1. Pavement width	servicing standards (underground structure)	25'-30' min. (7.5-9m)
2. Right-of-way	servicing standards (underground structure) (transportation)	60'-66' min. (18-20m)
3. Intersection spacing	site planning handbook	200' min. (61m)
4. Emergency Exit	site planning handbook	max. cul de sac 750' (230m) with existing standards 350' (110m) without emergency exit
5. Grading	servicing standards (transportation department)	max. 8.0% min. 0.5%
6. Parking	site planning handbook	one offset stall per dwelling
7. Tree planting	City of Winnipeg servicing standards	distance between property line and tree - 12' (3.1m) distance between pavement and tree 8.5' (2.5m) trees planted at 40' (2m) intervals

B. Walkway Form			
1. Width	servicing standards	4' (1.2m) min.	
	developer agreements		
2. Grading	servicing standards	.5% min. 10% max.	

The following Development Agreement Parameters passed by City Council, May 3, 1978 define in more detail the recommendations suggested by the Technical Advisory Group in terms of pathways and road right-of-ways:

b) Developer Agreement Public Open Circulation Space Pathways

The question of walkway improvements and the very existence of walkways between bays has been controversial since its inception. Residents bordering on the walkways are prone to complain to the city about the actions of pedestrians using the walkways and the resulting damage to adjoining property.

The Technical Advisory Group noted that walkways should only be required where they are absolutely necessary and that every effort should be made in subdivision layout to minimize the number of walkways. It is hoped this would reduce the number of cases where the city finds it necessary to close walkways within a few years after the subdivision has been developed.

April 27, 1978 Recommendation to City Council

"Developer Agreements shall require the developer, at no expense to the city, to construct small walkways within the subdivision, to the standards designated by the Commissioner of Works and Operations. The minimum right-of-way width for walkways shall be five meters or such additional width as specified by the Commissioner of Works and Operations. The width of the right-of-way shall be sufficient to enable the removal of snow.

The developer may be required to install chain link fencing along the boundaries of all public walkways flanking privately owned land. The developer shall also be required to install chain link fencing along the boundaries of all public walkways fronting or backing onto privately owned lands to the satisfaction of the Commissioner of Works and Operations.

As a general rule the City shall discourage walkways flanking private property. Where they are deemed necessary, however (to provide direct access to bus routes, local shopping facilities, or recreation and school sites), they shall have a maximum continuous length of 40m. Walkways shall be properly illuminated by the developer, to the satisfaction of the Commissioner of Works and Operations.

Apart from regional linkages and technical standards such as turning radii, right-of-ways, speed, trips per day, etc, it is primarily left to the developer to propose a circulation system which will adhere to standards and provide reasonably convenient circulation in conjunction with maximum lot yield. Consequently, the location and type of road systems utilized are directly related to dwelling lot size and the servicing systems which utilize road right-of-ways. Studies conducted by the Manitoba Department of Municipal Affairs (1975) indicated that the cul de sac road layout was the most efficient and cheapest to service. (Manitoba Municipal Planning Branch, Guide No.4, p.31).

3.) RESIDENTIAL BUILDING LOTS: PRIVATE, SEMI-PRIVATE OPEN SPACE

The largest component of suburban land, (55-65%) is developed for private residential or multi-family lots. Zoning by-laws, introduced as a simplistic mechanism for ordering growth and preserving property values, act as the primary means for controlling housing size, location on the lot, and relationship to other facilities.

The concept of 'zoning' was first introduced in American cities by the early 1900's in order to protect against a mix of incompatible land use and preserve land values. By 1920, the popularity of zoning reached Canada. "In the course of continental enthusiasm, Canadian cities adopted 'right down to the last tack', the zoning by-law technique originated in American cities." (Woodsworth, 1964, p.5)

Sixteen different zoning by-law areas currently exist in the City of Winnipeg. In the St. Vital/St. Boniface area fifteen recognized residential zoning classifications exist which apply specifically to low density single family housing, townhousing, and apartment development. The segregation of different densities from one another has been advocated for a number of reasons. Single-family residential areas attempt to preserve their property values by restricting higher densities. Also, it is feared that higher density development will interfere with light and air to single-family homes, generate traffic congestion and parking problems, overtax utility systems and community services such as schools, parks, and playgrounds.

While the primary object of zoning is to regulate the type of uses to which land is subjected, all zoning by-laws contain provisions relating to how a particular use should be developed. Regulations generally dictate the maximum or minimum standards in relationship to:

- a) height of building
- b) size of building
- c) percentage of lot to be covered by the building
- d) area of lots
- e) minimum frontage of lots
- f) location of building on the lot

The objective of these requirements generally are stated for the following reasons:

- a) prevent overcrowding of the land
- b) provide ample air and light
- c) reduce fire hazard
- d) afford sufficient and safe play areas for children
- e) provide privacy both within and outside the building

In Winnipeg, (St. Boniface area) R-1 zoning dictates that:

- a) maximum building height shall be 35' (10.6m)
- b) total site area to be 5,000 sq. ft. (464.5m)
- c) a minimum frontage width of 50' (15.2m)
- d) maximum site coverage to be regulated by setbacks
- e) front setback to be a minimum of 25' (7.62m) in depth
- f) 1) side yard setbacks for lots in the middle of a block must be at least 5' each side (1.5m) when yard abuts onto a rear lane
- 2) side yard setbacks for lots on a corner, when lot abuts a rear lane must be 10' (3.0m) and 5' (1.5m)
- 3) side yard setbacks for lots on a corner or in the middle of a block when no back lane is provided shall be 10' (3.0m) and 5' (1.5m)
- g) rear yard shall be no less than 25' (7.62m) in depth

Figure 78 is representative of the result of zoning development. Thus, of a 5,000 sq. ft. (464.5m²) lot, with no lane access, 3,250 sq. ft. (302 m²) would be left as open space. Some seemingly usable and some unusuable.

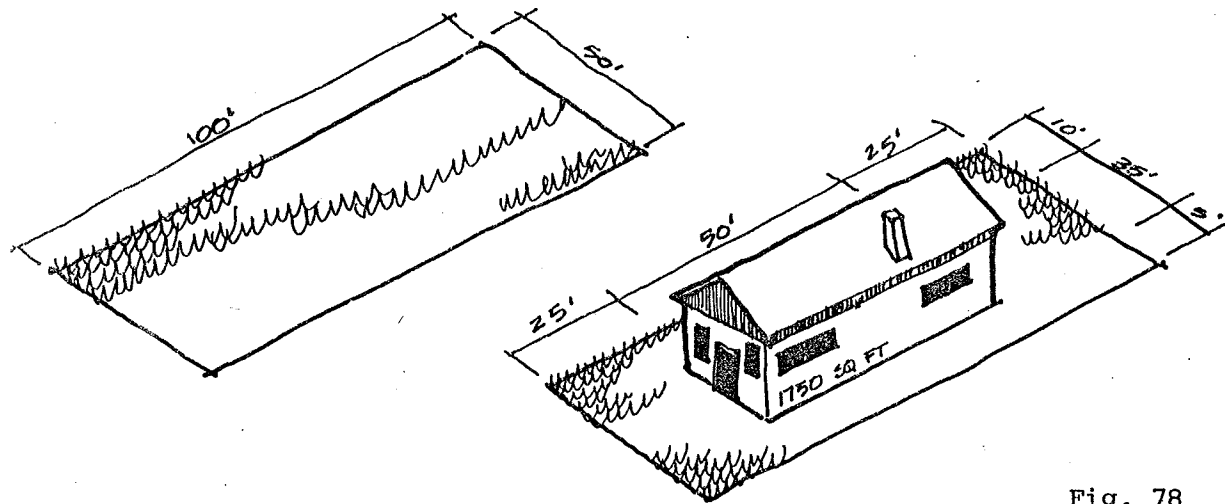


Fig. 78

Densities and housing mixture are another important factor of suburban development regulated by zoning by-laws. A recent document, entitled "Density Guidelines for Suburban Neighbourhoods" (Appendix VI) distributed by the City of Winnipeg in reaction to rising land and housing costs recommends the following residential mix per 100 acre of developable land.

55.9 acres residential
 26.0 acres circulation
 14.5 acres schools and parks
 3.6 acres commercial

of the 55.9 residential acres: 41% were single family
 21% were RPL detached houses
 11% were attached duplex
 18% were townhouses
 9% were apartments

(For a greater breakdown of number of units and population projections see Appendix VI)

III J OTHER OPEN SPACE TYPES

Particular to specific regions of cities are numerous other types of open spaces. Some of these areas have been created as a result of legislation, others as a result of functional need or private enterprise. Open spaces exist in the form of rivers and protective flood plain zones along riverbanks, or flight pathways on airport approaches.

Storm water retention ponds, reservoir storage areas, drainage creeks, swales or channels create linear or water orientated functional required open spaces. Aquaduct, hydro or other service transmission corridors also create open space

easements through most city areas.

Private golf courses, clubs, day care centers or recreation centers generally constitute other possible sources of suburban open space. However, the majority of open space users recognize the developed or undeveloped city generated public park spaces as the principle components of suburban open space.

III K OPEN SPACE CONTROL AND ACQUISITION

Because land is a limited resource, and open space can rarely be recovered once it is lost, the decisions which affect its use are significant because of the long term implications they have on the whole urban growth pattern. In Winnipeg, sixteen city or provincial departments presently contribute in discussions pertaining to the subdivision and development of future residential areas. They do so generally in conjunction with local community committees and Resident Advisory Groups (R.A.G.'s).

It is recognized that public agencies are primarily concerned with assuring equal park and recreation land services for all segments of the population while attempting to preserve unique natural or historic sites which may not be saved through private endeavours. The Edmonton City Parks Department (1970) suggests

that private enterprise will offer recreation opportunities only if it is profitable. They believe that only governments have sufficient financial resources to provide comprehensive programs, acquire land and develop facilities to meet the diversified needs of a community. Such attitudes seem to generally pervade the Canadian development industry, for rarely do developers take the initiative to provide extra facilities, nor do city officials appear eager to relinquish their 'responsibility' of safeguarding the coveted standards which will affect future residential areas.

Gifts, dedicated or purchased lands, generally constitute the present range of open space acquisition techniques practised in Winnipeg. Other techniques such as purchase and leaseback, life tenancy agreements, purchase and saleback or delayed acquisition techniques such as 1) options to buy, 2) purchase in segments or 3) pre-emptive buying have been utilized by other cities with considerable success. (See Appendix IV).

III L SUMMATION

Almost 85% of the land in suburban areas is unbuilt upon private or public open space. Though buildings occupy only 15% or less of the total space it is generally these solid forms which contribute to the imageability and represent the specific characteristics of most neighbourhoods. It appears that open spaces today have been primarily instituted in urban areas as physical and economic safeguards to reinforce institutional and residential quality standards. (ie. lot sizes, amount of park acreages, road right-of-ways, etc.)

This point is reinforced by the study of Edmonton housing development conducted by Carson in 1977. In an attempt to understand the objectives of existing standards on single family development a survey was distributed to the fifteen involved administrators. Carson points out that "in no way is the survey intended to provide statistical validation for any conclusions." However, the combined responses do provide insight into how officials view the purpose of development standards.

Question: What in your opinion is the purpose of:	Responses:										Total Responses	
	Fire safety	Traffic circulation	Privacy	Light and air	Open space	Aesthetics	Drainage	Snow removal	Density	Pedestrian Circulation		Property value
1. Minimum road width 30'	9	13	5	3		7		2				39
2. Minimum right-of-way 60'	12	7	7	3	4	7		5				45
3. Intersection spacing Min. 200'	4	15										19
Max. 1200'	10	12								3		25
4. Max. Cul de sac length 750'	5	15						2		4		26
Without emergency exit 350'	5	15						2		4		26
5. Lot grading 2%							15					15
6. Road grading Min. .5%							15					15
Max. 8.0%	15											15
7. Off street parking 1.0	15					6						21
8. Minimum walkway width 5'								6		15		21
9. Minimum lot area 5000 sq. ft.	11		8	10	8	3			8	3	2	53
10. Minimum lot frontage 45'	4		6	1		8					3	22
11. Minimum front set back 20'	10		12	6	8	9		1	4			54
12. Minimum rear set back 25'	8		10	8	15	2			4			47
13. Minimum side set back 4'	13		10	11	6	3			4	7		54
14. Maximum site coverage 28%	10		8	6	8	5			3	2	2	44
15. Maximum building height 25'	10		2	7		8						27
Total responses:	111	107	63	55	49	58	30	13	23	38	7	

Fig. 79 Source: Carson (77)

Standards it would appear have quite rationally or arbitrarily tightened the grip on what can or cannot be done in new suburban development. Winnipeg certainly possesses all of the necessary policy components for regulating an effective open space delivery and development package, however, this greater control emphasized by policies, by laws or agreements does not always guarantee the most satisfactory results.

Existing Winnipeg Criteria for Determining Location for Suburban Open Space

	Public Open Space Parks and Recrea- tion Dedication	Public Open Space Road and Paths R.O.W. semi- public utility easements	Private and Semi- private open space (lots, yards, multi- family areas)
<u>Policy:</u>			
Developer Agreements District & Action Area Plans	1	2	2
Zoning By-laws	2	1	2
		3	1
<u>Participants:</u>			
Parks & Recreation	1	4	
School Board	2	3	
District Planners	2	2	2
District Engineers		1	3
Work & Operations	3	1	2
Streets & Traffic		1	
Underground Structures		2	
Fire department		1	2
Hydro, MTS, Gas	3	2	
Residents	4	4	
Developer & Staff	1	1	1
<u>Existing Winnipeg Criteria for Determining Amount of Suburban Open Space</u>			
<u>Policy:</u>			
City of Winnipeg Act	1	1	1
Developer Agreements	1	1	
District Action Area Plans	2	2	1
Zoning By-laws	2		1
CMHC Federal Guidelines			1
<u>Participants:</u>			
Parks & Recreation	1		
School Board	2	2	2
District Planners	1	2	2
District Engineers		1	
Works & Operation	3	2	
Streets & Traffic		1	
Underground Structures		2	
Fire department		1	2
Hydro, MTS, Gas		1	3
Residents	4		3
Developers & Staff	2	2	1

Key: 1 - most influential 3 - influential
2 - moderately influential 4 - possibly influential

Fig. 80



Role & Function
Unit IVa

IVA - ROLE AND FUNCTION OF OPEN SPACE

Camillo Sitte in 1889 wrote a book entitled The Art of Building Cities in which he expounded the message that "open space conceived from the beginning as elements of the city were at least as important as the buildings." In former times the open spaces -- the streets, squares and plaza's - were designed to have an enclosed character and to create a predictable effect. Sitte believed that one of the primary functions of modern open space was to simply provide more air and light or to break the monotony of many houses. However, he insisted that the principle role of open space was not one of subservience; to the contrary in fact, "open space should not simply serve or enhance a building, it should be a building -- or at least something so like a building as to be chiefly distinguished from it by lack of an actual roof."

Despite the fact that such an analysis was stated almost a century ago, the ideal reason for attempting to create effective, memorable, humanistic space should not presently be different. However, the attitude of treating space as a positive form-giving element, and not as a residual development component does not seem to be readily apparent in most North American cities.

A discussion of open spaces generally denotes a preconceived idea of city developed "park" space. This factor is in part due

to the public nature of 'parks' and the formal establishment of major Parks and Recreation administrators who institute programs and recreation standards.

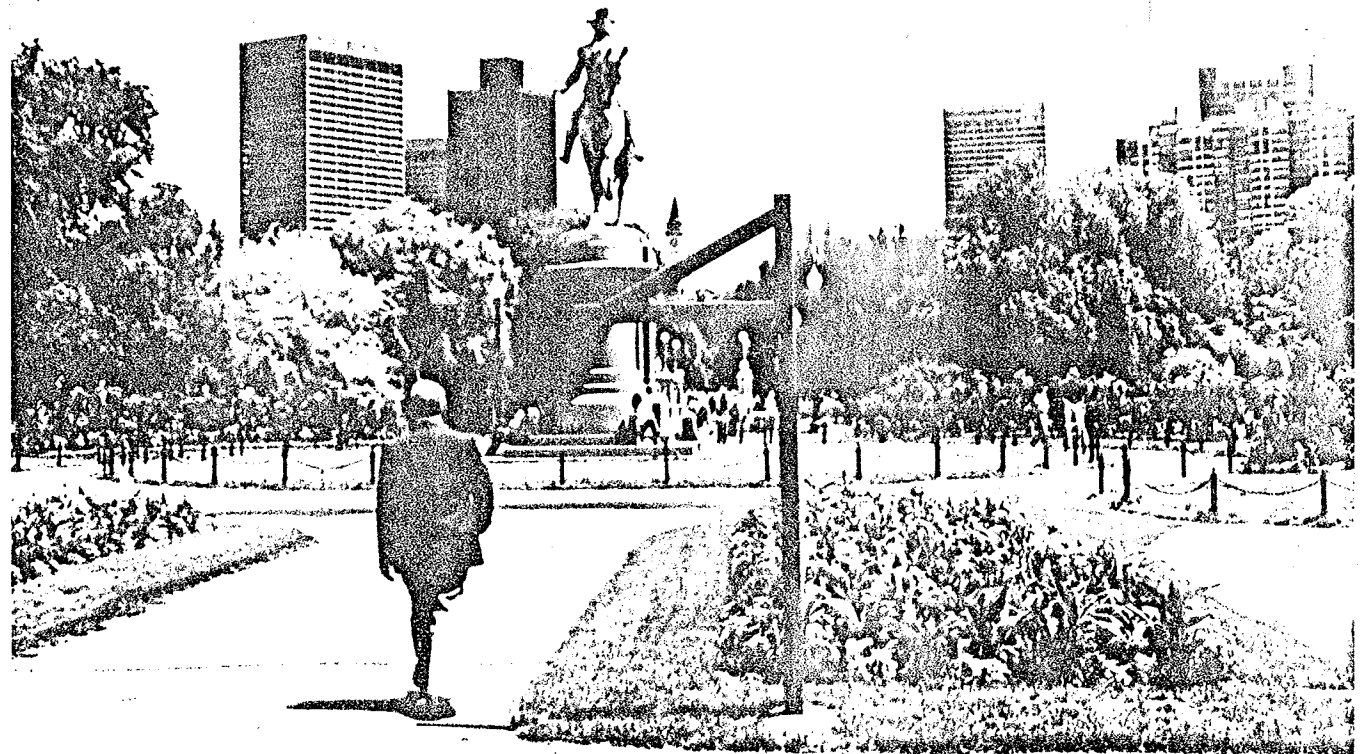
A study carried out by Beauchesne, Ellis and Homenuck, (1976) in the departments of: Environmental Studies, Urban Studies and Recreation at York University in Toronto attempted to discover in fact what components of the urban landscape should be considered as 'open space'. To obtain a broad range of comments, a questionnaire was distributed to a random selection of concerned citizens, recreation planners, local politicians and city administrators throughout all major Canadian cities. Of the following top 12/25 answers, 9 refer specifically to the preconceived notion of parks as open spaces'.

What is Open Space? A Cross Canada Survey

private ownership (pr) public ownership (pb)
 developed space (ds) undeveloped space (us)

1. Major city landscaped parks (93%) (pb/ds)
2. Community and district landscaped parks (88%) (pb/ds)
3. Natural areas with recreation development (88%) (pb/pr/ds/us)
4. Neighbourhood parks or parkettes (82%) (pb/ds)
5. Undeveloped natural areas (75%) (pr/pb/us)
6. Small places in midst of urban development (66%) (pr/pb/ds)
7. Tot lots or small playgrounds (64%) (pb/ds)
8. Floodplains (61%) (pr/pb/us)
9. Major city parks-developed facility (52%) (pb/ds)
10. Community or district park-developed facility (52%) (pb/ds)
11. Private open space (51%) (pr/ds)
12. Open squares or municipal plazas (48%) (pb/ds)

Fig. 81



The same study then attempted to further define the perceived roles of urban open space. The following tables represent the authors interpretation of the top ten answers with respect to 42 variables which have been compared in terms of: great, moderate, and least importance for Winnipeg and Canadian residents.

The following roles of urban open space were perceived to have great importance or to be indispensable (ranked from most important⁽¹⁾ to least important⁽¹⁰⁾).

Winnipeg		Canada	Great Importance (1-10)	Winnipeg		Canada	Moderate Importance (1-10)	Winnipeg		Canada	Least Importance (1-10)
Rating	Rating			Rating	Rating			Rating	Rating		
2.	1		to provide an outlet for relaxation	2.	1		to provide outlets for tourism			1	to control urban sprawl or city size
7.	2		to provide an outlet for children's play	7.	2		to provide an area for assembly and meetings			2	to improve city's climate
8.	3		provide for better urban aesthetics		3		to assist in forming or strengthening a city's identity	3.		3	to provide a place for people to challenge themselves
3.	4		to preserve unique natural environments		4		to provide entertainment			4	to provide community benefits from commercial sports and recreation
5.	5		to enrich the neighbourhood living environment	4.	4		to help balance the urban ecosystem	10.		5	to provide corridors for utilities or transportation
6.	6		to provide an outlet for physical activities	3.	5		to encourage neighbourhood identity			6	to assist one to orient oneself
9.	7		to provide a place for families to be together	9.	6		to provide an outlet for cultural functions			7	to reinforce downtown commercial development
1.	8		to provide an opportunity to experience natural environments	1.	8		to provide community benefits from commercial sports and recreation	6.		8	to benefit land values of adjacent property
4.	9		to provide relief from pressures of urban environment		9		to provide a place for people to challenge themselves	9.		9	to serve as a temporary or transitional use
10.			to provide a place for socially desirable activities		10		to serve as a place for social interaction	8.		10	to attract customers to nearby commercial development
				5.			to assist one to orient oneself			1	to provide an area for assembly and meeting
				6.			to control urban sprawl or city size			2	to separate or buffer incompatible land use
				8.			to provide air circulation and light			4	to avoid development on unsuitable sites
				10.			to avoid development on unsuitable sites			5	to preserve land for future use

Fig. 82

The results of the survey (figure 82) appear to support Camillo Sitte's position of attempting to define the role of open space as complimentary to, and integrated with, the urban framework. (Canada Wide survey results, most important, answers 3,5, 10). As such, the most recognizable forms of open space are generally in the developed category characterized by recreation fields on highly manicured natural spaces.

The survey also appears to suggest that the recreative role of open space ('Active', answers 2,6,7,8, 10 and 'Passive' answers 1,7,8, 9) and the Preserved Natural Space Role (answers 4,8,9) currently rate as being the key national and local perceived functions of open space in cities.

In view of this analysis it would appear that; in cities and at recreational centers, the role of preserving natural space and areas for the study of wild life habitats, would be appreciated if they were made more readily available. Not only is open space, once developed - lost - but natural open space, once altered may take years before it returns to its original state.

From the results of the York University Study and the previous work of Eckbo et al, 1965, Heckscher, 1977 and Simonds, 1968, it appears that the many functions which open space can

fulfill in an urban setting may be divided into six major categories:

Urban Open Space Functions for Human Health and Well Being

a) Educative

1. areas reserved for wildlife refuge or vegetative growth (marshes, forests, riverbanks, prairies)
2. areas preserved for geological features
3. areas preserved and identified as being of historical or cultural significance.

b) Aesthetic

1. visual amenity
 - a) physical relief to the cityscape; natural contrast to the built up man-made environment. 'oasis in the desert'.
 - b) use and orientation within the community ornamental display purposes. settings for important buildings functions or commemorations

C? 2. give identity to streets, neighbourhoods and districts.

c) Productive

1. lands for agriculture, forestry, mineral and animal product production.

d) Protective

- NS* 1. lands to insure a quality of life standard

2. lands to separate conflicting land uses
3. lands to protect the quality of the groundwater
4. lands to preserve natural habitat areas
5. flood control reservoirs, unstable development areas, flight-path zones

e) Recreative

1. areas for recreation - supplied totlots, neighbourhood community and district facilities for active and passive activities, community centres for meetings or entertainment.
2. walks and trails for hiking, riding and bicycling
3. scenic roadways or waterways

f) Supportive

1. open space for necessary urban functions (service utilities)
2. open space for service corridors, power transmission easements, canals, aqueducts, transportation and transit rights of way.
3. open land for waste disposal
4. open land around existing commercial, industrial, and housing structures.
5. shape and guide future development of commerce, industry and residential

Such a classification, while simplifying the potential functions of urban open space, is not intended to imply that open space performs singular roles. It is hoped that a space

developed for education purposes for example might certainly incorporate other open space factors. This point is illustrated by the following table which attempts to classify the results of the previous 'open space role' questionnaire (figure 82) into the six major function categories.

Canada Wide Survey Results

Winnipeg - Survey Results

Numbers refer
to top ten
answers
(page 86)

	Great	Moderate	Least	Great	Moderate	Least
Educative	4,7,9	5		3,4,9	3	
Aesthetic	3,5,8,10	1,3,6,7	2,6,8	1,5,8	2,5,8,9	7
Productive	7,8,10	5	7	1,9	3	
Protective	4,5,9,10	5	2	3,4,5	3,8,10	2,4
Recreative Active	2,6,7,8, 10	1,7,8,9	3,4	1,6,7, 9,10	1,2	3
Recreative Passive	1,7,8,9	1,2,4,7, 10		1,2,4, 9,10	2,4,7	1
Supportive		7	1,5,7, 9,10		6,10	5,6,8, 9,10

Such an ordering of roles and functions, however, simply serves to indicate that: 1. certain spaces can satisfy numerous inter-related and complementary roles and

2. greater recognition by the public is given to the recreative and natural roles of open space than to the more functional aspects which pertain to road, or service easements and right-of-ways.

This does not mean, that such landscaped spaces are necessarily utilized to a greater degree than the functional and servicing aspects.

Certainly open space within an urban setting occupies many varied, singular, or multi-functional roles. Specific site situations may dictate that the land is most suitable as a preserved woodland site for residential purposes or harvested for timber. The key factor to open space development, because of the inherent flexibility, should be judged by the following comment which Jane Jacobs makes in her book "The Life and Death of American Cities": "The value and appropriateness of open space is determined primarily by how we react to it."

The following section attempts to relate the issues of open space use and non-use in order to determine the existing state of the art and identify the relevant criteria which may influence physical design.

PUBLIC RECREATION AREAS										
	Map Location	Camping	Shelters	Trailer Sites	Stores	Picnicking	Boating	Swimming	Hunting	Fishing
MANITOBA NATIONAL PARKS										
RIDING MOUNTAIN	F-8	•	•	•	•	•	•	•	•	•
CLEAR LAKE	F-8	•	•	•	•	•	•	•	•	•
LAKE AUDY	F-8	•	•	•	•	•	•	•	•	•
LAKE KATHERINE	F-8	•	•	•	•	•	•	•	•	•
MOON LAKE	F-8	•	•	•	•	•	•	•	•	•
WHIRLPOOL LAKE	F-8	•	•	•	•	•	•	•	•	•
PROVINCIAL PARKS										
ASSESSIPPI	F-7	•	•	•	•	•	•	•	•	•
BIRDS HILL	G-10	•	•	•	•	•	•	•	•	•
CLCADWATER	B-7	•	•	•	•	•	•	•	•	•
CAMPERS COVE	B-7	•	•	•	•	•	•	•	•	•
PIONEER BAY	B-7	•	•	•	•	•	•	•	•	•
SUNSET BEACH	C-7	•	•	•	•	•	•	•	•	•
DUCK MOUNTAIN	E-7	•	•	•	•	•	•	•	•	•
BLUE LAKES	E-7	•	•	•	•	•	•	•	•	•
CHILD'S LAKE	E-7	•	•	•	•	•	•	•	•	•
SINGUSH LAKE	E-7	•	•	•	•	•	•	•	•	•
WELLMAN LAKE	E-7	•	•	•	•	•	•	•	•	•
GRAND BEACH	F-10	•	•	•	•	•	•	•	•	•
EAST BEACH	F-10	•	•	•	•	•	•	•	•	•
WEST BEACH	F-10	•	•	•	•	•	•	•	•	•
GRASS RIVER	B-7	•	•	•	•	•	•	•	•	•
ISKWASUM LAKE	B-7	•	•	•	•	•	•	•	•	•
BEED LAKE	B-7	•	•	•	•	•	•	•	•	•
SIMONHOUSE LAKE	B-7	•	•	•	•	•	•	•	•	•
TURTLE MOUNTAIN	H-8	•	•	•	•	•	•	•	•	•
ADAM LAKE	H-8	•	•	•	•	•	•	•	•	•
MAX LAKE	H-8	•	•	•	•	•	•	•	•	•
WHITESHELL	G-11	•	•	•	•	•	•	•	•	•
BETULA LAKE	G-11	•	•	•	•	•	•	•	•	•
BERKERTON LAKE	G-11	•	•	•	•	•	•	•	•	•
CADDY LAKE	G-11	•	•	•	•	•	•	•	•	•
DOROTHY LAKE	F-11	•	•	•	•	•	•	•	•	•
ELENOH LAKE	G-11	•	•	•	•	•	•	•	•	•
FALCON BEACH	G-11	•	•	•	•	•	•	•	•	•
JESSICA LAKE	G-11	•	•	•	•	•	•	•	•	•
NUTNIK LAKE	G-11	•	•	•	•	•	•	•	•	•
OTTEN FALLS	G-11	•	•	•	•	•	•	•	•	•
REDRICK FALLS	G-11	•	•	•	•	•	•	•	•	•
SEVEN SISTERS FALLS	G-11	•	•	•	•	•	•	•	•	•
TONIATA BEACH	G-11	•	•	•	•	•	•	•	•	•
WEST HAWK LAKE	G-11	•	•	•	•	•	•	•	•	•
WHITE LAKE	G-11	•	•	•	•	•	•	•	•	•
WINNIPEG RIVER	F-11	•	•	•	•	•	•	•	•	•
WHITESHELL LAKE	F-11	•	•	•	•	•	•	•	•	•
PROVINCIAL FOREST										
NORTHWEST ANGLE PROVINCIAL FOREST	H-11	•	•	•	•	•	•	•	•	•
MOOSE LAKE	H-11	•	•	•	•	•	•	•	•	•

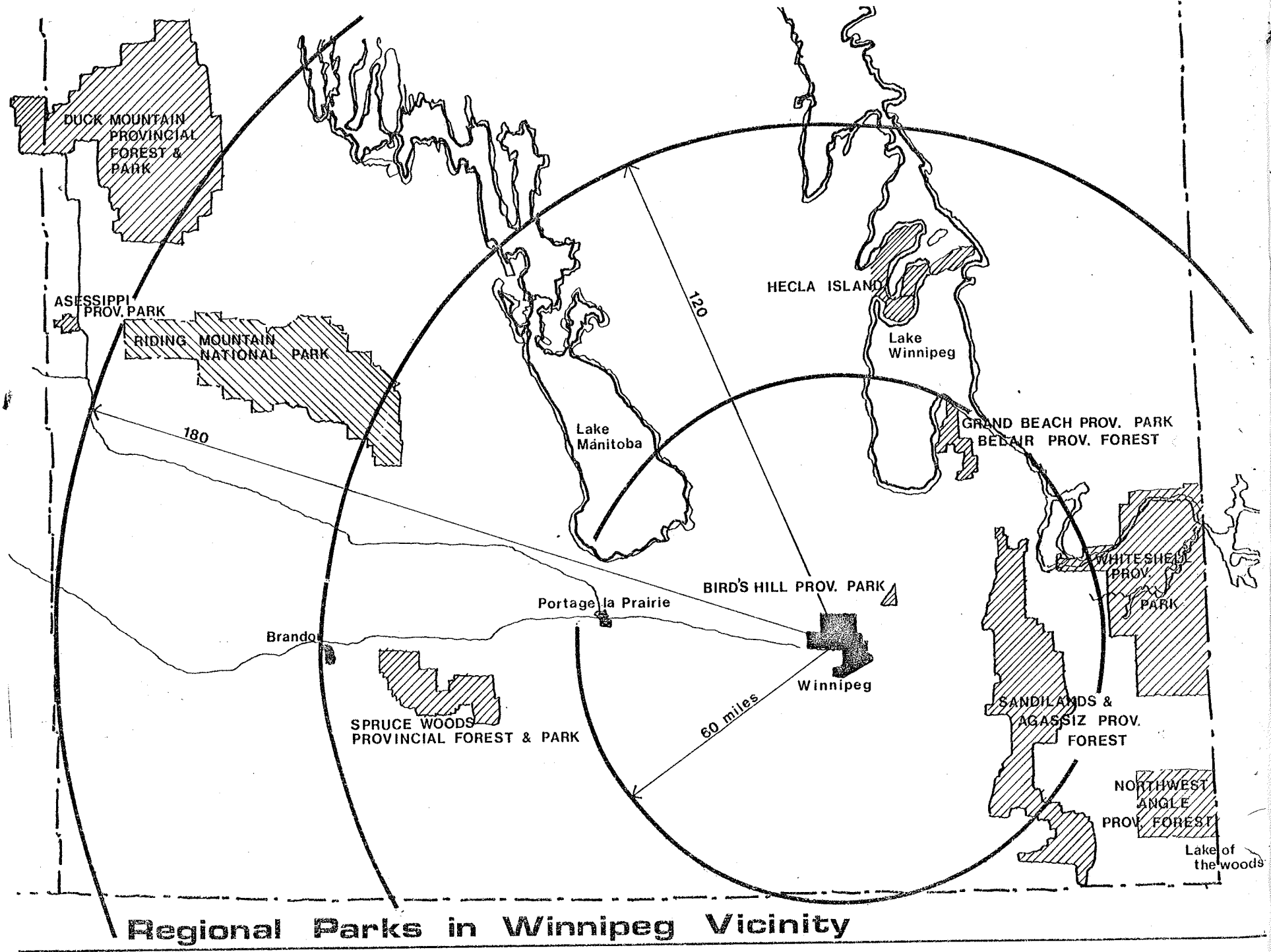


Fig. 83,84



*Use
Unit IVb*

IV B OPEN SPACE USE

In this section an identification is made of the criteria which affect the needs and subsequent use or non-use of public open 'green' space. It should be noted at the onset that the reasons for use and non-use of open space remain largely subjective and consequently much conflicting information is available.

When spaces or facilities are popular and active it is instinctive to imagine that such places are important and necessary. However, when open spaces are used intermittently or not used at all, suspicions arise as to whether the place or facility is essential. A further question arises when one attempts to analyze whether use or non-use is, in fact, an important criteria for judging the adequacy of an open space system.

Operating, maintenance and capital development costs for parks and recreation departments cannot presently be supported by traditional funding sources. It is therefore important to investigate the effectiveness of publicity provided open space in order to prevent a build up of costly unnecessary resources and facilities.

1. USER STUDIES

Seymour Gold, a noted recreation critic and planner, concludes

that in studies of neighbourhood parks one-third of the population are non-users. The remaining two-thirds prefer forms of recreation not found in urban parks. (Gold, 1972, p.2-4).

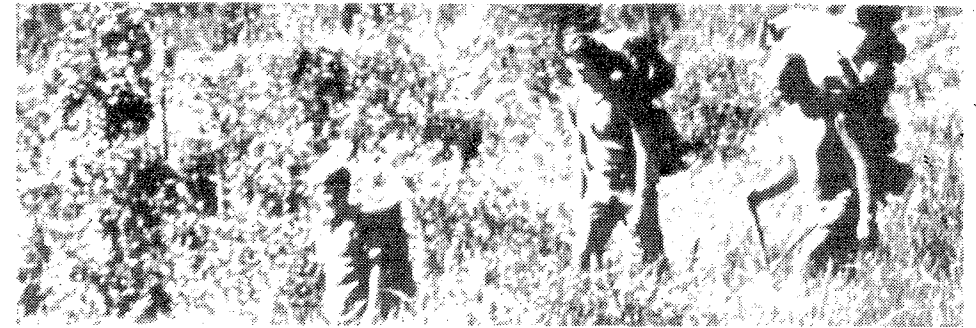


Fig. 85

Thomas Burton suggests that there is a wide range of leisure pursuits available to Canadians, though there are none in which a majority of Canadians participate regularly. He found that most people are infrequent participants in outdoor leisure activities. (See Appendix VII)(Burton, 1976, p.49).

In the Manitoba context (figure 84) it is possible to see that the availability of Federal and Provincial parks is very much a part of the potential outdoor open space experience for residents of Winnipeg. Though there are many potential cottage sites and campgrounds, use is still limited to a small percentage of the total urban population. Consequently, there is concern over the public open space which is provided within cities because, in some cases, it represents the total extent of a person's open space experience.

Rob Ferguson and John Little, students in the City Planning Department of the University of Manitoba recently attempted to analyze the current use of neighbourhood parks and recreation spaces in one area of the Winnipeg region. The newspaper article (figure 86) summarizes their findings.

It would appear from a synopsis of the study that 'use' was envisaged as a key indicator of park adequacy. Active recreation

facilities and grounds, were viewed as successful because they were well used, even though their appeal may have been limited to an "enthusiastic, well deserving minority". Landscaped open space was criticized for restricting potential ball playing and being useable for little more than children's hide and seek games. The neighbourhood park system, in the opinion of the study and the newspaper article, should be considered a "dismal failure" because of the apparent lack of use.

Existing users adequately served is indication

Attract new users to parks, East Kildonan study advises

By GLEN MACKENZIE

East Kildonan parks officials should encourage more residents to use parks rather than worrying about people already using them, a study done for the community's residents' advisory group says.

The study, by two students in the University of Manitoba's city planning department, found two-thirds of about 300 people sampled use a park less than once a week and some never use a park.

Activity rare

Interviews were carried out through 200 random telephone calls and about 100 personal interviews in recreational areas.

The study found more than half the respondents rarely or never engage in organized sports or activities. The most frequently

mentioned use of a park was walking, along with picnicking and barbecuing. Only a third of those using park activities used facilities (mainly sports) and only a fifth participated in programmed activities such as theatre and crafts.

But the parks and recreation department "may find it difficult in instituting activities for the majority of non-users. Presently many of the decisions made by the political arm of the community are made in reaction to requests or pressures from various interest groups.

"Many of these groups, (such as) community centres' presidents, are present users of existing facilities and in many cases are requesting more facilities or improvements in older ones . . . This is reasonable, since the users cannot find adequate sub-

stitutes elsewhere."

The report also says "the majority of non-users are presently utilizing and engaging in substitute forms of recreation and would therefore be less likely to apply pressure to the decision-makers. The natural tendency would probably be the provision of more facilities for present user groups at the exclusion of the non-users," although "the apparent co-operation between the East Kildonan parks and recreation department and the community committee may help to overcome this tendency."

The study said the department seems evolving toward the user-goal approach, which implies modifying recreational areas according to users' intentions, taking into account the community's moral boundaries. An example of conflict is the area known as

Fraser's Grove, "intended as a place of enjoyment and relaxation for various groups, not as a hangout for teenagers at night."

'Left-out group'

The study concluded those aged 14 to 17 are the "left-out group of non-users." Although some hang around in major recreational parks or use athletic facilities these teenagers have "has nowhere to go unless they become involved in organized activities. They are the most unpopular age group as other age groups appear threatened by them. They demand few facilities and even less are provided for them."

The study's major criticism of civic government involved the dedication policy for developers. Private planners dedicating part

of a subdivision for parkland may make parks isolated from each other, blocking natural movement between them, and put small parks inside residential areas, surrounded almost completely by private residential lots with only a walkway providing access, the study said.

The Bret Bay and Callum Crescent tot lots, the study said, are essentially private facilities maintained at public expense.

The study dealt with five types of parks — tot lots (for children under 12), playgrounds (tot lot plus undeveloped space), neighbourhood parks (landscaped with no facilities), athletic complexes (basically, community centres) and major recreation parks with all these facilities.

Land values

The strongest criticism was

aimed at neighborhood parks, many of which "have no real value except to increase land values for the residents in the immediate neighborhood. They are usually aesthetically pleasing yet are often landscaped so that little use can be made of them except perhaps for children's hide-and-seek games. Any potential ball-playing area in the centre is usually filled with shrubs and trees . . .

"Most neighborhood parks should be considered dismal failures due to their lack of use (although) those with good facilities are used to a great extent. Further development or selling the property for housing seem the best solutions for neighborhood parks."

The major recreation park was found the most successful type.

Tot lots were rated moderately successful, despite almost all having concealed entrances requiring users to know where they are, and despite several tot lots in Riverton and Talbot wards "in poor condition with old equipment and a lack of shade trees and benches".

Playgrounds were generally considered failures because they don't have developed facilities but athletic centres are "all well located and serve the needs basically of organized sports enthusiasts, usually males between the ages of 12 and 30 . . . Athletic complexes must be considered successful within the limited scope by which they were set up. They appeal to a small minority of the population, yet it is an enthusiastic, well-deserving minority."

2. CRITERIA FOR OPEN SPACE USE

A number of other authors have similarly noted the current lack of use within provided park space. Gold, suggests that the focus, past and present has been on producing a quantity of open space at the expense of providing quality. The question then arises as to whether or not, quality of open space is a criteria of use, and if so, what factors contribute to the improvement of open space quality. (Gold, 1972, p.3)

Gans,(1957) indicated that in fact there did appear to be a correlation between quality and the following four other factors of open space development.

1. frequency of use
2. length of use
3. user satisfaction
4. accessibility

In addition Gans, Gold and Hester believe that non-use or use of public open space is directly attributed to one or more of the following features which may be categorized under the headings of behavioral, environmental or institutional.

Behavioral

1. non-users may have significant physical, mental or cultural differences from users.

2. use may be encouraged by psychological comfort, where the opportunity exists to exert emotional release (aggressive behavior) or obtain social reinforcement (love, safety, respect).

Environmental

1. use is encouraged if it provides the settings for activities one wants to do, in the right setting and location.

Location, site characteristics and adaptability of space are important.

2. use is generated by providing for relationships with the natural environment.
3. use may be encouraged if the environment appears to be physically and socially safe.
4. aesthetic appeal, visual unity, cleanliness and a balance of visual stimuli may encourage use.
5. convenience is important - actual and functional distances encourage or discourage use.
6. physical comfort - site factors such as weather, microclimate, physical safety, psychological needs and desires can encourage use.

Institutional

1. rules, regulations and a policy on user restraints, contribute to a large degree of non-use.

2. Cost - if a charge has to be assessed for facilities, it is advisable to offer the lowest direct cost.

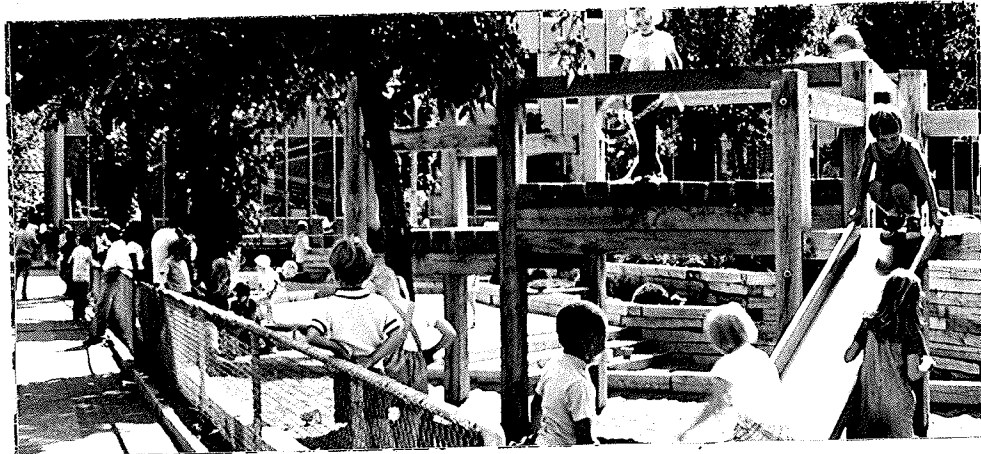


Fig. 87

Christensen and Yoesting, discovered that persons utilized their recreational time according to the activities of parents, friends, spouse or peer group. Therefore, the basic issue of whether or not participation will occur, is virtually non-determinable. The physical criteria that contribute to the various environmental conditions which Gans, Gold and Hester developed however, can be analyzed in order to determine the optimum favorable conditions. (Christensen, Yoesting, 1973, p. 6-15).

a) Access

Accessibility of public open space in terms of physical distance and visual awareness are crucial issues in terms of park space use. The amount of street frontage, location in the neighbourhood, and shape of the space appear to be the key components which contribute to the visual access of public space.

In terms of distance accessibility, most North American recreation systems still recognize and utilize Clarence Perry's neighbourhood concept with the school and neighbourhood parks being a maximum distance of 1/4 - 1/2 mile (.4 km - .8 km away).

Totlots and Vest Pocket Parks are usually within a distance of 1/8 - 1/4 mile (0.2 - .4 km). The assumption is related to the perceived maximum walking distance one would travel in order to utilize the facility. In reality, distances appear to be unimportant in comparison to such factors as age and sex of the participant, the mode of transportation and the degree of pedestrian/vehicular separation.

Studies conducted by the Institute of Social Research at the University of Michigan in 1970 (See Appendix VIII), indicate that for facilities such as: swimming, tennis and boating use began to drop off beyond a distance of one half to one mile

away from the residence. Golf maintained an attraction for a distance up to 5 miles. The percentage of people who hike, walk, bicycle, or picnic begins to decline beyond the two mile zone. It was generally perceived that "a few people will go swimming (or play tennis) only if they are very close to the facilities. Among those who do participate, frequency or participation is less sensitive to distance." (Institute of Social Research, 1970, p.64)

Aside from the factor of distance, accessibility is also closely related to the facilities at the destination point, length of time one intends to stay, convenience and pleasurable ability of the route.

b) Safety

The perceived feeling that public space is physically or socially safe does appear to affect the potential attractiveness of an area and thus, encourage or discourage use. Park use generally occurs during day-light hours, however, where evening circulation routes pass through unlit areas there is a tendency to avoid the route. The provision of park lighting, visual accessibility and properly maintained or supervised facilities can in part lessen the potential risks. Jane Jacobs notes that safety is best handled through the provision of

"watching eyes". (J. Jacobs, 1961, p.37-54). Such 'eyes' can be provided through the physical relationship of permanent residents or users to a public space. A sense of observance and overseeing become elements which not only contribute to the safety of a space, but make it an integrated component of the neighbourhood. The work of Oscar Newman addresses this issue primarily in terms of architectural design, such as placement of doors or windows, and the relationship of open spaces around multi-family apartment dwellings. He supports Jacob's theory that 'visually accessible' space is most desirable in terms of perceived safety. (O. Newman, 1973, p. 1-17).

The Winnipeg park user study (conducted by Problems Research Inc., 1964), indicates that an additional concern arises when parks seem to become teenage handouts, or the potential territory of one group. It is necessary, therefore to physically separate conflicting age groups by recognizing their various needs and facilities. Obviously where one group has no perceived space they may intrude or take over what is available.

c) Site Characteristics

The issue of site development in terms of a lack of quality and varying group appeal has been alluded to previously as one

of the principle deficits of current public open 'green' space development.

If one is particularly opposed to swinging, sliding or sand playing then the chances of being completely or partially satisfied at the local totlot will probably go unrealized. The economic constraints in terms of maintenance and capital development of public park space cannot be denied, but these constraints seem to have become the prime determinants in the mass production of repetitious, single user orientated space. Understandably, not all space can appeal to every age or special interest group. However, it is essential to consider the interrelated needs of park users -- eg. providing facilities for parent supervision of preschool children's play spaces may increase the overall user potential.



Fig. 88

In suburban areas, public open 'green' spaces are generally utilized for facilities which cannot be readily accommodated in the back yard or street. To entice a user, therefore, it is necessary to provide something of interest which is well constructed, well maintained, and situated so as to be readily accessible. The use of natural features such as:

earthforms

water

plants (trees, shrubs, flowers,
grass)

in combination with developed facilities such as:

more climbing structures, slides,
swings

or organized sports: baseball,
football, soccer, tennis,
swimming, and basketball

complemented by facilities such as:

benches, tables, bleachers

which consider the human comfort levels in terms of:

shade

temperature

wind, rain, or snow protection

and the individual needs for:

meeting

display

privacy

all become instrumental in the development and planning to neighbourhood orientated open spaces. However, adherence to these factors will not guarantee continued usage. In fact, Gold observed that given optimum conditions of use, (excellent weather, convenient access, close proximity, good development, maintenance and programming) use was still infrequent. It was noted that at peak times, use seldom exceeded 10% of the total possible users, and that an average between 1-5% occurred during normal use. These percentages applied to both inner city and suburban areas with little deviation in regard to the total supply of recreation opportunities, family income, age, sex, race, or national origin. (Gold, 1972, p. 3, Gold, 1969, p.130-140, Gans, 1957, p.274).

A further study was carried out to determine use by Whyte, (1972, p.2-3), in which time lapse photography was adapted to measure the utilization of neighbourhood parks and playgrounds. The researcher concluded that, most of the time playgrounds, are far too little used, and a good number were almost vacant most of the time. This information seems to provide evidence

that open spaces are not meeting the needs of people for which they were intended and that users have many other interests which exceed those requiring public open space.

3. USER NEEDS

The issue of determining needs is by no means an exact science and thus is most easily handled by the more tangible method of standards and direct requests. If recreation departments are notified that five more baseball fields are needed, this is a recognized tangible item that can be supplied (and usually is). If there are no specific requests, however, the City will allot park and recreation space in general terms, to appeal to the needs of all ages (totlots, vest pocket park, etc.)

Issues such as socialization, privacy, contact with nature and the landscape, are needs which individuals may have, but which are rarely identified as having any direct relationship with the simple matter of "providing" public or private open space.

In attempting to discuss the relationship between human needs and the natural environment, participants of a conference, entitled "Man and Nature on the City" concluded that there was very little, hard, reproducible scientific information available.

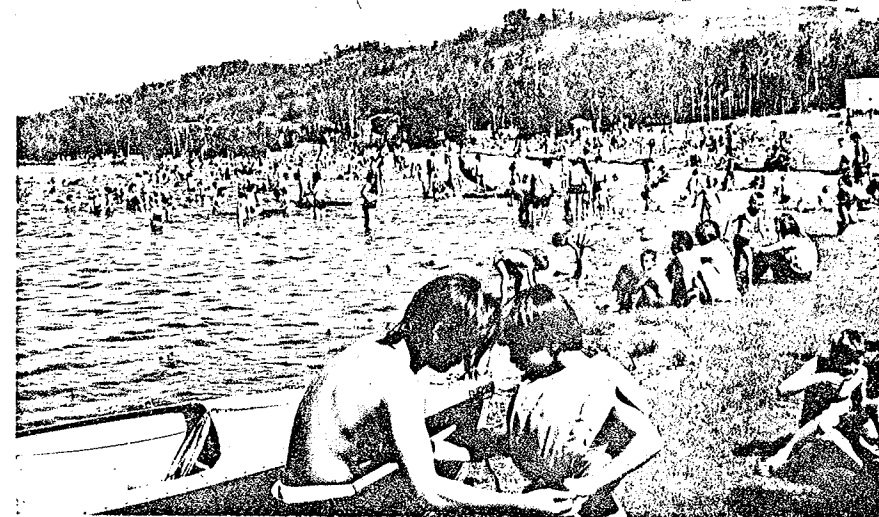
Those concerned about the man-environment relationship are quite convinced, however, that as persons involved in the urban ecosystem, we at least need clean air, clean water, enough room for people to have privacy, and to move around, in order to make possible a certain amount of physical activity and recreation. (U.S. Department of the Interior, 1968, p.7).

Physicians, sociologists, psychologists, anthropologists, urban designers, and planners at the conference were collectively convinced, however, that "human life on earth at the present time is indeed dependent upon the maintenance of the natural balance of the ecosystem." Yet, according to Dr. Lawrence Hinkle, Director of Human Ecology at Cornell University Medical College in New York City, "There is simply no good data on how much parkland is needed per person, in what kind and in what arrangements, so that children, adolescents, and older people can get that kind of recreation which is optimal for them. Indeed, it is not even clear to me that if you build a baseball field in the city, the children will not go back into the streets and play stickball. I believe that the building of a ball field would be a good thing, but it would be difficult to prove that it is better than providing a safe place for stickball in the street." (ibid, p.7)

a) Need for Recreation Space

Recreation may take the form of play or relaxation through involvement in games, sports, hobbies or exercise. However, the term is generally used to denote the function of most public parks, playgrounds, school yards, swimming pools, golf courses or totlots, and has come to represent the need most normally satisfied by public open green space. As such, though a space may fulfill such functions as being "protective" (flood lands), "supportive", (service corridors) or "aesthetic" it is generally considered to have recreation capability. The question then is whether or not there is a need for cities to provide public open space for the purpose of recreation.

Fig.89



Trafford Park residents seek playground space along St. Anne's Road

By NANCY BIRKS

A spokesman for more than 400 Trafford Park area residents Monday night asked the St. Vital community committee to consider providing playground space on the southwest corner of Worthington Avenue and St. Anne's Road.

The residents, who have gained the support of the St. Boniface, Norwood and St. Vital Kinsmen Club, say the playground is needed because the large number of pre-school children in the area have nowhere to play except in back lanes.

There is an "enormous" amount of high rises and multi-family dwellings in the area, Paul McGrath of 85 Trafford Park said. St.

Anne's Road is a busy thoroughfare and traffic will increase with the completion of the new "corridor," (linking St. Vital and Fort Garry over the Red River) McGrath told the meeting.

The Kinsmen Club is prepared to undertake development of the playground, Kinsmen representative Bob Beavis said. "The people of the complex have united," he said. "They want the property at a nominal fee, if any."

Councillor Al Ducharme (Fernwood) told the delegation the land is worth between \$60,000 and \$70,000. There may also be legal problems due to legal requirements set out with the purchase of the nearby Glenlee Community Club land some years ago, he said.

"I'm not sure if we can talk the people downtown into it," Ducharme said.

The community committee voted to ask the city's real estate division to look into the lot's value and what the city's plans are for the land. The legal department will also be asked to check legal requirements.

The committee accepted the offer from the Kinsmen Club if the playground should be approved.

Fig. 90 Source: Metro Newspaper 1978

Fig. 91 A Child's Garden - Berkeley California

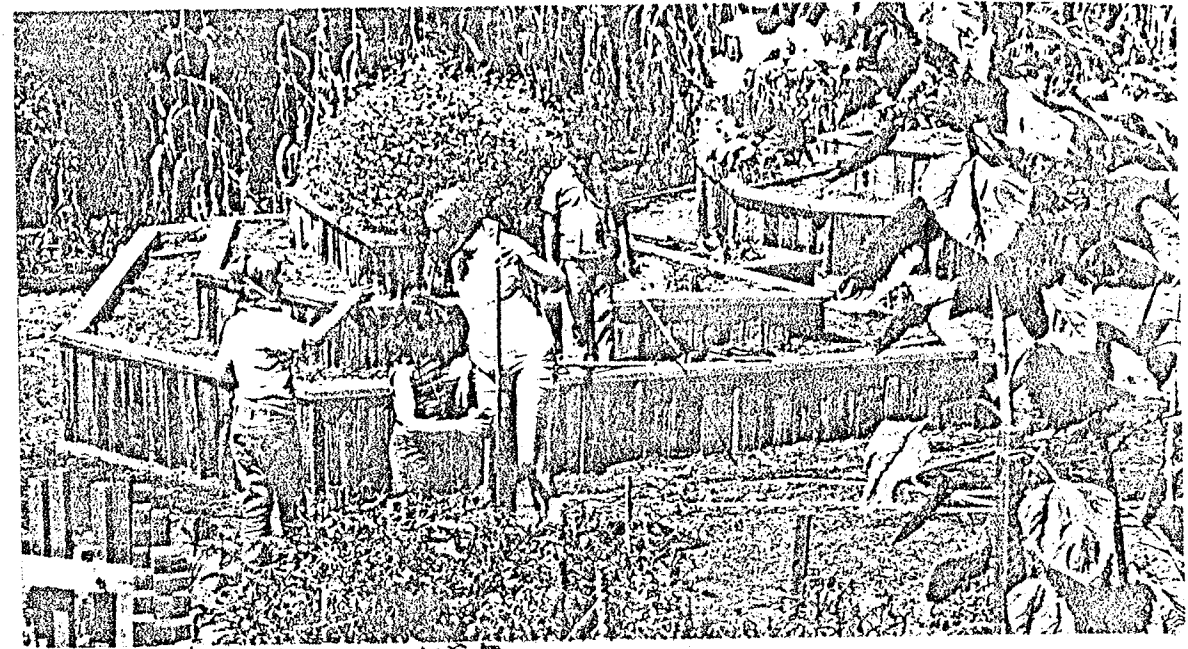


Fig. 92
Source: Atlantic (77)

"I long for the old days, when places like this were still unspoiled by people like us."

The response to an increase in available time has significantly affected the perception of open space need in urban society.

Leisure has suddenly become the condition upon which recreation and all other open space functions are based. The Winnipeg and Edmonton Recreation Departments, like most other North American park agencies, feel compelled as a result of their role, to react to such predictions by providing green spaces and areas for leisure activities in which all segments of the population can "re-create themselves". Such areas, are thought to be necessary, in order to relieve the anxieties, tension, pressure and stress of modern urban living. (Wolpert 66, Wohwell 66, Colhern (62) and Deevey (62))

"Recreation provides an opportunity to discharge accumulated emotions of hostility or aggression, to revert to more relaxed behavior where one can forget the constraining properties of polite society and perhaps enjoy, temporarily, a return to youthful enthusiasm by, say, snowmobiling, or water-sliding into a swimming pool, or rolling down a grassy hill.

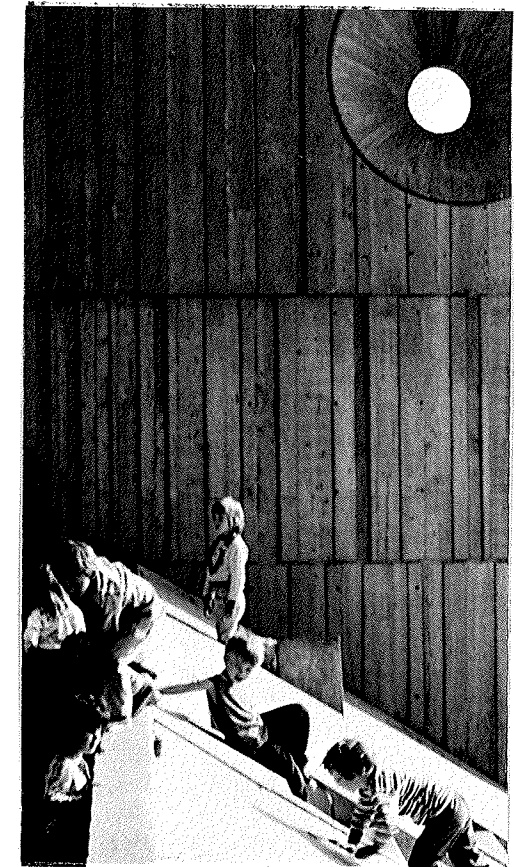
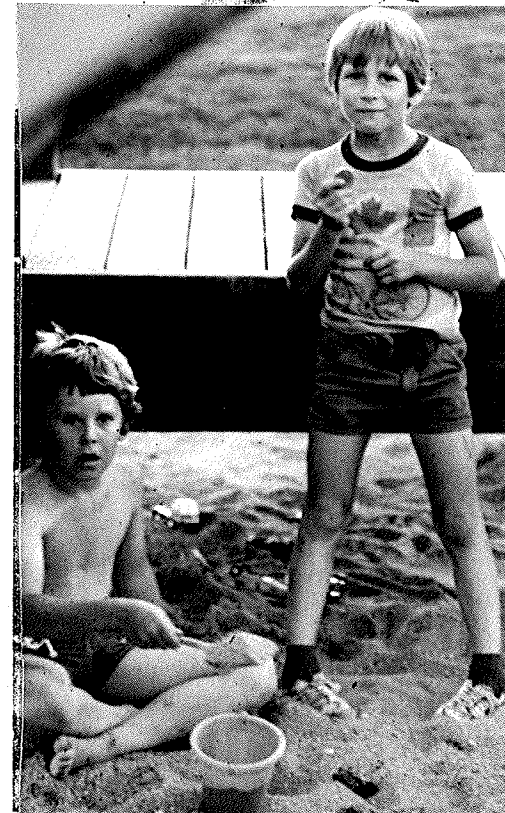
Both stimulation and relaxation are needed sometimes for the individual to maintain his equilibrium. Urban recreational open space offers an ideal opportunity for people to substitute new stimuli for those normally encountered in everyday urban life." (Wright et al, 1976, p.32-33).

At present, there is little consensus between behavioural scientists as to whether it can be shown that man indeed has a need for recreation and more importantly, the amount or type

of recreation facilities that should be provided.

Research has shown, however, that play, as a component of recreation is one of the most efficient methods through which most school children acquire formative knowledge. (Fuller (75), Marcus (74), Moore (73)). Through play, children expand their knowledge and understanding of all that surrounds them. Play also encourages the development of physical skills and co-ordination in conjunction with an ability to socialize and communicate with other playmates.

Fig. 93,94



'Normative need' theory, if we are to believe the opinions of others, would lead us to conclude that 'recreation' is certainly something that most people occasionally or subconsciously enjoy in a variety of ways. However, current user patterns and preferences, would lead recreation suppliers to believe that parks and playgrounds are not favored outdoor recreational areas. Though there is a need for a change of parks, such needs are apparently being met elsewhere, by other types of facilities.

b) Need for Natural Space (Protective Space)

Floodlands and hazardous lands, legislated as 'non buildable' zones, are generally ignored as potential natural park areas. Protective open space may, however, simply include any planned or unplanned natural vegetation or wildlife preserves within a city. The uses may be optional and vary according to the seasons or surroundings. Like recreational space, there is little hard factual evidence about even the basic need for nature in the city. When asked whether the child needs nature, Roland Clement, vice-president of the National Audubon Society replied, "We really don't know with certainty at this stage of the game. We need to research this. But the prudent thing to do is to keep our options open. If we find out we do need nature later, and we don't have enough of it, it will be too late." (U.S. Department of Interior, 1968, p.88).

In terms of perceived 'normative needs' it is suggested that man's involvement with nature fulfills a biological and cultural role. "In nature man envisages the whole of life, he sees evidence of the biological cycles and interdependencies between organisms and their environments. It is not awareness of nature for its own sake that is of value but rather awareness of one's relatedness to it." (Wright et al, 1976, p.34).

Nature
Ebenezer Howard believed as a premise for his 'Garden City' that is necessary for man to live in a physical environment in which he would be able to see, touch, smell and hear other forms of life. "The real pleasure of the earth, the weather, the scent of plants and of the songs of birds and insects cannot be enjoyed except through continued contact. To appreciate these other kinds of life, and to enjoy them fully, it is essential that the contact with them be continual. All this demands dwellings close to the ground with easy access to the outdoors, an organic whole in which the indoors and outdoors are integrated in a single comprehensive shelter." (Howard, 1946, p.44-45).

Education
The link with natural elements in terms of plants and wild-life also reinforces the principle need of outdoor open space for the purpose of education. Dr. Metraux, director with the

Preserving green space

American Museum of Natural History in New York made the following observation in relation to learning;

"it has been shown, through numerous examples that the child does much better from a natural history point of view if he becomes acquainted with living things rather than being introduced through the scientific laboratory." (U.S. Department of Interiors, 1968, p.88). The point has been further illustrated by the work of Robin Moore (74) in Berkley school yard design as well as by students who participated in the Children's Adventure Garden at University of California. (A Child's Garden, 1976).

Plants fulfill necessary functional urban ecological roles; by providing shade, controlling erosion and regulating temperature and wind,



Fig. 96

As centennial chairman for Assiniboine Park community committee area during Winnipeg's 100 birthday, I was one of the many persons who worked to retain Assiniboine Forest as a natural area for Winnipeg citizens to enjoy for years to come. In passing the area in any day of the week, it is an overwhelming delight to see bicycles and hikers in summer, and skiers and hikers in winter, constantly using the area. On weekends it is literally swarming with people from all areas of Winnipeg.

I was disturbed to see Douglas Wade's letter in the *Free Press*, Feb. 7, saying that only a few people support the proposed purchase of the Tuxedo golf course by the city. Anyone attending the community committee

conference on January 31, as I did, must have come away realizing that only one person had a negative attitude toward retaining this green area for Winnipeg citizens.

After listening to Gary Filmon (councillor for Crescent Heights), I felt that he was speaking for many thousands of Winnipeg citizens. Let me quote from Gary's presentation as printed in Metro One community newspaper for River Heights, Tuxedo, and Charleswood (Feb. 8):

"If the city doesn't purchase the golf course and the land is developed, the good features of the Assiniboine Forest 'could go'," the councillor warned.

"The general manager of parks and recreation has said it would cost \$5 million

to \$6 million to develop a new golf course to replace the Tuxedo golf course," he said, and "the course has been operating at a profit", he said later.

"Really the people of Tuxedo don't have a vested interest in the golf course, the city does," Mr. Filmon said.

"Golf is an accepted recreational activity, I don't think it's considered for the elite only. Those of upper economic status don't golf at Tuxedo. They prefer private more challenging courses," Mr. Filmon said.

I am also aware that thousands of Winnipeg residents have pledged their support for the retention of the golf course through their own organizations, for example, the Manitoba Naturalists Society, the citizens' Group for the Preservation of the Tuxedo Golf Course, the Assiniboine Park RAGS, the Technical Advisory Committee for Assiniboine Forest, the Sierra Club of Western Canada...

As Councillor Smith (Pembina Ward) stated, "Once it's lost, it's lost, and once buildings go up, it will be too late to correct a mistake."

We can build recreation facilities any time in the future years, but we must act now to preserve green space for the future use of all Winnipeg citizens.

Verna Van Roon

Winnipeg

Fig. 95

"It used to be that a concern for nature was a matter of taste or preference, but today, science is increasingly documenting the fact that it is a matter of survival for the human race, because the planetary system must continue to function adequately." (ibid, p.89)

Certainly our urban relationship with the world ecological patterns is crucial but it is not overly influenced by so called city 'green' spaces. Jane Jacobs is quick to point out, that "Parks are not the lungs of the city, nor is more air let into the city by a given acreage of greenery." (Jacobs, 1961, p.91). In fact, it takes three acres of woods to absorb as much carbon dioxide as four people exude in breathing, cooking or eating. The amount of fresh air which a city receives is therefore not dependent upon the ratio of street acreage to park acreage.

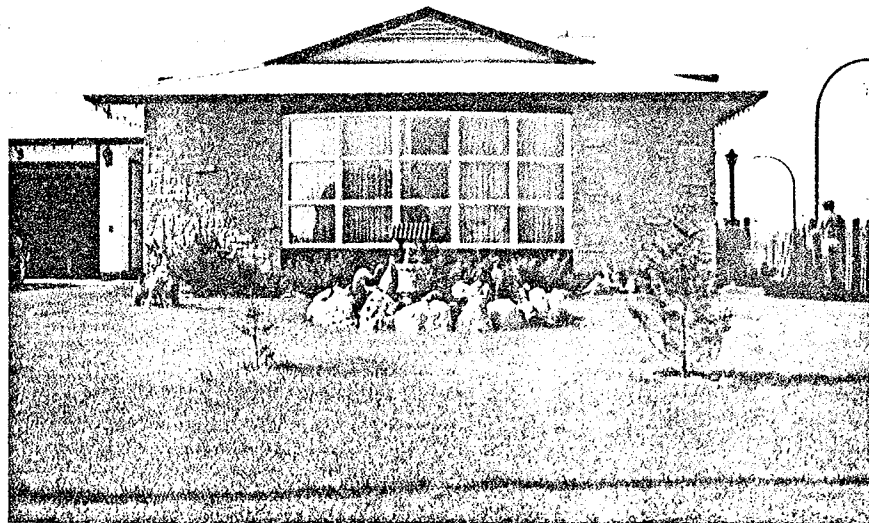


Fig. 97

Natural landscapes however, which are self sustaining and climatically attuned, can supply an important contrast to the hard asphalt or concrete surfaces and manicured lawns, and thus represent in part man's aesthetic need for "a bit of nature".

c) Need for Supportive Space

Lands for service corridors and the hierarchy of suburban circulation systems are necessary and functional open space aspects, supportive of urban development, which can easily be taken for granted. To most adults such space is purely functional in terms of directing traffic, or services. However, for non-drivers, the roads, sidewalks and pathways become principle socialization factors in terms of play and movement. Service corridors are usually excellent examples of semi natural undeveloped wilderness open space where explorations are made, risks are taken and imaginations are allowed to wander.

4) USERS AND USER PREFERENCE

Having discussed the 'normative need' theory for a number of different open space types it remains to discuss whether such needs are perceived by persons when selecting a housing environment.

"Perceived Importance of Open Space to the Housing Environment"

Studies conducted by Harvey and Procos in the Halifax area, with middle class suburban home owners revealed the following information about the importance of open space in determining the purchase of a suburban house: (Harvey and Procos, 1974, p.13-20).

Quality... type of neighbourhood	27.2%	
private	17.0%	
view	6.4%	
	<u>50.6%</u>	
Accessibility ... near schools		22.6%
near city centre		8.5%
near work		6.8%
near shopping		5.5%
near public transit		5.1%
near recreation		.9%
		<u>49.4%</u>

The availability of recreational facilities although not perceived to be ranked highly in terms of accessibility (aside from school yards) may, however, be an indirect component of the reason for selecting a particular type of neighbourhood.

The Institute of Social Research at the University of Michigan, conducted a survey in 1970, to determine whether planned residential environments were perceived to be more successful living areas than unplanned developments, and why. The Institute

conducted interviews and distributed questionnaires among residents of 10 old and new housing areas -- inside and peripheral to major cities. (5 highly planned, 5 less planned). (See Appendix VII for a description of the towns and breakdown of Survey results.

Residents were asked:

"when you were looking for a place to live, what especially appealed to you about coming here?"

Basically, this study found that the residents of new planned environments were influenced most by the plan, idea or concept of the community, and nearness to the country or outdoor recreation. People in the less planned new suburban areas stressed features of the individual house or lot and the schools. People chose Radburn primarily because of the plan, park and recreation facilities. People selected the in-town planned areas, either because of the advantages of closeness to urban facilities or because of the people who live there.

It would appear, based upon the results of this study that, where open spaces are planned as an integral component of housing environments, they are recognized and acknowledged as positive features. However, where no particular significance is given to the development of open space, the proximity of other facilities and the immediate yard environment attain greater importance.

Interviews with developers and residents of suburban areas in Winnipeg would tend to suggest that future home owners primarily seek residential areas based on non-community aspects such as:

i) Investment Purposes:

1. Cheaper to buy a house from a builder before it is constructed
2. New houses qualify for cheaper mortgages
3. No maintenance, however, potential for greater return if rec rooms, fireplaces, fences, garages or yard work is done
4. Newer houses sell much quicker - (turn-around time usually 3-4 years)
5. Better to buy than rent

ii) House Qualities:

1. Premise that newer is better - image is important
2. House has a wide range of features; (pantry, laundry rooms, two or more bathrooms, new plumbing, better insulation levels)

iii) Other

1. Modern community planning - most services are underground
2. New schools, better facilities may attract better teaching - thus better teaching methods.
3. Big lots - more prestige

Lots of new ideas in Mandalay West

Allows for lots of space

To many people, the term "subdivision" rings memories of "ticky-tacky houses." No so in today's world. The days of line upon line of similar houses are long past as developers and builders realized that the old ways didn't sell houses in today's competitive market.

As a result, both Genstar and the builders have an "unwritten agreement" to spread the different designs throughout the 400-lot subdivision, resulting in a tremendous variety of housing — from the expensive to the economy models.

While the five major home builders in Winnipeg have display homes in Mandalay West, there are also about 12 or so smaller home builders involved in the new subdivision — meaning an even greater variety of home styles will be available.

Mandalay West will be the newest of Winnipeg's residential areas, and will offer a wealth of amenities. "It's close to downtown, yet it's far enough away that you get the feeling of being in the country," said Woodroffe.

Mandalay West is located handy to existing schools, a shopping centre, and an Olympic-sized swimming pool. In addition, there has been space set aside for local shopping centres, plus a potential school site and 12 acres for recreation use.

This is important in keeping with the "country" theme of Mandalay West and its immediate neighbor, The Maples. It will allow lots of space around homes for gardening and landscaping.

One change Woodroffe has noted in subdivision building is that the public is now asking for a complete home package; they are no longer willing to "pioneer" as had been the case 20 years ago or so.

Home builders have found that their buyers want such amenities as fireplaces, stone front walls and landscaping. Technological advances in recent years have allowed home builders to supply these at little additional cost.

"But one of the main things we are concerned with, as developers — aside from all the engineering aspects — is the safety of the subdivision," said Woodroffe. "So we've planned Mandalay West so that there are few streets carrying through traffic. All the houses are on bays, curved streets, or cul-de-sacs, because there are usually a lot of small children in a new subdivision."

Woodroffe said that Mandalay West was a surprising subdivision, in one respect at least, because the five major builders sat down at one table and decided to co-operate in a series of display homes, readily accessible to the public, "and that's despite the stiff competition they are in when selling their homes."

But, he added, he felt that this co-operation would pay off, not only for the home builders but the buyers as well. Not only are the varieties of available homes easy to see, but price tags can be compared quickly — and so keep the cost of new homes in Mandalay West in favor of the buyers.

Fig. 98 Source:
Wpg. Free Press

The absence of comments pertaining specifically to the public open space system seems to represent the lifestyle preferences of various users. Generally, according to studies carried out by Conserve and Robinson, Harvey, and Procos, despite the fact that the average working adult has 5.1 free hours per day, only 6 minutes at the most might be spent in an active or passive outdoor public or semi-public orientated open space activity.

Of the 5.1 free hours, it was discovered that 3.7 hours were spent indoors:

- watching television
- in conversation
- reading
- or performing miscellaneous duties

Of the 1.4 free hours spent outdoors

- 1.3 hours were spent around the home; gardening, maintaining, entertaining, socializing

- 0.1 hours (6 minutes) were spent in public or semi-public spaces. (Conserve and Robinson, 1966, Tables 1 and 5)

(Harvey and Procos, 1974, p. 20-30 charts)

DC (Adults, as principle home buyers prefer to spend the majority of their time inside or around the home. This preference clearly has design implications for the potential distribution and type of open space that adults prefer.) In accordance, a survey conducted for home builders, by Housing magazine, October, 1978, revealed

DC that (seventy-two percent of future new home buyers definitely preferred back-to-back private rear yards, that they would maintain, rather than smaller yards separated by common green belts.

A similar percentage of new home buyers also preferred small clusters of 4-12 houses spaced around a central court yard.

The need for private open space also appeared to be a predominant element in studies that Michelson conducted in Toronto. In fact, Michelson concluded that human behavior was influenced to a great extent by the amount and relationship of private open space to the dwelling. (Michelson, 1968 p.168-190) Preferences varied with respect to lot size, but private space, no matter how small, was always preferred over a larger public space. (400 square feet has come to be a minimum standard lot size). Persons living in middle and upper income neighbourhoods expressed less demand for public space because they could afford to substitute the more preferred private space. Cordell found that the annual family income was the variable most strongly related to the demand for such private open space. (Cordell, 1976, p.160-173).

Adults however, represent only one of the five principal age categories of potential open space users. Pre-school (0-5 years) school-age children (6-12), teenagers (13-19) and elderly persons constitute other groups with greater amounts of time to spend around the community, and greater restrictions in terms of mobility outside the immediate housing vicinity.

Teenagers are generally believed to have the mobility and freedom necessary in order to acquire recreation and outdoor experiences away from the neighbourhood context. However, the definite need for suitable meeting and "hangout" areas has not been adequately met in most housing developments.

REC ✓ School-age and preschool children generally represent the groups for which the current supply of open space is generated. Circulation routes guide children to and from school. Playfields, community centres and school yards attempt to satisfy the necessary organized sports needs.

✓ Preschoolers and some of the elderly may be equally less mobile and equally dependent on others for assistance and observance. Thus open space use is generally, (though not necessarily) provided in the immediate vicinity of the residence.)

A number of agencies are involved in preparing recommendations for the supply of public open space for preschoolers, (Play Spaces for Preschoolers, CMHC) school age; (National Task Force on Children's Play), the handicapped, etc. But there are problems inherent in the gap between recommendations generated and product supplied.

Hester, Gans and Gold believe that one of the main problems in developing public open space which recognizes the individual needs of different groups stems from the difference between the goals of the suppliers and the users. The use of public open space is usually characterized by spontaneity of choice and diversity. However, the recreation system by its very nature, tends to emphasize organization, program development and the scheduling of activities. The following chart represents a test case in which the goals or objectives are identified by decision makers, suppliers, and users.

Group	Expressed Goals or Objectives
Community decisionmakers	Increase in public health and safety Beautification or aesthetics Increase in culture and education Community development
Suppliers of public recreation	Happiness or enjoyment Personal growth Physical and mental health Personal safety and welfare Integrative sociability Citizenship and democratic values
Users of Public Recreation	Group interaction and sociability Relief from roles or surroundings Status, identify, recognition Competition and self evaluation Variety, excitement, challenge

Fig. 99 Source: Gold (76)

5) STREETS

Possible reasons for the low use of public park spaces may be attributed to the fact that children prefer to play in the most adjacent locations to their homes which best 'fits' their needs. (O'Brien, 1973) Kids, therefore have opted for alternative play areas, of which the street is one. In suburban areas the wide streets are heavily used because that is where the action is. The greatest method of play by children in suburban areas is through continuous circulation of the neighbourhood. Bicycles, skateboards, wagons, carts all prefer hard surfaces, which playgrounds seldom have enough of in a convenient location.

The competition between these streets and sidewalks and parks or playgrounds has been analyzed by several authors. (Jacobs, 1961, p.113-140, Appleyard, 1970, p.12, Freidberg, 1970, p.16). Reiss and Shinder, suggests that an analogy can be made between the street and an amusement park. An amusement park provides opportunities for interaction, excitement, challenge, diversity, a sense of adventure, identity, movement and interest. Streets have a beginning and an end, along which a user might encounter friends or gather at a local 'hangout', in order to experience some of the 'amusement park' sensations. (Reiss and Shinder, 1975, p. 157-159). Parks unfortunately, do not generally provide for this range of experiences.

Streets no place for kids?

Civic works and operations committee councillors ignored their own reservations about too much government Tuesday in recommending the city amend its streets bylaw to prohibit playing on streets.

Although committee councillors said they thought officially disallowing playing in the streets was a bit tough, they decided to go along with a recommendation from the chief of police, the police commission and the civic administration.

Coun. John Angus (ICEC—University) said he wondered how the police were going to enforce the amended bylaw.

"It must be enforced if it's going to be a real law," Angus said.

"What is to stop someone from saying 'this isn't playing — this is serious,'" said Coun. Eldon Ross (ICEC—Deer Lodge).

Coun. Alf Skowron (NDP—Elmwood) said he hoped the police would continue to focus their attention on more pressing matters than

forcing children off city streets.

Coun. Harold Piercy (Ind—Henderson) said the bylaw was being requested so that police would have something legal to fall back on.

"However, I too have some reservations about over-government," Piercy said.

The existing city streets bylaw prohibits skateboarding and sledging on city roads, but does not specifically refer to playing.

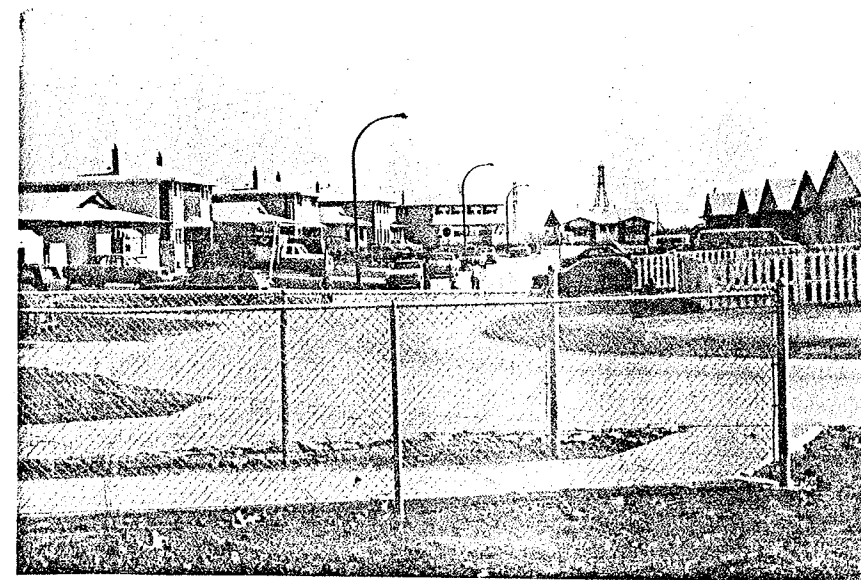


Fig. 100 Source: Wpg. Free Press (78)

Fig. 101



Skateboards roll off the street into specially designed parks

VERNON, N.J. — Skateboarding is serious business.

You can tell by the noise level at a skateboard park. The young people watching the boy performing are more like a golf gallery than like the onlookers at a street game such as stickball. There are restrained compliments for an impressive ride, and equally restrained murmurs of sympathy for a wipeout.

That's all quite natural, given the fact that skateboarding has come of the streets into facilities called skateboard parks. Like so much else revolving around such new amusements as surfing and dunebuggying, skateboarding has hit its commercial stride in California. Again like so much else, what California started is working its way eastward.

Skateboard parks are popping up all over the place, the latest at the Vernon Valley Ski Area in northern New Jersey, hard by the New York State border. It is the state's fourth facility (two are down on the shore, a third inland), largest and most sophisticated. It consists of a wide, sloping asphalt surface, dotted with five free-form concrete bowls and protected with nylon mesh fencing to guard against unguided missiles — i.e., riderless skateboards — flying off and hitting someone.

"It's for kids who have just come off the sidewalk."

The bowls are anywhere from three to 10 or more feet deep and between 40 and 100 feet long.

It can cost a bundle to stay at a skatepark all day. Weekdays, the rates are \$1.50 an hour before noon, \$2 after noon. Weekends, it is \$3 an hour all day. Skateboard rentals are \$1 an hour, and mandatory safety gear like helmets, knee and elbow pads and gloves can be rented too.

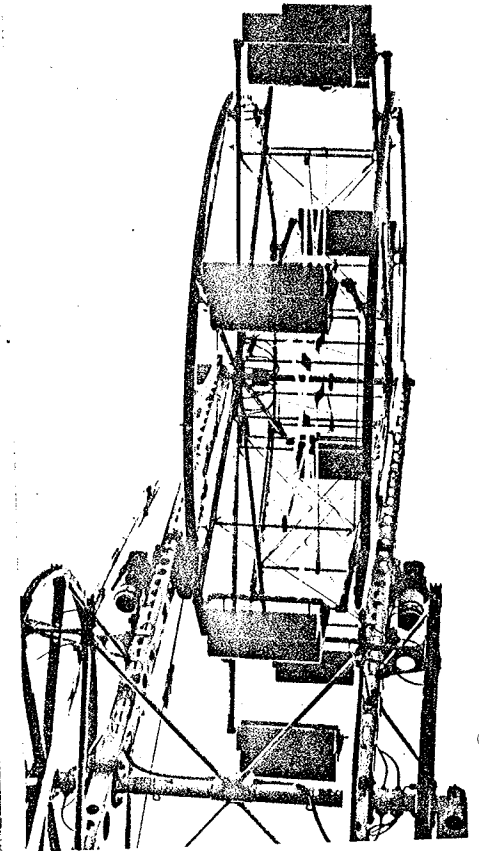


Fig. 102

IV-C SUMMATION

Where active and passive recreational spaces were planned into the community, residents were more satisfied with their overall living environment. (Lansing et al, 1970, p.47-48). Consequently, it would appear that users and non-users do react to the imageability of a neighbourhood based on varying levels of accessibility, development quality and range of opportunities.

Needs, however, are generally realized through learned patterns of behaviour. Thus, when there are only a few examples for comparison, people soon come to accept quite uncritically (in the case of recreation) whatever opportunities are made available to them.

The acceptance of varying types of open space is also an important factor in terms of need and use. The historical patterns of supplying and developing open space have unfortunately led to preconceived notions about what is, or is not, considered to be open space in the minds of administrators and users. However, as we attempt to define, rationalize and categorize the subjected open space, invariably we lose sight of the fact that this physical item can satisfy a limitless number of functions. Open space planning should not be fixed or contrived, rather it should be deliberately guided in order to allow the intuitive to occur.

In a study entitled "Open Space for Human Needs", Lynch (1968) suggested that five categories existed which reflected a person's needs in order to achieve physical and mental well-being. These were:

1. Choice, variety and diversity
2. Mastery, self-esteem (need to attain self-esteem through achievement of a challenge or adventure)
3. Balance, (need for a change to balance day to day stimuli)
4. Social contact (need for social interaction)
5. Self Actualization (need for self expression and self fulfillment)

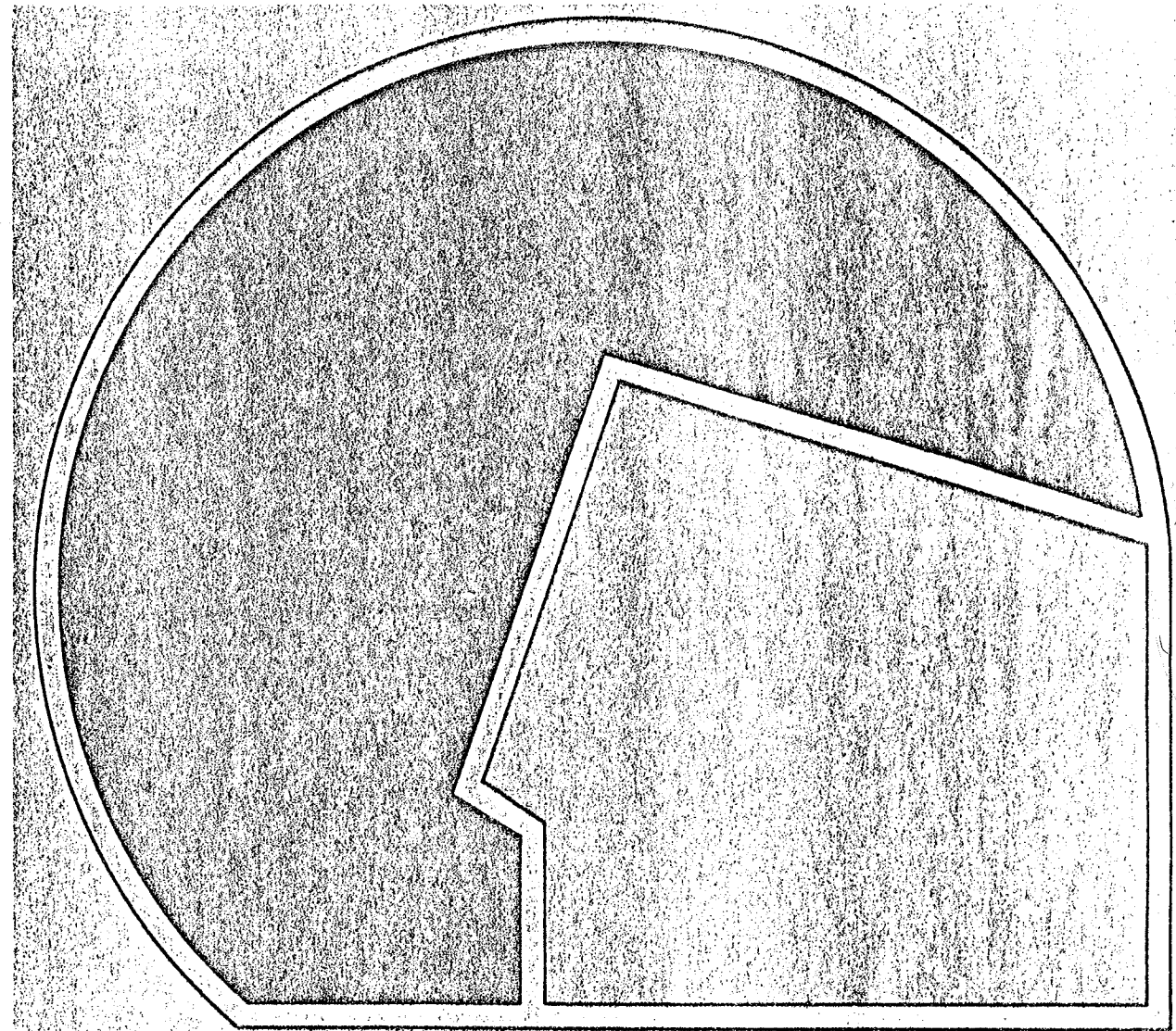
Interestingly enough these concepts represent the exact goals and objectives which the users of public recreation space identified in the group comparison study. (figure 99).

Mercer identifies these five elements as "integrative needs". Such needs appear to be interwoven in a complex way between "primary needs" such as food or shelter and "derived needs" such as education and language. (Mercer, 1973, p.37-47).

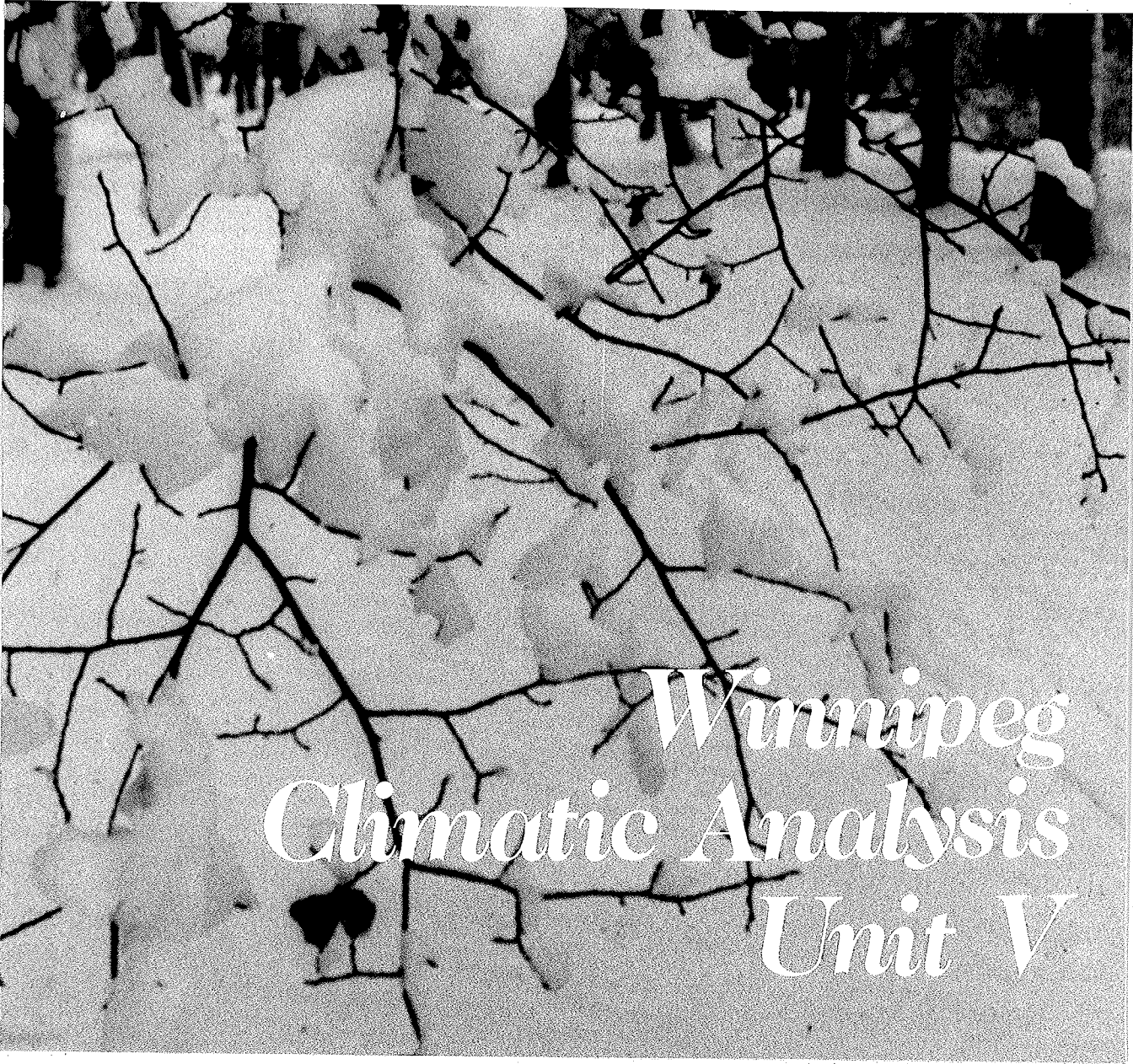
The realization of integration needs, such as the occasional appreciation of participation in open space activity, would suggest that man requires not merely to live, but to experience variety and thus to live well.

The goal of public open space suppliers should be to plan open space as a form giving element in newer subdivisions while attempting to inject a variety of planned as well as spontaneous user possibilities.

Use of facilities may not increase appreciably, however, because social conditions and lifestyle habits are equally critical in determining use patterns. But the fact that open spaces are considered as integral parts of a neighbourhood suggests that use is only one of the components which should be weighed in determining open space value.



the saskatchewan
conservation house



*Winnipeg
Climatic Analysis
Unit V*

V A CLIMATIC ANALYSIS - WINNIPEG CONTEXT

Winnipeg occupies a specific latitude which is responsible for a very influential, yet seldom responded to climate. These specific climatic conditions, such as amounts of sunshine, rain, snow or solar radiation, not only have a principle effect upon human activity in outdoor open spaces, but they can also dictate how buildings could be planned, orientated and constructed. The current intent for utilizing climatic design in this manner is to achieve the greatest amount of human comfort while consuming the least amount of energy, in terms of natural resources or manpower.

Unfortunately, suburban developers and consumers in the Winnipeg region have been largely unconcerned with responsive climatic design in new residential areas. Despite the obvious need to construct homes which should respond to a substantially variable climate, the attitude of technological supremacy over the elements, has pervaded so that no further action up to this point has seemed to be necessary. Recently however, the need to reduce fuel bills has dictated that newer homes would be insulated to higher standards and that double or triple glazed windows would be used. Though standards have been upgraded in terms of building construction, little has yet been done in relationship to the siting, design and layout of lots, roads or recreation spaces. The following information attempts to indicate what climatic responses should be made with respect to

the Winnipeg climate.

Winnipeg is situated in the cool (45°-50° latitude)-to cold (greater than 50° latitude) North American climatic zones. As such, in these regions where winters are longer and the air is cool, there is an obvious need to utilize solar energy for warmth and minimize the heat loss caused by cold winter winds, while at the same time attempting to reduce the excessive radiation and heat build up during summer periods.

Victor Olgyay recognizes the following average annual percentage requirements for comfort in cool zones. (Olgyay, 1963, p.27).

a) wind protection needed	76%
b) heat needed	76%
c) shading needed	24%
d) comfort by shading only	15%
e) cool breeze needed	4%

By analyzing yearly air temperature, solar radiation, wind and relative humidity levels, Olgyay was able to develop a Bioclimatic comfort zone chart as an indicator of where corrective measures should be taken in response to design of environmental conditions. (figure 103) No climatic adaptations are necessary for temperature and humidity levels which fall within the shaded comfort zone.

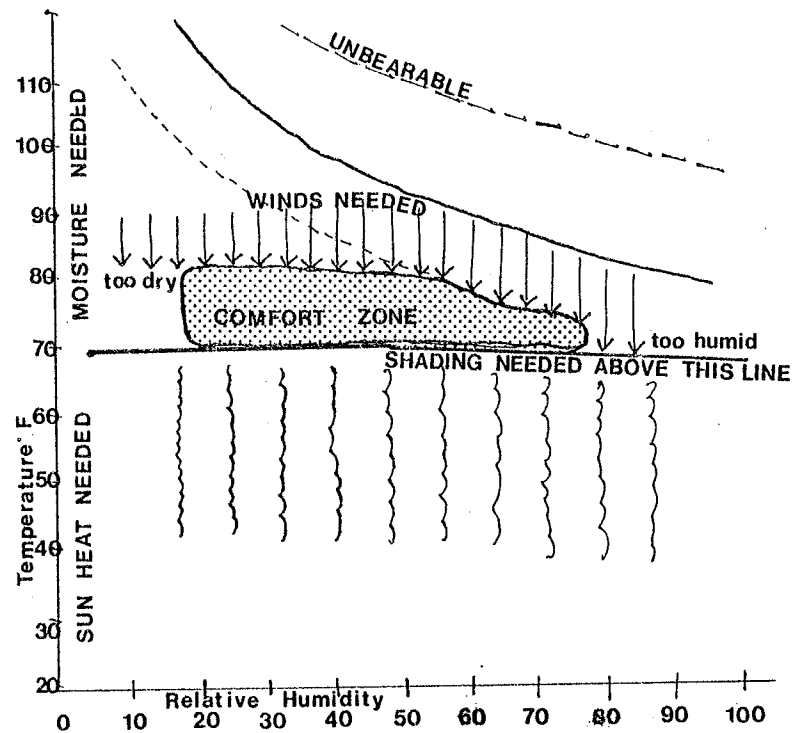


Fig. 103
adapted from Olgyay (63)

The following material identifies the relevant local climatic factors of the Winnipeg region which should be considered in order to respond to issues of housing, circulation and open space orientation. Throughout the analysis, consideration will also be given to the principles of energy conservation, vegetation location and solar energy utilization.

Winnipeg: Latitude 49° 54' N. (50°)
Longitude 100°
Elevation 786' (239.57 m)

1) Temperature

In a 30 year period between 1941 and 1970 recorded temperature have ranged from -49°F (-45°C) to 105°F (40.6°C). See Appendix IX

- i) Heating outside design temperature -30°F (-35°C)
- ii) Heating degree days (number of days and degrees in which the outside temperature is below 65°F (18°C)

10,679

Growing degree days (number of days and degrees in which the outside temperature is greater than 41°F (5°C) 1,759.5.

✓ The summer period, representative of temperatures above 70°F (21°C) usually occurs between middle of May and middle of September.

✓ The winter period, characterized by low freezing temperatures and/or permanent snowfall occurs between mid October and late April.

The growing season in the Winnipeg region is 118 days long. Usually between the days of May 25 and September 21. Similarly, there are a total of only 118 frost free days in this region.

✓ Frost normally leaves the ground permanently during the end of April and returns in the middle of October.

The mean daily and hourly temperature for the Winnipeg region when analyzed in terms of Olgyay's bioclimatic comfort chart indicates that the period of overheating (above 70°C) occurs for a short period in midsummer. (figure 104).

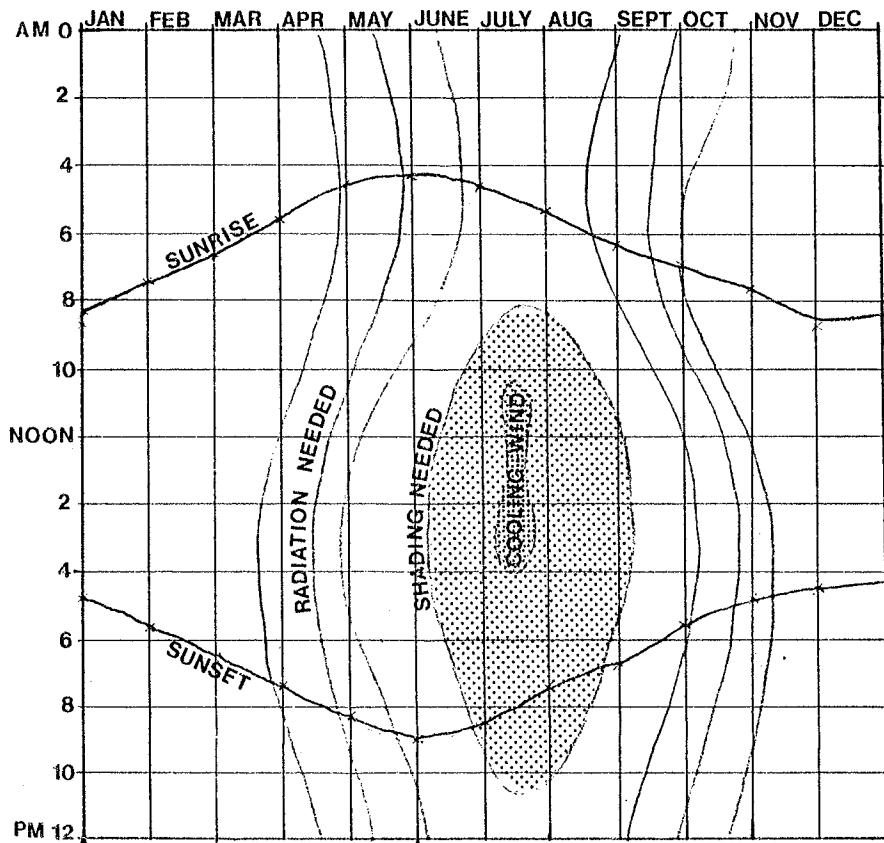


Fig. 104

2) Sun

The following sun path diagrams represent the altitude and azimuth for the June and December solstices. (figure 105).

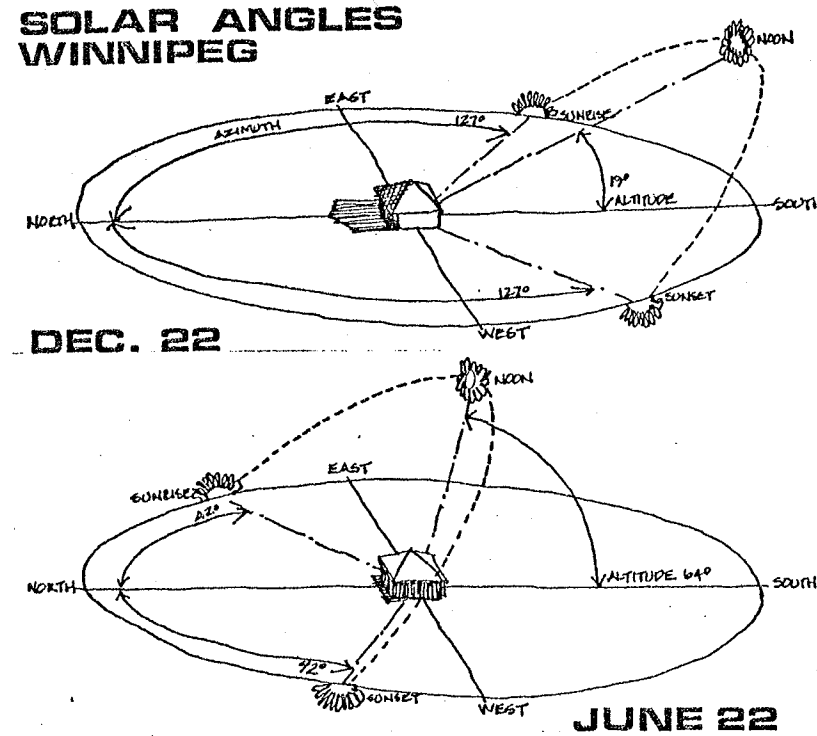


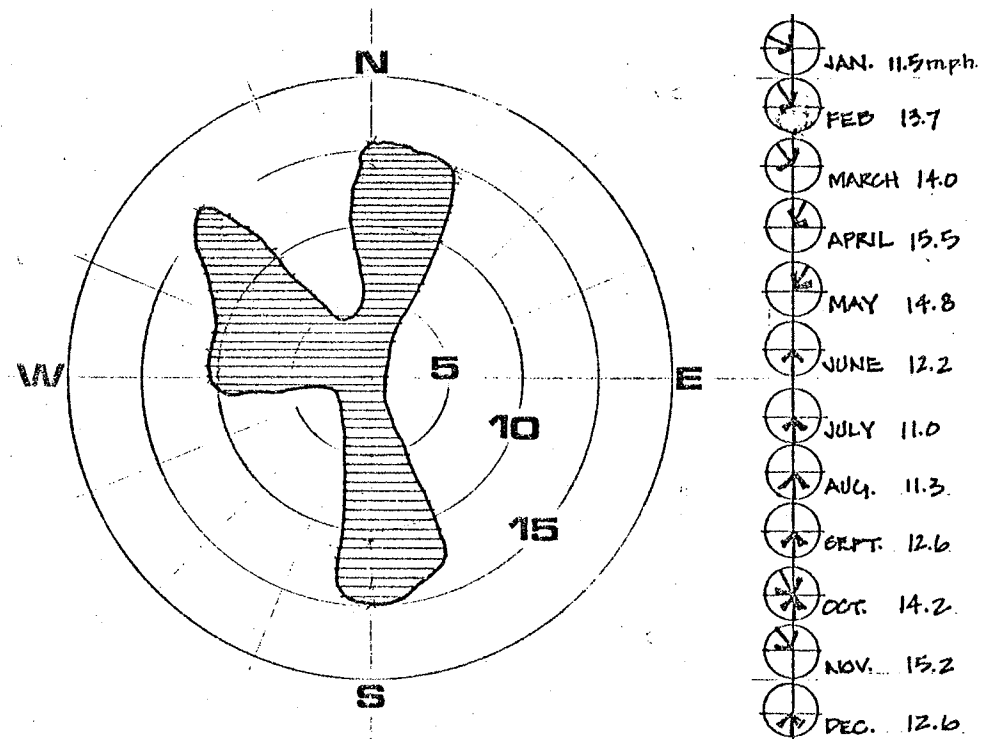
Fig. 105

In the Winnipeg region there are approximately 2200 hours of a possible 4500 yearly sunshine hours. (See Appendix X

3) Wind

As shown in figure 106, during the cold months of the year the wind prevails from the North and Northwest directions.

During the summer and fall periods it comes from a South direction.



Wind-frequency, intensity & direction

4) Precipitation: Total yearly rainfall 14.6" (37.17 cm)

Precipitation has a direct relationship with wind flow, air temperature and relative humidity. However, as an element in the city microclimate it is of less significance as a natural feature. It does however play a major role in determining the type of storm water collection system, (ponds, curb and gutter, or drainage swale) because the large amounts of asphalt, concrete and masonry surfaces absorb little water thus accentuating water runoff. (See Appendix XI for time periods.)

5) Snowfall

Total yearly snowfall 51.2" (130.1 cm) (See Appendix XII Total annual precipitation (snow and rain) 20.84" (52.93 cm) (20.84") (one inch) (2.5 cm) of snow is equivalent to 10.1" (25 cm) of precipitation.

Snow patterns on the prairies have previously been studied in relationship to their loading and drifting characteristics. However, in the urban setting, snow is generally dealt with solely in terms of its removal and stockpiling.

Fig. 106

V B UTILIZATION OF CLIMATIC FACTORS

To ensure that climate can be utilized as a site planning tool, all of the Climatic elements should be viewed in total. Obviously, however, a balance must be achieved between the traditional placement of site elements (roads, houses, etc.), behavioral response of residents, and the climatic response to local conditions, solar radiation and energy conservation. The following is a summation of the goals to be achieved in terms of priority climatic conditions as they pertain to Yard, Circulation and Facility orientation.

1) Housing Site

- South: a) receives the maximum solar radiation (See Appendix XIII)
 b) south side should not be screened, in anticipation of solar heating potential
 c) paving materials should be dark and coarse textured to minimize amount of solar reflection into windows
- East: a) receives maximum morning solar radiation
- West: a) receives maximum afternoon solar radiation
 b) receives prevailing winter winds
- North: a) little or no solar radiation
 b) maximum winter winds exposure and protection needed.

2) Housing Orientation

From these calculations, Olgyay analyzed the total yearly solar radiation and its direction for a 'cool' climate site. He determined that the maximum insolation would come from an orientation due south. In the colder under-heated months, the maximum gain is from the east of south. During the summer or overheated period the biggest gain is from the southwest.

Olgyay, therefore, combined his findings by compromising the harsh summer conditions and best winter conditions to recommend that an orientation of 12.5° east of South would be optimum. (figure 107). Though a deviation either side of this orientation would be acceptable, it is suggested that the easterly position would be preferred because of the higher afternoon temperatures.

Olgyay further states that the favored site would have a southeasterly slope with coniferous trees to the north and north west and deciduous trees to the southwest, placed so as not to inhibit summer breezes but provide shade from the harsh summer sun. (figure 108, 109).

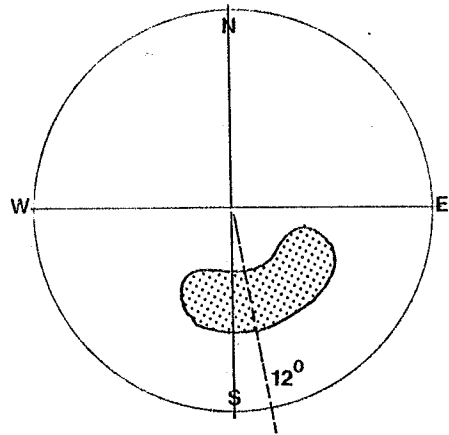


Fig. 107 (from Olgyay (63))

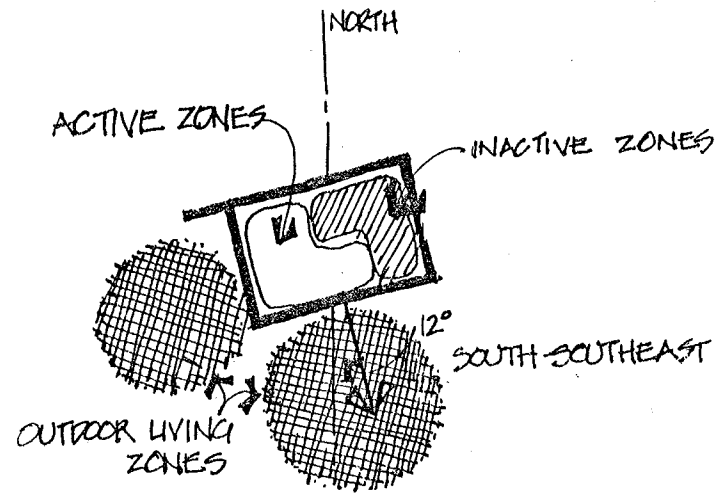


Fig. 108

only a small period of cooling. Wind tunnels and winds sweeping across large open areas should consequently be avoided to ensure continuous comfortable use of outdoor space.

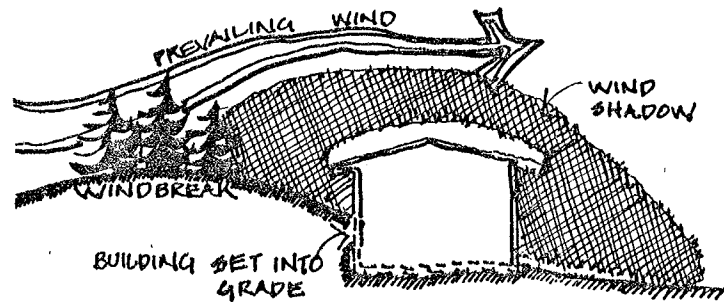


Fig. 109

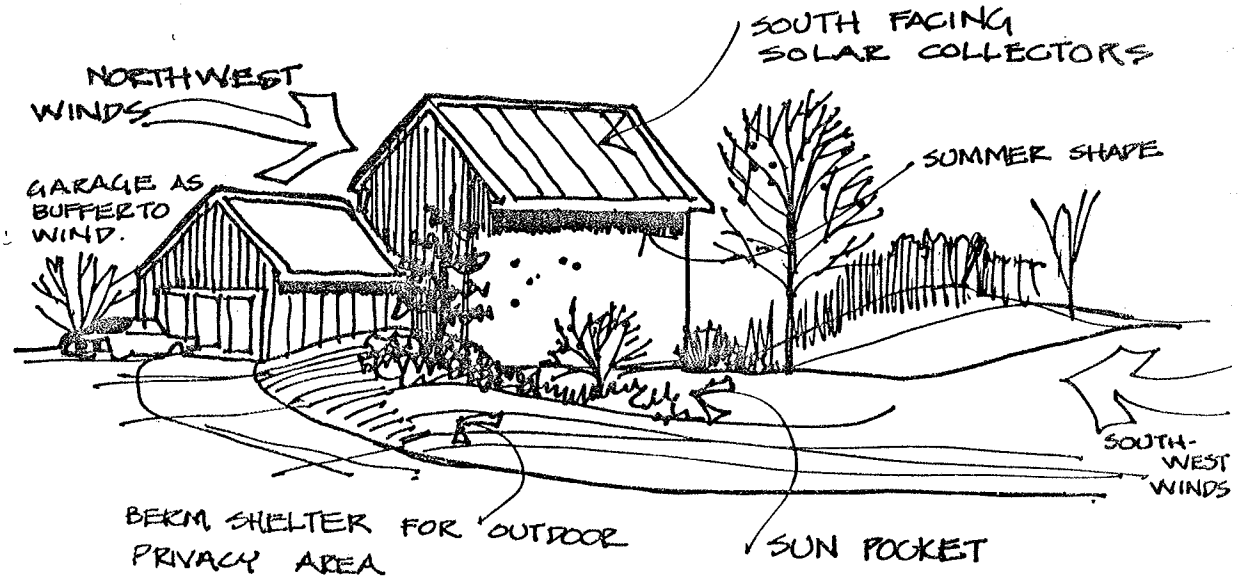


Fig 110 Optimum orientation Site Factors

North side of building should be used for activities requiring shade. The shade of the building can and should be used instead of requiring that alternative man-made elements be erected.

Wind control devices such as earth berms, vegetation fences or walls, placed in the north can be used for protection.

The wind factor, as previously explained, is required for

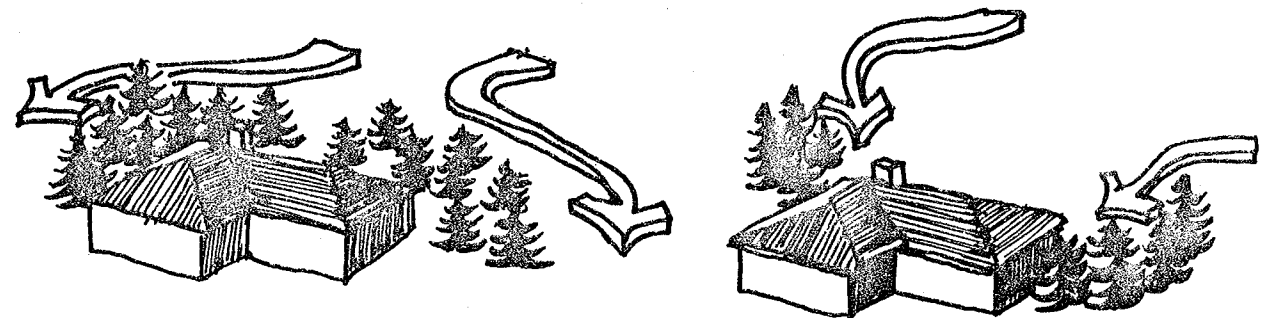


Fig. 111

Paving material located on the north side of the building should also be made of light colored material so that they will radiate or reflect the maximum solar energy reaching them.

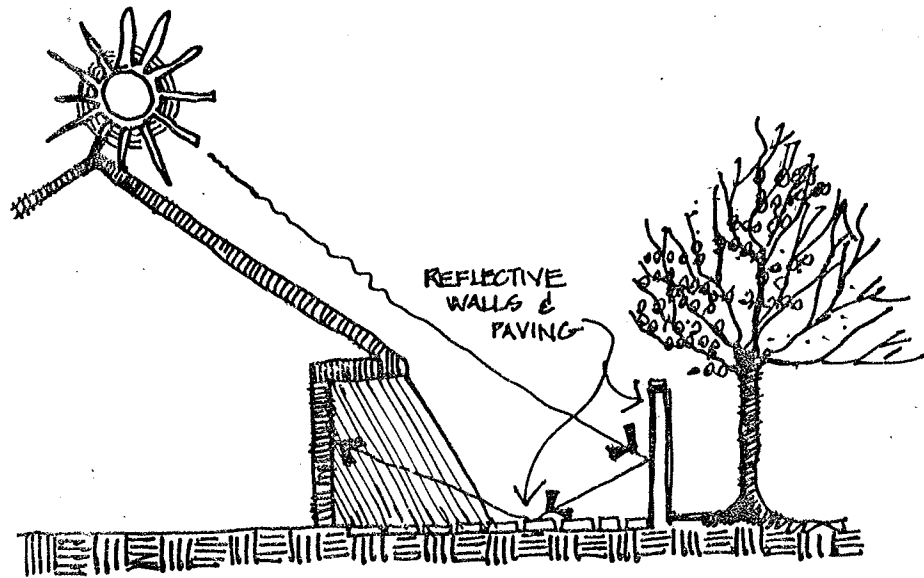


Fig. 112 Source: Energy Conservation (77)

2) House Shape

Through an examination of the heat gain and heat losses as they pertain to the building in a 'cool' environment, Olgyay makes the additional recommendations.

"In response to climatic factors it is possible to determine what the optimum shape should be and also a range of elasticity."

"Winter optimum is received with a form 1: 1.1, summer optimum 1: 1.4. As the stresses in wintertime are about twice as large as in summer, and the duration of the overheated period is only 20% of the year, thus the winter index was adopted. The elasticity of the shape is 1: 1.3. (Olgyay, 1963, p.89).

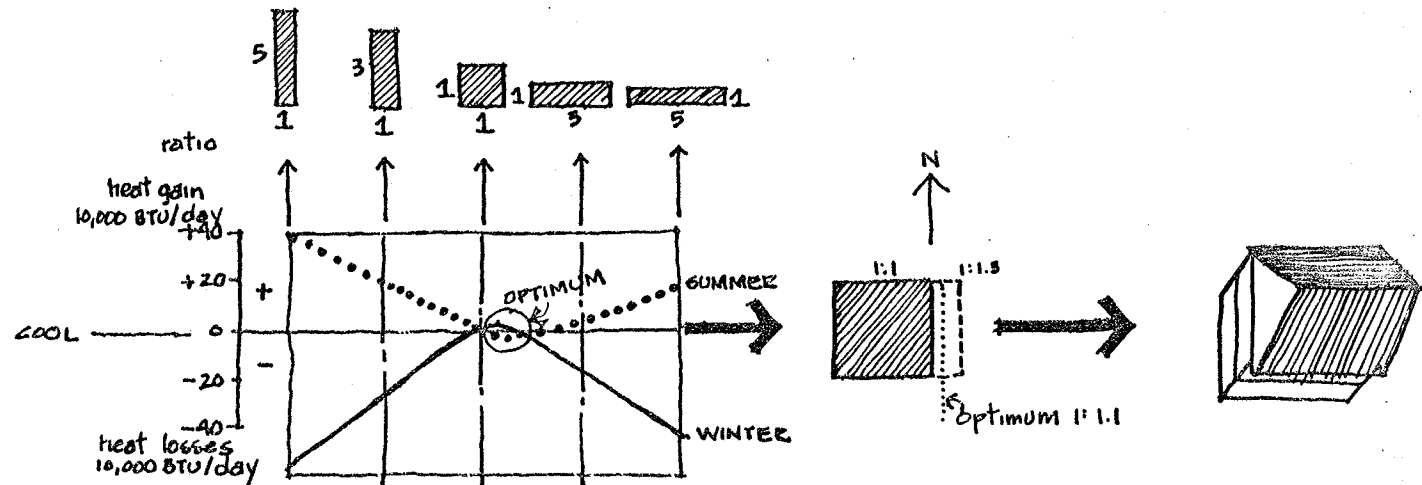


Fig. 113 (from Olgyay (63))

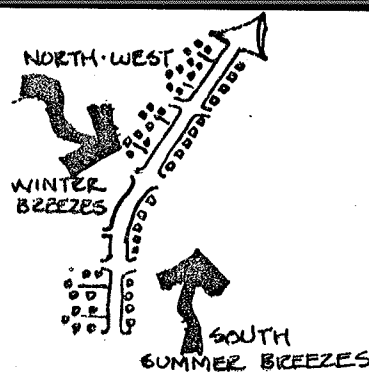
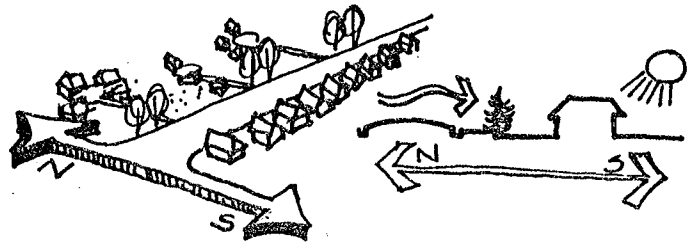
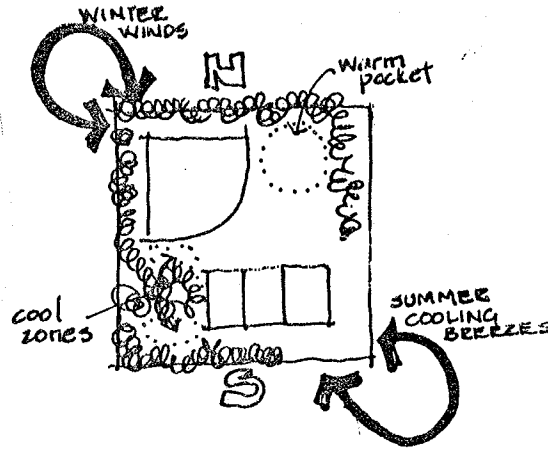


Fig. 114, 115, 116, 117, 118

4) Streets and Roads

Streets and roads, where possible, should be located on the north side of structures. Where screening is necessary it is advisable to screen on the north side, thus blocking prevailing winds yet not blocking solar radiation which contributes to more favorable conditions in the winter.



It is recommended that outdoor recreation spaces face a southern exposure while being protected from prevailing winds. The use of plant material for energy conservation and human comfort is described more fully in Landscape Planning for Energy Conservation (p. 4-62, 153-169).

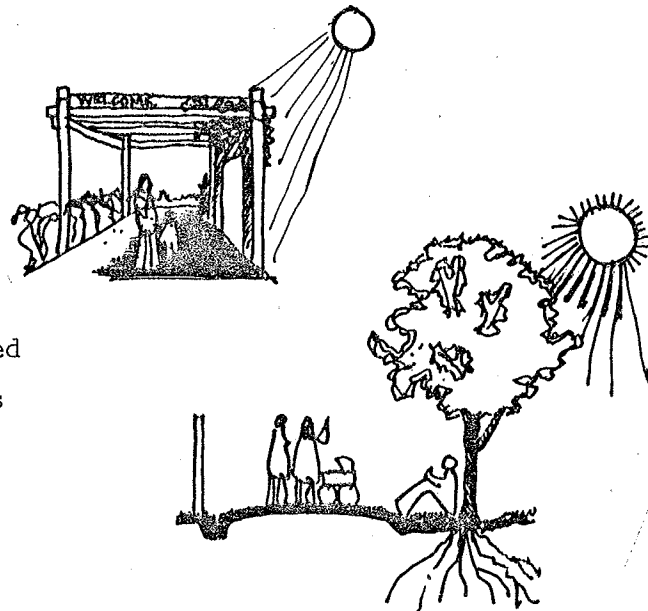
V-C SUMMATION

When these climatic principles are applied to the scope of an entire neighbourhood or planned community, the importance of the relationship of site elements is critical for a workable product. The importance of the spaces between dwellings and building groups is magnified. A community's open spaces define its basic fabric of circulation and social interaction thus it becomes important to reduce climatic discomfort in these public and private spaces. If it is possible to provide shaded walkways, meeting or gathering places, along with seasonally useable open spaces and warmth pockets then it is reasonable to assume that one aspect of responding to choices in the use of outdoor environments will be realized.

Roads should be orientated cross-wise to the prevailing winter winds yet allow for movement of summer breezes.

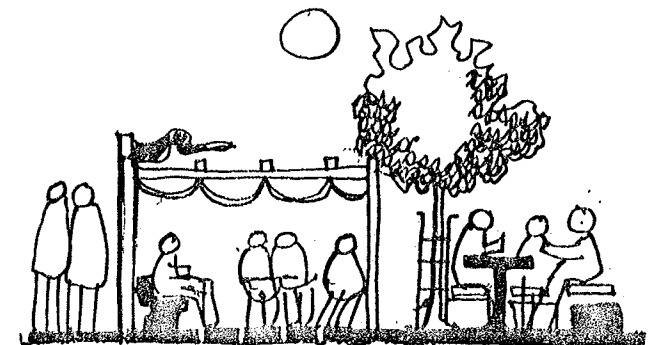
Pedestrian circulation routes should be shaded by vegetation, canopies, pergolas or arcades.

Deciduous trees should be located on the south side of pedestrian paths to allow winter sun penetration.



sun

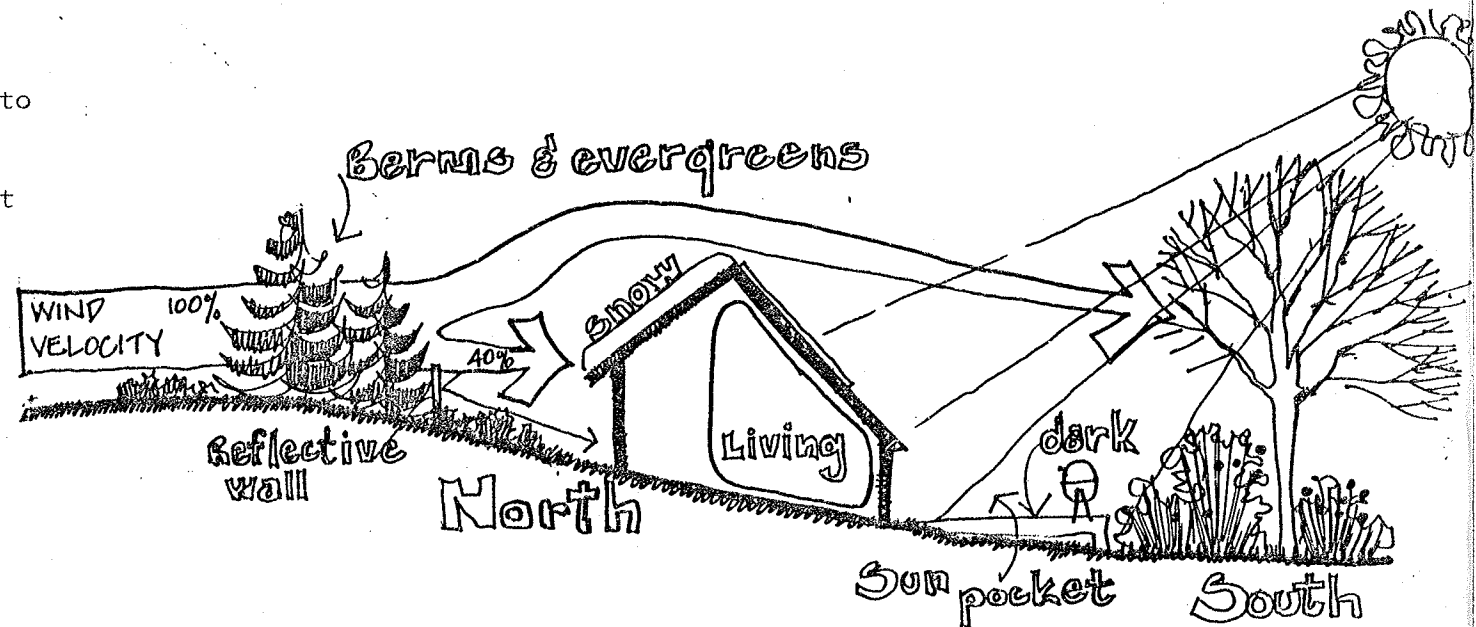
temperature



Thus, for the Winnipeg regions the following recommendations are derived for housing orientation and yard space utilization.

Objectives:

- a) Maximize the warming effects of solar radiation
 - 1) Utilize south to south-west facing orientations and slopes as much as possible.
 - 2) Orient active living areas to the south in order to take full advantage of the winter sun.
 - 3) Utilize exterior walls and fences to capture the winter sun and reflect warmth into living zones.
 - 4) Create protected sun pockets.
 - 5) Utilize darker colors which absorb radiation.
- B) Reduce impact of cold winter winds
 - 1) Utilize evergreens, earth berms and exterior walls to protect northern exposures.
 - 2) Plant buffers should be designed in order to deflect rather than dam air flows.
 - 3) Flat or shallow pitched roofs collect and hold snow for added insulation.





Suburban Problems
Unit VI

No place for children, survey says

Life in the suburbs 'destructive'

The Washington Post

WASHINGTON — A new study reaches a disturbing conclusion about that All-American institution, the suburb: namely, that suburbs are bad for children.

Suburbs, especially those that have sprung up since 1950, isolate children from reality, prolong childhood and fail to provide the kind of emotional experiences necessary to prepare kids for adulthood, argues the study by Edward A. Wynne of the University of Illinois.

This leads, he says, to anti-social and self-destructive conduct, including high suicide rates, drug use, delinquency and introverted behavior.

Sociologist Wynne lays the blame on many of the things that have made suburban living attractive to two generations of Americans: big lawns, shopping centers, safe streets and large, modern schools.

Parents, he says, assume that such things "provide ideal child-rearing environments. Unfortunately, there is no indication that these virtues — beyond a very modest threshold level — have much to do with raising emotionally healthy children."

Children who grow up in

suburbs, he adds, "are uniquely isolated from diversity," outside stimulations and most real-life situations, making it hard for them to adjust to later life.

During the last decade, volumes of research have been compiled on the problems of inner-city schools and their failures.

But Wynne's study is one of the few to probe suburban schools and, according to University of Chicago sociologist James S. Coleman, it "is probably the most comprehensive contribution to this discourse to date."

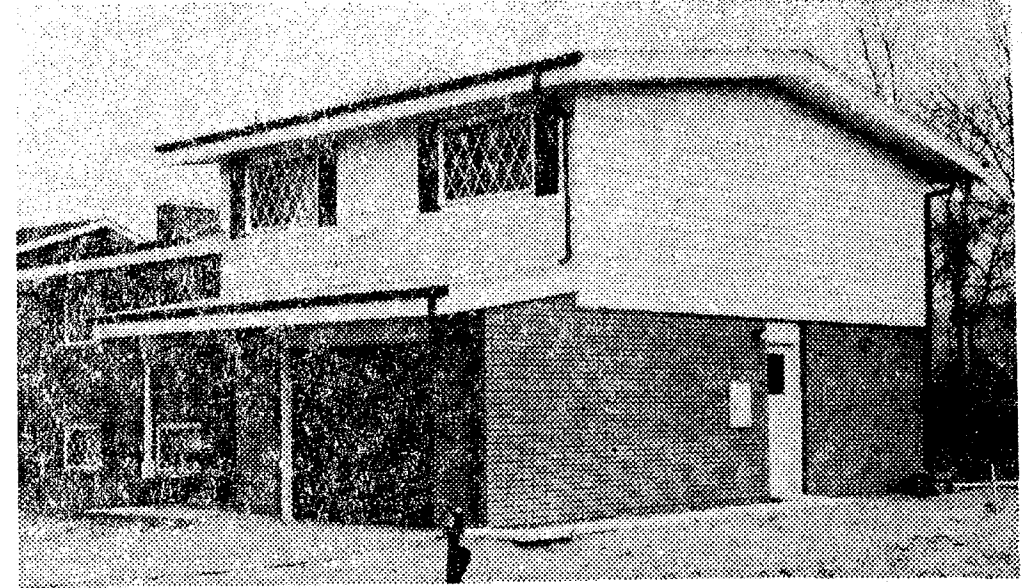
Wynne, 49, is a confirmed city dweller who used to live in Southwest Washington. He began his research on suburban life when he gave up a career in government and went back to school at the University of California at Berkeley in 1968, the height of the student protest movement.

"I was 38 and the place looked pretty darn good to me," he recalls.

"But those were pretty turbulent times at Berkeley. I started asking myself what's happening and why."

Most of the alienated student protesters and drug users, he found, were from affluent suburbs.

His current study focuses



A split-level suburban house . . . but is distorting the development of children?

on what Wynne calls "post-industrial suburbs" — those that have been built since 1950 and depend almost exclusively on auto transportation. These communities, he says, "are perhaps the most homogeneous in human history, and, of course, are far more 'commonplace' than the much-derived Gopher Prairie (Minn.), or Winesburg," Ohio, of another era.

Post-industrial suburban children, he says, grow up in a world of protected affluence, where they have little contact with older people or those from backgrounds different from their own. They

have few home or community responsibilities and few opportunities to solve "common sense" problems or to display emotion.

He directs some of his harshest words at suburban schools, which he says have received little "healthy, broadbased criticism."

"Suburban schools," he states, "give great emphasis to material wealth, comfort and physical health. They often have elaborate facilities for students and they strive to provide well-qualified (and paid) staff and to maintain low teacher-pupil ratios . . .

"The basic facts are that high school and much of suburban adolescent life is boring and without challenge for many able students; that such students are not challenged to learn important skills, or stimulated to care about the group that they are in."

Wynne concedes that there are few scientific data on suburban children. He bases his assertions on national statistics showing that suicide and crime rates among white males between the ages of 15 and 19 have more than doubled since 1950.

VI A SUBURBAN PROBLEMS - OPEN SPACE AND THE 'STATE OF THE ART'

The 1950's and 60's nurtured numerous critics of the new and popular suburban residential development boom. Comments such as: "there's no there, there", "no distinction", "no extremes", "nothing unexpected", "a lack of identity", "no spatial definition", just a conglomeration of "muddle and uniformity" echoed through the trade journals and from the lips of social and physical city critics. In general, the 'informed' conceded that every possible feature which might have given a variety of surprise or contrast to the scene was gone and that the residents of such areas would no doubt be unhappy and totally dissatisfied with this type of living environment.

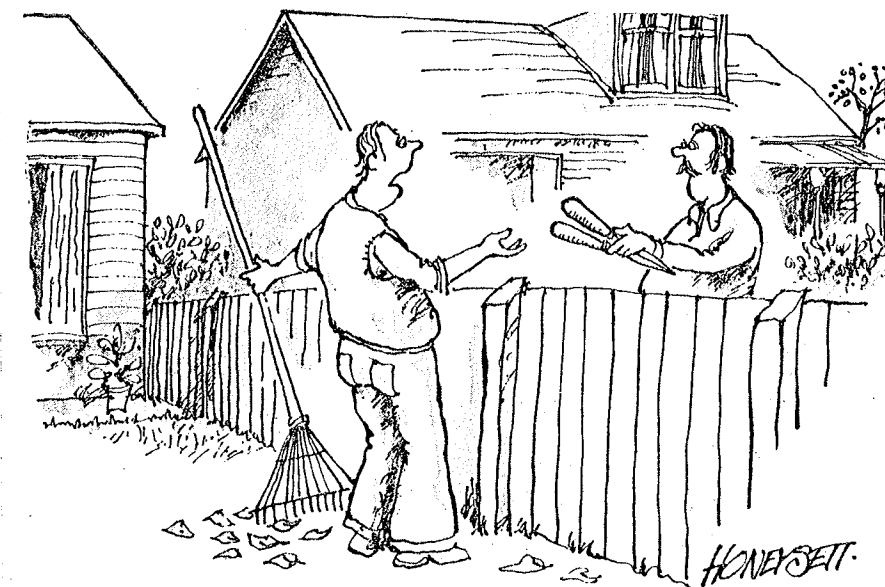
Herbert Gans, (Planning and Social Life: Friendship and Neighbour relations in Suburban Communities (1961), Effects of the Move From City to Suburb (1963), and The Levittowners (1967), William H. Whyte Jr., Organization Man (1956), S.D. Clark, The Suburban Society (1966), and W.M. Dobriner Class in Suburbia (1968), The Suburban Community (1963) were just a few of the many authors who produced books and articles which focused on the lifestyles of residents who lived in the newly constructed suburban neighbourhoods. The articles studied how suburban children and adults interrelated with the communities through play, study, travel, work and socialization. Though the results of these analytical studies were usually critical

of the suburbs they failed to suggest suitable alternatives which might provide equal amounts of housing.

While planners and designers continued to view the suburbs with skepticism during the 1960's and 70's a new generation of social analysts began to involve themselves in studies of the older suburban areas which their predecessors had commented on earlier. Their findings began to suggest that while the areas might appear to be aesthetically unappealing, there was no evidence to suggest that they were perceived that way by the people who lived in them. It was discovered that people moved to suburbia, primarily to escape the lack of privacy and mixture of land uses which they had grown on with in the inner city. While there were concerns about the type of neighbourhood and the relationship of the house to such facilities as schools, shopping areas or places of work, suburban residents were generally tolerant of any other inadequacies which others might have perceived.

While the neighbourhood concept was initially recognized as a planning mechanism which would encourage neighbouring and socialization, by homogeneous groups within the suburbs, studies carried out in the 60's and 70's suggested that this has not continued to be the case.

In the most modern suburban areas, the homogeneity appears not to be as similar as it was initially. Consequently the degree of personal contact is limited to the few opportunities which occur between adjacent neighbours and meetings held by specific interest groups at the local school or recreation centre. Socialization is often restricted to local circulation routes or other recognized 'common turf' places. Michelson (76) and Gans (72) support the theory that "participation in the socializing of a neighbourhood is primarily dependent upon the homogeneity of the residents." Where homogeneity exists, they suggest that socialization can be encouraged or discouraged by the physical relationship of fences, doors, windows, garbage collection areas, garages, and walkways. Research conducted in Toronto's East York district by Powell (72) revealed that only 13% of the respondents had close friends who lived in the neighbourhood. At most, it is suggested casual acquaintances might be developed between adults working around their yards. This reality is only a partial realization of the early suburban image of a man who has just completed an active job - talking with his neighbour - with his foot on the split rail fence." (figure 120).



"And have you finished with my wife yet?"

Fig. 120



Fig 121

The following analysis attempts to sum up the range of problems in terms of open space supply and development in current suburban areas:

Private and Public Open Space

a) Process:

1. The concepts and design of suburbs generally occur in relative or complete isolation of city departments who eventually must approve and administer them.
2. District and Action Area Plans may be adhered to simply as a matter of convenience, without any understanding of those involved of the possible intent.
3. Developers and various city agencies are all single mission orientated (few persons are well versed in the overall package) as a result suburban areas are generally treated in terms of many single function components.
4. The City utilizes few techniques other than 'dedication' or in some instances, outright purchase, to acquire the present or future rights to land which could be retained and possibly utilized at some later date. This generally results in the park system being overburdened with many small acreages and few larger areas.
5. The public, or future homeowners, are rarely involved in the decisions affecting the planning of a future area.

6. Development procedures usually result in the destruction of any potentially natural preservation areas.

b) Product:

1. The open spaces which the developer cedes to the City of Winnipeg are usually done through necessity. Thus the lands are treated as extraneous elements within the subdivision. Park development was initially viewed as the creation of "memorable" spaces which enhanced the neighbourhood image.
2. Spaces are generally single function orientated and developed in a manner which is uninviting eight months of the year. A lack of variety in the development of public open space generally results in the repetitious production of similar activities on equally similar park lots.
3. The needs of various users in suburbia are rarely considered in the dedication or production of park space.
4. The inter-relationships which exist between private and public or semi-public space are usually not considered when integrating public park or circulation space within residential areas.
5. The cost of providing dedicated space which may not be desired or utilized is passed on to the homebuyer.
6. Standards, and their religious observance, are currently using land unnecessarily for road right-of-ways, front and side

yards on housing lots.

Few, if any, recognized meeting spaces exist in suburban area for: teenagers, mothers, etc.

If pedestrian pathways exist, they are usually of secondary importance, inconvenient or uninteresting.

Public Open Green Space

1. Such land is usually viewed as "no one's land"
2. Spaces are over organized and regulated (generally with the wrong activities), thus few opportunities exist to interact with the space in order to make it applicable to local needs.
3. Usually the goals of the suppliers are different from those of the users.
4. There is a lack of diversity in the opportunities which are available.
5. Poor development exists in conjunction with poor (inadequate) maintenance of public space in comparison to the surrounding private open space.
6. Spaces are rarely planned or considered for year round use.

The development, acquisition or location of public open spaces are low priorities to most suburban homeowners. However, the location of such components in the residential area can enhance and reinforce the lifestyle opportunities for a wide range of users. In order to illustrate what the range of options might be it appears that the quality of development must begin to take precedence over the amount of space which is being acquired. inadequately prepared and maintained.

Vandalism and harassment rampant in Bryon Park

Residents in the vicinity of Byron Park in the Westwood area of St. James-Assiniboia are being plagued by trail bikes, motorcycles, etc. being driven illegally through the park and adjacent field, and also by repeated acts of vandalism.

"I'm not faulting the police—they do an excellent job of responding to our calls. They're just spread too thin," says one resident.

Another resident says it is a problem that has existed ever since the new area of homes in the Country Club development opened up. "We haven't been able to get anywhere," was her comment.

She says residents also hope to approach the parks department to have a gravel walkway put down for children crossing the field to attend Lincoln School.

Virtually all the children from that area cross the field, and if they arrive at school with muddy shoes the teachers get mad."

District 2 police superintendent Bill Welsh says that attempts are being made with a "community education program." A lot of parents apparently are genuinely unaware that

driving a trail bike across public property is illegal. Discretion is used, and first-time offenders are usually let off with a warning to themselves and their parents, but repeated offenders "will be charged."

Residents feel that removing trees and brush, plus installing lights, would improve the situation. Another problem they refer to is that of noisy drinking parties in the park.

Several persons have

collected empty beer and liquor bottles from the lot, and one mother says her small youngster has actually gone over with a bag and picked up pieces of broken glass.

Situation has deteriorated over the years, says one resident. The tot lot used to have swings, picnic benches, and a sandbox. Now it has a spring horse and a slide "and children sometimes come down the slide and encounter broken glass at the bottom."

The older children, apparently around 12 to 14 years of age, have placed the one remaining bench over the swings and ride it that way. Bonfires were held in the sandbox, residents allege, as well as bicycles burnt as they hung from the frame of the swings.

Residents claim that they can't keep their windows open because of the noise.

Fig. 122

Source: Metro (78)

Urban neighborhoods said failing families

By Janet Steffenhagen
of the Star-Phoenix

Urban neighborhood design serves economic interests rather than those of women and children, according to a panel discussion this week at the Saskatoon public library.

Mari Maxwell Pendleton of 122 Smallwood Cres. in Confederation Park said city suburbs sport "temples to the consumer" rather than parks, churches and playgrounds.

Many families are seduced by the suburbs because the houses are equipped with the latest conveniences and the yards are carefully manicured. But when a woman finds herself stranded far from the city centre with small children, the suburb becomes lonely and sterile, she said.

The discussion Thursday was the second of a six-part series organized by the public library. The remaining four discussions will be staged on successive Wednesdays beginning at noon.

When Pendleton and her family first moved to Confederation Park, she was determined to make friends with her neighbors and participate in the community.

However, she was met with hostility, apathy and fear. "I haven't made it out there and damn it, I am really hurt and angry that I didn't."

The nucleus of an urban neighborhood is often a shopping centre in accordance with the myth that residents are consumers, first and foremost.

"As if you have no other needs. Well, I need a babysitting co-operative, I need neighbors who want to

share responsibilities, to share lawnmowers. I need an indoor playground for winter," Pendleton said.

Anne Smart of 1036 Osler St., told the 40 people gathered in the library that women must discuss the problems they experience with urban planning.

"Women have to educate themselves about the system. They have to talk to each other about the issues and the isolation. They must understand their situation as a problem out there is not just something in their own heads," she said following the meeting.

City planners are usually men whose perception of homes and neighborhoods is different from that of women, she said.

A home in the suburbs offers a working man refuge from the busy city where he spends his day. A

neighborhood is more important to women who stay at home with small children, Smart said.

Bob Reid of 614 Walmer Road, told panel members neighborhoods are not built for men, either.

Neighborhoods are too large, he said. "The kind of planning approach we are using doesn't allow someone who wants to create community to create it."

June Bantjes of 437 Fifth Ave. North, said the main problems she and her children encountered when they resided in Grosvenor Park were lack of adequate transportation and lack of nearby day care facilities.

Bantjes said suburban row housing provides some sense of community but also has several disadvantages — no sandboxes for the

children, no garden space and no pets allowed.

Pendleton said women living in suburbs need a place away from the home where they can meet and discuss common concerns.

Urban developers make no attempt to produce communities because "it is not in the developers' best interest to have money put away for those things," Smart added.

Women also encounter problems in the city core, Smart said. There are no places for changing babies, washroom facilities are inadequate and breast-feeding downtown is considered unacceptable.

"We have to speak out about these problems. We have to take part in public meetings, speak to city council and we have to be able to articulate our point of view," she added.

VI B LAND SAVINGS

1) Density

It is recognized that Canadians have traditionally been predominantly single family detached housing inhabitants. Therefore, the intent of this section is to show two areas where land savings can be easily achieved while still preserving the essential characteristics of single family detached housing.

Standard suburban developments at 4.5 - 5.5 d.u. per acre/net were characterized by:

lot frontages 50-60'

6000 sq. ft. lots

house set back 25-30' from r.o.w.

road r.o.w. 60'-66'

side yards 4-5'

Robert Allsopp, in studies carried out for the Leaf Rapids Corporation (76-77) illustrated that it was possible to easily maintain all the characteristics of the single family detached home, and yet double the net density by using a T court entry cul-de-sac. (figure 124). Such studies and examples are also being developed with larger attached housing in other parts of Canada. (figure 125).

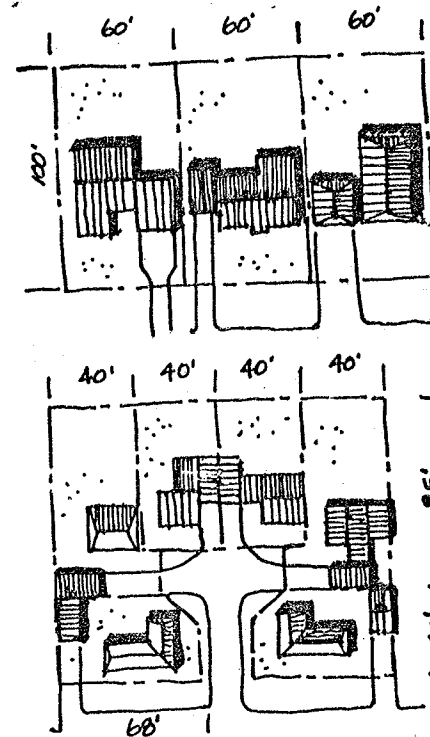


Fig. 124

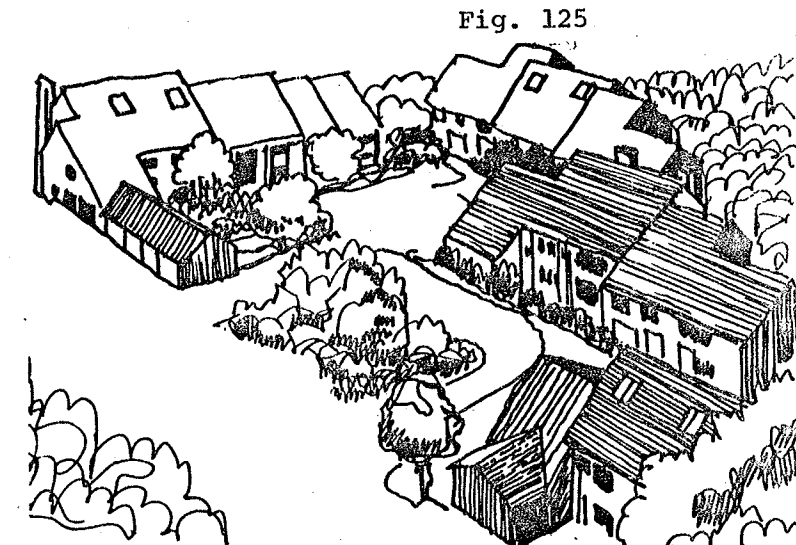
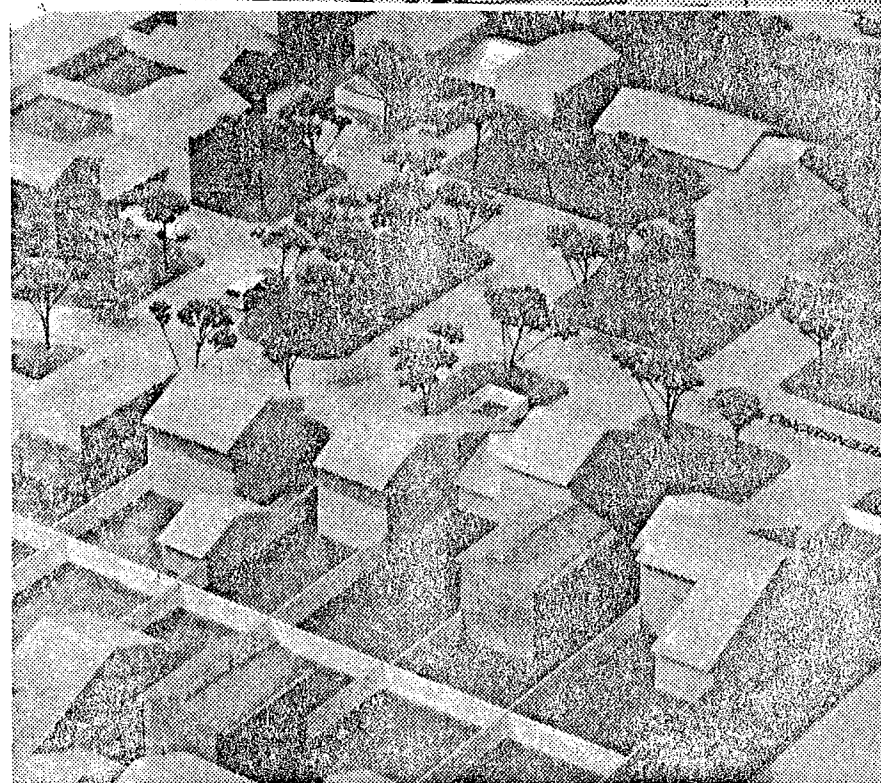


Fig. 125

Zero lot line (RPL zoning) has recently been introduced to Winnipeg. Bruce Clapham, Qualico's assistant manager, explained "the benefit" of smaller lots in zero-lot line housing has the effect of taking six normal sized housing lots and placing eleven homes on them. By reducing the lot frontage from 50' to 30', zero-lot-line housing saved around \$7,000 in land costs. (figure 126). RPL zoning allows for one or two-story homes to be sited on a lot line, of a minimum 2,500 sq. ft. lot, with a minimum of 20' frontage.

Zero lot line concept used for the first time in city



For the first time in Winnipeg a house builder, Qualico Developments Ltd., is utilizing the zero lot line concept with reduced sized housing lots for a new residential single family housing project in Waverly Heights.

"We've been pushing for this for two or three years now," said Brian Hastings, Qualico manager. He said they had to wait for Winnipeg city council to okay zero lot line housing, but some councillors believed the concept would result in slum housing. They thought the concept was degressing, he said. "We thought it was progressing." Qualico's new homes, he said, will not detract from existing housing in the area. The concept has been around for a long time, in Calgary, Edmonton and especially in the United States.

Early in 1977 city council passed a bylaw allowing the building of zero lot line homes upon land zoned for this use. Hastings said that with the price of land going high, zero lot line housing will become a more common building procedure among Winnipeg developers.

Qualico assistant manager Bruce Clapham explained that zero lot line housing allows the developer to locate a housing unit on a smaller sized lot without having to adhere to conventional zoning limits for back and front yard sizes or side yard clearances.

The builder can place the home anywhere on the smaller lot but the bylaw includes new demands on the builder in return. If zero lot line housing is to be used, the builder must compensate the prospective occupants with adequate

fencing for privacy, no face to face windows between adjoining homes, off-street parking and all landscaping must be done by the developer. What Qualico saves by reducing the land component cost of a conventional sized lot, explained Clapham, is poured back into the housing development in the form of these extras not otherwise available with new housing. Clapham estimated that reducing lot frontage from 50 feet to 30 feet in zero lot line housing saved around \$7,000 in land costs.

"Our interpretation of the new zero lot line zoning," said Hastings, "is to maintain the residential type of dwelling, but at the same time offering a home for the buyer who wants a lot more than usual in the purchase of a home." He said the new Qualico zero lot line homes will "not be a cheap type of product". His company has to compete with the existing single family market and used housing already fully complete and landscaped.

Located at Chancellor Drive and Markham Road, the Qualico project will eventually comprise 31 two and three bedroom homes, 29 of which will be two-storey. The exterior facade and color for the project named Scania Square was borrowed from a small village outside of Copenhagen, Denmark. Hastings said Qualico has two display homes under construction at present and sales offices on site will open Sept. 30. Homes in Scania Square will vary in floor area from 998 to 1167 square feet. Other amenities included in the project are living room fireplace,

patio doors and vaulted living room ceilings which allows room for a balcony accessible through French doors from the upstairs master bedroom. An open staircase will run from the basement floor to the second storey.

Assistant manager Bruce Clapham says the benefit of smaller lots in zero lot line housing has the effect of taking six normal sized housing lots and placing 11 homes on them. The only attachment occurring in the complex will be through garage walls and not any occupied living space. A choice of attached or detached garages is available. Hastings said there'll be no straight rows of houses, as in some housing developments, calling Scania Square's visual impact 'exciting' and aesthetically pleasing to the eye. Kitchen windows in the homes will primarily look out onto the front or open spaces, the living rooms onto large open spaces at the rear.

Hastings admits that the Scania Square homes were not designed to meet assisted home ownership plan requirements, prices of the units running from \$44,995 to \$57,500 compared to an average price of \$57,000 for a conventional 1,000 square foot bungalow on a 50 by 100 foot lot, less the added amenities.

All homes he added will be protected by the five-year builders' certification warranty program and also carry a special caveat worked into the title of each home.

"It's a totally protected community," he said.

Hastings said the caveat will run into perpetuity, putting restrictions on owners to retain the original architectural intent of the project.

The following chart was generated in 1929 by the New York Regional Survey of New York and its Environs Committee. The table provides a quick method for determining the relationship between the number of lots per gross acre and the amount of open space in single family housing areas.

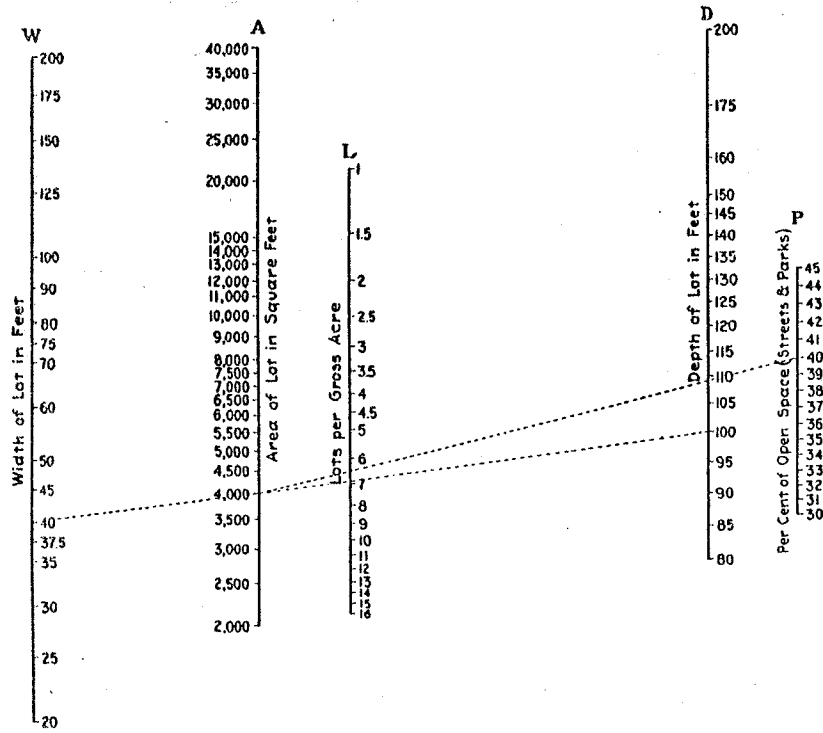


DIAGRAM FOR DETERMINING LOTS PER GROSS ACRE FOR VARYING LOT SIZES AND PERCENTAGES OF OPEN SPACE IN STREETS AND PARKS

Obviously, as the density increases, land required for housing lots and road right-of-ways decreases. Therefore, the utilization of attached dwelling units such as townhousing, quadraplex's or duplex's add yet another dimension to reducing the average lot and housing costs.

In a proposal entitled "Lowering the Cost of New Housing", the Urban Development Institute of Ontario produced a hypothetical plan which increased the net units per acre from 9.6 to 30.4 and the number of persons per acre from 35 to 101.8. In their example, no building exceeds three stories. Figure 128 illustrates the comparison between their hypothesized plan and the present suburban form for a 200 acre site. Compared to the current Winnipeg situation described below, it is significant to notice the reduction in road space and the large increase in park space.

Winnipeg Situation

Type of Units	No. of Units		Population
single family	818	45%	2495 persons
semi-detached	206	11%	634 persons
street townhouses	478	26%	1400 persons
apartments	<u>528</u>	28%	<u>1209</u> persons
Total	2030		5738

Fig. 127

Figure 2 Site Statistics

TYPE OF UNITS	NO. OF UNITS	POPULATION
Single Family	594	60% 2257
Semi-Detached	144	12% 547
Street Townhouses	100	8% 380
Multiple Family	120	10% 456
Apartments	240	20% 720
Total	1198	4360
Length of Street		24,820'
ACREAGES		
Residential (Single Family-Semi-Detached)		106.5
Street Townhouses		6.1
Multiple Family		8.0
Apartments		4.0
Schools		12.1
Parks		10.0
Watercourse		12.8
Church-Highway Commercial		2.0
Roads		38.5
Total		200.0 AC
Unit Gross Density		6.0 u.p.a.
Population Gross Density		21.8 p.p.a.
Unit Net Density		9.6 u.p.a.
Population Net Density		35.0 p.p.a.
Park Dedication		5%

Figure 3 Site Statistics

TYPE OF UNITS	NO. OF UNITS	POPULATION
Semi-Detached	466	14% 1031
Quadruplex	616	19% 2156
Duplex	396	12% 1386
Group Housing	1322	40% 4627
Apartments	511	15% 1278
Total	3311	11,078
Length of Street		22,880'
ACREAGES		
Residential (Semi-Detached, Quadruplex, Duplex Group Housing)		108.8
Apartments		10.4
Schools		13.3
Parks		27.6
Watercourse		12.8
Commercial		1.0
Roads		26.1
Total		200.0 AC
Unit Gross Density		16.6 u.p.a.
Population Gross Density		55.4 p.p.a.
Unit Net Density		30.4 u.p.a.
Population Net Density		101.8 p.p.a.
Park Dedication		1 acre for 120 units



Fig. 128 Source: City Magazine Jan.(77)

Fig. 129

Though the 1970's witnessed the trend away from predominantly large lot single family detached subdivisions to mixed housing types and higher densities, the impetus to also tighten up other components of the suburbs has not been forthcoming. Consequently, large amounts of land continue to be devoted to road and circulation networks.

As shown in the Urban Institute Study, cluster development or cul-de-sac housing layouts do reduce the percentage of land needed for circulation while offering the desired "safer living conditions and a stronger sense of neighbourhood identity". (Sewell, 1977, p.53). Yet these goals were primarily the objectives of the former 1950's planning era.

2) Circulation Space

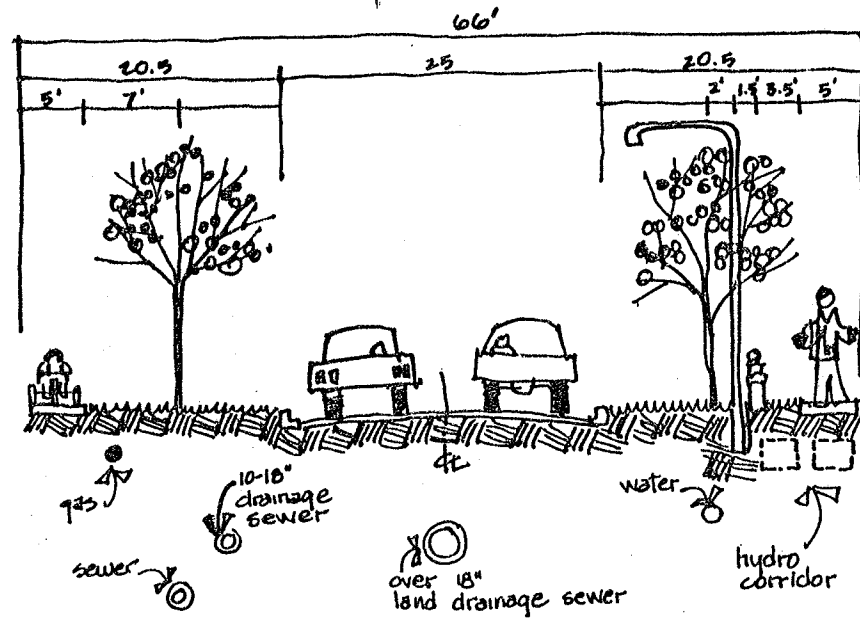


Fig. 130

Traditionally the 66' r.o.w. was the length of the surveyor's chain and therefore became a convenient measure to use for making road allowances. However, to reduce land consumption it is proposed that right-of-ways need only be wide enough to adequately accommodate the pavement, sidewalks and underground services, such as sewers and watermains. Paul Theil and Associates have recently recommended the development of a street classification system based on traffic volume and trips per day. Pavement widths should be designed to take into consideration vehicular speeds, parking need, limitations by sight distance, climate and topography.

- Minor Local Streets:
- service up to 25 housing units
 - design speed 25 mph
 - min. pavement width 24' (parking)
18' (no parking)
 - min. r.o.w. reduced to 56' (50' has been used with 3' easements on either side)

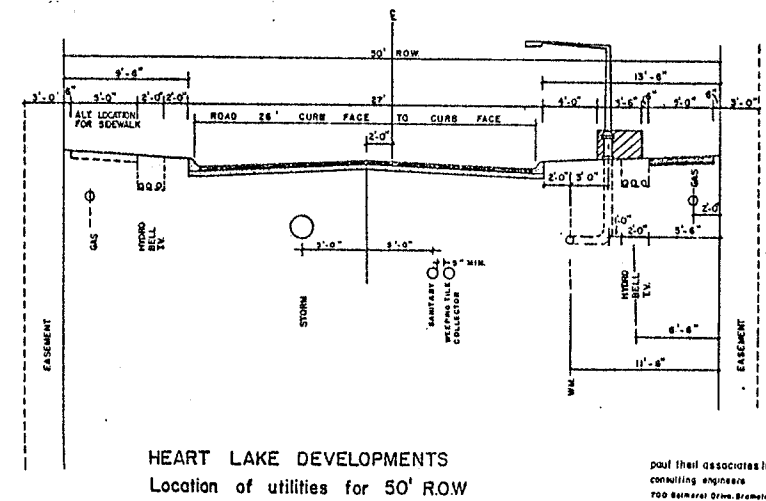


Fig. 131 Source: P. Theil & Associates

Theil further suggests that the turn-around radius in cul-de-sac's should be primarily designed to accommodate the automobile. Small scale snow removal equipment would, however, be necessary in order to clear these areas.

The National Association of Homebuilders (1976) recommends that right-of-way widths for residential streets simply be adequate for the required street pavement. They suggest that the r.o.w. may be altered to accommodate sidewalks, utilities, drainage facilities, landscaping or street furniture but that the use of easements may be utilized for these items, thus conserving land. (figure 132).

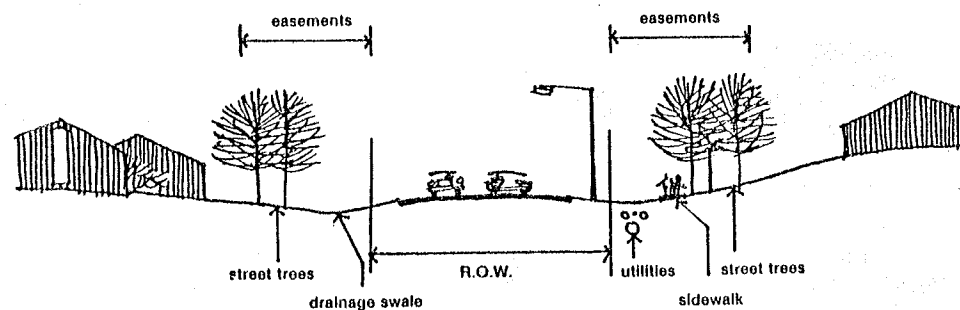


Fig. 132 Source: Land Design/Research Inc.

VI-C -- SUMMATION

By reducing standards in order to save land a number of pertinent issues present themselves for discussion. Of prime importance is the question about where the savings in land or monies should be redirected. Obviously greater opportunities exist to preserve natural site features, (if there are any) develop major recreational facilities (golf courses, lakes) if lot and road r.o.w. sizes are reduced, and houses are clustered. However, the opportunity to use the land savings for additional housing units would not only appear to reduce the land cost per house but satisfy the increasing demand for more housing.

Wilton (1976) illustrated, by utilizing a cluster concept how the remaining open spaces could be developed through land - money savings when an optimum density was achieved. This study assumed that land savings obtained through clustering would be retained as public open space. The goal was to justify economically how developers could preserve open spaces within their developments at little or no additional cost.

This solution is typical of most clustering and Planned Unit Development (P.U.D.) projects where the goal is to reduce private open space and either replace it with semi-private (in the case of a developer owned and operated project) or public open space.

Is it necessary, however, to provide more public orientated open space if the density increases or private open space is reduced? According to the preferences of home purchasers this would not appear to be the case. If land savings were to be realized through increased densities then such lands should be developed with housing units associated with private open space

By increasing the density, the potential number of open space user's are also increased. This would seem to place a greater emphasis on the demand for public facilities. Alternatively, this also seems to place an increased value on private open space. Thus, both should be considered important, with the emphasis on adequate private open space if densities are increased to the level indicated in the Ontario Urban Development Institute proposal as previously discussed. In apartment dwellings where ground level access is not possible for all units private open space in terms of a balcony is recommended. A uniform treatment of open space for all densities is not generally satisfactory. Apartment or townhouse dwellings, while increasing the density appreciably over single family detached residences, generally are characterized by a much greater proportion of project managed semi-private recreational and parking lot space. Often these developments are self-contained, located on the periphery of single family developments, and focus

inwards rather than out into the community. Because of the inherent differences, these projects are rarely seen as desirable by adjacent single family home owners.

If housing densities are increased through the reduction of lot and roadway standards it is suggested that housing types not be segregated as individual masses within the development. Smaller groupings of various housing types have a greater potential of contributing to the entire community with a focus outwards. Individual project identities are not so clearly defined. In some instances, however, the intent is to purposely create an image and define boundaries which exclude a project from the general community. Where this is the case, such boundaries should be clearly stated.



Fig. 133, 134



The relative ease associated with 'prairie' development has in the past generated housing environments with generous amounts of space. The whole concept of suburbia was developed through the enticement of "one's own yard", with "room to move". Phrases such as, living "next to nature" or "in the country" were readily incorporated into the sales brochures of developers. Thus, it is difficult to suggest that suddenly it is time to cut back and possibly change the current suburban image.

The so-called 'energy crisis' has had little effect on the current form of housing construction or lot layout in Winnipeg. While active and passive solar orientated housing subdivisions have been constructed in the United States at Davis, California¹, little attention has been focused on the adoption of such principles in Winnipeg.

It is possible that the issue of housing affordability, in terms of initial cost, eventual operation and maintenance will reach a point where factors such as: conserving land consumption and instituting energy efficient planning and construction

¹ Landscape Architecture, May, 1977

techniques, will have to be considered foremost in any new development. Presently, however, the likelihood of radical change seems remote. One senses that the established norms are firmly entrenched and that it will require a major shift of governmental policy coupled with development co-operation before a product can be identified which is distinctively related to the rising Canadian issues.



Fig. 135

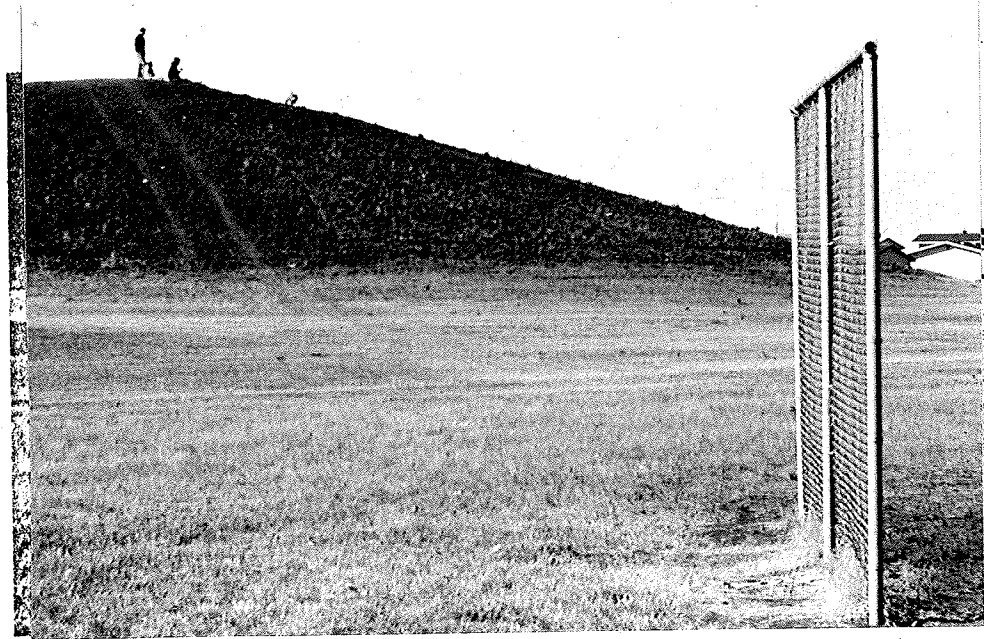


Fig. 136,137

*Synthesis
& Conclusion
Unit VII*

VII A Synthesis

In order to function well man attempts to satisfy his primary human needs, such as food, his derived needs, such as education, and his integrative needs which are somewhere between the two. These needs suggest that "man desires not merely to live but to live well." The recognition and application of such principles which respond to these integrative needs are closely related to the design of human environments and form the basis of many planning goals and objectives.

Though it would appear that the current suburban form, as suggested by various social scientists, presently satisfies the needs of most people who live there, opposition to this viewpoint is surfacing once again.

Researchers have started to illustrate many potential opportunities for a more satisfying lifestyle which are not being made available to current residents. In fact, upon examination, the needs which are apparently being satisfied encompass such characteristics as building cost, house or lot size and sometimes house location.

Studies have also illustrated that adults spend a very small proportion of their total time outside, within the community. Their principle time focus is centralized around

the home environment. While pre-school and school aged children seem to spend most of their time going to and from school or at play, they also prefer a close association with the immediate surrounding of their own house. Consequently, the focus for most suburban residents is primarily home orientated. Teenagers, may, however, be the exception to this statement.

From design surveys it is agreed that home purchasers prefer small clusters of housing with predominantly private space, which they can control instead of greater quantities of publically owned open space.)

Planning the location and arrangement of various physical suburban components have become concerns in which only a few individuals might ever become involved. So long as the choices and variables are kept to a minimum, very little combined (resident-developer) planning is needed. Marketing agents want to produce a product which people will select and buy. Home buyers want to secure the most value for their home purchasing dollar. Thus the suburban residential environments generally reflect what marketing agents "think" people can afford to buy.

Developers in Winnipeg have historically been quite cautious in their attempts to divert from the traditional patterns established by their predecessors or in altering the cities

legislated standards. Thus, the question about whether a water orientated development such as Lake Bonavista in Calgary is more desirable from a community or aesthetic sense, than the present Winnipeg procedure for establishing residential communities adjacent to storm water retention ponds only becomes a serious issue when costs to the home purchaser or profit to the developer can be shown to be almost similar. Though the potential user opportunities, increased property value, neighbourhood image and development appeal of the lake type project may outweigh the less costly retention pond system, someone has to be convinced that such a departure is economically feasible or even warranted in the Winnipeg region. Costs for such unique development must obviously be absorbed by someone. At present,⁽¹⁾ the Winnipeg homeowner is more concerned about the reduction of his initial house cost,⁽²⁾ the developer does not need to resort to this level of improvement within subdivisions in order to sell houses and ⁽³⁾ city agencies are pressured to distribute their funding on ten less costly "swing and slide" parks in the same area, than on a fewer number of highly developed spaces.

Current planning philosophy takes the position that public open park space be equally divided and evenly distributed throughout residential subdivisions. City departments are judicious in their attempts to ensure that all persons are within "X"

(ft. or meters) of a publically provided space. From the standpoint of the home buyer, park location is only of minimal significance.)

The development and allocation of public open park space in Winnipeg has been relatively traditional. There are few exceptions to the popular mechanism of "development according to the gospel of standards". Standards, it seems, have effectively managed to dictate amounts and jurisdiction of all types of suburban space. Unfortunately, neither standards nor public action have contributed to the improved quality of developable suburban space or quality of life for suburban residents.

This lack of ability to focus on the essentials for "real" quality and subsequent user dissatisfaction has led to the conclusion that there is relatively little use made of public residential park spaces. In many instances, people use public open park space only because they have no other choice, not because of the positive attractions of the space.

It is suggested that continued non-use of public open space would encourage vandalism and probably result in a total discreditation of park and recreation departments and their planning policies. The goal for future park development therefore should be to develop spaces to a level of quality which is necessary to attract and hold potential users who are non-users by choice rather than lack of opportunity.

In order to consider this issue in perspective it is necessary to present the belief held by Jane Jacobs, who feels that too much is expected of city parks. "Parks are not automatically anything, and least of all are they volatile elements, stabilizers of values or of their neighbourhood and districts." "Far from transforming any essential quality in their surroundings... parks themselves are directly and drastically affected by the way the neighbourhood acts upon them." (Jacobs, 1961, p.90) (ibid, p. 95). In describing the relationship between the park and the physical arrangement of the neighbourhood, Jane Jacobs suggests that the mixture of uses of buildings directly produces for the park a mixture of uses who enter and leave the park at different times. It is this interchange which lends credibility to the park space and is a positive feature for adjacent residents and users.

Though opportunities exist for outdoor passive activities such as walking, reading or picnicing by adults, children or families, such actions rarely seem to occur. It is speculated that most sociability takes place in private where people who share each other's values can interact without being self conscious. (de Grazia, 1964, p.241-265).

In suburban areas, therefore, children have become the primary users of public open spaces. Children generally prefer challenge and excitement in their leisure, thus the neighbourhood parks usually compete with the street. Most often the street

and the associated street neighbourhood are greater sources of excitement and more heavily used for recreation activities than adjacent parks or playgrounds. Because park and recreation departments are program orientated, children do not have the opportunity to partake if the preferred "fantasy oriented" recreation.

Natural preservation areas are rarely retained in the neatly manicured suburbs, nor have adventure playgrounds received large scale acceptance. This is primarily due to the concern by adults for the street aesthetics and potential liability.

The previous units have outlined the role, function, value and use of open space in relationship to the historical development of various key residential projects. What becomes most obvious is that Winnipeg and most other North American cities are basically still developing subdivisions on variations of the principles previously established by Ebenezer Howard or Clarence Perry. In Winnipeg, the neighbourhood unit now encompasses 283 acres as compared to Perry's proposed 160 acres, and has a service radius of 3/8 mile instead of the recommended 1/4 mile. However, the elementary school is still planned as the central focus. Unfortunately, while the school may continue to be the intended focus of most neighbourhoods, nothing exists about its physical nature to suggest that it serves or fulfills the role of a community focus. Nor has the shape or use of the space around school buildings changed over the years. Modern sociologists, in fact, believe that sufficient evidence exists to repudiate the concept of neighbourhood planning. They suggest that the general

concept of neighbouring is limited to small clusters of 5-6 houses with the local shopping centre as the neighbourhood focus.

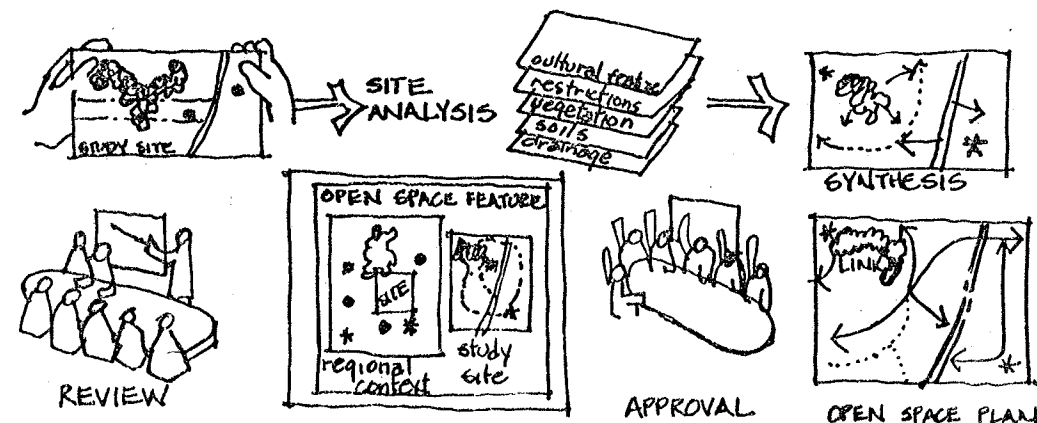
To suggest that suburban planning in Winnipeg is worse than other North American cities would be an exaggeration. In fact, Canadian suburbia is relatively small in scale compared to many conglomerate housing tracts built in the United States. Yet, there are many historical residential examples which reflect the design criteria of quality developments and incorporate principles often missing in modern Winnipeg housing projects. (Stein and Wright's housing projects). Lessons which can be learned from the past, though not always universally applicable, often reveal insight into what does or does not work satisfactorily. Obviously the basic suburban components such as: roads, paths, lots, parks, buildings, fences, plants, grass and water can be juxtaposed in numerous ways, depending on such factors as density, orientation, location, landscape features and user preferences. In terms of future recommendations for Winnipeg suburban open space development it is impossible, to present one timely alternative recommendation. The following sections attempt to illustrate two different levels of response to suburban open space.

Though the sections respond to different criteria it is

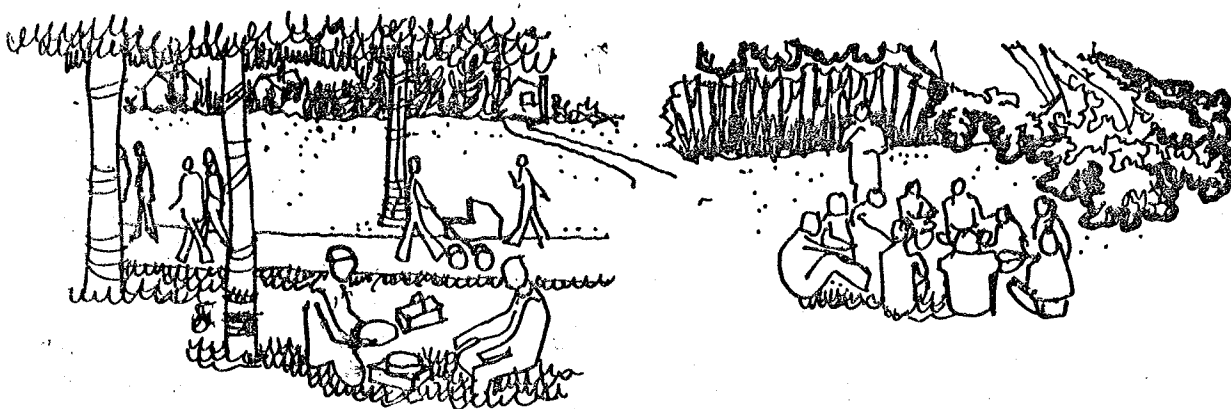
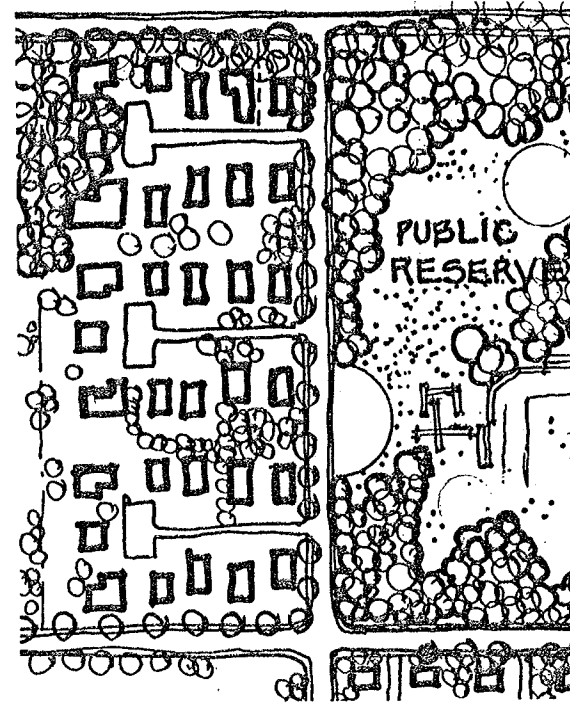
proposed that the following procedure for resource analysis be adopted as a basis for each.

Resource Analysis - Prior to Development

Unlike the present procedure of following the adopted schematics of an Action Area Plan or District Plan, it is recommended that suburban development lot line submissions also be accompanied by site resource drawings depicting existing conditions. (Natural drainage, vegetation, soils, slope and man-imposed restrictions such as: right-of-ways, service corridors, easements). It is then proposed that the developer and city planning team meet to review the submission and indicate all, if any, cultural, historic or natural features worthy of being preserved on the site. These, and all other service corridors, easements or right-of-ways would be identified as the principle open space components of any residential concept the developer might then propose.



Preserved natural areas, though highly valued by children as play spaces and recognized by adults as a prime open space component, are rarely retained in new subdivisions because of the procedures inherent in large scale suburban development (use of large equipment, site drainage development, topsoil removal, servicing methods, the general attitude of clearing the site to enable quick and easy construction). The possibility of preserved natural space being destroyed by private owners is another real issue which necessitates that such areas be integrated as part of the public reserve. These open spaces, if they are retained, should be large enough and buffered in order to sustain the impact of large scale development.



Before a final decision is made about what areas are to be reserved as public open space on a proposed site it is recommended that a thorough evaluation of the surrounding open space resources and the possible links which should be made between old and new developments be illustrated conceptually. The need to preserve space should be based on its uniqueness within an area, its development potential, visibility, accessibility and ability to be maintained or developed. Once a satisfactory open space allocation system has been developed, it would be received and reviewed by city agencies, developers, neighbouring residents and potential users.

VII B Existing Standards

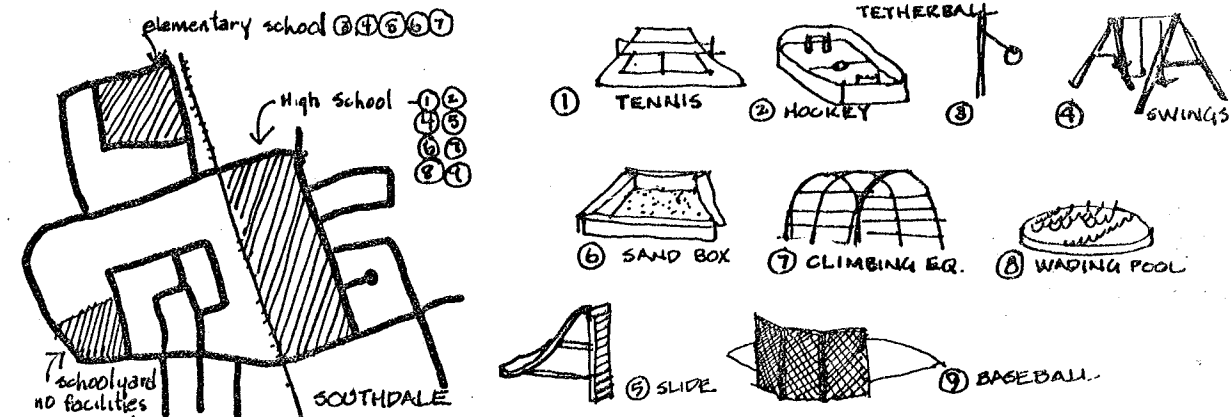
Assuming that present open space development standards for roads, parks, right-of-ways and housing densities remain unchanged are there any solutions which might increase the appeal and use of the public park spaces? If so, it would seem necessary to respond to the following problem areas which have already been identified in previous sections of the text.

- Public open spaces are underutilized and do not appear to be satisfying the needs of potential users. Why? Spaces are not adaptable and lack in seasonal response. Problem: unused public open space is expensive to maintain and difficult to justify.
- The public open space system generally contributes little to the image of the development of community. Why? Public open space areas are isolated, spread apart, spaces are generally too small or too large and underdeveloped. Why? a) Public open space areas are isolated and spread apart, b) spaces are generally too small or too large, underdeveloped or developed with the same facilities. Problem: as such the open space network is not perceived as a very positive suburban component.
- Suburban environment layouts are not conducive to the encouragement of socialization or the provision of facilities for the "non-average" resident. Why? The supply and development of open space has become standardized. Problem: people search elsewhere for facilities and outdoor experiences.

- The range of opportunities are relatively defined, though the relationships and juxtaposition of the different kinds of space are not. Why? The use and role of space is not clearly understood or is of significant importance to developers. Problem: conflict between users or space, development of screens and barriers, isolation of public lands.

These problem areas are dealt with by suggestions contained within the following six categories:

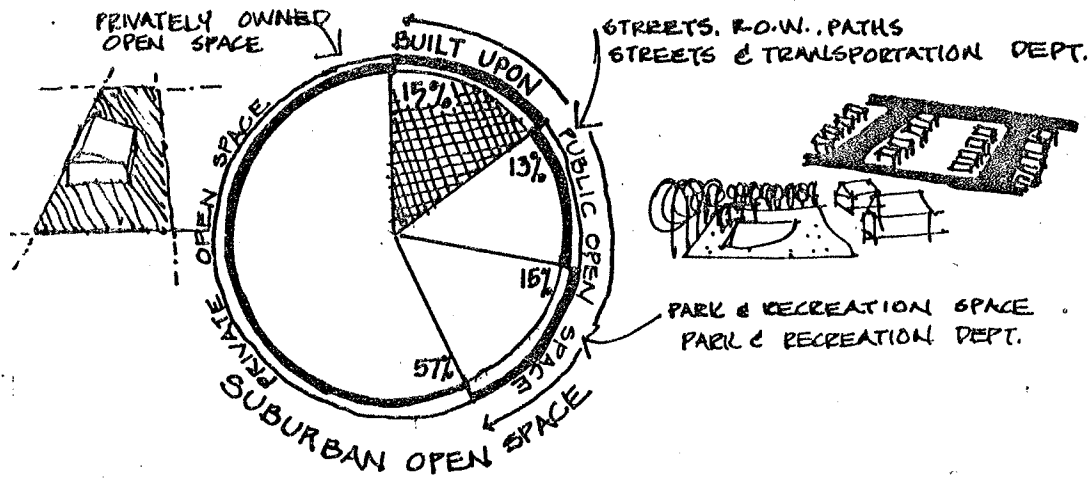
- | | |
|---------------------|------------------|
| 1) Variety of Space | 4) Relationships |
| 2) Distribution | 5) Quality |
| 3) Circulation | 6) Procedure |



VARIETY OF SPACE

At present there are limited opportunities for residents seeking to utilize the neighbourhood public open space facilities. However, users do not rely solely upon the public open space system to satisfy their wants.

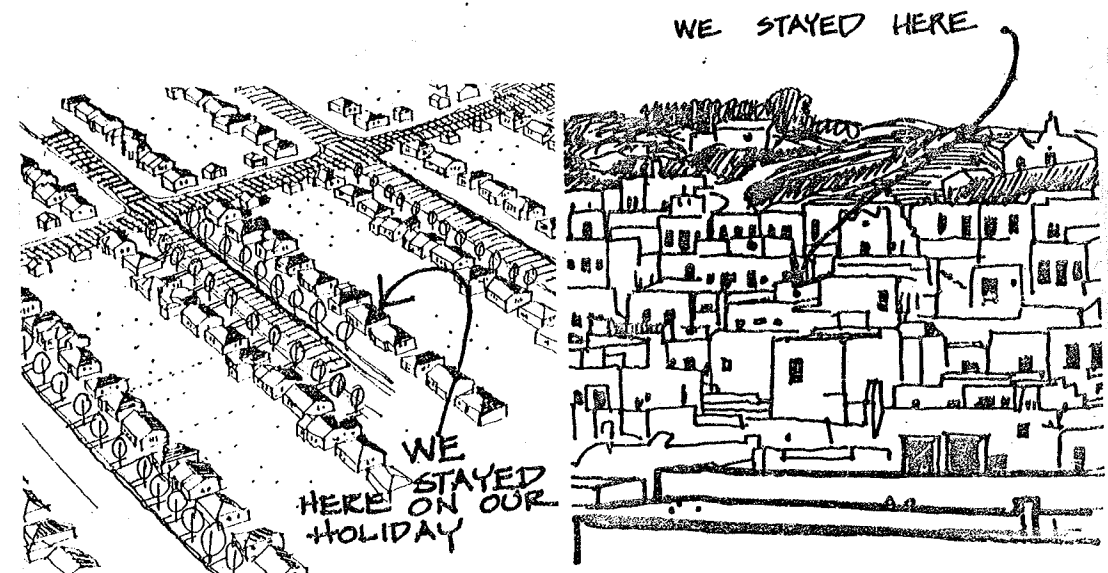
Though eighty-five percent of suburban land is actually public or private open space, parks and recreation public open space constitutes only fifteen percent of this amount. This space is managed by a group concerned with satisfying the active recreation needs of residential users. The streets and transportation department oversees the remaining thirteen percent of public open space. The largest portion, fifty-seven percent of the open space is privately owned.



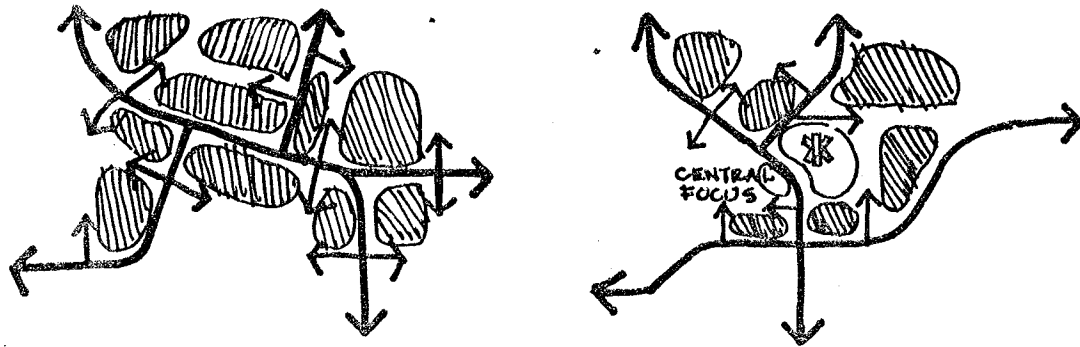
At present the image of a residential area is depicted by the relationship of these private and public spaces. Unfortunately it is usually the difference in private open space development which signifies noticeable change between two residential areas.

Jack Klein, a noted Canadian architect, pursues the idea of beauty and attractiveness in describing the residential environments which people seem to respond to when travelling in other parts of the country. He questions what it is which makes Greek island towns more attractive than places like Don Mills, Ontario, even though the same facilities may exist. Buildings seem to respond and fit well with the site and each other. They become a part of the place while preserving the qualities which initially were attractive. Though the spaces have evolved in response to different social conditions, they too seem to convey a feeling of appropriateness and usefulness.

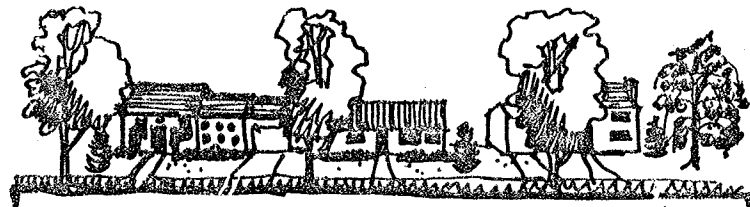
Whereas public open space was historically created as a major facet of urban residential life today open spaces in suburban areas are far from being memorable.



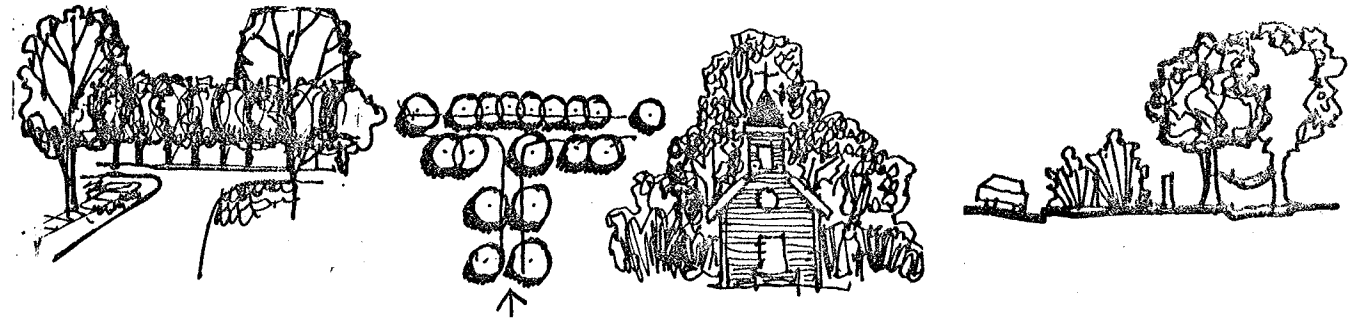
Suburban areas rarely have a defined focus (other than possibly the shopping centres) which directs, signifies or provides a cohesiveness which unites yet gives a hierarchy to all of the elements. A person tends to enter and leave different residential areas without being aware that either act has occurred or that "special places" have been bypassed.



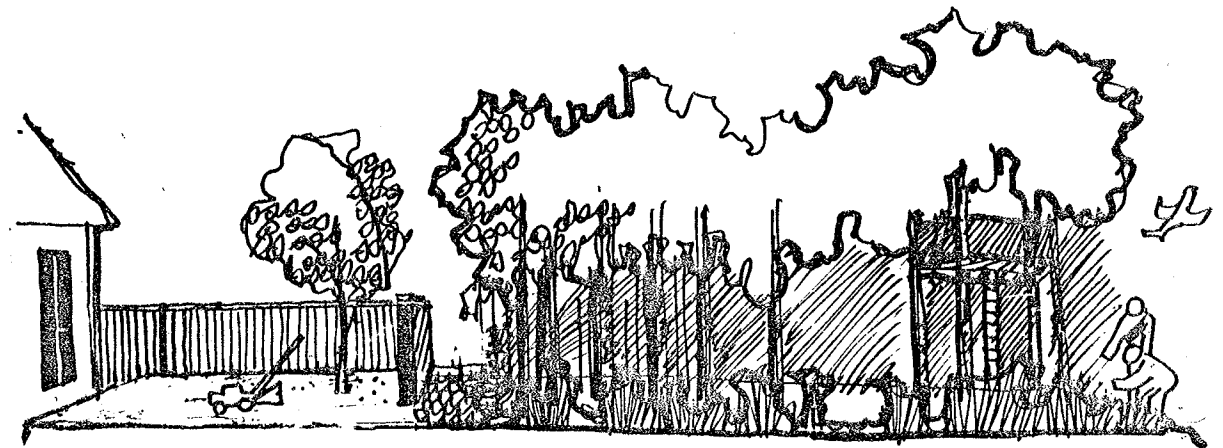
It is suggested that one way in which a variety and cohesiveness can be created in suburban areas is through the deliberate and knowledgeable use of landscape materials. At present all suburban landscape planning is regulated and maintained, to the point of overwhelming uniformity. Lawns are similarly manicured, street trees are regularly spaced, limited varieties of plants are used without consideration for special purposes or locations.



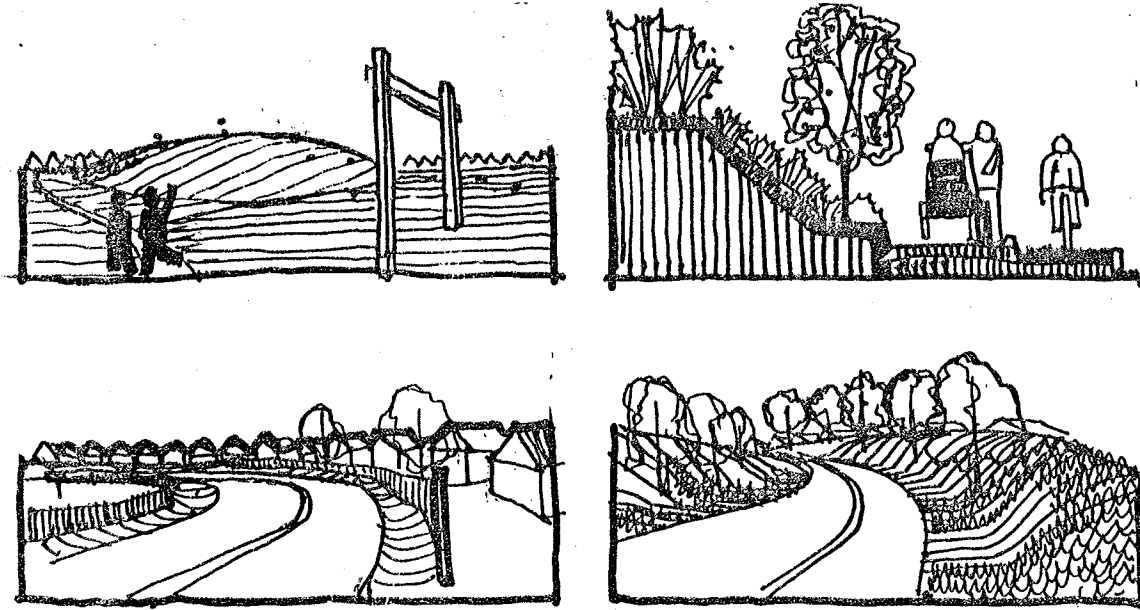
The density of tree planting should be varied in order to signify important junctions, control, direct or channel views and movement, signify entrances, screen obstructions or act as backdrops to important vista's.



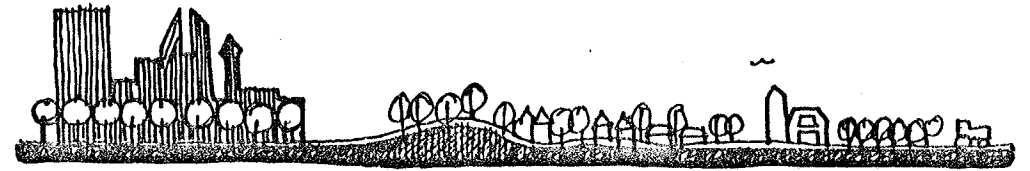
Natural vegetative environments should also be included as alternatives to the over-regulated and maintained park spaces. Such spaces provide an immediate resource, which contributes to the image of the residential areas, whether as a desirable play space or wildlife habitat refuge.



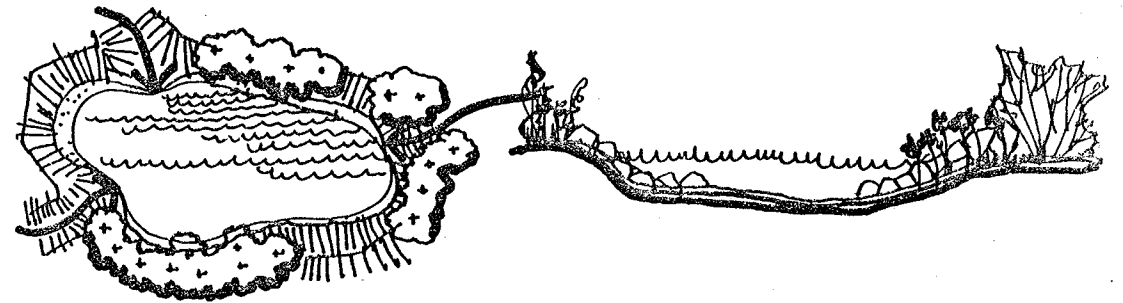
In an environment so characterized by continuous stretches of flat land meeting the sky it is unfortunate that we have yet to learn how to effectively alter the topography and create visual relief which is more stimulating than the characteristic melting snowman shapes which seem to occupy most parks in new developments.



There is a need to utilize landscape architecture in suburban development as a form-modifying instrument which not only reinforces the names which subdivisions adopt, and feelings they like to pretend to evoke, but also creates an image of suburbia which is justifiably balanced between the urban and rural landscapes.



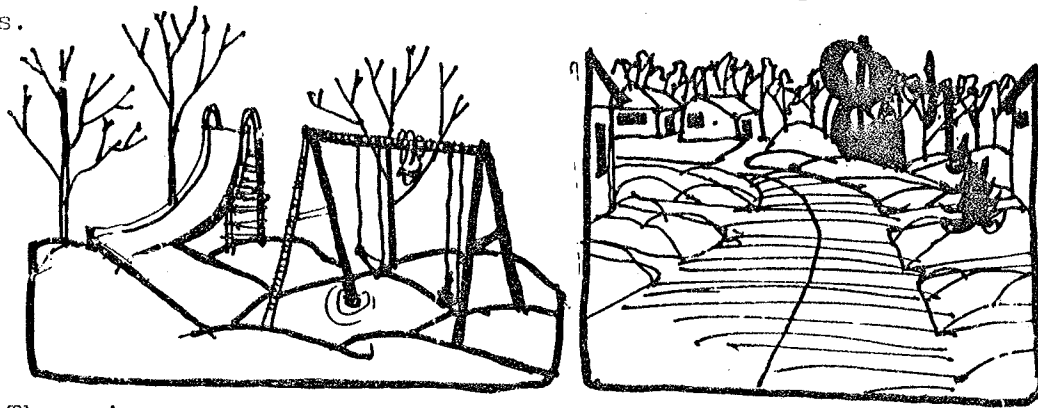
The sensitive use, selection and positioning of a variety of elements can increase the visual variety afforded to a space as well as the physical opportunities.



Sometimes such spaces can be flooded and utilized as winter skating areas or snow piling winter playgrounds.

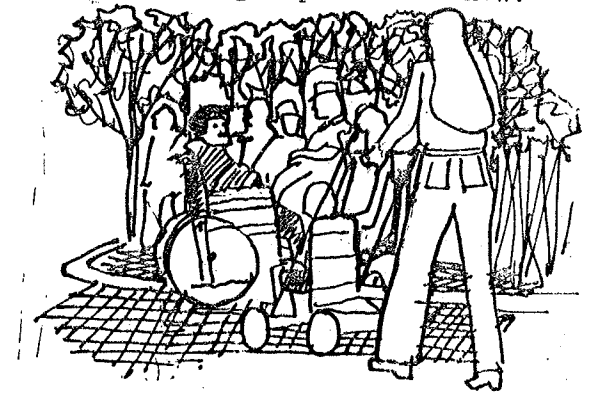
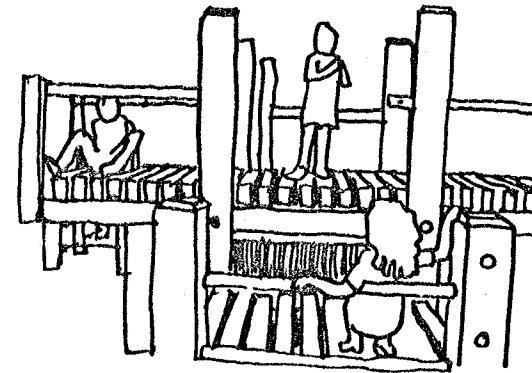


The attention which is given to the design and development of public spaces rarely recognizes the need for year round use. Though hockey rinks are heavily utilized during the cold season most other outdoor spaces remain in a period of dormancy. Community clubs, curling rinks, school buildings and indoor facilities become the focus of most community activities. The use of outdoor space is limited to such activities as the "Festival du Voyageur" which briefly lures people to Provencher Park where ice sculptures, toboggan runs, and sleigh rides are offered. Regional parks and large linear city parks do cater to cross-country skiing, tobogganing, skating or snowmobiling. However, most suburban park spaces are empty during the winter months. Possibly such winter spaces should be utilized simply as visual winter sculpture parks providing color and visual accents to people as they move about the street or as snow piling sites for hills.



The point to be stressed is that public open space can obviously be more than a repository for swing sets slides or spring toy animals and that the development of all public open

spaces should be more intensive in attempting to establish an identity or image to a place. The success of increased variety in open space development can, however, only be measured by the variety of users who are attracted or conversely the variety of uses which suburban users identify as needs. Too often open space is simply perceived as a provision for active school-aged children. Adults, the elderly, preschool children, and teenagers, whether able or handicapped must all be considered as part of the potential user group. How much about the needs of these groups do we know?

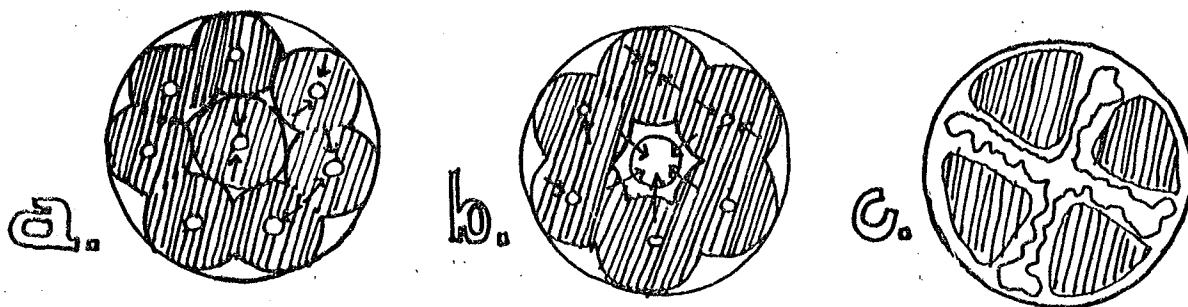


2. DISTRIBUTION

Park and Recreation agencies currently favour equalized distribution of public open park spaces throughout neighbourhoods. Though the trend in the 1970's sees the numerous smaller parks of the 1960's being replaced by a few larger parks, there is still an intent to create the image of equalized distribution and accessibility. Such accessibility is usually measured by any number of the radius distance graphs which have resulted from the proposed standards.

Within the neighbourhood radius distance of 3/8 mile it is conceivable that the public open park space could be distributed in a number of ways.

- a) The spaces could be evenly distributed amongst smaller localized centers.

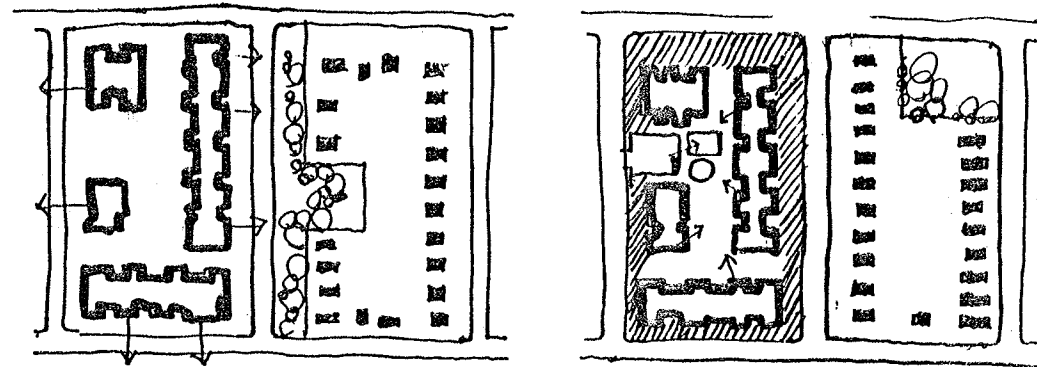


- b) Localized spaces could exist within small individual housing clusters and larger park spaces could be centralized around community facilities such as schools, shopping, library or administrative areas.

- c) A network of interlinking spaces could be established radiating from a community focus into the surrounding residential zones. This concept bears resemblance to the Radburn concept and Whyte's idea of cluster development.

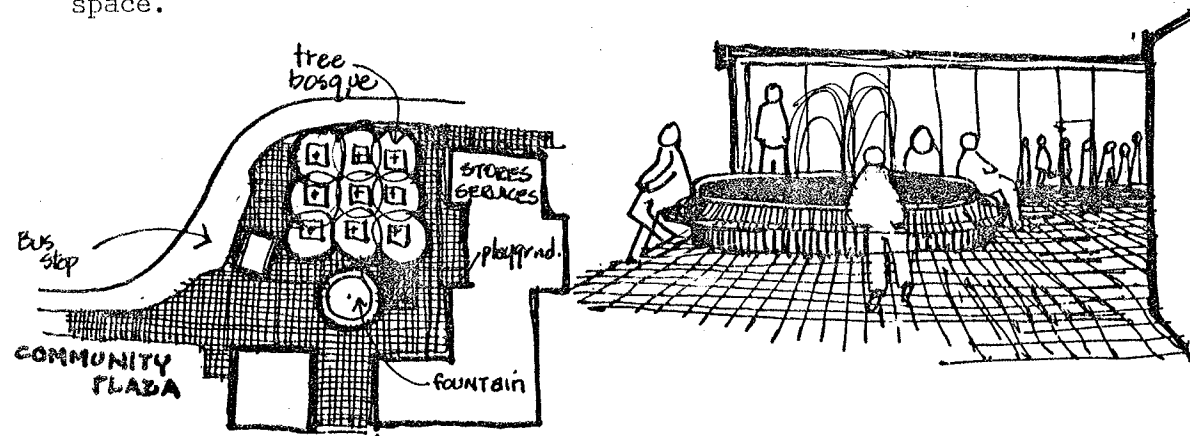
These simple diagrams, or options thereof do not acknowledge that a uniform density does not exist throughout these neighbourhood areas.

In fact, the actual open space distribution systems seem to respond in a similar manner despite density changes. Closer examination to these mixed density suburban neighbourhoods reveals that amongst the multi family housing areas additional semi public open space facilities are usually provided. Such spaces usually consist of small totlot areas or larger children's paved spaces hidden somewhere within the innermost parts of the development project. This internal focus and the social isolation barriers which are usually associated with multi-family housing further exemplifies the point that current public open space is largely provided for the use or non-use of the single family detached homeowners.



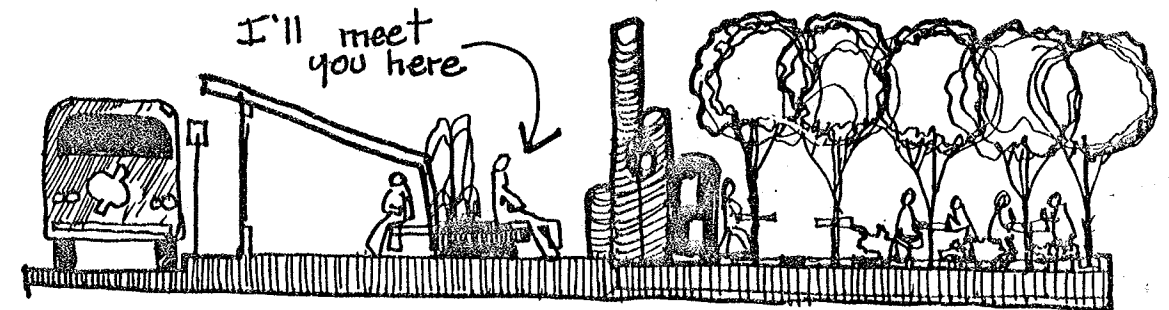
It is recommended that such isolationism be discouraged as an unnecessary duplication of open space facilities.

Multi family developments usually provide the numbers and variety of users which justify open space development. Consequently it would seem appropriate to direct these users to adjacent public open spaces and redevelop the semi-public development play space of the project into the much needed private open space.



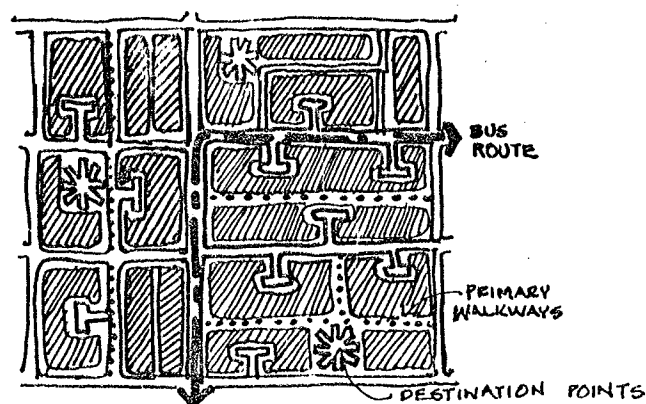
The distribution of space, may adapt to a wide variety of patterns. However, it is important that the pattern be applied for a specific reason. Where there is a need for a strong neighbourhood focus let the open space network reflect that judgement. Such a focus may be a large natural green space accentuated by a residential-scaled lake or fountain, or it may be an adaption of

the early square in which trees are planted in a bosque formation and neighbouring shoppers or students are invited to relax while presented with the opportunity to observe the antics of youngsters at an adjoining day care playground. To be able to tell someone who has never visited your neighbourhood that you'll meet them at the "_____" without having to use street names, and know that there can be no mistake about what or where you mean seems to illustrate the kind of effect that such a space should have on a residential area.



Finally, at the risk of repetition, it seems absolutely necessary that the distribution of public open space be considered in context of adjacent existing or proposed developments. Most projects are presently constructed by individual developers and city departments often are unable to oversee the cohesiveness which should exist.

Where it is applicable facilities should be shared and not duplicated. Such integration does place a greater significance on the role of circulation linkage spaces. The distribution of space must consider the method of transportation which is available or predominantly used. The key open space functions should be located where they can be observed and reached with relative access from all parts of the intended service area.

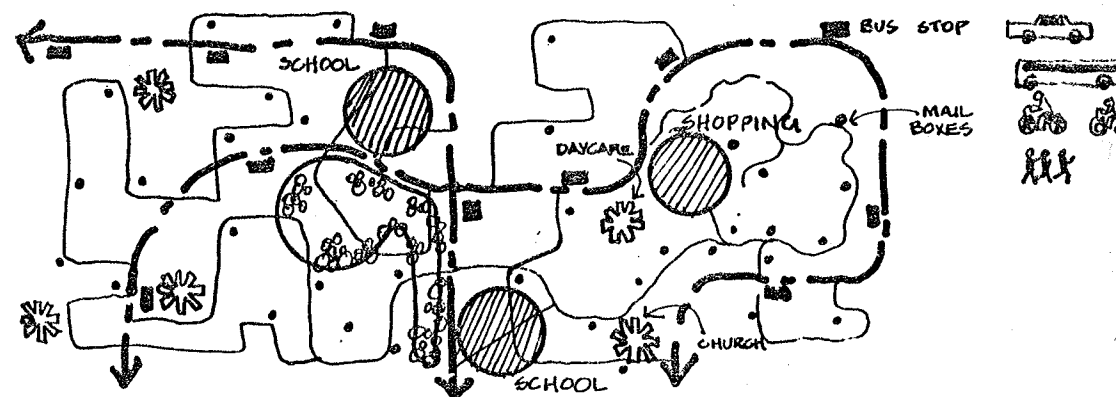


3. CIRCULATION

As alluded to in the previous section, public open spaces are only as efficient or as visible as the circulation system allows. In the author's opinion this kind of public open space is the most important in terms of initiating potential opportunities or variety of use. By its nature these spaces direct the user to various destination points such as shopping areas, schools, mailboxes,

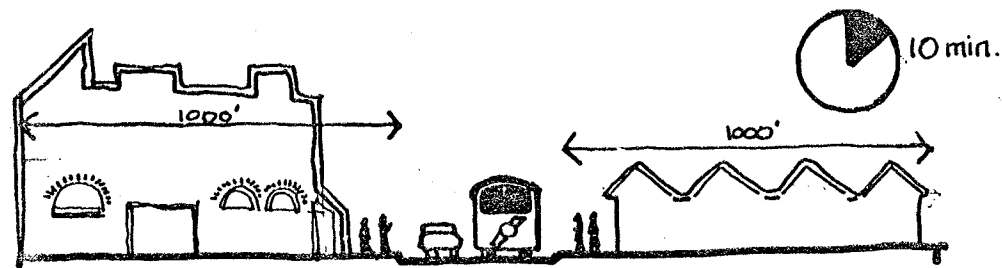
bus stops, or a friend's house. The placement of these routes and the status given to each can almost guarantee that public spaces are made prominent and easy to get to while areas more desirous of privacy are less directly accessible.

Routes may be comprised of a series of paths, parks, lanes, sidewalks, parking lots, school yards or roadways. Obviously the use of these various elements is limited by the means of transportation. The routes should invite the user along and through a series of events.



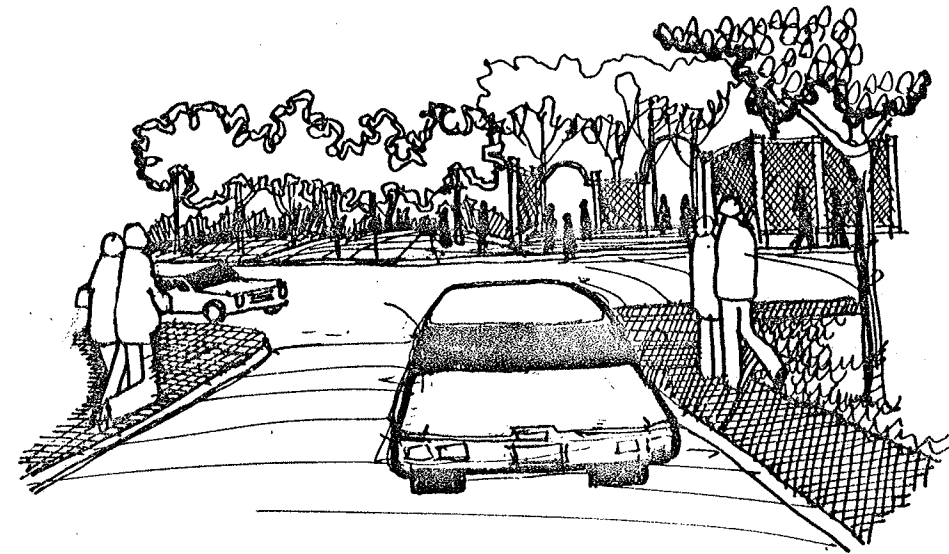
Adults and teenagers have traditionally been automobile users. Others who do not have access to cars during the day or who cannot drive are either left at home (if no public transportation system is available) or they walk, jog, ride bikes, skateboard, or rely on a friend.

Where a bus system is planned into the suburban area use has generally been low because of the inconvenience associated with long walking distances, waiting times and transfers. For a public transportation system to be most effective studies have shown that users must be within approximately 1,000 feet of the stop at which they should wait no more than 10 minutes during peak demand times.



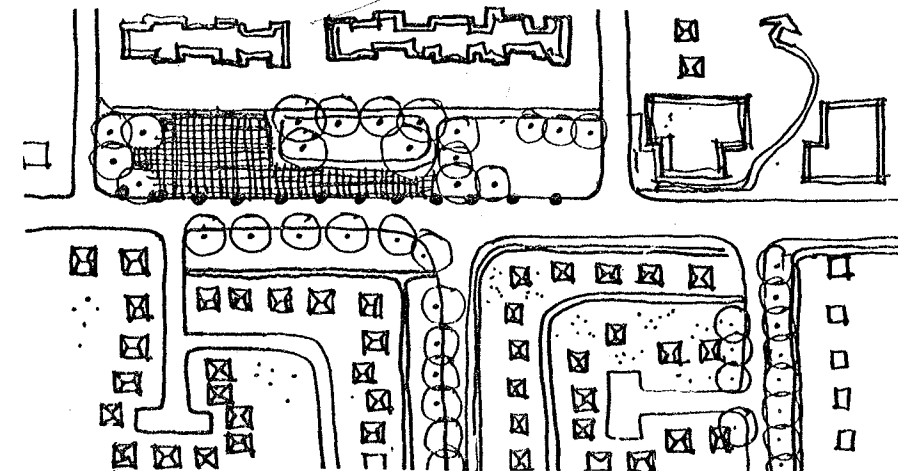
Minor residential streets such as bays, loops, cul de sac's or eyebrows are primarily used only by local residents during two peak periods of the day, usually before and after the main group of non car user's begin their journey's to school. Sidewalks, if there are any, usually exist on one side of the street so the street acts as a wide socializing play and pedestrian route.

If, as many studies reveal, streets are the preferred play space then a number of ideas might be incorporated into increasing



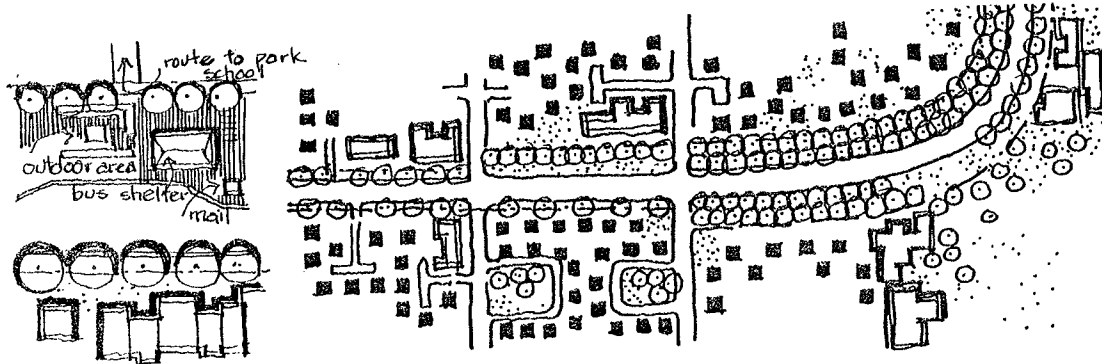
the potential play and socializing opportunities of these areas.

Meeting places at various locations along routes such as junctions between roads and pathways might provide the opportunities for user's between separating street routes to meet and socialize. Tetherball poles, benches, lighting, planting, sand boxes, painted asphalt might be added as needs were identified. These localized spaces might also allow for the piling of winter snow and opportunity for localized winter play.



Roads other than those of a minor residential nature might be designed to accommodate separate bicycle paths and act as safe continuants for non motorized traffic.

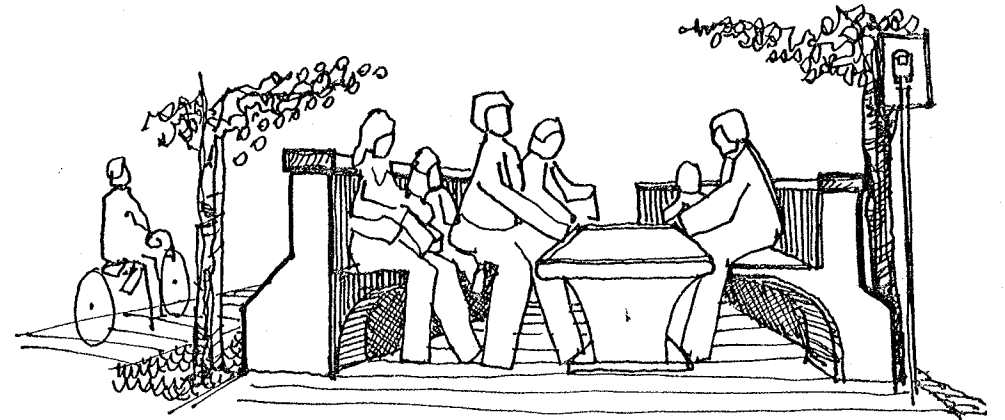
As already mentioned, the varying treatments along road spaces can give a greater variety to the whole environment and signify events which indicate entry points to other use areas.



To accommodate these alternatives, road right-of-ways could be widened or offset from the road centre line.

Circulation spaces should not be located indiscriminantly. From major collection points pathways should serve as direct short cuts to service areas such as grocery stores, libraries, bus stops, parks, school or mail boxes. Each of these destination areas in turn should act as junctions for continuation along alternative routes back to the original starting point or to other facilities. To ensure that such routes are utilized

they should be convenient, safe, direct, offer greater opportunities and be pleasurable.



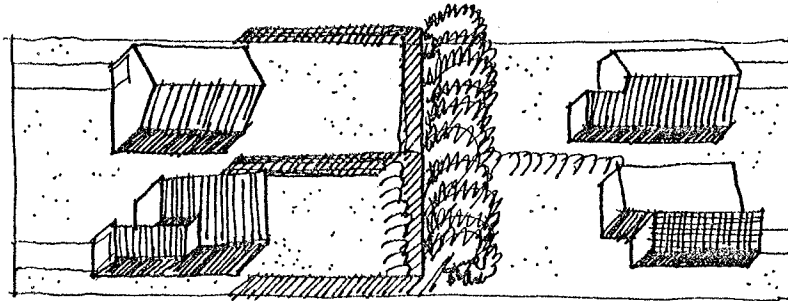
Another feature of improved circulation is the community benefit achieved by increasing the socializing factors which can occur along the routes and, more importantly, at the junctions and destination points.

The versatility of circulation spaces is illustrated by the street activities which occurred in central sections of Philadelphia and New York. Where no other recreation facilities existed roadways were closed off and turned into play streets. Mobile recreation vans were used to turn the streets into Shakespearean theatres, boxing rings, skating rinks, swimming pools, and miniature zoos. The social, educative, safety and supervisory benefits were enjoyed by a broad range of age groups representing more than 60% of the immediate users.

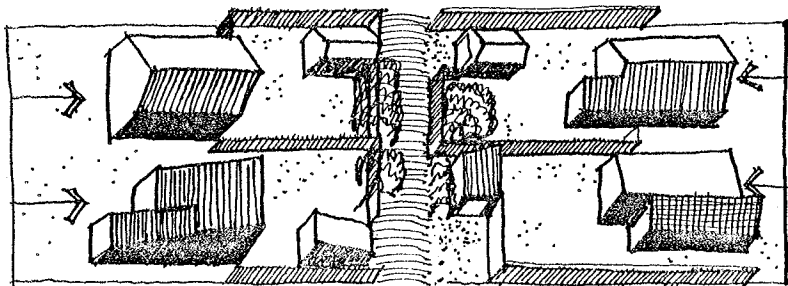
4. RELATIONSHIPS

If, as the previous sections have mentioned, a greater variety of spatial events are to occur satisfactorily then more attention must be given to defining edges and limited territoriality. Generally lot-to-lot relationships in most new subdivisions are characterized by:

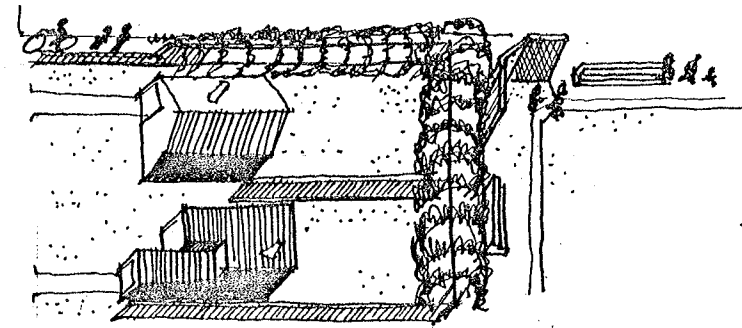
a) (most common) private yard spaces abut one another. A visual screen may be necessary between the two private spaces..



b) (traditional) private yard spaces are separated by back lane access routes -- generally a visual and security barrier is required to ensure an adequate level of privacy.



c) (alternative) private back yard spaces abut amenities such as public open space, walkways, school yards, or buffer zones between major roadways.



Unless an adequate semi-private buffer space is provided such a relationship usually necessitates the provision of visual and security barriers. House lots then present a solid barrier to the public open spaces. When this happens the public land becomes isolated from the other suburban components and loses the opportunity of being integrated with or observed by the adjacent homes.

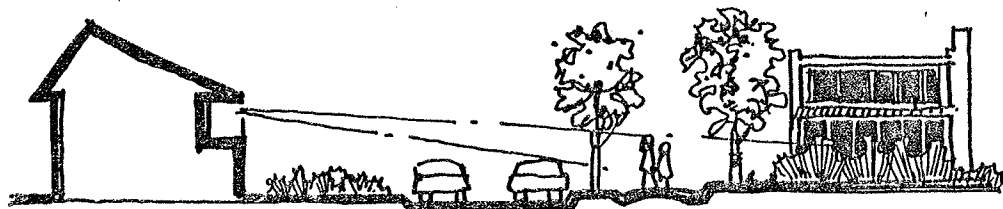
This concern for privacy and protection of property is particularly evident around school yards where residential lots encircle play fields and active recreation pursuits are encouraged.

Private open space on the ground has been identified as the most desirable kind of space which should be provided.

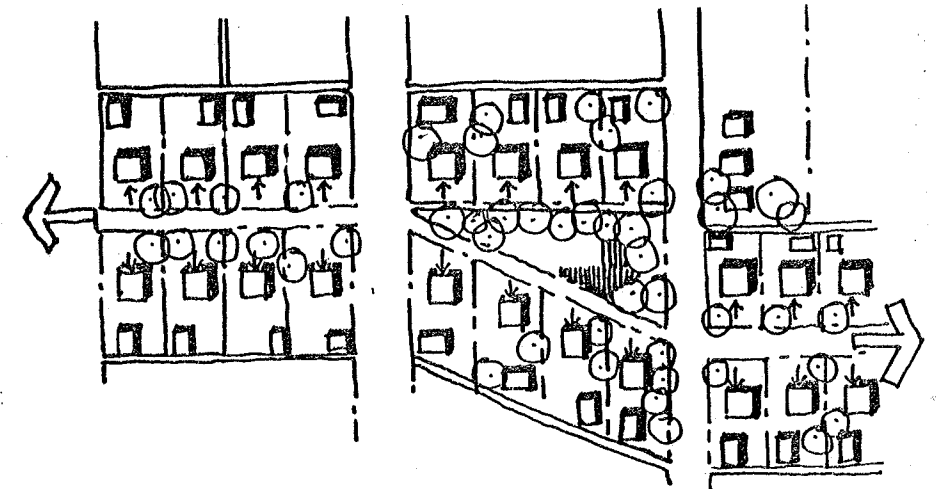
This factor is very evident when one watches how quickly residents in new developments establish the boundaries of their property limits and construct privacy fences to create their own private space.

Private 'back yard' space can be created either through visual or physical separation. Rather than risk continued conflict between the private and public types of open space it is recommended that the following relationships be recognized.

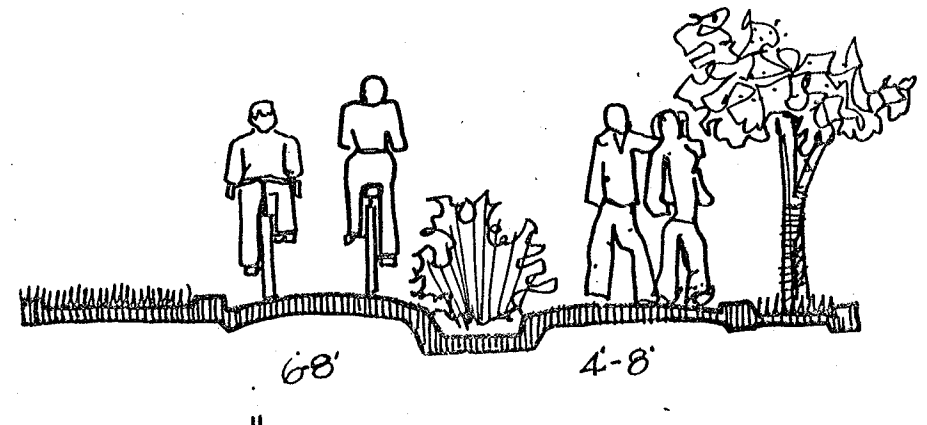
To ensure that public open space does not become isolated it is recommended that housing units be orientated directly towards open space in order to provide the protection "watching eyes". Clear boundaries can be established without the need for continuous privacy fencing, and the view can be enjoyed by all.



It is also suggested that housing units adjacent to public pathways be orientated toward, rather than away from such space.



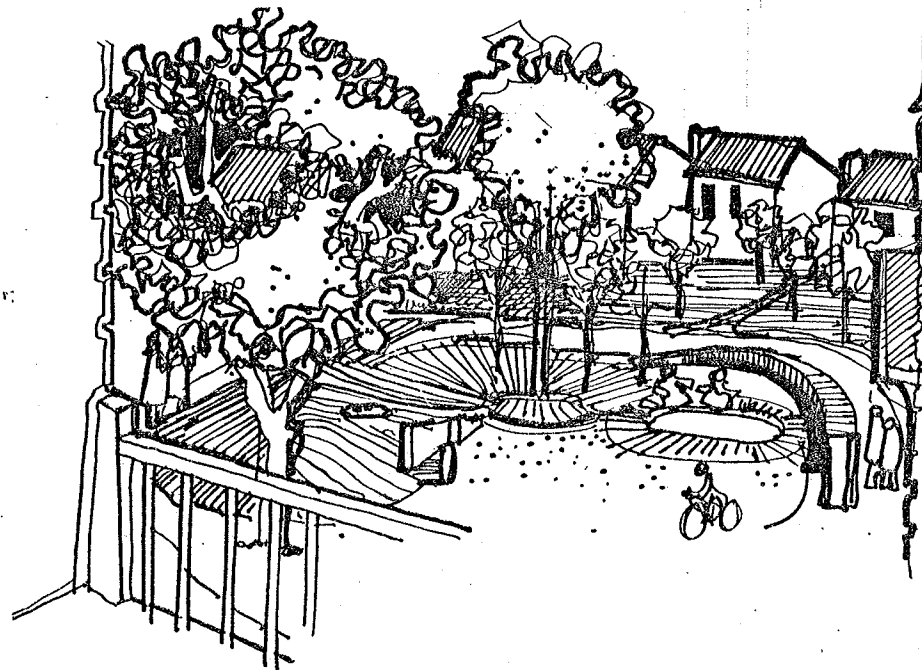
Where pathways are provided they should be of an adequate dimension to permit non-conflicting passage by pedestrians or cyclists.



4. a) Local Vest Pocket Parks, Totlots, and Street Park Spaces

It has been suggested that public open space should:

1.) have recognizable boundaries, 2) be visible to the community and 3.) not be landlocked. In some instances it is equally important that such 'public space' feel like an extension of the personal space of a recognized adjacent user group. Interest in these spaces may in fact lead to a continued concern for maintenance and development of the space by the adjacent user group if the opportunities available are unique and not duplications of existing private space. Such an association does not however, preclude users from other areas; rather it should provide a common socializing community space which is easily accessible and adjacent to homes.



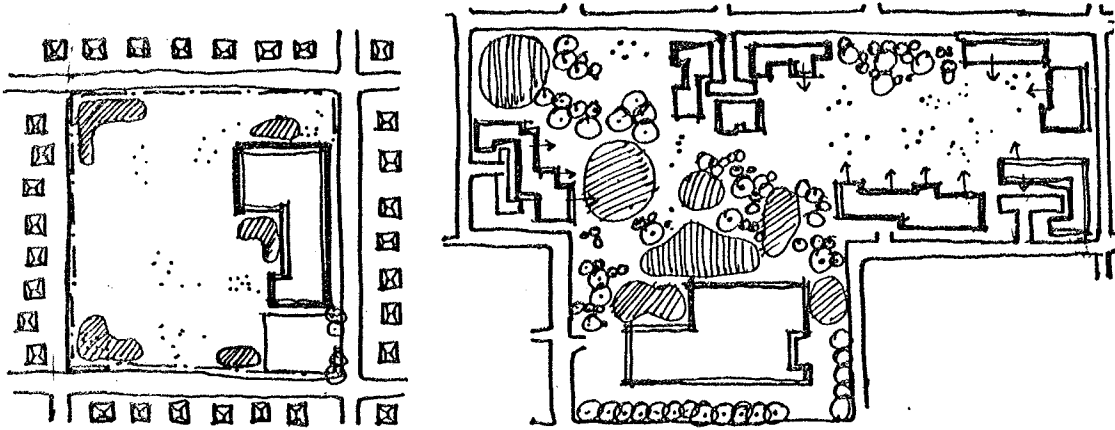
Such space can often augment street play opportunities and is of greater user value when associated with housing densities which have limited amounts of useable public or private open space.

4) b) School and Athletic Field Spaces

Though recognized as the focus of the neighbourhood planning concept, schools and the accompanying school ground space often are dismal examples of what a community focus should or could be.

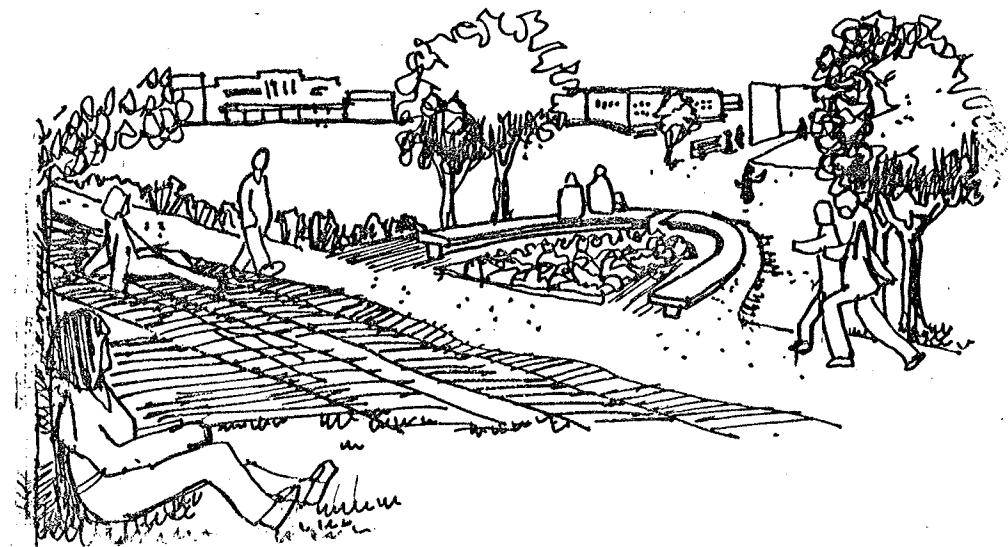
School yards are presently utilized at very specific time periods of the day by the student body. In the remaining time period, they are generally void of human activity. Vacant yards are not usually pleasant to observe and as such it is understandable why houses turn their back yards on these areas and surround them with privacy fencing. Though attempts are being made to encourage joint use of school building facilities, as yet no such attempts have been promoted in terms of the associated playfield space. The need for athletic sports areas has virtually eliminated any other uses and necessitated the large flat open spaces, encircled by chain link fencing which is so familiar. If schools are to be the focus of a community then more attention should be given to the development of facilities which appeal to community needs.

Families are now beginning to take a more active part in leisure activities such as cross-country skiing, tennis, jogging, crafts and life-time learning. Thus, the potential benefits of schools and the associated yard space should not be isolated from the community. Though separation of public school space and private back yard space should as previously discussed, be encouraged, it is not always necessary to separate school yards from housing by alleys or roads. School yards should become an extension of the community open space.



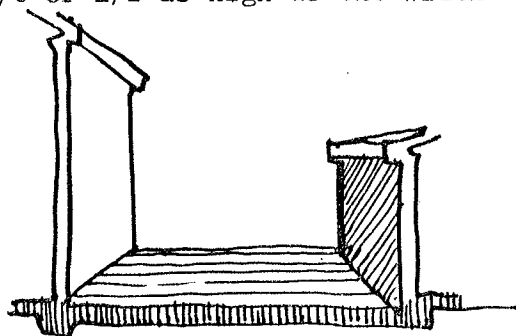
School children generally seek the refuge of play spaces adjacent to the school building or along the perimeter of school yards. To encourage use of all school space it is suggested that separate zones be created in conjunction with needs of various age groups.

Outdoor teaching areas, active and passive recreation zones, gardens and perimeter trails for jogging, cycling or cross-country skiing would become features of community school yards. The inviting qualities of such spaces, when used or un-used can be reinforced by the provision of spectator bleachers (set into the side of a berm), lighting (for security and night use), water fountains and possibly portable shelters or facilities. Points of observation should be provided around such activity areas where people may happen to wander by. These spaces should be treated with particular attention, because the spectator represents one of the most frequent bodies of open space users. When development is of high quality and variety it has been shown that adjacent residents generally appreciate and take the opportunity to utilize the public facilities, so long as the facilities are not duplications of what could occur in private back yard spaces.

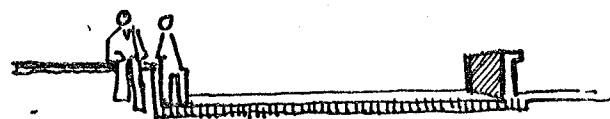


5. QUALITY

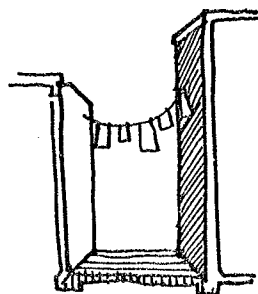
One of the main criticisms of suburban areas, which is noticeably different from older residential areas is the difference in scale. According to Kevin Lynch, it is the scale which is the most important visual quality in terms of the relationship of space. Lynch suggests that spaces appear comfortable when the walls are $1/3$ or $1/2$ as high as the width of the space enclosed.



When the walls are less than $1/4$ of the width the spaces appear to be unenclosed.



A pit or trench situation is created when the walls are higher than the width.

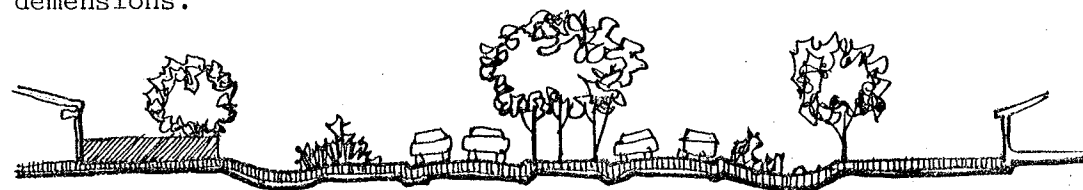


At present most suburban residential streets might be considered to have an enclosure scale ratio of 1-8.



With current standards the only chance of reducing the scale is through the use of tree planting along these roadways. Even then, only after 15 or 20 years of growth do such street trees begin to visually bring the street scape down in scale.

Where collector streets are designated, central boulevard planting may be needed to reduce the increased right-of-way dimensions.



The attention to detail, in terms of the sensual response to textural changes of ground surfaces, the positioning of accent features, or the creation of contrasting spaces are a few of the ways space and the visual residential environment can be improved. It is suggested that such detailing is crucial to any development.

In the instance of suburban open space, detailed design should be considered as a function which occurs over a period of time based on use, change and degree of involvement by the community. When residents become involved in determining the plans, preferences, and maintenance of "their own" park area, it would seem that the quality of work and satisfaction of results would result in an improved product.

SUMMATION

In terms of selecting public reserve areas it is necessary that a resource analysis of the open space potential of the site and its context be analyzed, as outlined at the beginning of Unit VII. When the areas of desired open space are located, consideration must be directed towards the integration of such space into the appropriate site conditions. The relationship to activity zones, circulation routes, high density areas, athletic fields, adjacent community links, etc. must be identified and the corresponding degree of development or treatment considered at this stage.

In the author's opinion, these are the critical areas in dealing with open space which are not presently being handled. The existing system and the proposed changes discussed within Unit VII are, however, related because the issue of amount or degree of open space is not particularly relevant to the problems of suburban open space.

The deficiencies which are discussed in Unit VII pertain to location, process and development of open space, whereas current standards and the administrators of standards appear to be primarily concerned with amounts. They are not yet concerned with eventual performance or quality.

Unit VII attempts to indicate that the product is not presently satisfactory, whether it pertains to 10% dedicated space or 50% dedicated space. Ideally, the amount of dedicated or preserved open space land should be a function of a process which is more relevant to each specific instance than some predetermined fixed percentage figure. However, until the issue of improved quality or type of space is explored, discussions about amounts seem unnecessary.

Greater or lesser amounts of open space might, in some instances, affect the range of potential opportunities one wished to experience (i.e. golf, tennis or sailing). However, large amounts of undeveloped or inappropriately located open space would certainly be of a greater burden to residents and eventual administrators. The existing Winnipeg open space standards may remain unchanged. If so, the emphasis for improving suburban development conditions is to examine methods for:

- 1) improving the quality of open space development,
- 2) increasing the opportunities available to residents, and
- 3) exploring alternative methods for involving residents in developmental design issues.

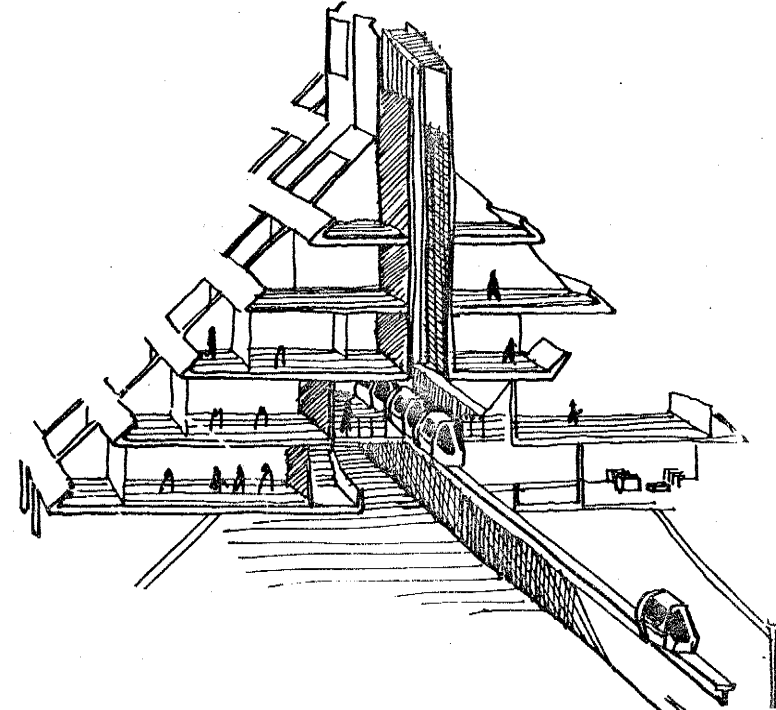
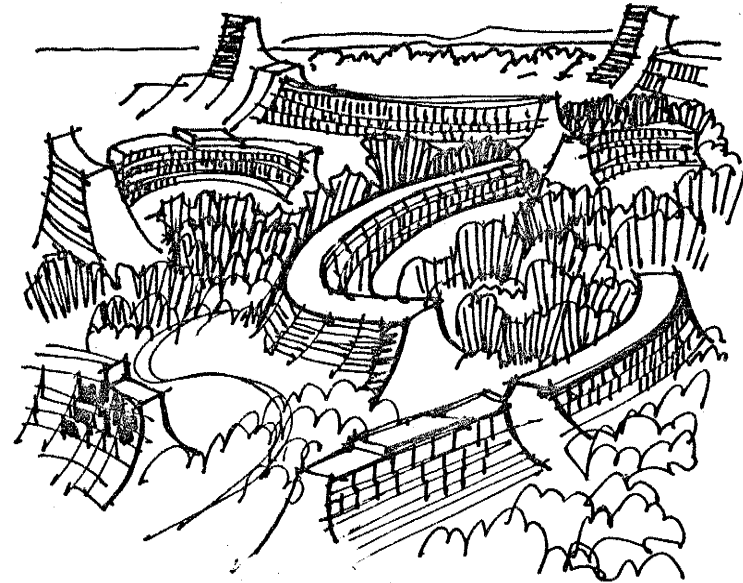
VII - C FUTURE ALTERNATIVES.

What would the implications be for proposed open space if standards were to be changed, re-written or eliminated in terms of future suburban development? As outlined in the previous section, it would seem that the major effect would deal primarily with the amount of land set aside for the various public and private open space functions (dedication, easements, lot sizes). In terms of housing densities and types, probably the range of specified percentage mixtures would not be so rigidly proportioned.

The present suburban form was a product of 1950's planning theory, government policy, and development practices combined, in order to respond to an unprecedented demand for housing.

The demand has carried on through the 1970's so that developers now find themselves still responding to the similar 1950's planning theory, government policy and development practices. Why? Standards developed in the 1950's have solidly entrenched this historical suburban development process.

Goals, objectives, or standards have always been important in directing future ideas. Men like Ebenezer Howard and Fourier conceived images of environments which they felt responded to the issues of their time. The key to such standards then is that they "respond" to the issues of the time. What should be the goals and objectives which shape the eventual form of future suburban areas?



The following criteria, generated from the main text of this report, begin to identify some of the concerns which should be addressed in terms of future planning and design.

1. Land Use
 - a) reduce land consumption
 - private and public open space
 - building density
 - b) eliminate non-usable land
 - c) preserve what is really important and necessary
 - d) incorporate what already exists (better use of regional facilities)
2. Conservation Planning
 - a) utilize optimum building shapes and orientation
 - b) utilize natural servicing techniques where possible
 - c) incorporate efficient transportation systems into new suburbs.
3. Recognize life style needs
 - a) user's develop criteria for open space design
 - b) increased leisure time - increased mobility from city to city
 - c) importance of home environment

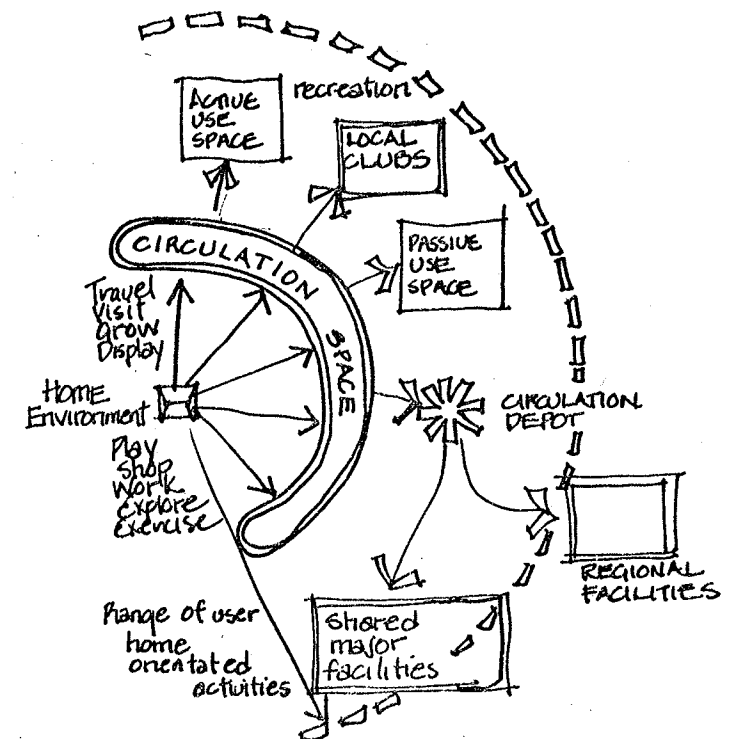
Future conditions: population trends:

Population projections for the immediate future indicate that by 1986 half the accommodation required will be for singles and childless couples. By 2001 it is expected that there will be a substantial increase in the number of senior citizens and middle

aged couples whose children have left home. These predictions indicate that new and different housing and service facility priorities must be considered by administrators, developers, and planners.

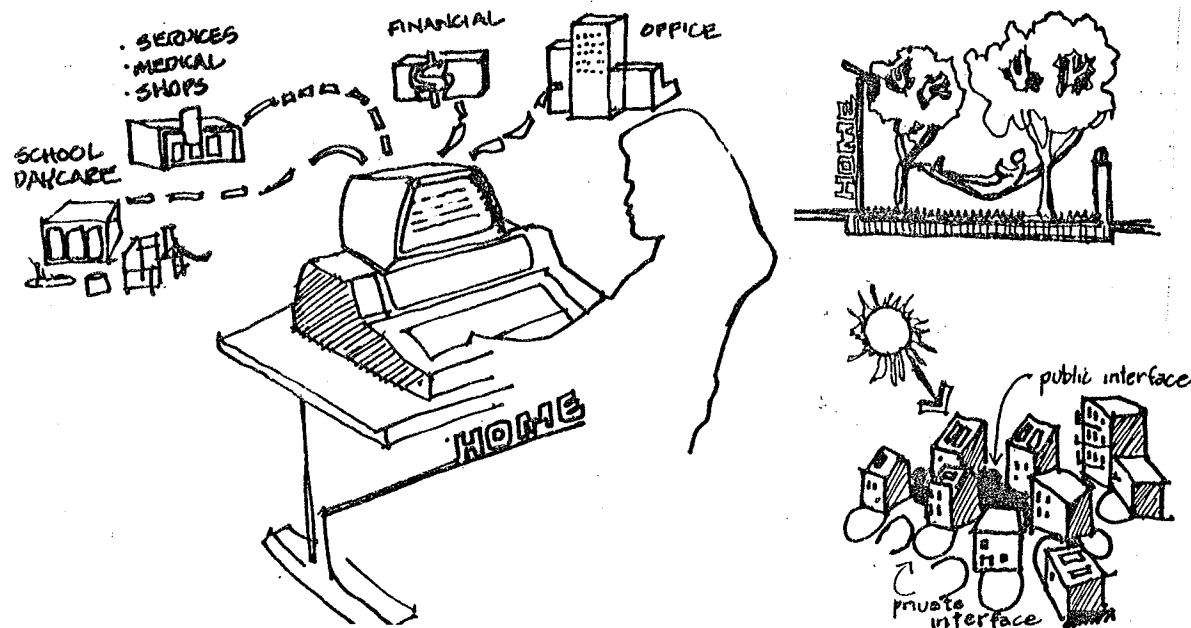
Leisure time:

It is probable that working and school hours will be reduced and that leisure time for adults and children will be greatly increased. This factor in combination with a possible reduction in private vehicle use to weekend parks may place an increased value on the home and local environment for many of the necessary outdoor leisure activities.



Lifestyle:

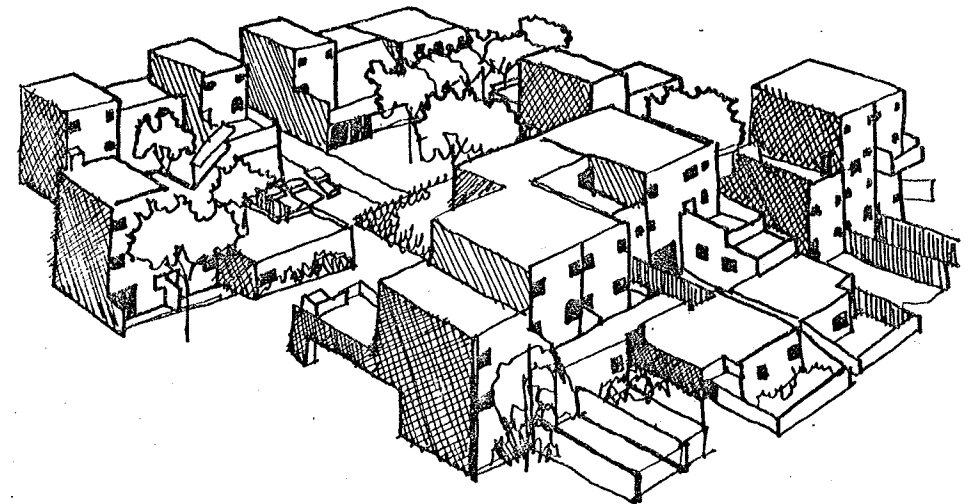
Technological advances, however, in terms of lifestyle aids may have the most effect on the future residential form. Electronic companies already are advertising the possibilities of home computers, which will enable an owner to establish contact with all the service facilities (bank, grocery, doctor, day care), they may need. It would be possible to place orders or leave instructions with these services without ever leaving the house.



At present the home environment is the main focus for most children and adult activities. An increase in building densities and population mixtures would certainly result in the need for increased attention to privacy and the role of yard spaces in relationship to these dwelling units.

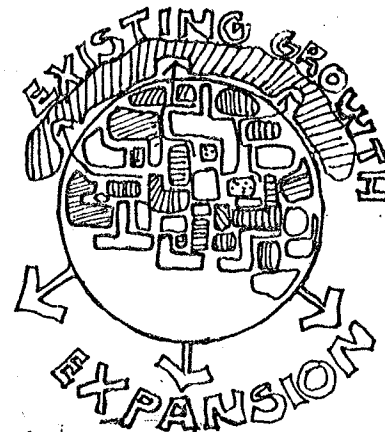
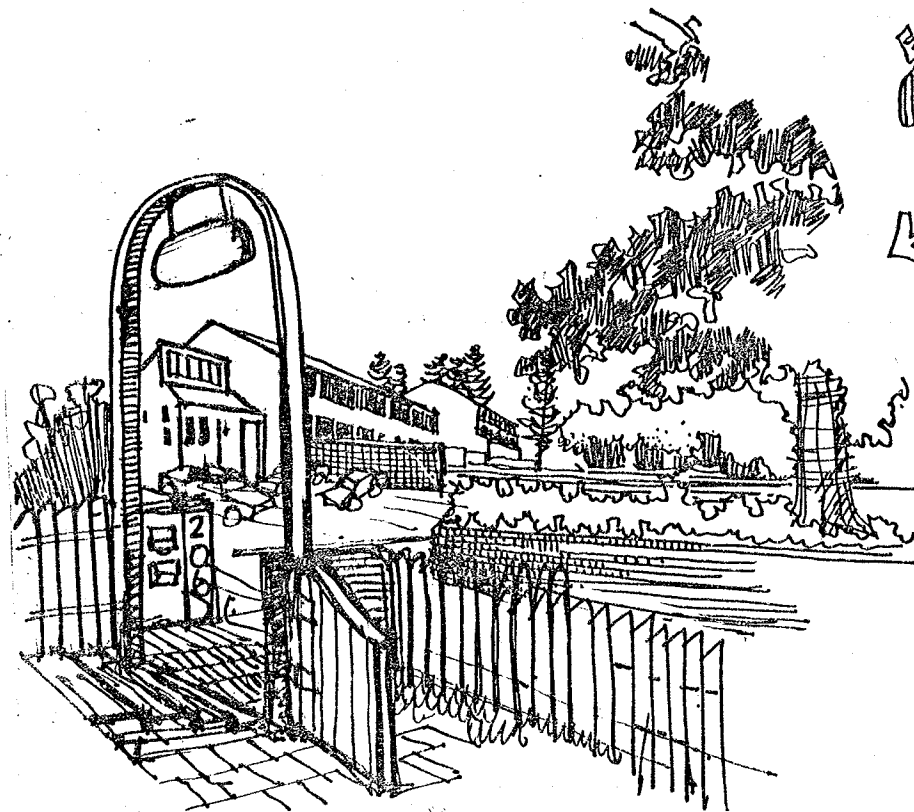
Densities will probably increase. It is anticipated that the suburban densities of the post Don Mills era (4.5 - 5.5 d.u. per net acre) will be the lowest ever. The future suburban form will more closely align its image to the urban qualities of cities rather than the semi-rural acadian nature of the country side which seems to presently exist.

While it is technologically possible to achieve densities of 50 to 125 d.u.'s per acre, such conditions would initially seem extreme for North American housing. Rather, it is expected that densities up to 30 d.u.'s per acre (no building exceeds three stories) would be incorporated. Single family dwellings would certainly represent a smaller proportion of total housing alternatives.



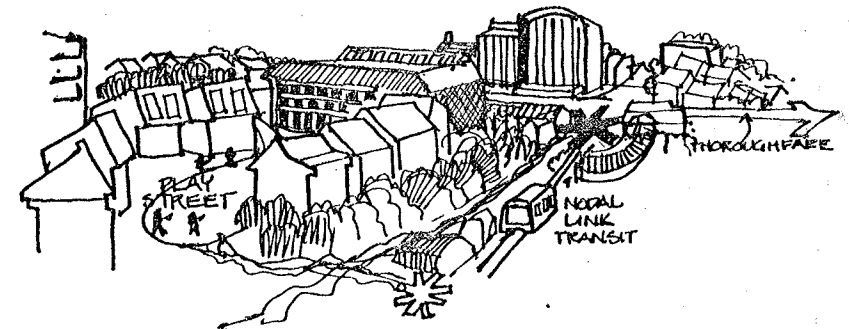
Building at the medium density level of 20 - 30 d.u. per net acre would lower the unit price and also reduce the energy consumption cost. The subsequent increased concentration of people also contributes toward a greater efficiency in public transportation systems, community facilities, parks and recreation.

Increased densities, however, should not be planned or developed in a traditional sense where each different housing type is segregated from the other. Though highrises may often be incompatible with lower density housing, satisfactory relationships can be developed between the many different kinds of low rise buildings.



Circulation spaces would be designed according to the performance criteria necessary. Streets as major thoroughfare routes would be treated differently from those intended for use as joint pedestrian-recreation-vehicle spaces.

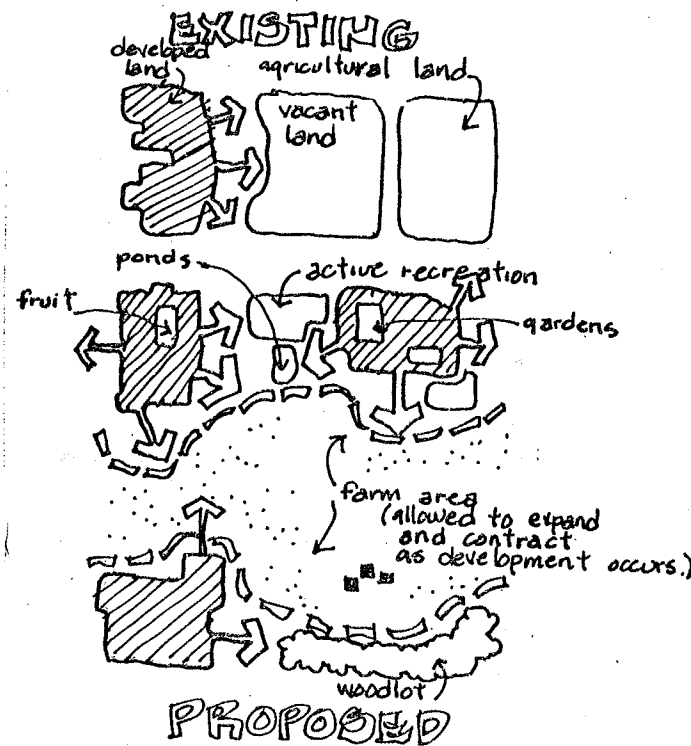
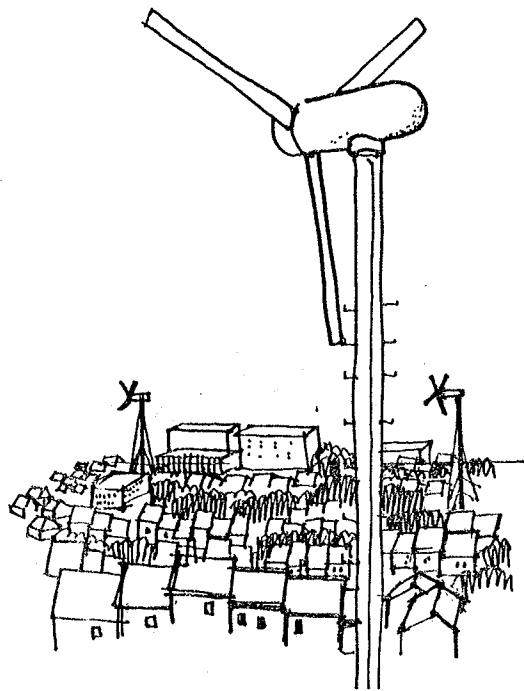
Major community or inter-community nodes should be developed as circulation links within the residential area and to the central city core area.



Self-sufficiency:

The importance of conserving land in order to reduce the housing and servicing costs or improve the visual scale is closely linked with the premise that energy conserving measures be encouraged in future residential planning and construction. Greg Ross, a Brampton Ontario planner, is currently promoting such factors as climatic orientation for roads and housing in a proposed 206 unit local development. Buildings should be orientated to effectively utilize passive if not active solar energy and the associated yard planting design and development should eliminate the need for alternative house cooling facilities.

Energy conserving measures should go beyond the immediate home area and begin to consider the total self sufficiency of new developments. In conjunction with the concept of preserving existing facilities or space, it is recommended that sufficient agricultural land could be retained to effectively produce market vegetables for entire neighbourhoods. Fruit trees could also be planted on public landscape sites where storm water retention ponds were used for irrigation.



A system of lease-hold ownership would ensure that future open space resources could be maintained as desired, while preserving the productive use of future lands.

Public participation in terms of supplying open space would be restricted to circulation system right of ways, and conservation or service lands which would be incorporated into large year round community, educational, recreational, or agricultural (productive) developments.

All other open spaces, adjacent to residential units and clusters of units would be privately or semi-privately owned. In some instances these lands would replace the space presently utilized by front yards. It is perceived that public involvement in providing ^{recreation} open space would be restricted to the necessary larger scaled community facilities as identified by a resident user group. Under a lease hold system with adjacent land owners any amount of land could eventually be developed for major recreation or productive facilities.

The system would be adaptable to the developments of residential or adjacent community needs as they were identified, and would also contribute to the self sufficiency of individual community areas. The suburban sprawl could be controlled and integrated with the agricultural countryside. A highly developed suburban residential-work community would function in a controlled

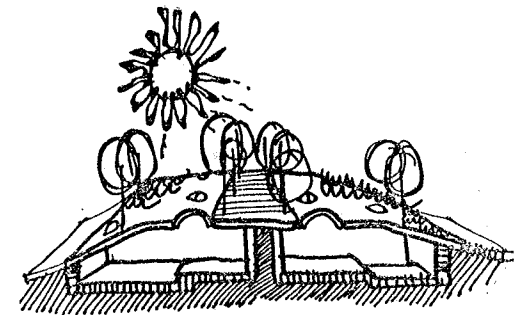
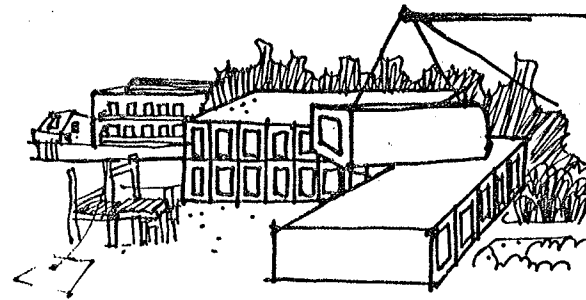
manner with the adjacent non-urban land.

The increased use of wood for heating might lead to the development of forested areas as fuel producing ecosystems. Thus the community open space might become an inherent part of the resources needed by local residents. Locally managed green-houses might be developed as components of the suburb, providing food products on a year round basis and propagating plant material for public and private open space development.

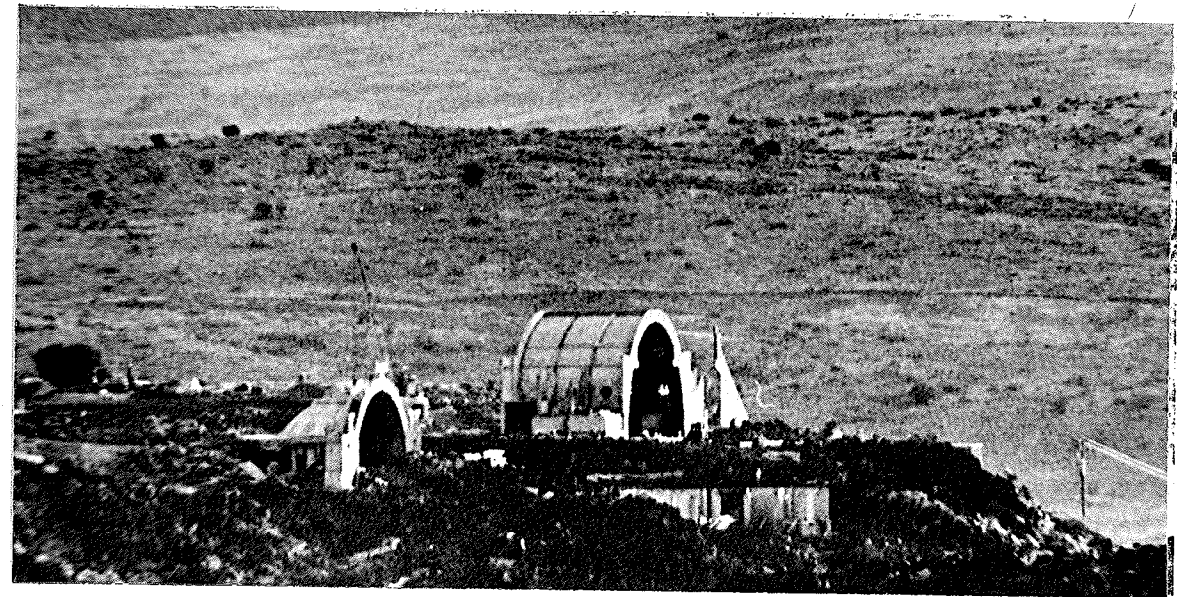
As areas develop and attain identities apart from the central city core the possible development of small scale central heating plants or garbage recycling centers, could become community functions.

Land savings generated by increased densities and reduced standards would produce a level of population which would be necessary to sustain these proposed community facilities.

These ideas are considered as feasible alternatives which could be enacted in the immediate future. However, more futuristic solutions have already been proposed by planners or are in progress of being tested. The Archigram group in the late 1960's presented images of walking cities, and portable "plug in, clip on" housing units which an individual would take with him throughout his transient wanderings. School boards are already suggesting that future school buildings be designed as movable modular units.



Since 1971, Paolo Solari has been in the process of constructing a city which is intended to be contained within a single monolithic structure. Such alternatives may well be within the scope of future housing possibilities as may the concept of underground living. In these instances the open spaces or land surfaces become the sustaining resource of the detached living accommodation.



VII-D Summation

Goals and objectives or standards of performance and quality must be substituted for the existing standards of quantity and control which presently exist. Unique circumstances and conditions demand that different needs be satisfied by different methods. Possibly a variation of the "Greenbelt" system is appropriate for the next stage of future suburban development which will occur on the outskirts of Winnipeg. However, the future growth in Winnipeg will probably continue in a manner similar to what already exists. Certainly, people will adapt to whichever alternative is selected.

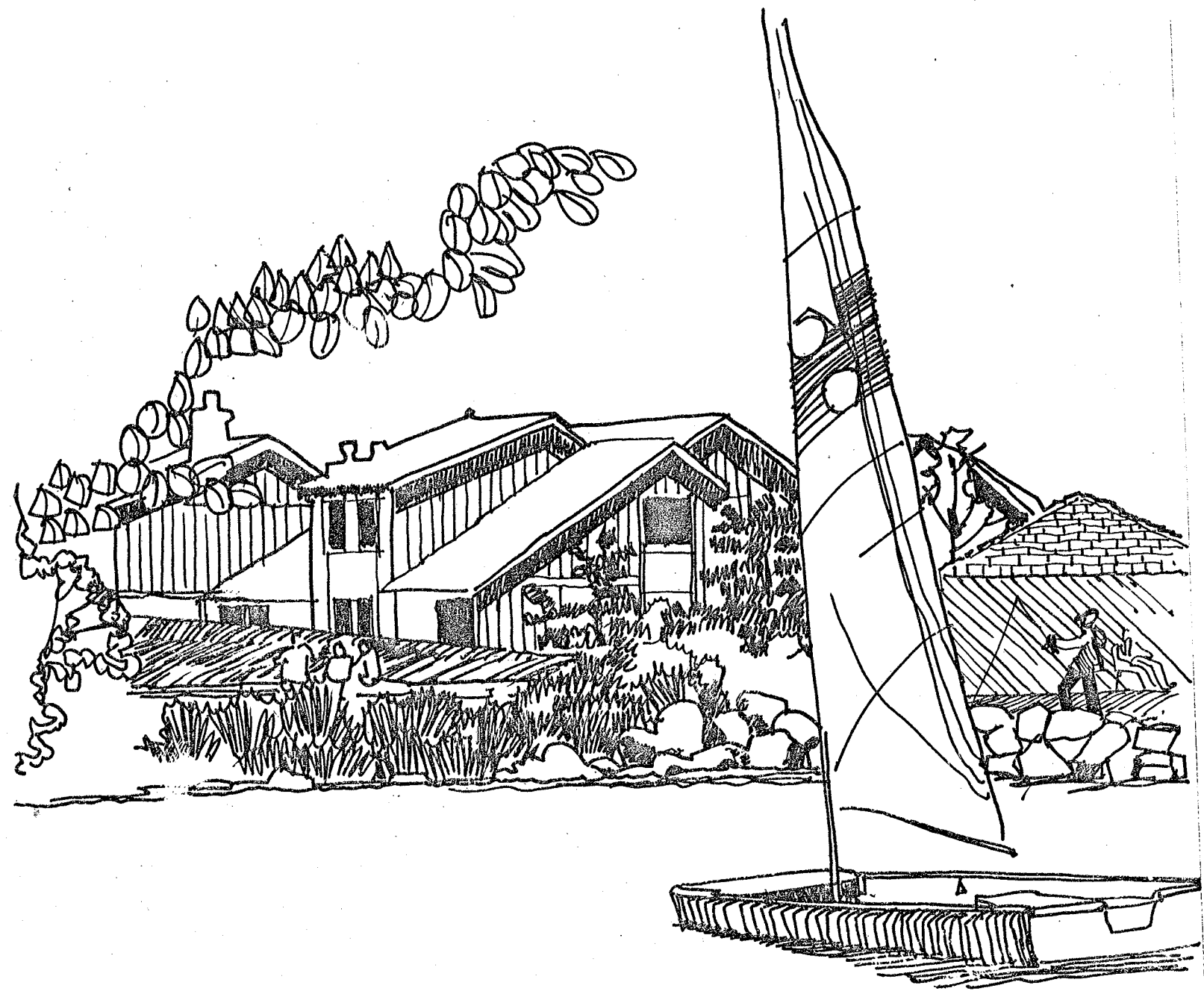
This author would tend to favor the development of higher density suburbs, with well defined private space and small proportions of highly developed public spaces. Many other options are possible, each dependant upon the interpretation of available physical and sociological data.

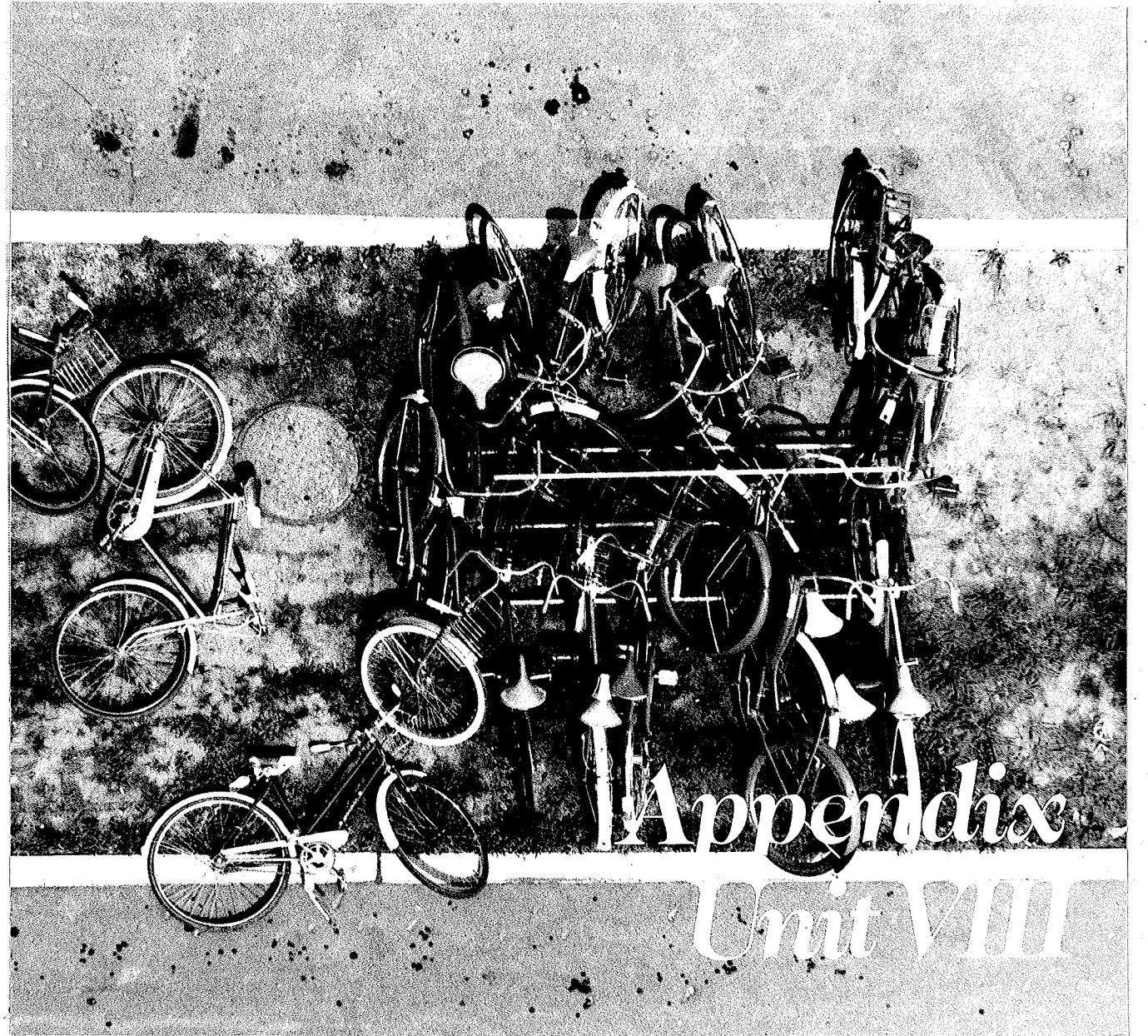
The author embarked on this study of suburban open space with the intent of extracting research data which would be relevant in the presentation of a case of alternative methods of open space planning. As such, the study did explore a number of interrelated fields, all of which contained an obvious lack of hard factual design orientated data.

Upon examination of the final product it is apparent that: 1) the intuitive feelings of designers sometimes are valid tools in making decisions where research time is unavailable and 2) that a considerable lack of knowledge exists in the field of how people utilize space, residential environments, and the reasons for their actions.

Designers constantly speculate about the play, socializing travel patterns, needs and responses of all age groups within certain environments. Suburban Winnipeg residents live in environments which are regionally different from the suburban residents in other parts of Canada but it is not yet apparent to this author whether or not their needs are any different. The data which is unavailable pertains to the manner in which suburban users function and to the changes they would like to see occur in their residential streets, parks or yards.

The most immediate response to an alternative suburban form would seem to be one in which land savings are encouraged, densities are increased and more attention is given to energy conservation planning. Future open space would be reduced while being orientated toward productive functions while the concept of public open space will be orientated to circulation and community focus functions. In all cases the flexibility and multi-use design of space would be encouraged based on community input.





Appendix
Unit VIII

APPENDIX

- Appendix I - Municipal Units of Winnipeg Prior to 1960
- Appendix IIa - Public Open Space - Old St. Boniface
- Appendix IIb - Public Open Space - Windsor Park
- Appendix IIc - Public Open Space - Southdale
- Appendix III - Parks and Recreation - Park Levels
- Appendix IV - Acquisition Techniques
- Appendix V - Road Hierarchy Standards
- Appendix VI - Density Guidelines for Suburban Neighbourhoods
- Appendix VII - Participation in Outdoor Leisure Pursuits
- Appendix VIII - Comparison of Attitudes of Planned and Un-planned Communities
- Appendix IX - Winnipeg Temperature Range 1941-1970
- Appendix X - Hours of Sunshine - Winnipeg
- Appendix XI - Annual Rainfall - Winnipeg Region
- Appendix XII - Annual Snowfall - Winnipeg Region
- Appendix XIII - Total Daily Solar Radiation Winnipeg

APPENDIX I MUNICIPAL UNITS OF WINNIPEG PRIOR TO 1960

Municipalities	Population	Land Area	Gross Population Densities				
City of Winnipeg	221,960	15,315 acres (23.9 sq. m.)	14.5 persons /acre	St. James	13,892	5,111 acres (8 sq. m.)	2.7 persons /acre
City of St. Boniface	18,157	11,641 acres (18.1 sq. m.)	1.5 persons /acre	Assiniboia	1,968	21,448 acres (33.5 sq. m.)	.09 persons /acre
West Kildonan Old Kildonan	6,410	1,894 acres (3.0 sq. m.)	3.4 persons /acre	Charleswood	1,934	23,487 acres (36.6 sq. m.)	.08 persons /acre
East Kildonan North Kildonan	8,350	2,071 acres (3.2 sq. m.)	4.0 persons /acre	Village of Brooklands	2,610	640 acres (1 sq. m.)	4.0 persons /acre
Town of Transcona	5,495	5,504 acres	1.0 persons /acre				
St. Vital	11,993	14,448 acres (22.5 sq. m.)	.83 persons /acre				
Fort Garry	4,453	17,198 acres (26.8 sq. m.)	.24 persons /acre				
Town of Tuxedo	777	4,775 acres (7.4 sq. m.)	.16 persons /acre				

APPENDIX II a PUBLIC OPEN SPACE OLD ST. BONIFACE (from inventory work conducted by Ron Leeder, 1977)

1. Area North of Provencher, enclosed by Seine River and Red River

1. Totlot	.37 acres	
2. Tache School site	1.35	Total parks, playgrounds and totlots ⁽²⁾
3. LaVerendrye - St. Jean Baptiste Park totlot	.50	.87 acres
		Total school sites ⁽¹⁾
		<u>1.35</u> acres
		Total Acreage
		2.22

2. Area bounded by Provencher, Des Meurons, Goulet, Marion and Red River.

4. Marion School	5.68 acres	
5. Louis Riel Collegiate	2.05	
6. Provencher Park	10.14	
7. Notre Dame Recreation Centre	2.0	
8. Provencher School	2.25	
9. St. Boniface College	7.2	Total parks, playgrounds, and totlots ⁽⁴⁾
10. La Verendrye Park	3.86	18.33 acres
11. Dollard and Jeanne D'arc Park	.50	Total schools ⁽⁵⁾
12. Optimist Park	33	18.93 acres
13. Queen Elizabeth School	1.75	Total Recreation Centres ⁽¹¹⁾
		<u>2.0</u> acres
		Total Acreage
		39.76

3. Area bounded by St. Mary's Road, Marion Street, Seine River, and Carriere Street

14. King George School	2.31 acres	
15. St. Mary's Road and Enfield Crescent	.5	(left over traffic island)
16. Coronation Park	6.92	
17. Traverse Bay Totlot	.53	Total parks, playgrounds, and totlots ⁽⁶⁾
18. Champlain Community Club	3.0	11.46 acres
		Total school sites ⁽²⁾
		4.85
19. Falcon - Dubic Park Totlot	1.02	Total Community Centres ⁽¹⁾
		<u>3.0</u>
20. Seine Street Park	1.83	Total Acreage
21. Land north of Heather Curling Club	.66	19.31 acres
22. Precious Blood School	2.54	

4. Area bound by CNR tracks to the north, Seine River to the west, CNR tracks to the south, CPR Emerson line to the east.

23. Notre Dame East Park Totlot	3.0 acres	Total parks, playgrounds, and totlots ⁽²⁾
		<u>3.15</u> acres
24. Provencher and Archibald Park Totlot	.15	Total Acreage
		3.15 acres

5. Area bound by CNR route to north, Seine River to west, Lachance Street to the south and CPR Emerson line to the east.

25. Kavanaugh Park	6.66 acres	
26. Giroux St. Park	2.0	Total parks, playgrounds, and totlots ⁽⁴⁾
27. Happyland Park	10.0	19.66 acres
28. Guilbault and Evans Park	1.0	Total school sites ⁽¹⁾
		4.44 acres
		Total community centres ⁽¹⁾
		<u>.75</u> acres
29. Archwood Community Club	.75	Total Acreage
30. Archwood School	4.44	24.85 acres

APPENDIX II b PUBLIC OPEN SPACE WINDSOR PARK

1. Area bounded by Maginot Road to north, CNR tracks to west,
Elizabeth Road to south, Speers Road to east.

1. Berkshire Park	1.84 acres	
2. Wickham Park	.24	Total parks, playgrounds, and totlots (2)
3. Pierre Radisson School	5.64	2.08 acres
4. Maginot Park (athletic grounds)	20.0	Total recreation centre (1) 20.0 acres
		Total school site (1) <u>5.64</u> acres
		Total 27.72 acres Acreage

2. Area bounded by Elizabeth Road to north, CNR railway lines to west,
Cottonwood Road to south, Autumnwood Drive to east.

5. Alderwood Bay and Almond Bay	.4 acres	
6. Argonne Bay and Agate Bay	.79 acres	Total parks, playgrounds, and totlots (5)
7. Almond Bay and Applewood Bay	.93 acres	8.16 acres
8. Fountain Park	.24 acres	Total school sites (1) <u>4.75</u> acres
9. Frontenac School	4.75 acres	Total 12.91 acres Acreage
10. Frontenac Park	5.8 acres	

3. Area bounded by Cottonwood Road to north, CNR railway line
to west, TransCanada Highway to south and Lagimodiere
Road to east.

11. Prendergast School	4.68 acres	
12. Totlot	.5	
13. Conifer Bay and Coral Bay	.4	Total parks, play- grounds and totlots (6)
14. Crestwood Conifer	.6	13.5 acres
15. LaCerte School	1.25	Total school sites (4)
16. Duluth Park	2.10	<u>13.47</u> acres
17. William Russell School	3.81	Total 26.97 acres Acreage
18. Westmount Park	4.40	
19. General Vanier School	3.73	
20. Lomond Park	5.50	

APPENDIX II c PUBLIC OPEN SPACE - SOUTHDALE

1. Van Bellegham Elementary School	4.08 acres	Total parks, playgrounds, and totlots ⁽⁹⁾	52.88 acres
2. Van Bellegham Park	4.18	Total school sites ⁽⁵⁾	<u>22.32</u> acres
3. Vermillion Park	3.5	Total	75.20 acres
4. Niakwa Place Elementary School	2.0		
5. Niakwa Place Park	3.5		
6. J.H. Bruns Collegiate	7.0		
7. Central Community Park	12.0		
8. Shamrock School	4.0		
9. Shamrock Park	14.5		
10. Guyot School	5.24		
11. - 14. Perimeter pond park area	15.2		

APPENDIX III PARKS AND RECREATION - PARK LEVELS

The City of Winnipeg presently recognizes and implements the following categories of developed space within their allocated lands:

Totlot:

- users - preschool children under six
- average size .5 acre
- location - within 1/8 - 1/4 mile
- distribution - usually one provided per 500 - 2,000 people
- facilities - chair swings, sand box, slide, climbing device

Vest Pocket Park

- users - all ages
- average size .5 acre
- location - within 1/8 - 1/4 mile
- distribution - usually 1/1,000 people
- facilities - trees, shrubs, grass, benches, pathway

Neighbourhood Park and Playground

- users - school age children
- average size 6 acres near elementary school
- location - within 1/4 - 1/2 mile
- distribution - usually 1/5,000 people
- facilities - totlot, athletic facilities (tennis, hockey, baseball, soccer, football) change facilities

Community Park

- users - all ages
- average size 8 acres in conjunction with high school
- location - within 1/2 - 3 miles
- distribution - usually 1/15,000 - 20,000 people
- facilities - totlot, tennis, baseball, soccer, football, community club building,

Community Park Cont'd...

- Facilities - totlot, tennis, baseball, soccer, football, community club building, parking

City Parks

- major facilities provided throughout the city
- may range from 25 - 100 acres or more
- nature preserves (St. James Prairie, Assiniboine Forest)
- developed parks (Assiniboine Park and Zoo, St. Vital Park, Kildonan Park, La Barriere Park)
- golf course and parks - (J. Blumberg)

As of September, 1977, the Winnipeg Parks and Recreation department was responsible for 6,778 acres. This is approximately 5% of the twenty-two square mile area of the city. In total acreage was represented by the following breakdowns:

Small Parks and Totlots	955 acres
Community Centers	479 acres
School Recreation Sites	1,145 acres
Athletic Fields	515 acres
Regional Parks (including zoo)	3,127 acres
Four existing golf courses and one under construction	<u>555 acres</u>
	6,776 acres

APPENDIX IV ACQUISITION TECHNIQUES

Fee-simple, Acquisition

Open space proponents suggest that the best way to save land is to buy it outright (fee-simple). When this is undertaken all the rights of land come under public control and can then serve any of the functions of open space.

Publically owned land is less susceptible to the pressures of development. However, the main drawback is that the cost may be prohibitive. In the United States, statistics showed that communities with vigorous public purchase programs usually stimulated vigorous private donation programs. Also, whereas public purchase meant public use in the past, it is now seen as acceptable practice to use public funds for wet lands or water resource conservation. Despite the cost factor, acquisition of land still appears to be a most positive route, in preserving open space. Consequently, other related techniques have been employed by various government agencies, to achieve the benefits of fee-simple ownership.

Alternate Acquisition Techniques

- a) Purchase and leaseback
- b) Life-tenancy agreements
- c) Purchase and saleback
- d) Delayed acquisition techniques
 - a) options to buy
 - b) purchase in segments
 - c) pre-emptive buying

Purchase and leaseback

Land is purchased outright, thus demanding a large capital output, but is leased back to the vendor or someone else under a restrictive covenant. Rental income is collected to offset the initial expenditure and maintenance costs are absorbed by the tenant. The Ottawa Green Belt Program made extensive use of this program in 1958. During this period the Canadian Government acquired 37,000 acres of land around Ottawa 2 1/2 miles wide. This land was leased back to the farmers on five year renewal periods. This method of acquisition does not allow immediate public access but appears to be an excellent approach to long range open space preservation.

The life tenancy agreement is simply a variation of the purchase and leaseback system. A government agency buys property with the provision that the present owners can continue to use the land, subject to normal restrictions, for a stated period of years or as long as they live. In return for this tenancy the purchase price is generally somewhat reduced. The National Park Service in the United States has made extensive use of this device.

Purchase and sale back

When more land is purchased or expropriated than is necessary for public use and access, it can be re-sold under restrictive covenants which would ensure compatible uses. Planners in Stockholm have used the technique to ensure the planned growth of their city. In 1906, the city of Stockholm began purchasing the surrounding farmland.

As the city grew planners were able to develop master plans and sell back or lease the city owned land to developers who would build according to these comprehensive plans. This procedure would be difficult in North America, despite our attempts at land banking because land is in short supply and it is difficult enough merely trying to get money for recreation spaces.

Delayed Acquisition Techniques

Options to buy long range acquisition programs may employ delayed acquisition techniques such as the purchase of options to acquire a parcel of land in the future at current market value. Similarly a large tract of land may be purchased in designated segments over a period of years at current market value. Maryland State utilized this technique extensively in obtaining large tracts of future state park land. Capital gains for the vender were spread over the purchase period, the land was maintained and the purchase price was relatively constant.

Purchase in Segments

These methods of land acquisition, though essential to the overall success of any open space project, cannot be utilized exclusively because of the high cost involved. Instead of purchasing the whole of the Niagara Escarpment at an anticipated cost of three million dollars the Ontario Government has recommended

that only the key areas should be purchased immediately. Other methods will be explored whereby additional lands could be preserved over a longer period of time.

Pre-emptive buying is a technique which attempts to forestall or discourage speculative development through the purchase of key tracts of land. It is anticipated that further purchases of land at a reduced price may be made at a later date.

Additional Open Space Acquisition Methods

Gifts and Donations

In the United States one half of the existing park holdings were received through donations. Generally tax savings were offered as an incentive. Recently, in New York a group of concerned individuals formed the Open Space Action Committee and set out on a campaign to persuade a number of landowners to donate or will their land over for conservation purposes. The committee was very thorough in their solicitations and examined the financial aspects as well as preliminary design and management potentials. During the first year and a half of this program, the Committee worked up recommendations for the disposition of some 7,000 acres, worth approximately \$30 million. The City of Winnipeg Act S534.(2) states that "the city may accept as a gift for public park purposes any land previously dedicated or set aside as a park, or garden,

or as a recreation or ornamental ground, for the use of enjoyment of owners of adjoining or neighbouring lands."

It is not always necessary to buy up all the land. Through the purchase of an easement the buyer may obtain some of the rights of useage of the land from the vendor. The technique is relatively unknown in Canada, according to Howe, though it is used widely in the United States and the United Kingdom.

Easements

Positive and negative easements are the two most commonly acquired lesser interests in land. In the United States they have been obtained by donation, negotiated purchase or expropriation. Positive easements entitle the purchaser to do something with the vendor's property. For example, a landowner might grant a positive easement by conveying a right of access in the form of a r.o.w. (right-of-way) over his land. The object of such an acquisition might enable the public to obtain access for hiking, biking, fishing or canoeing. With respect to utilities a company may obtain the right to lay a pipe or construct high tension cables over someone's land. The acquisition of this kind of easement appears to be another logical substitute for zoning.

In purchasing a negative easement we would buy away from the owner the right to destroy or interfere with certain qualities of the land. These restrictions could be designed to preserve the existing open space use, prevent new buildings, roads, billboards,

or the removal of greenery. Easement laws are not intended to be applied to blanket schemes, but rather to individual natural situations. Easements run with the land, binding all subsdquent owners to perpetuity. If however, the purpose for which the easement was acquired is abandoned, the easement will automatically be voided and all rights will return to the owner of the fee simple. Charles Eliot first used the easement method in 1900. Frederick Law Olmsted utilized the device in California during the 1930's. Financially, an easement is worth whatever the landowner is giving up, essentially the difference between the value of the property before and after.

Legislation enabling purchase of this type of easement has been incorporated into the English Open Space Planning since 1930. Howe identifies four main advantages of this practice over the fee purchase approach and suggests that it would be most beneficial to utilize the easement program in a Canadian content.

Easements:

- 1: represent a lower initial cost
- 2: allow the land to remain on the tax rolls (at a reduced rate)
- 3: require the owner to maintain the land
- 4: contribute to the possibility of eventual fee purchase

However, it is in Howe's opinion that effective enforcement of easement in Canada may require considerable changes in the law of common property. The geography and land holding patterns, though not appreciably different from the United States, would probably necessitate considerable litigation at the onset. Howe concludes his analysis by surmising that the outright acquisition of smaller areas may represent public money better spent.

Taxation Approach

Some people feel that the best way to save open space is to take the tax pressures off open space owners. Preferential assessment would then assess open space at an open space value. However, like suburban agricultural land that is "here today gone tomorrow" such a scheme would merely convey to the public an "appearance" of open space preservation.

In summary, it appears that the cost of public acquisition can only be substantially reduced by planning in advance of development, by having immediate funds, and by purchasing land, or options on land before the value is distorted out of all proportion by speculation. However, the benefits of acquisition, or partial acquisition certainly appear to outweigh the benefits of restrictive zoning.

HOWE, Robert, B., Techniques of Open Space Preservation: A Survey from a Canadian Standpoint, University of Toronto, Faculty of Law Review, V.32., 1974, p.123-142.

APPENDIX V ROAD HIERACHY STANDARDS

Arterials:	lanes:	2 - 4
	width:	100' R.O.W. (30m)
	function:	direct traffic along major thoroughfares few access or exit junctions, few controlled inter-sections no houses, usually fronting on arterials
	speed:	55-60 m.p.h. (90-100 km/p/h)
Collectors:	lanes:	2 - 4
	width:	70 - 80' R.O.W. (21-24 m)
	function:	direct neighbourhood or local district traffic to arterials, link neighbourhoods. houses rarely front on collector however sides of houses and fenced sideyards are common
	speed:	35 m.p.h. (60 km/p/h)
Local Roads:	lanes:	2
	width:	60 - 66' R.O.W. (18 - 20m)
	function:	network of roads which serve the whole community, usually two moving lanes and one parking lane. houses front on streets
	speed:	25 - 30 m.p.h. (40-50 km/p/h)
Minor Local Roads	lanes:	2
	width:	60 - 68' R.O.W. (18 - 20m)
	function:	take the form of bays, cul de sacs, loops, eyebrows to direct local traffic to housing. houses front on these streets
	speed:	25 m.p.h. or slower (40 km/p/h)

APPENDIX VI DENSITY GUIDELINES FOR SUBURBAN NEIGHBOURHOODS - CITY OF WINNIPEG RECOMMENDATIONS

100 Gross Acres		4,356,000 sq. ft.
Less: 14.5 ac. for school and park	631,620 sq. ft.	
26% circulation	<u>1,132,560 sq. ft.</u>	
	1,764,180 sq. ft.	1,764,180 sq. ft.

Net Square Footage Available

For Development Is 2,591,820 sq. ft.

Less: 6% Commercial

Net Square Footage Available for Residential

Development Is 2,436,311 sq. ft.

HOUSING FORM	# of UNITS	SQ. FT.	# OF ACRES OR %
R.1 (5,000 sq. ft./unit)	202	1,010,000	23.19
RPL (2,500 sq. ft./unit)	207	517,500	11.88
R.2 (2,500 sq. ft./unit)	103	257,500	5.91
T.H.(1,800 sq. ft./unit)	239	430,200	9.88
Apt.	263	221,111	<u>5.08</u>

* Density for apt. development is 52 units/acre.

RESIDENTIAL DEVELOPMENT	55.94%
SCHOOL AND PARK	14.5%
CIRCULATION	26.0%
COMMERCIAL	<u>3.56%</u>
	100.00%

94 AC. OF RESIDENTIAL DEVELOPMENT

	HOUSING TYPE DISTRIBUTION	% LAND CONSUMED	UNITS PER ACRE	TOTAL # OF UNITS	ESTIMATED POPULATION BY AGE GROUP				
					0-4	5-14	15-17	ADULTS*	TOTALS
STANDARD SINGLE FAMILY	20	43	5	202	.30 61	.64 129	.11 22	2.0 404	
SMALL LOT DETACHED HOUSING	20	22	10	207	.30 62	.64 132	.11 23	2.0 414	
DUPLEXES	10	11	10	103	.40 41	.58 60	.10 10	2.0 206	
TOWNHOUSING	22	17	15	239	.35 84	.52 124	.06 14	2.0 478	
APARTMENTS	28	7	40	263	.13 34	.13 34	.03 8	2.0 526	
TOTALS				1014	282	479	77	2028	2866

* Assuming 2 adults/dwelling unit.

APPENDIX VII

PARTICIPATION OUTDOOR LEISURE PURSUITS

Mass pursuit (regular participation - at least once a week in season)

The following seven active recreation pursuits were engaged in by less than 5% of the population at least once a week:

1. skating (unorganized, neighbourhood or district level)
2. snowmobiling (unorganized, outside city)
3. hockey (organized, neighbourhood level)
4. skiing (cross country - district level in city)
(downhill - outside city)
5. swimming (unorganized - neighbourhood level)
6. bicycling (unorganized - neighbourhood level)
7. golfing (unorganized - district level in city or outside city)

The following 10 outdoor activities were pursued by 20% of the population at least once a year.

1. driving for pleasure - city
2. picnicing
3. walking or hiking
4. sightseeing
5. visiting historic parks and sites
6. power boating
7. skating
8. bicycling
9. camping
10. snowmobiling

APPENDIX VIII

COMPARISON OF ATTITUDES OF PLANNED AND UNPLANNED COMMUNITIES

I Highly Planned

- A. Location: peripheral to major centre (4-20 miles)
 : new development (1) Columbia, Maryland
 a) 76% single family housing -
 24% townhouse
 b) 97% ownership
 c) 30% open space
 (2) Reston, Virginia
 a) 49% single family housing -
 51% townhouse
 b) 90% ownership
- B. Location: In town
 : new development (3) Southwest Development, Washington
 a) 100% townhouse
 b) 34% ownership
 (4) Lafayette Park, Detroit
 a) 100% townhouse
 b) 95% ownership
- C. Location: peripheral
 : old development (5) Radburn, New Jersey
 a) 88% single family - 12% townhouse
 b) 98% ownership

II Less Planned

- A. Moderately Planned (6) Crofton, Maryland
 location: peripheral a) 85% single family - 15% townhouse
 new development b) 96% ownership
 (7) Montpelier, Maryland (Levitt
 a) 100% single family development)
 b) 100% ownership
- B. Least Planned (8) Norbeck, Maryland
 peripheral a) 100% single family
 new development b) 99% ownership
 (9) Southfield, Michigan
 a) 100% single family
 b) 100% ownership
- C. Least Planned
 peripheral (10) Glen Rock, New Jersey
 old development a) 98% single family - 2% townhouse
 b) 99% ownership

(material obtained from: Planned Residential Environments:
 Survey Research Centre, University of Michigan, 1970).

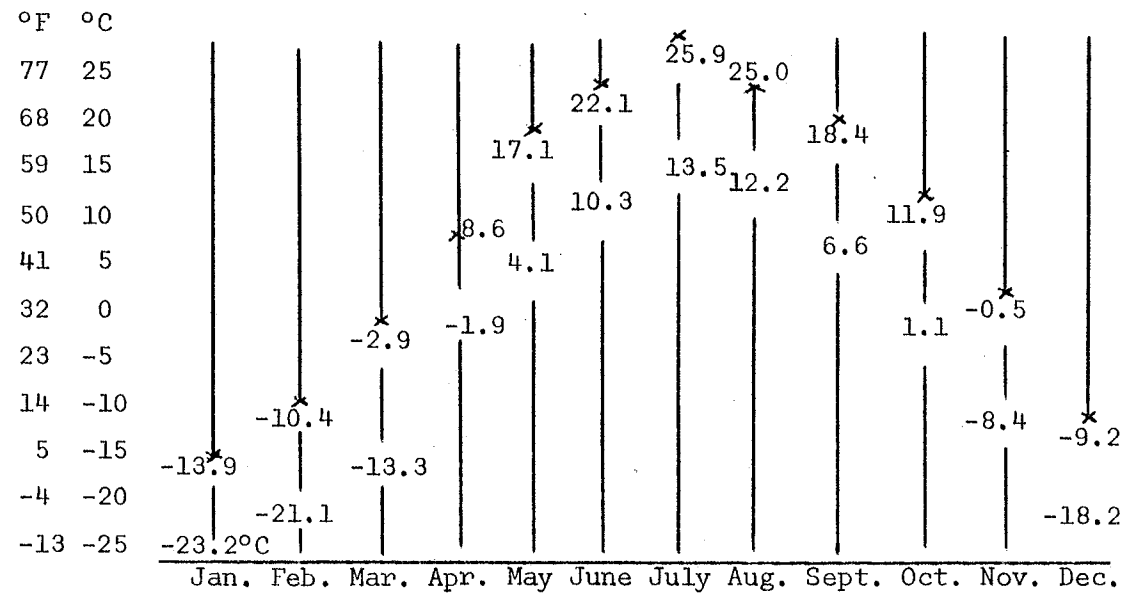
The following results were obtained when residents were
 asked:

"when you were looking for a place to live,
 what especially appealed to you about coming
 here?"

	Highly Planned Peripheral New		Mod. Planned Peripheral New		Least Planned Peripheral New		In Town - New Highly Planned		Planned Old Peripheral		Least Planned Old Peripheral	
	Columbia Reston		Crofton Montepelcier		Norbeck Southfield		Southwest Lafayette		Radburn		Glen Rock	
<u>Quality of Community</u>												
1. Liked the town's concept idea, philosophy, plan.	51%	36%	22%	7%	1%	4%	6%	7%	18%		7%	
2. Liked type of people neighbours.	18%	11%	8%	12%	14%	14%	26%	36%	23%		21%	
3. Desire for small neighbourhood - quiet no congestion.	6%	20%	13%	10%	8%	6%	4%	1%	9%		17%	
4. Good Schools. Recreation facilities avail- able for children, playgrounds.	11%	2%	-	4%	23%	26%	5%	8%	7%		44%	
	7%	7%	5%	1%	-	-	1%	-	26%		-	
<u>Accessibility</u>												
Nearness to work	22%	11%	18%	48%	20%	30%	43%	53%	15%		21%	
Nearness to shopping, entertainment downtown	19%	12%	22%	21%	16%	20%	36%	42%	21%		25%	
Nearness to country, outdoor recreation, nature.	9%	38%	39%	13%	15%	10%	6%	4%	20%		12%	
Good price on home	11%	8%	17%	37%	23%	16%	6%	4%	12%		8%	
Home has enough space for activities.	5%	5%	7%	21%	17%	12%	10%	16%	9%		11%	

APPENDIX IX WINNIPEG TEMPERATURE RANGE 1941-1970

The following graph represents the maximum and minimum mean daily temperatures for each month

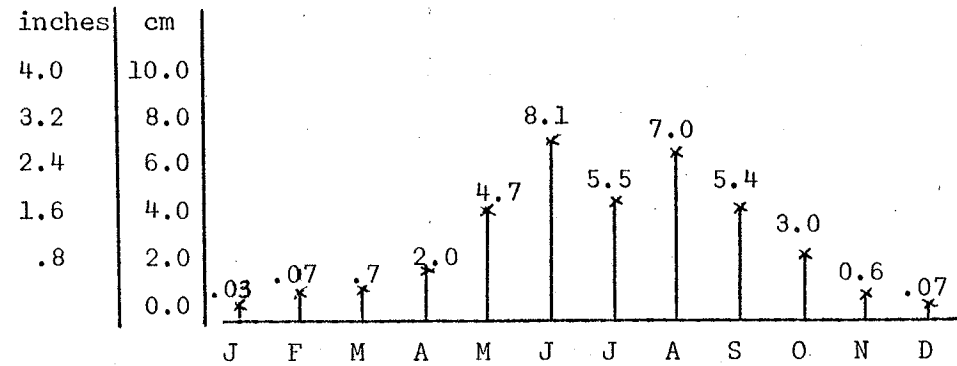


APPENDIX X HOURS OF SUNSHINE - WINNIPEG

	Possible Hours of Sunshine	Normal Hours of Sunshine
January	267	113
February	293	139
March	368	170
April	413	209
May	477	246
June	489	259
July	493	311
August	448	376
September	380	183
October	334	158
November	273	81
December	253	86
TOTAL	4488	2230

APPENDIX XI ANNUAL RAINFALL

The following chart reflects the amount of rainfall received yearly in the Winnipeg region.

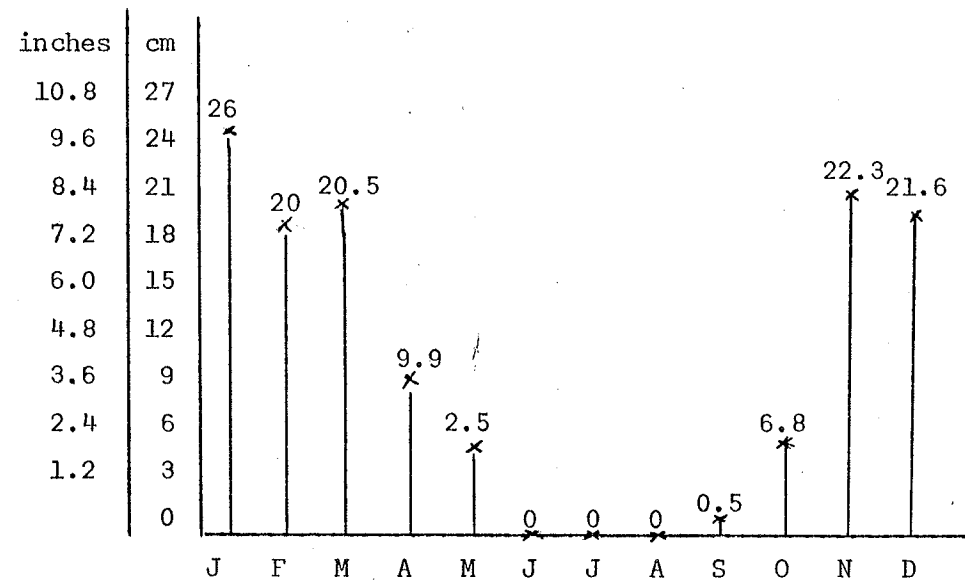


Annual Rainfall - Winnipeg Region

Total Yearly Rainfall 37.17 cm. (14.6")

APPENDIX XII ANNUAL SNOWFALL

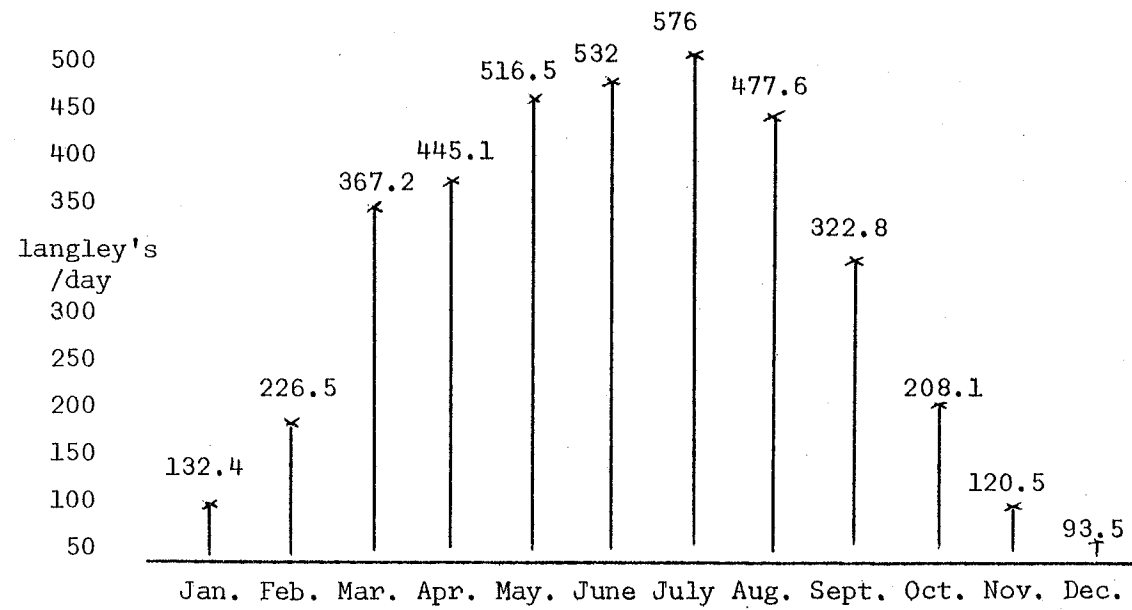
The following chart reflects the amount of snowfall received yearly in the Winnipeg region.



Annual Snowfall - Winnipeg Region

APPENDIX XIII TOTAL DAILY SOLAR RADIATION

The following chart represents the total daily solar radiation levels received in Winnipeg:



Source: U.S. Weather Bureau - 1977

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