

FACTORS INFLUENCING
THE USE OF LOCAL PARKS

by

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ABSTRACT

The growth of large urban centres in Canada, at a time when the availability of leisure is increasing, has invested urban recreation facilities, such as parks, with a special importance. Although much research effort has been directed towards investigating and analyzing the phenomenon of large scale rural outdoor recreation and park use, very little study has been undertaken on the subject of urban parks. This is ironical since the largest proportion of leisure time is in "small pieces", much of which can only be spent in the vicinity of the home. Also, for a large segment of urban residents such as young mothers, the poor, the old and children, non-urban parks and recreation facilities do not constitute a realistic alternative to local parks.

Given the lack of study in the field of urban parks, planners have been forced to rely on planning tools of doubtful geneology and based on arbitrary assumptions. This study attempts to make a preliminary exploration of one element of the urban park system: the local park in a residential setting. It is based on a behavioural approach and analyses the use of local parks by the surrounding residents in order to ascertain the relationship between the physical variables (characteristics of parks) and the activity and population variables (the use of parks and the users of parks).

The hypothesis guiding this study is as follows:

The use of local parks is influenced by the physical characteristics of the parks and the population characteristics of the local area residents.

The variables examined in detail are: size of park, facilities, supervision, accessibility of the park, on the one hand, and the frequency of park use, the activities conducted in the parks, the characteristics of the park users and their recreational preferences, on the other.

A questionnaire survey was conducted in a single family, working class district of Vancouver. The analysis of data from the survey, generally speaking, indicated that the physical characteristics do play a part in the use of local parks. Facilities, supervision and accessibility of the parks emerge as important factors affecting the use of local parks.

In the final chapter, the data analysis noted above is extended in order to construct a list of findings which are stated in the form of detailed, tentative hypotheses. The chapter concludes with suggestions to change the method employed in arriving at local park standards. It is recommended that these be based on the notion of an activity space index rather than on land area of the park. This method, it is indicated, would quantify the more functional and significant aspects of local park system than that based on park area.

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CHAPTER I

1.1. INTRODUCTION

The concern of planners for the development of parks and the preservation of open space in recent years has reached the proportion of a crusade. This emphasis on unbuilt space is vividly expressed in regional plans as well as plans for existing cities and metropolitan areas. One of the striking features of these plans is their focus on large scale open space, William F. Whyte has pointed out that by this single-dimensioned approach to open space, based on abstract notions of environmental quality, city form and structure, planners have ignored the local community and its recreation and open space needs. (1)

The recreationist's conventional wisdom gives further impetus to this conception of open space and park areas on a grand scale. Land for recreation is visualized almost exclusively in terms of rural values (2). As Herbert Gans has said, "open space still is considered as a substitute for the departed rural idyll and the outdoor recreation movement has stressed the need for more wilderness areas suitable for hiking, camping, nature study" (3). Infact, one writer has pointed out that the term "outdoor" recreation has a special meaning for the recreation planner. It stands for unsupervised, unorganized recreation represented by hunting, fishing, travelling for pleasure, camping etc. (4).

As a result of this convergence of professional perceptions and biases, there has

been much study and writing in recent years dealing with the problems of recreation at national and regional scale, but woefully little has been written on the subject of small parks (5). The Outdoor Recreation Resources Review Commission barely mentioned the subject in its mammoth 1962 study of the park and recreation needs in the United States (6). A similar study, called the National Demand Study, is underway in Canada. Its focus is also on non-urban parks (7).

The paucity of research on the subject of urban parks has forced planners to rely on intuition and precedent (8). Indeed, one writer has claimed, perhaps exaggeratedly, that "no one has tackled the job of analysing just what is involved in making small parks work" (9).

This study attempts to fill some of this void. It is concerned with parks in residential areas of cities, how people use them and what features lead to their attractiveness for the surrounding residents. If parks planning is to be rescued from its almost total reliance on precedent and intuition it must be, like all planning, both "rational and user-oriented". Rational in the sense that plans and programs developed can be shown to implement goals that are sought. To be "user-oriented" the goals which park planners work towards must relate to the behaviour patterns and values of the people for whom they are planning (10). This study attempts to provide some of the insights required to fulfill this goal.

1.2 IMPORTANCE OF URBAN PARKS

1.2.1 Growth of Leisure

The growth of leisure is one of the more dramatic phenomenon of the past few decades. As a result of a decrease in the work week and increase in paid vacation time, the amount of available leisure time has doubled in the past forty years (11) accounting for an estimated 49 hours per week in 1970 (12). Given a working week of 40 hours (excluding holidays) it is clear that the ratio of leisure to working hours among the working population has now become positive for a bulk of the employed population (13).

Nor is the increase in leisure time limited to the working population. The modern housewife through the use of convenience foods and home-based labour saving devices, has been able to wrest a few more hours from her daily chores than could her counterpart a generation ago (14). As for the young mandatory schooling has resulted in their entry into the labour force at a later age. Since a day in school is less demanding than a working day, this has resulted in greater leisure time being available to the young. Finally, for the old people a combination of private and public retirement plans and some extension in life-span has increased the years in retirement from 3 years to 1900 to 6 years today (15).

Leisure time is not all of a type. Two factors are critical in evaluating the use of leisure time: timing and duration (16). Some leisure time occurs daily such as time after work or school. Other leisure is weekly in patterns - weekends for

instance. Still other leisure is vacation time: for students this may extend through the whole summer. For workers it is likely to be a few weeks.

Not unexpectedly the bulk of free time occurs in short intervals. According to one study the typical two-, three-, or four-hour period available during week days at home accounts for half of all free time (17). In another study it was estimated that in 1950 of the 453 billion leisure hours available to the whole American population, 189 billion were daily leisure hours (18).

Thus, it is evident that a significant proportion of leisure time needs at present must be fulfilled by facilities close to home and requiring minimum of travel time. Indeed, the single-minded focus on large-scale non-urban outdoor recreational facilities does not take into account the hidden need represented by the dominance of "leisure in pieces" (19).

1.2.2 Urbanisation, Leisure and Recreation

The growth of mass leisure has taken place concurrently with a shift in population from rural areas to urban areas and finally to metropolitan centres. About 75% of the Canadian population lives in such centres today and this figure is likely to increase to about 94% by the year 2001 (20).

As a result of this shift the amount of open space available in the vicinity of people's homes has declined considerably, at a time when the need for it is increasing due to more leisure. The constraints imposed by limited open space and

recreational facilities has made it difficult for the individual to conduct his own recreation. This has forced urban man into organised playgrounds and an organised system of recreation in order to minimise conflicts. Many writers have contended that such forced organisation of leisure and recreation is a perversity of leisure. As one writer has put it, "True leisure ought to be free, 'natural', it cannot be engineered" (21).

If, indeed, this is true, then it may not be too presumptuous to suggest that part of the reason for the lemming-like exodus from the city during weekends is an unconscious reaction against the mechanistic, organised recreation available in the city. In other words, it is an attempt on the part of urban man to reassert his autonomy as an individual at least during his leisure hours. Lewis Mumford's eloquent plea for more quality open space in the city as a means of reducing man's reliance on the "anaesthesia of locomotion", may, therefore, have some basis (22).

1.2.3 Population Characteristics

Local parks are of particular importance to those members of urban society who have not the mobility to avail themselves of far flung outdoor recreational facilities. These are families of limited means, children, the old and young mothers of child rearing age (23).

Studies have revealed that participation in non-urban outdoor recreation increases with increase in income (24). Hauser has argued that the participation rate in

outdoor recreation varies directly with both the cost and the physical availability of outdoor recreation resources to the public. The higher the cost and the further removed the recreation resources are from low income populations the less resources are available to them (25).

The lack of mobility of the very young and the aged is too well known to bear detailed repetition here. However, a study by Doxiadis provides some interesting insights concerning the relationship between human development and the range of mobility in a city setting (26). According to him, between the third and fifth year of life, a child's territory extends to the immediate neighbourhood of his residence, though at this age he still spends the vast majority of his time within the home. By the time the child is ten years old he begins to spend an increasing part of his day at the neighbourhood level. In fact, the neighbourhood constitutes the locus of most of his activities. A child of this age can only venture outside the neighbourhood under supervision.

When he reaches the age of 13 or 14 years the child becomes sufficiently autonomous as an individual, that his dependence on the immediate residential area, as a setting for his recreational activities, ceases to be critical. As indicated by the table below, the child population up to the ages of 12 years constituted 25% of the Canadian population, or 5.46 million children were dependent on the local area to provide them with the bulk of their recreational facilities in 1971.

	Population in Millions	Percentage
Less than 4 years	1.81	8.58
5-12	3.65	17.30
13-19	2.57	12.18
20-64	11.33	53.69
65 +	1.74	8.25

Table 1 Population Distribution in Canada (1971)

Source: Statistics Canada, 1971 Census

Similarly, the housewife spends most of her time within the home to fulfill her obligations of home-making, husband servicing and child rearing. And if there is only one car in the family, in view of the low quality of public transportation she is constrained to spend a large proportion of her leisure hours during the day within the vicinity of the home. And one car families constitute the majority of Canadian families. According to an estimate, in 1971, only 20% of Canadian households owned two or more cars (26).

	No Car	1 Car	2 Cars	3 Cars or More
1972	22.75%	58.8%	15.8%	2.7%
1973	22.1%	57.4%	17.3%	3.2%

Table 2 Car Ownership in Canada by Household

Source: Statistics Canada, 1971.

Finally, the reduced mobility and increased leisure time available to the old makes them as dependent on local facilities as the very young. Space for some form of physical activity, ample circulation space, proximity to all forms of recreational facilities is specially important for their well-being (27). Though some of the old people are accommodated in specialized residential facilities, many of them do choose to remain in residential area. For them local parks can constitute an important amenity, the focus of many of their outdoor activities. Those above 65 years of age constitute approximately 8% of the Canadian population, as indicated in the table above. Though not all these people would require or benefit from local parks, a considerable proportion would welcome them.

It is clear, that in spite of the high level of mobility of the urban population

generally there is a significant segment of this population whose ability to travel independently outside their residential area is limited. For them the growing plea for the provision of "parks where they are" (28) has a special cogency.

1.2.4 Quest for Quality, Amenity and Livability

In recent years, with the growing importance of leisure in the life of urban societies, a basic re-evaluation of the function of cities is taking place. The earlier concept emphasised the industrial and commercial aspects of cities. Cities were viewed as settings in which the productive energies of society could be most efficiently harnessed for economic ends. Such concept led society to concentrate on the requirements of the work environment giving high priority to the physical relationship among factories, offices, shops, houses and transport routes (29). As a result zoning practices, according to one writer, provide extravagant areas for commercial and industrial uses (30). It has been contended that this emphasis on the productive aspects of the city has non-economic reasons as well. The protestant ethic, according to one sociologist was concerned with rendering "leisure in the city well nigh impossible (in order) to forestall sin in its natural locus ..."(31).

Such a notion of the city as an environment where the people were to be protected from the seductions of leisure, is giving way to the notion of the city as an environment for leisure (32). In other words, consideration is increasingly being given to the view that the opportunities for work in cities must be balanced by facilities for recreation. It is no longer sufficient to consider open space for recreation

as "residual space" (33) or as "space left over after planning (SLOAP)" (34).

The acknowledged need is to view open space as part of the whole functioning of the city as a place in which to both work and live ... (35).

Related to the notion of the city as an environment for leisure are two ideas: the ideas concerning amenity and quality. Jean Gottman refers to amenities in terms of "the physical and cultural components" related to "the good life" (36). John Burchard has linked urban beauty, both natural and man-made, with the term "amenities" (37). However, most writers would agree with Gunnar Myrdal that the term includes "parks and playgrounds" (38). Indeed public open space for recreation is considered as one of the main components of the amenity resources of an urban area (39).

Similarly when there is an attempt to isolate the elements of the physical environment which contribute to the quality or livability of an urban area, open space, particularly in a residential context figures prominently. For instance, Herbert and Stevens measured residential quality in terms of the general appearance of the neighbourhood, open spaces, views, greenways (40). In a survey conducted by the Greater Vancouver Regional District in order to get some idea of what the term "Livable Region" meant to people, the presence of open space in a residential area received frequent mention (41).

The special importance of open space or parks in a residential area lies in the fact that people spend a large part of their leisure hours - between 70% and 80% according to estimates (42) - in or near their home. Understandably, as Robert L. Wilson

has suggested, people place more value on the quality of their immediate residential area than on environmental variables which occur at the scale of the entire community (43). Further, in a survey conducted by him, it was found that attitudes towards the local residential area paralleled the attitudes towards the city as a whole. That is, those who were satisfied with their area of residence were likely to be satisfied with the city as a whole (44).

Harvey Perloff and others have argued that the urban community may be viewed as a set of interacting subsystems, each comprising a sub-environment (45). Urban man may be seen as an environmentally mobile creature who moves from sub-environment to sub-environment throughout the course of the day, week, year or lifetime within the metropolitan community. Robinson and Atkinson have identified five sub-environments that interface within the metropolitan community: 1) the residential environment, 2) the occupational environment, 3) the service environment, 4) the leisure and recreational environment and 5) the commuter environment (46).

Our analysis so far has shown that in spite of the high level of mobility of the urban population generally people spend most of their leisure in the vicinity of their home. Secondly, the quality of the residential environment is of prime importance to urban dwellers. Thirdly, open space or park space is acknowledged as an important component of the "quality of an urban environment". Fourthly, "leisure in pieces" is a significant part of the total quantity of leisure available in an industrial society. And finally, there is a large segment of the

population that does not have sufficient mobility to travel widely in search of recreational facilities. All these factors coalesce to suggest that among the sub-environments identified by Robinson and Atkinson the leisure or recreational environment in the form of open or park space closely linked to the residential environment is a critical one for the well being of urban populations.

1.2.5. The Federal Government and Local Parks

The Federal Governments of both the United States and Canada are beginning to recognize the importance of the local residential area for urban dwellers. The earlier emphasis of both government was on large urban renewal type projects as a means of improving the living conditions of low income urban residents as well as the civic image of the city. This is giving way to programmes which are directed to the rehabilitation of decaying neighbourhoods.

Both governments have also accepted the principle that the creation of park and recreation space is a part of neighbourhood rehabilitation. In the United States, for instance, there are five major programmes initiated by the Federal Government which authorize the provision or acquisition of outdoor recreation facilities as indicated by Table 4 on the following page.

In Canada on June 12, 1972, the government introduced an amendment to the National Housing Act. This amendment in effect has introduced the principle of government involvement in neighbourhood programmes. The legislation envisages improvement of neighbourhood amenities, housing and living

MAJOR U.S. FEDERAL GOVERNMENT LOANS FOR LOCAL PARKS AND RECREATION

Neighborhood Facilities	Housing and Urban Development Act of 1965	Office of Urban Neighborhood Services, Dept. of Housing and Urban Development	Grants to local governments to help finance neighborhood or community centers providing a variety of social services. May cover up to two-thirds of project costs, or up to three-fourths in redevelopment areas.
Community Action	Economic Opportunity Act	Office of Economic Opportunity	Through the Community Action Programs grants are made for public or private non-profit anti-poverty projects. Outdoor recreation projects are included as eligible programs. Covers 50% of program costs.
Model Neighborhoods	Demonstration Cities and Metropolitan Development Act of 1966	Model Cities Administration, Department of Housing and Urban Development	Grants to local governments to plan, develop, and carry out comprehensive programs for re-building or restoring slum and blighted areas through coordinated use of all available federal programs and private and local resources. Covers 80% of the cost of planning, developing, and administering programs, and up to 80% of non-federal contributions required under federally assisted projects.
Open-Space Land	Housing Act of 1961	Office of Urban Neighborhood Services, Dept. of Housing and Urban Development	Grants to state and local governments for the acquisition of land for permanent open-space use. Basic improvements on the land also qualify for grants. Matching funds for both acquisition and improvements.
Urban Beautification	Housing Act of 1961	Office of Urban Neighborhood Services, Dept. of Housing and Urban Development	Grants up to 50% to state and local governments to help beautify publicly owned land in accordance with an overall beautification program.

TABLE 3

Source: Everly, Robert E. "Put the Parks Where the People Are, American City, March, 1973, p. 74.

conditions of residents rather than acquisition and clearance of urban space. The Act clearly states that federal financing will extend to social and recreational facilities and to the improvement of municipal services on a neighbourhood scale. Explicitly mentioned is the offer of a grant covering 50% of the net cost of acquisition and clearance of land for community open space or community facilities.

The Bill authorizing this programme was passed in the House of Commons in 1973. It is clear, that with the passing of this Bill and the suspension of Urban Renewal approach to urban housing problems, the neighbourhood level planning has acquired a new significance. Similarly, local parks and recreation facilities, ignored so far in government assisted housing programmes, will also be invested with a new importance. This lends further urgency to the need for objective criteria concerning the planning of local parks, particularly, and parneighbourhood amenities generally. Otherwise, it is possible that the Neighbourhood Improvement Programme conceived with such high hopes may go the way of the ill-fated Urban Renewal Programme.

1.3 PLANNING AND URBAN PARKS

1.3.1 Historical Background

Although the responsibility of city governments to provide for the recreation needs of urban residents is generally accepted nowadays, it was not always so. In fact public opinion in the 19th Century was strongly against leisure and play.

Municipal authorities did not accept as one of their functions the provision of parks and recreation facilities for city residents. It was not until the end of the 19th Century that a few city governments started taking initiative in this field (47). By that time the major cities, under the twin onslaught of industrialisation and migration had become overcrowded, congested and burdened with vast slums in which epidemics and crime were common place (48). The sordid plight of the city dwellers who lived in these miserable and unhealthy conditions sparked many civic reform movements. These movements are the forebears of today's city planning (49).

The reform movements sought to improve city conditions by improving housing conditions. This meant slum clearance, construction of model tenements as well as the creation of parks. Parks, it was thought would bring into the city health giving features of the countryside. In fact, Camillo Sitte called these parks "sanitary greens" thereby emphasising their function as agents of public health improvement (50).

These reform groups, as exemplified by leaders of the park movement such as J.C. Loudon in England, A. J. Downing and F.C. Olmstead in the United States, were deeply sceptical about the city. They doubted that the city was capable of providing man with a setting in which healthful living was possible (51). Thus they conceived "parks as urban fascimiles of rural landscapes" (52). Or as Mumford has put it, a park was visualised "not as an integral part of the urban landscape but as a place of refuge whose main values are derived from the contrast with the

noisy, dusty, urban hive (53).

The first public parks, characterised by Central Park in New York and Birkenhead Park in London were "great landscape parks more or less in the fashion that the aristocracy had promoted in their country estates" (54). These parks presented a pleasing landscape with broad lawns, winding walks and drive-ways to be used by people seeking recreation in quiet, leisurely, sedate and sometimes cultural use of the outdoors (55). The activities catered to were promenading, contemplation, appreciation of scenery, resting rather than noisy activities like competitive sport and games (56).

The accent was on large parks which could be completely isolated from the noisy bustle of the city. Prior to 1900 or even 1910 park systems consisted of several large parks (100 acres or more), widely spaced through the city (57). Except for the leisure classes, these parks were used chiefly on weekends. No equivalent effort was made to provide more intimate open spaces in each neighbourhood for sports and active play on a day-to-day basis (58).

Many of the large parks that exist within the cities of North America today are inherited from this era. It must be remembered that originally these parks were major facilities created to satisfy the open space needs of the urban masses divorced from the countryside by the lack of effective mobility, and were used largely on weekends (59). However, due to increased mobility today, there is a mass exodus out of the city during weekends with people seeking the open country instead of merely a facsimile of it. It has been suggested that large parks are much less

important today, except as oases of calm away from the congestion of weekend traffic (60).

By the 1920's public responsibility for active recreation had become widely accepted by the cities of North America. The first recreation facilities consisted of sand-lots and playgrounds in congested areas of cities. As public demand for sports facilities increased, these facilities began to invade the bucolic landscape setting of existing parks. In many cases the traditional park planners intent on maintaining the 'beautiful landscapes' of their parks did not see eye to eye with the concerns of the recreation directors. New public agencies had to be formed to organize and plan areas for active recreation as opposed to parks. This organizational anomaly exists to this day in many North American cities (61).

1.3.2 Neighbourhood Unit and Local Parks

It was not until the neighbourhood unit gained wide acceptance that local parks for recreation became embedded in planning theory. The earlier Garden City movement was concerned with urban open space, it is true, but this open space was on a large scale. Its basic theme was the "ruralisation" of the city and as such had strong links with the "landscape park" movement.

The neighbourhood unit concept as originally described by Clarence Arthur Perry in the 1920's was "essentially a means of relating physical amenities systematically to population" (62). It was concerned with introducing a level of physical autonomy into the residential areas by providing "all the public facilities and

conditions required by the average family for its comfort and proper development within the vicinity of its dwelling" (63)

Although many factors are involved in the implementation of these goals, the incorporation of parks as an element of the local residential environment is what concerns us here. Basically, the neighbourhood unit formula envisages a system of small parks and recreation spaces, planned to meet the needs of the particular neighbourhood. These parks should be within easy walking distance from all residences within the neighbourhood. This distance, it is suggested, is between 1/4 mile to 1/2 mile. Also, the population of each neighbourhood should be restricted to that required to support an elementary school. This would mean a population of about 5000 to 6000 people. In addition embodied in the neighbourhood unity concept is the objective of a safe and convenient environment for pedestrians using the local facilities. This is accomplished by restricting arterial streets to the periphery of the unit and allowing only local, destination-bound traffic within the area.

Over the years, particularly after World War II, social theory has been added to the neighbourhood unit formula. Assertions have been made to the effect that "neighbourhood plan would foster a sense of belonging, a sense of community spirit among the residents of each neighbourhood and help to re-establish face-to-face relationships" (64). This claim has been hotly disputed by many planners and sociologists. It is now accepted that the neighbourhood unit does not embody any particular theories of social science (65). Instead it must be seen as a "unit of urban design" (66) a "service area" (67) and a "means of allocating amenities

in housing areas" (68).

This concept is still a respectable ingredient of planning theory and practices. As Susanne Keller has pointed out the Neighbourhood Unit is a convenient tool for planning since it makes possible the division of urban areas into "manageable, conceptually graspable units" (69). As such the Neighbourhood Unit principle, stripped of its sociological accretions, has been widely used in the design of new towns particularly in Britain and formed the conceptual basis for distributing facilities in residential areas of existing cities all over the world. Some city planning departments and social agencies use it to delineate planning areas to facilitate local area planning and allocate schools, local parks etc.(70). It is thanks to this concept that the use of the term Neighbourhood Park has gained wide currency.

1.3.3 Park Classification and Standards

As the planning of parks became more sophisticated and diversity of recreational activity grew, it became clear that many different types of parks were required. Not just neighbourhood parks or large landscape parks. Parks both within and outside cities are now seen as part of a park system, in which each class of parks fulfills a specific function. In order to understand the function of each component of the system various classification systems and standards have been devised.

The classification system most commonly used involves the description of the function of each class of parks within the system and the geographical scale of the

TABLE 4 THE COMPLETE PARK SYSTEM¹

PARK TYPE AND RESPONSIBILITY	PARK FUNCTION ²	PARK FEATURES
PLAY LOTS (municipal, private, or joint responsibility ³)	• to provide pre-school children in a garden apartment, housing project, or other higher density residential area with a substitute for the "backyard"; day use.	• location: at the focus of a "block" or housing development assuring access without street crossings. • size: one or two lots, as needed. • development: simple, safe apparatus at child's scale to instill sense of self-discovery; paved areas for wheeled toys.
NEIGHBOURHOOD PARKS (municipal responsibility ³)	• mainly to provide <u>activity areas</u> for pre-school and elementary school children in the residential "neighbourhood" (3,000-6,000 people) served by an elementary school; day use. • may include play lot.	• location: at the centre of a "neighbourhood", preferably next to the elementary school grounds, facilitating access on foot avoiding major street crossings. • service radius: 1/4 to 1/2 mile, depending upon density. • current standard: 1.25 acres per 1,000 population excluding school grounds; 2.5 acres per 1,000 including school grounds. • size: 4 acre minimum. • development: apparatus and fields for play and active games; may have some seasonal supervision.
COMMUNITY PARKS (municipal responsibility ³)	• mainly to provide <u>activity areas</u> for high school students and young adults in the "community" (15,000-40,000 people) served by a high school; day use. • may include neighbourhood park.	• location: at the centre of a "community", preferably next to the high school grounds, facilitating access on foot and by bicycle. • service radius: 1/2 to 1 1/2 miles, depending upon density. • current standard: 1.25 acres per 1,000 population excluding school grounds; 2.5 acres per 1,000 including school grounds. • size: 20 acre minimum. • development: heavier apparatus; fields for team sports; specialized facilities for tennis, lacrosse, or swimming; indoor facilities; seasonal or year-round supervision for all age groups.
URBAN PARKS (municipal responsibility ³)	• to provide areas of special treatment or landscaping as a contrast to assure variety in a highly urbanized area such as a city or town centre, shopping area, office area, or industrial area; for working or shopping adults; day use.	• location: at the heart of a commercial core, an area of heavy pedestrian traffic, a parkway or boulevard, a localized focus in an industrial area. • size: small enough to fit into the urban texture; numerous enough to fulfill the function. • development: a shopping mall with benches and landscaping, a city square, a small landscaped node at a key intersection, a special vantage point, a busy passageway for pedestrians between buildings to interconnect key areas.
TOWN PARKS (municipal level of responsibility ^{3,4})	• to provide central <u>natural areas</u> and <u>activity areas</u> for residents in a "regional town" (over 50,000 people); for both active and casual use; also providing a focus for major civic facilities and civic pride; day use on an incidental stop or special trip basis. • may include community park.	• location: one or more within each "regional town", permitting access by transit and car. • service radius: 3 to 5 miles. • current standard: 4.5 acres per 1,000 population. • size: 40 acre minimum. • development: natural areas and activity areas, as a single function or in combination; <u>natural areas</u> consisting of natural or developed open lawns, wooded areas, water areas, and vantage points, <u>activity areas</u> consisting of a unique sports area, fairgrounds, or building complex.
REGIONAL PARKS (regional level of responsibility ^{3,5})	• to provide residents of a natural region with major <u>natural areas</u> and <u>activity areas</u> within a convenient distance for day use on a special trip or incidental stop basis. • may include a town park, but only when located within or beside a regional town.	• location: primarily to serve regional town population concentrations, with unique natural features as a secondary consideration; access by car or special trip transit. • service radius: up to 1 hour driving time. • current standard: 13.0 acres per 1,000 population. • size: 150 acre minimum; smaller for a unique feature. • development: in <u>natural areas</u> , a minimum of development to suggest natural topographic features; in <u>activity areas</u> , such development as is necessary to realize the recreational potential.
PROVINCIAL PARKS (provincial responsibility)	• to provide residents and tourists with <u>wilderness areas</u> of province-wide significance for weekend use and extended stay use, <u>natural areas</u> of province-wide and regional significance for day use, overnight use, and limited extended stay use, and <u>activity areas</u> of province-wide and regional significance for day use and limited overnight use. • may include a regional park when located within or near-region.	• location: dependent upon location of outstanding natural features, but must be related to major population concentrations in the province and to major transportation linkages. • service radius: indefinite for <u>wilderness areas</u> , 3 hours for <u>natural areas</u> , 2 hours for <u>activity areas</u> . • current standard: 30 acres per 1,000 population for <u>wilderness areas</u> and <u>natural areas</u> , 15 acres per 1,000 for <u>activity areas</u> . • development: in <u>wilderness areas</u> , trail access only; in <u>natural areas</u> , trails and related facilities, with incidental recreational development where not in conflict with casual atmosphere; in <u>activity areas</u> , careful intensive or extensive development with provisions for off-season or incidental casual use.
NATIONAL PARKS (national responsibility)	• to provide people in a visitor or tourist role with <u>wilderness areas</u> for extended stay use, and <u>natural areas</u> of national significance for day use and extended stay use; emphasis on extensive natural areas with incidental recreational features.	• location: totally dependent upon location of outstanding localized scenery, unique scenic, geographic, or geological features of national interest, outstanding examples of flora and fauna of national interest, features providing outstanding opportunity for non-urban outdoor recreation amid superb surroundings. • development: in <u>wilderness areas</u> , trail access, and in <u>natural areas</u> , trails and related facilities; careful development to assure preservation of geographic, biological, and geological features of national significance for the benefit, education, and enjoyment of present and future residents and visitors, avoiding impairment by private exploitation, over-use, or improper use.

¹Based on an assessment of material in Park and Recreation Administration by G. B. Duell, Recreation Areas by G. B. Butler, Parks for America by the U. S. Department of the Interior, and Parkland Open Space reports of the Puget Sound Intergovernmental Conference, and discussions with municipal, provincial, and federal parks officials.

²In describing park functions: wilderness areas mean large tracts of undeveloped land providing people the opportunity to expand their knowledge and experience of the outdoors in its natural wild state, divorced from civilization; natural areas mean native or developed areas of special scenic quality, of historic or other special interest, or of cultural significance preserved for casual viewing or experiencing, which may include incidental recreational activities such as hiking, camping, picnicking, and swimming, if they do not conflict with the casual qualities of an area; activity areas mean areas with natural features suited to one or several active outdoor sports activities on an intensive or extensive basis, which may include incidental or off-season casual activity.

³Responsibility in Unorganized Areas lies with the Provincial Government.

⁴Responsibility lies with the two or three affected municipalities jointly where an individual municipality is too small to provide such a park on its own, or where a distinct nodal unit overlaps municipal boundaries.

⁵Responsibility falls to the affected municipalities jointly, to the province, to the municipalities and the province jointly, or to a regional governmental body.

area served (71). Function refers to ages of population served and intensity of use. Geographical scale is concerned with the level of community served, whether a small residential area, a city, a metropolis etc.

Park standards give a quantitative dimension to these descriptions. They are used to specify the location, use and size of parks (72). Quantitative specifications are in the form of ratios of areas of each class of park to units of municipal population, standard size for each park within a class and the number and type of recreational facilities per unit of population (73). Other factors considered are area served by each class of park based on travel time.

Park standards constitute the basic tool of parks planning within an urban area. There is a wide variation in standards recommended by various park authorities or used as guides by recreation departments of different cities. Table 4 represents the park system recommended by the Greater Vancouver Regional District to its member municipalities.

The table indicates a standard of about 7 acres per 1000 urban residents. This is below the 10 acres per 1000 population recommended by the National Recreation and Park Association, a standard perhaps the most widely used in North America(74).

There has been considerable criticism of the use of park standards as a basis for park planning. One of the most persistent criticisms is that these standards are based on "crude assumptions and arbitrary assertions in place of established facts" (75). For instance the N.R.P.A. standard of 10 acres per 1000 population

is based on a survey conducted in the 1920's by the American Institute of Park Executives. Recreation directors from all over the United States were asked to recommend park standards that could be used on a nation wide basis. There seems to be a general consensus on 10 acres per 1000 population, and this standard has stayed with us ever since (76). In the U.K. for instance, the playing field standards were formulated in 1925. These standards were based on the number of people in the 10-40 year age group. This age group constituted about 50% of the population in 1925 whereas today it comprises only 41.5%. However, the standards used have not changed (77). Besides, there have been marked changes in recreational activities, as well as in mobility. These changes suggest that we can no longer rely on outworn standards. As one planner from New Zealand has pointed out, "our techniques for locating, shaping and designing parks are out of date" (78).

Another criticism levelled against the use of park standards is directed at the inflexibility of this tool. It is considered too rigid to be used on a city wide basis since population and physical characteristics vary widely within cities and from city to city. For example, it is argued, the commonly used acreage or population standard has been proved by many municipalities to be inapplicable because of varying local factors primarily socio-economic, which have a direct influence on the amount and kind of recreation programs and areas which are necessary to meet local needs and interests (79).

1.3.4 Parks Planning and Behaviour

Given the limitations of parks standards, their continued use has led some writers to allege that they have become "crutches" or "something used to hide the lack of a rational methodology" (80). The only defence offered against such a criticism is that "standards are the most satisfactory guides in the absence of anything better". Parks planners cannot, for instance, revert to the techniques used in the earlier part of this century when aesthetic principles were the guiding force in parks planning and design. For it is now recognised that it is meaningless for a planner to restructure life according to the principles applicable only to art (81).

Increasingly, the notion is gaining ground that we need to devise parks to satisfy the preferences and accommodate the behaviour and activity patterns of the people within the service area of the park. As Gans has argued, "it is not the park alone but the functions and meanings which the park has for people who are exposed to it that effect the achievement or non-achievement of the planners aims" (82). He goes on to say that the park proposed by the planner is only a potential environment; the social system and the culture of the people who will use it determine to what extent the park becomes an effective environment (83).

Robert Gutman makes a similar observation. He suggests that park planners and designers do not concern themselves with the distinction between the site plan as a physical variable and the activities or social and psychological variables.

Instead they substitute what should be a physical variable with an activity variable:

a paved surface is called a walk-way, a bench is a sitting area whether these artifacts are used for these activities or not. If research on spatial behaviour is to be of any value as a basis for objective planning criteria, the physical and the activity variables must be kept separate, with the physical variables being classified in physical terms. Only then is it possible to relate the physical characteristics of the site with the activity within it. To ascertain for instance, if a sand pit is actually used as an infants play area or a battery of benches as an oldsters sitting area (84).

1.4 OBJECTIVE OF STUDY

This study is concerned with the physical variables - that the characteristics of the park environment; and the behavioural variables - that is the activity and attitude variables. It attempts to relate the variables of one system - the physical system with those of another system - the activity system. This is not a scheme which assumes the dominance of one sub-system over another nor is it based on physical determinism which Gans rails against. It merely assumes that the physical environment sets broad limits as to the social phenomenon that can occur within it and in that sense influences behaviour (85).

With this perspective in mind, this study seeks to answer the question: why do some parks succeed in attracting users and others fail? Also, is there any basis to support the assumption that physical characteristics of a park and its surrounding

have something to do with its becoming an effective environment?

More specifically, the aspects of the physical sub-system that are the concern of this study are: location, size and amenities available in the park. That is, to what extent do these aspects of the physical environment of an urban park influence its use as well as the satisfaction derived from it by the surrounding population.

1.5 FOCUS AND SCOPE OF STUDY

A study of limited scope such as this one, cannot hope to be valid for all urban parks or populations. It can provide an insight into a specific segment of the city chosen for the study and a particular social group (86). Indeed, it is readily acknowledged that a remarkable profusion of social groups exhibiting different lifestyles, behaviour and activity patterns are accommodated within the urban fabric. As Webber has pointed out, it is not meaningful to make generalised statements of public interest since diversities go deep and encompass basic values, aspirations and perception of the environment (87). Among the most significant determinants of lifestyle are ethnicity, social class and stage in lifecycle (88).

Social participation in general and outdoor recreation activities in particular are also influenced by these determinants. Among the variables identified by studies as being relevant to outdoor recreation are: income, education, occupation, sex and race (89). Income, education and occupation have been treated by many researchers as indicators of social class (90). Thus social class may be considered

one of the chief determinants of outdoor recreation patterns.

Social class is also regarded as one of the more significant basis for residential segregation in cities. In the words of one writer, "no difference is an inevitable basis for residential segregation of population although some clusters of differences, such as those involved in the concept of social rank may provide an all but universal axis of differentiation" (91). Thus, in many sectors of the city, where social class is the basis for territorial grouping of people, the outdoor recreation and leisure preferences of a majority of the inhabitants falls within an identifiable range. Thus, even a limited study such as this one can produce meaningful findings if it is to be restricted to the study of one such social area.

This study focuses on the working class population. There are many reasons for this. Owing to their relatively low income generally, working class people have fewer opportunities for recreation than the middle class. Their community life is place-oriented and they have retained an "intense localism" (92).

Another consideration is their attitude towards work and leisure. Dubin has pointed out that given the repetitive and unchallenging nature of most blue-collar employment, the job is not the "central life focus" of working class people. It is merely a means to an end - a way of acquiring income for life in the community. He has suggested that non-work activities including recreation may be more salient to their well-being (93). On the other hand, Louis Orczak has indicated that middle class professionals are career oriented and derive considerable satisfaction from their work environment (94). In fact, it has been found that professionals and the

executive class work harder and longer hours than do the working class owing to the nature of their work obligations and their career orientation (95). Wilensky has argued that we may be moving to an age when the masses will be able "to take it easy on progressively shorter work week" while executives, merchants and professionals "will labour long and hard to control and service the masses" (96) .

Given these considerations, it would not be inappropriate to assume that outdoor recreation, particularly of the locally -oriented kind is likely to be of greater importance to the lower class population, than it is to the middle class or upper class. It is for this reason that this study has been limited to the subject of local parks in a working class sector of the city.

1.6 DEFINITION OF TERMS

So far the terms leisure, recreation, working class, local area and local park have been used somewhat loosely. For the purpose of the rest of this study a specific meaning is assigned to them.

Leisure is time beyond that which is required for existence, the things which we must do biologically to stay alive (eat, sleep, eliminate etc.), and subsistence, the things we must do to make a living, as in work, or prepare to make a living, as in school (97).

Recreation is leisure behaviour, an activity in which there is a maximum discretionary element involved (98). Outdoor Recreation is a recreational facility in

which open "uncovered" space is an important element. To distinguish between outdoor recreation that takes place in rural areas from that within the confines of cities, the latter will be referred to as Outdoor Recreation and the former simply as Rural Outdoor Recreation.

Working Class stands for people with regular blue collar employment, moderate to low income and limited education.

Local Area refers to a purely physical, areal aspect of a residential area. It is arbitrarily assumed as an area of between 1/4 mile and 1/2 mile in radius. The social and territorial connotations contained in the term Neighbourhood are not intended.

Local Park is a park that is primarily used by surrounding residents who make the journey to it on foot, or by bicycle. The absence of any extensive car parking facilities in the vicinity of the park is regarded as an indication that the park in question falls within the category of a local park. This class of parks is equivalent to that designated "Neighbourhood Park" in the model of the "The Park System" shown in Table V.

1.7. HYPOTHESIS

The hypothesis guiding this study is stated as follows:

The use of local parks is influenced by the physical characteristics of the parks and the population characteristics of the local area residents.

1.8. METHODOLOGY

This hypothesis was tested by means of a household survey conducted in a single family residential area in Vancouver. This area has two special attributes which were the bases for its selection:

- 1) several local parks with various physical characteristics were located within it;
- 2) a large percentage of its population earn a moderate to low income and are employed in blue collar jobs.

The sample population were asked questions concerning their activities in relation to the parks near their homes, their satisfaction or otherwise with these parks. The answers were correlated with the physical attributes of the parks. Wherever possible simple objective criteria were used to classify these physical attributes. In some cases, which did not lend themselves to such a system of classification, subjective judgements had to be made.

1.9. LIMITATIONS OF STUDY

This study is conceived of as a preliminary exploration into a relatively unknown

territory. The problem of man's behaviour in space is a highly complex one involving methodological and theoretical issues which are the subject of intensive study by many disciplines. This study does not pretend to have gone into any of them, except cursorily. Nor is it the intention here to provide scientifically valid findings, though every effort has been made to conduct the survey and field work in an objective manner.

The findings are, therefore, tentative. One of the functions of a study of this kind is to help in the formulation of more refined hypotheses which can be used as a basis for further research. Another is to provide an insight into the issue under investigation. If this study fulfills these objectives, its purpose will have been served.

1.10 ORGANISATION OF STUDY

After this introductory chapter elucidating the dimensions of the problem area, the second chapter will deal with variables under investigation in this study. These are based on a review of pertinent literature. The methods used to classify and measure these variables will also be established in this chapter. Chapter III will describe the study area, the parks within it and the characteristics of the study population. Besides this, the sampling and survey technique used to test the hypothesis will be described. The findings of the survey will be discussed in Chapter IV. In the final chapter the study will be summarised and the implications

of the findings for community planning in general and parks planning in particular will be discussed.

REFERENCES

1. Whyte, William F., The Last Landscape, Double Day and Co., 1968, p. 154, 185.
2. Weaver, Robert C., Recreation Needs in Urban Areas in Small Urban Spaces, ed. Whitney North Seymour, Jr., New York University Press, N. Y., 1969, p. 23.
3. Gans, Herbert, People and Plans, Herbert Gans, Basic Books Inc., N. Y., 1968, p. 123.
4. Doell, Charles E., Elements of Park and Recreation Administration, Burgess Publishing Co., Minneapolis, Minn., 1968, p. 6.
5. Seymour, W. N., Introduction to Small Urban Spaces in Small Urban Spaces, p. 6.
6. Outdoor Recreation Resources Review Commission, National Recreation Survey, ORRRC Study Reports 1 - 27, 1962.
7. Canada, Department of Indian Affairs and Northern Development, Proposed Research Programme on Estimating Park Attractiveness Factors and Population Participation Factors, Unpublished Paper, National Historic Parks Branch, March 1971.
8. Bangs, Herbert P., Jr., and Stuart Mahler, Users of Local Parks in Journal of the American Institute of Planners, Sept. 1970, p. 330.
9. Seymour, W. N., op. cit., p. 11.
10. Gans, Herbert, op. cit., p. 9.
11. Outdoor Recreation Resources Review Commission, Outdoor Recreation in America, U.S. Government Printing Office, Washington, D. C., 1962, p. 222.
12. Clawson, Marion, Land for Americas, Rand McNally and Co., Chicago, 1963, p. 47.
13. Trist, Eric, Urban North America: The Challenge of the Next Thirty Years, Plan, V. 10, No. 3, 1970, p. 9.
14. Butler, George, Introduction to Community Recreation, McGraw Hill Book Co., 1967, p. 17.

15. Clawson, Marion, Dynamics of Park Demand, Regional Plan Assoc. Inc., N. Y., 1960, p. 2.
16. Clawson, Marion, How Much Leisure Now and in the Future in Leisure in America: Blessing or Curse ed., James C. Charlesworth Monograph 4, American Academy of Political and Social Science, Phil., 1964, P. 8-9.
17. State of California, the Resources Agency, Dept. of Parks and Recreation, Outdoor Recreation Outlook 1980, p. 7.
18. Clawson, Marion, How Much Leisure Now and in the Future, in Leisure in America: Blessing or Curse, op. cit., p. 10.
19. ibid. p. 8.
20. Lithwick, N. H., Urban Canada, Problems and Prospects, Central Mortgage and Housing Corp., Ottawa, 1970, p. 145.
21. Willner, Alfred, French Sociology and the Problem of Social Engineering, Paper presented at the British Sociology Association Conference, 1967.
22. Mumford, Lewis, Philosophy of Urban Open Space in Urban Small Spaces, p. 15.
23. Weaver, Robert C., op. cit., p. 24.
24. Outdoor Recreation Resources Review Commission, National Recreation Survey Monograph #20, p. 10 - 29.
25. Outdoor Recreation Resources Review Commission, Monograph #22, p. 27 - 59.
26. Doxiadis, C. A., Human Development and the City in Ekistics, March 1968, p. 381.
- 26A. Canada, Dominion Bureau of Statistics, Household Facilities and Equipment in May 1971, Queen's Printer, Ottawa, Dec. 1968.
27. Rosenberg, Gerhard, City Planning Theory and Quality of Life in Ekistics, May 1969, p. 72.
28. Everly, Robert E., Put Parks Where the People Are, American City March 1972, p. 72.

29. Parker, Stanley, The Future of Work and Leisure, McGibbon and Kee, London, 1971, p. 140.
30. Gallion, Arthur B., and Eisner, Simon, The Urban Pattern, D. Van Nostrand Co. Inc., 1963, p. 254.
31. Farina, J., The City as Environment for Leisure, Community Planning Review, Winter 1970/71, p. 22.
32. ibid, p. 22.
33. Parker, Stanley, op. cit., p. 138.
34. Abernathy, W. D., The Importance of Play in Ekistics, May 1969, p. 206.
35. Patmore, Allan J., Land and Leisure, David and Charles: Newton Abbot, 1970, p. 111.
36. Gottman, Jean, The Rising Demand for Urban Amenities in Planning for a Nation of Cities, ed., S. B. Warner, M.I.T. Press, Cambridge 1966, p. 163-78.
37. Burchard, John, Some Antidotes for Ugliness, American Institute of Architects Journal, April 1965.
38. Myrdal, Gunner, National Planning for Healthy Cities: Two Challenges of Affluence in Planning for a Nation of Cities, op. cit., p. 3 - 22.
39. Atkinson, Arthur A. and Ira M. Robinson, Amenity Resources for Urban Living in Quality of the Urban Environment, ed., Harvey S. Perloff, Resources for the Future Inc., John Hopkins Press, Baltimore, 1969, p. 180 - 201.
40. Herbert, John D., and Benjamin H. Steven, Model for the Distribution of Residential Density, Journal of Regional Studies v. 2, No. 2, 1960.
41. Greater Vancouver Regional District, Livable Region Newsletter, Aug. 1972.
42. Stuart, Chapin F., and Thomas H. Logan, Patterns of Time and Space Use, Quality of the Urban Environment, p. 330. (op. cit.)

43. Wilson, Robert L., Livability of the City: Attitudes and Urban Development in Urban Growth Dynamics ed. F. Stuart Chapin, John Wiley and Sons, 1962, p. 370.
44. ibid, p. 371.
45. Perloff, Harvey S., Framework for Dealing with the Urban Environment in Quality of the Urban Environment, p. 13.
46. Atkinsson, Arthur A., et. al., op. cit., p. 194.
47. Meyer, Harold D., and Charles K. Brightbill, Community Recreation, Prentice Hall, Englewood Cliffs, N. J., 1964, p. 11.
48. Gans, Herbert, op. cit., p. 58.
49. ibid, p. 58.
50. Sitte, Camillo, The Art of Building Cities: City Building According to its Artistic Principles, Transl. Charles T. Stuart, Reinhold Publ. Corp., 1945.
51. Patmore, Allan J., op. cit., p. 34.
Doell, Charles E., op. cit., p. 10.
Gans, Herbert, Outdoor Recreation and Mental Health, op. cit., p. 109.
52. Gans, Herbert, ibid, p. 109.
53. Mumford, Lewis, op. cit., p. 14.
54. ibid, p. 13.
55. Doell, Charles E., op. cit., p. 12.
56. ibid, p. 28.
57. ibid, p. 12.
58. Mumford, Lewis, op. cit., p. 14.
59. Patmore, Allan J., op. cit., p. 106
60. ibid, p. 106.

61. Doell, Charles E., op. cit., p. 12.
62. Broady, Maurice, Planning for People, The Bedford Square Press, 1968, p. 4.
63. Perry, C. A., Housing for the Machine Age, Russel Sage Foundation, N. Y., 1939.
64. Broady, Maurice, op. cit., p. 14.
65. Gallion, Arthur B., et. al., op. cit., p. 251.
66. ibid, p. 251.
67. Blumenfeld, Hans, op. cit., p. 179.
68. Broady, Maurice, op. cit., p. 14.
69. Keller, Susanne, The Urban Neighbourhood, Random House, N. Y., 1968, p. 127.
70. Planning Department of Burnaby and Coquitlam where the writer worked as a student planner in the summers of 1971 and 1972 respectively.
71. Atkinsson, Arthur A., et. al., op. cit., p 196.
72. Mittelstaedt, Arthur, et. al., Appraisal of Park Standards, Park and Recreation, July 1969, p. 20.
73. Doell, Charles E., op. cit., p. 18.
74. National Recreation and Park Association, Outdoor Recreation Standards, Washington, D. C., 1961, p. 24 - 25.
75. Liverpool Corporation Review of City Development, Plan Report No. 15, Open Space Study, 1964. p. 4.
76. Shivers, Jay S., and George Hjelts, Planning Recreation Places
77. Patmore, Allan J., op. cit., p. 85.
78. Rosenberg, Gerhard, op. cit., p. 210.

79. Mittelstaedt, Arthur, et. al., op. cit., p. 21.
80. ibid, p. 21.
81. Gans, Herbert, op. cit.
82. Gans, Herbert, op. cit., p. 6
83. ibid, p. 7.
84. Gutman, Robert, Site Planning and Social Behaviour, in Environmental Psychology: Man in His Physical Setting, eds. Harold H. Proshansky, William H. Itterlson and Leanne G. Rivlin, Holt, Rinehart and Winston Inc., 1970, p. 510.
85. Michelson, William, Man and His Urban Environment: A Sociological Approach, Addison-Wesley Publishing Co., Reading, Mass., 1970, p. 25.
86. Bangs, Herbert P., et. al., op. cit., p. 330.
87. Webber, M. M. and Carolyne Webber, Culture, Territoriality and the Elastic Mile in Taming Megalopolis v. I, ed. H. W. Eldredge, Anchor Books, Garden City, N. Y., 1967, p. 34.
88. Berger, Bennet, Suburbs, Subcultures and the Urban Future in Planning for a Nation of Cities, p. 160.
89. Clawson, Marion, Americas Land and its Uses, p. 68 - 69.
90. Michaelson, William, op. cit.
91. Tims, Duncan, The Urban Mosaic, Cambridge University Press, 1970, p. 121 - 22.
92. Webber, M. M., op. cit., p. 35.
93. Dubin, Robert, Industrial Workers Worlds: A Study of the "Central Life Interests" of Industrial Workers in Work and Leisure ed., Erwin O. Smigel, College of University Press, New Haven, Connecticut, 1963, p. 196.
94. Orczak, Louis H., Work as a "Central Life Interest" of Professionals in Work and Leisure ed., Erwin O. Smigel, p. 73.

95. Gist, Noel P., and Sylvia Fleis Fava, Urban Society, Thomas Y. Crowell, N. Y., 1964, p. 419.
96. Wilensky, Harold L., Work, Careers and Social Integration, International Social Science Journal, 12, 1960, p. 558.
97. Meyer, Harold D. , et. al., op. cit., p. 27.
98. Gans, Herbert, Outdoor Recreation and Mental Health, op. cit., p. 110.

CHAPTER II

2.1 FRAMEWORK FOR ANALYSING PARK USE

The main theme of recreational research to date has been the computation of recreational demand based upon population characteristics. The supply side or characteristics of the recreation site itself have seldom been taken into account. By ignoring one side of the equation, researchers have confused the response of populations to the existing recreational facilities for their recreational preferences and propensities. As one economist has put it,

"the confusion of demand and supply function in outdoor recreation research has been a source of great difficulty in obtaining valid projections of needs and demand levels'.(1)

What is needed, therefore, is a conceptual system that links the supply side of recreation to the demand side, in this case response to urban park supply. To put it another way, a framework is required which makes it possible to study the interaction between variables which have traditionally been thought of as existing in two separate dimensions: the physical or spatial and the behavioural (2).

One of the writers who has attempted this is Marion Clawson. He views outdoor recreation from the perspective of the user (3) or as Michelson would call it, from the ego-centred point of view. This point of view is specially meaningful here since it makes possible the analysis of the immediate environment in terms

relevant to its impact on individuals (4).

According to Clawson basic to any understanding of the requirements of outdoor recreation is an understanding of the physical, economic and psychological aspects of the whole recreation experience. According to him the recreation experience consists of five more or less clearly separate phases: anticipation, travel to site, travel back and recollection. For the purpose of this study, which is concerned with local parks, two phases are important: travel to the recreation site and on site experiences.

Many factors are involved in travel to the recreation site: distance, ease of travel, attractiveness of the environment, attitudes of the people. On-site experiences run the gamut of activities such as organized sport, going for a walk, use play equipment and the like, depending upon the age and preferences of the users. Each of these activities have different requirements, necessitate facilities of some kind and present their own rewards for the participant.

In the discussion so far, three major components of recreation experience have been identified: the people, their recreation preferences, attitudes and characteristics; the activities they undertake and the recreational resources available; and finally, the "movement" environment.

In another study Wingo and Perloff have isolated similar elements when analysing outdoor recreation (5). They argue that a new framework is required to view recreation: a systems view. The core elements of this system are people or

more specifically the various recreation populations, the outdoor recreation activities in which they participate and the inputs or facilities which make these activities possible.

A systems analysis approach to problems requires a focus on the relationships which connect elements of a system. In the case of outdoor recreation this aspect can best be seen in terms of the spatial features of the interaction. In other words the nature of the spatial separation between the park user and the park.

Since this study is concerned with local urban park use rather than parks or outdoor recreation generally, the above framework has been modified. Basically we are seeking a scheme in which the recreational activities component is the dependent variable. Since this study is concerned with relating the physical and other attributes of parks with these activities the following framework is being used.

<u>Dependent Variable</u>	<u>Independent Variables</u>
Park Activity and Use.	Population Characteristics. Park Characteristics. Spatial Interaction.

TABLE 6T

Framework for Analysis of Park Use

The rest of this section will attempt to define the variables more precisely identify the component parts of each, particularly those components which are the subject of this study.

2.2 RECREATION AND PARK ACTIVITY

2.2.1 Types of Activities

Activities constitute the fulcrum which fixes the overall relationship of recreation propensities of outdoor recreation groups to the array of facilities which are in different degrees available to users. They relate in specific ways to the behaviour patterns of the outdoor recreation groups and each has certain requirements for the nature of the facilities that supports it. To make these relationships clear the outdoor recreation activities can be classified by some specific criteria. Emphasis here will be on activities which are conducted in local urban park settings.

Skill requirements set apart certain activities in a signal fashion. Some make strong demands on the physical skills and experience of their devotees: swimming, outdoor games are examples. Participation in (and demand for) such activities is limited to those properly equipped to participate. Such outdoor recreation pursuits may be called active recreation.

Level of organization is another element which differentiates outdoor recreation pursuits. Team sports, activities in which rules and regulations play an important part. These activities usually require group participation and are classified as formal recreation activities. On the other hand, other activities may be unorganised such as walking or bicycling. These may be individually pursued or may require small group participation. Informal pursuits such as these tend to require few specialised facilities, while formal ones have highly specific requirements

in terms of facilities.

There are other ways to classify activities such as the time required to complete an activity: for instance, formal team sports have specific rules governing this aspect. Informal activities are more flexible as to duration and depend on the propensities of the participants. Some activities require extensive use of land such as field sports, others may be enjoyed under conditions of higher density such as child-oriented games or swimming.

For the sake of this study activities have been divided into five general categories each representing several specific pursuits. The activity categories are described below.

<u>Activity Category</u>	<u>Component Activities</u>
Passive	Supervision of children, sitting in the park, watching sporting events, walking in the park, talking with friends.
Informal Field Sports	Playing field sports without recourse to established rules, such as kicking a ball with a group of friends etc.
Formal Field Sports	Organised team sports: football, softball etc.
Use of Play Equipment	Use of swings, see-saw, jungle jim, play sculpture etc.
Use of Pools	Playing or swimming in wading pools.

TABLE 7II
Park Activity Classification

Many features characterise the differences between outdoor activities but the ones set forth here have the virtue of being highly selective in terms of who participates, when, where and how much. These activity classes have the role in the system of linking the demand side of the picture - populations, outdoor recreation groups and recreation propensities - to the supply side, consisting of an array of facilities which public policy provides (6).

2.2.2 Participation in Recreation and Park Activities

Predictably, the popularity of outdoor recreation activities varies considerably from activity to activity. Surveys have shown that the activities most favoured are those which require the least skill, effort or private equipment (7).

Thus, the most popular activities are of the passive variety in which barriers to participation are minimal: walking for pleasure, driving for pleasure, picknicking, nature walks, attending outdoor sports events (8). According to a survey in California all age groups engage in those activities and these pursuits accounted for about 59% of the demand in 1960(9).

The passive pursuits group is followed by the group involved in physically active recreation: playing outdoor games or sports, bicycling and water sports (swimming, boating and water skiing). In the survey conducted in California these two activities amounted to 20.9% and 13% respectively of the total recreation demand in 1960. Playing outdoor games or sports was the single activity accounting for 70.5% of the participation in physically active recreation and 15% of the total recreation

demand (10).

The popularity of swimming as an active recreation has received special mention in studies on recreation demand (11). In the California survey swimming constituted the fourth most actively pursued recreational activity (12). Indeed, according to a recreation and park survey conducted in Burnaby in 1970, swimming was found to be the most popular activity, more popular than even passive activities like walking (13).

In the context of urban parks, particularly local parks only a few of the activities mentioned above in the passive recreation category. Studies have revealed that certain passive recreation pursuits dominate in city parks which are not so popular when outdoor recreation is considered in its aggregate form. The most frequently mentioned in this category are sitting in the park, watching other people, supervising and looking after children. Infact these activities showed the highest participation rate in a survey of open space use conducted in London, England (14).

Thus, as far as local parks are concerned the following activities are of special significance:

Passive Recreation: attending sports events, walking for pleasure, sitting in the park, supervising children.

Active Recreation: swimming, outdoor games and sports, bicycling.

2.2.3 Class and Park Activities

A brief mention may be made here of the participation in outdoor recreation

activities of the working class. It has been shown that the participation rates of this class are lower than those of higher social classes. Many outdoor recreation activities cost money and this is one of the contributory factors which reduces participation rates of this socio-economic class. As evidence of this it has been found that lower income persons tend to travel shorter distances for outdoor recreation (15). This leads to a greater use of city parks by the working class. According to one study on the leisure activities of different classes, it was found that the lowest group was about 20 times that of the upper middle class.

upper middle class	lower middle class	upper lower class	lower-lower class
1.6	7.0	12.2	23.0

TABLE 8
Use of City Parks by Social Class

Source: R. Clyde White "Social Class Differences in the Use of Leisure" in American Journal of Sociology. Sept. 1955, p. 145-150.

In another study conducted in Vancouver it was found that parks in the upper income area of Shaughnessy were infrequently used, usually on Sundays and or warm evenings. In another part of the city, Grandview, a working class area, parks were used relatively frequently by the residents, from every day during summer to once a month for specific facilities (16).

Thus, though the participation rate for outdoor recreation generally among the working class group is low, the dependence of this class on city parks and local parks is higher than for the middle class. Studies have also shown that there is

some significant difference between the choice of leisure activities of the working class and the middle class. Not only is income a factor here but also the work milieu. Work patterns and attitudes to work are said to influence the choice of leisure activity. The employment of the working class in routinised jobs leads to routinised outdoor recreation such as "public camp-ground" camping as against "wilderness" camping preferred by individuals in the creative professions (17). Similarly, in a survey conducted in England it was found that the higher the income and occupational levels the greater the participation in active as against passive recreation, indicating that activities with low level involvement are preferred by the low income group (18).

In another survey it was found that people engaged in professional occupations participated twice as often in physical recreation as skilled and unskilled manual workers (19). Even among adolescents this trend prevails. For instance, a study on teenage leisure behaviour revealed that those from households in the high social class were significantly more sport loving than those in the working class (20).

2.3 POPULATION CHARACTERISTICS AND PARK USE

2.3.1 Elements Considered

Analysis of the population in terms of reasonably consistent groups can isolate many variables. The classification into these groups must, of course, be significantly associated with recreation behaviour, otherwise the reliability of the

generalisations will be no greater than that associated with a random choice.

In the previous chapter the major population variables associated with participation in outdoor recreation have already been mentioned, namely, age, sex, ethnicity, socio-economic class.

This study is limited to the working class segment of the urban population as mentioned earlier. The element of racial differences is also not the concern here. The objective is to provide a broad general insight on park use among working class populations rather than specific views concerning specialised groups. Thus the variables which are of concern to this study are age, stage in life cycle and sex.

2.322 Effect of Life Cycle and Age

Age is considered the most predictable determinant of participation in outdoor recreation. There is no technical innovation as yet that has mitigated the physical effects of age and the consequent variability in inclination or ability to participate in different type of pursuits (21).

In dealing with the effect of demographic variables on outdoor recreation activity, studies have sought to divide the population into "demand groups" based on age. The simplest such classification is: children, old people, young adults and adults (22). In a survey on park use conducted in England a more fine-grained classification system was used (23):

infants:	below 4/5 years
preteens:	5-12/13 years
teenagers:	12/13 -19 years
young adults:	20-34 years
mature adults:	35-64 years
elderly:	65 + years

In addition writers have often considered the ages of the children along with the ages of the adults when dividing a population into groups. Thus, Beyer when analysing housing choices of men and women broke his sample down according to the following stages in life cycle: (24)

young couples:	women under 35 , no children
founding families:	all children under 9 years
expanding families:	all children above 10 years
contracting families:	women over 35, no children

In this section the influence of age on park use will be considered in detail. Stage in lifecycle will be taken into account in a more general way and only in instances when it has a significant impact on park use.

Infants

Children under 5 years of age seek play areas which are close to the family home, in a familiar and secure physical setting. They prefer small enclosed spaces where there is movement, activity and colour. Their activities include running, jumping, swinging, sliding, digging, rolling, climbing, playing in water, hiding(25). The locus of these outdoor activities is the backyard of their home. They travel very short distances to parks and are almost always accompanied by adults (26). In the park children cluster around the play equipment and pools and tend not to disperse throughout the park.

Pre-teens

As children grow up and enter the pre-adolescent stage in their lives, they tend to extend their exploration into parks outside their immediate neighbourhood and are less dependent on adults. Instead, they venture into the neighbourhood alone or with their friends (27). Like children of the younger age group they use play equipment such as slides, swings, etc. However, they improvise with the equipment, if it is possible. They have a keen desire to express their dawning creative energy by building things (28). The older children in this age group begin to show interest in formal and informal field games (29). Swimming is the most popular activity in this age group (30). Pre-adolescent children are the most frequent visitors of urban parks according to the London Open Space Survey (31).

Adolescents

Generally speaking, participation rates in organised field sports are high in the adolescent age group. In fact, recreation experts consider areas devoted to field games to be predominantly for use by this age group (32). There is some evidence to support this assumption. In studies done both in England and Canada the participation rates for adolescents in organised sport like soccer and other ball games are high, about twice as high as for any other age group with the exception of those in the pre-adolescent age group (33). Though participation rate in passive activities like sitting and walking in the park is lowest for this age group, these still constitute the dominant activity. In the passive recreation category, social activities such as meeting friends in the park is a very popular activity (34). Indeed,

as the authors of the Burnaby Recreation and Parks Survey pointed out, "the concept of great interest to the teen-agers is the informal socially-oriented Drop-In activity" (35).

Since adolescents are generally very mobile, they tend to travel further for their recreation than most other age groups. They are not frequent visitors to local parks, preferring those further away.

Young Adults

Young mothers of infant children are frequent visitors to parks. They choose parks close to their residence. This age group is concerned mainly with the needs of young children. To a large extent young adults go to parks with the object of accompanying their children and supervising their play. Outdoor recreation visits by people in this stage in life-cycle are family centred. They are mainly engaged in passive recreation while in the park such as sitting, strolling and playing with children(36). However, a significant percentage of the men indulge in field sports (37).

Mature Adults

People in this age group tend increasingly towards passive recreation in parks such as watching sports events, sitting in parks or walking through them. According to a survey conducted in England, park attendance in this age group is higher in fact than for any other age group. These visits are generally made to parks outside the local area, particularly to the larger parks (38). However, these

findings are contradicted by the survey conducted in Burnaby.

This survey indicated that people in the mature adult age group do not find large or small parks very appealing and visit them seldom (39).

The Elderly

A great deal has been in recreation literature of the recreational needs of the elderly. There is an inherent assumption that people over 65 years of age would be specially appreciative of parks and open space close to their home. Evidence, however, suggests that the elderly use parks quite seldom, although they visit larger parks somewhat more often than the smaller ones. The activities that the elderly indulge in while in the park are overwhelmingly of the passive variety, such as walking, sitting, watching sports events or reading. (40).

2.3.3 Sex as a Determinant of Park Use

Generally speaking, men engage in more outdoor recreation activities than women and this is particularly true where active recreation is concerned. Participation by females in organised sports in parks is almost negligible though a significant proportion of 11 or 12 year old girls do participate in some field sport. Even at that age however, boys are far more active in sports than girls (41).

Activities with children, social activities have a higher rate of participation among women than among men. Other passive activities such as sitting in the park or walking are also more popular activities among women than men (42).

2.4 PARK CHARACTERISTICS AND PARK USE

2.4.1 Park Elements

Park characteristics can be seen as a set of limiting conditions or conditioning factors offering possibilities and setting limits on the type of activities that can take place within a particular site (43). Seen from the user's point of view it can be said that people rationally seeking to match their recreational preferences with a set of parks or recreational facilities would tend to choose the ones that would best suit their preferences. Thus, the configuration of park elements can, theoretically at least, be seen to play an important part in the choice of parks by people.

In recognition of this notion recreation researchers attempting to predict the use of parks have used the concept of "park attractiveness" or "drawing power".

Frank J. Cesario has defined this concept "as the interface of user preference and utility functions with existing recreation facilities and quality" (44). Some efforts have been made to devise attractiveness indices for recreation areas

Van Doren based his index for camping attractiveness on:

1. outdoor recreation activities
2. natural environmental resources
3. camping facilities (45).

Another formulation of attractiveness index simply considered the type, quantity and quality of facilities offered and was defined as a sum of products. The "utility" of having an activity and the quality of the activity were multiplied and this product

was added for a set of activities (46).

Two major components of site attractiveness usually considered in constructing attractiveness scales are:

1. natural aspects and features
2. man-made facilities (47).

Natural aspects include a qualitative and quantitative measures. Qualitative aspects concern natural amenities of site such as vegetation, water area and configuration of landscape elements. The quantitative aspect is size of the park in the simple geometric sense - a gross measure which has its limitations as will be discussed later (48).

Among the man-made features are capital improvements such as construction of swimming pools, play equipment, sports pitches within the park. One factor which is unique to urban parks is supervision. This is considered very important by recreation specialists who are concerned with park facilities for children (49).

For this study the park variables considered are:

1. size of park
2. facilities or man-made improvements
3. level of supervision.

Natural features or scenic values of the park, although an important aspect when considering the attractiveness of a park, has not been taken into account here. It was felt that most parks in Vancouver, and particularly those in the working class areas of the city, are bereft of any scenic values. It was, therefore, difficult

to take this variable into account in the analytical scheme of the study.

2.4.2 Size of Park

Perloff and Wingo have suggested that when considering park characteristics, space in its simple geometric sense may not itself be a meaningful element. The resource endowment that goes with the land must be considered alongside with the size. Space as the effective quantity of land input frequently involves some complex dimensions: length more than area is important in beaches, unobstructed space is crucial for field sports. Thus many spatial features may influence the way in which input of space may be measured (50).

However, in the case of local city parks the natural resource endowments are fairly similar particularly in Vancouver as already indicated. Size of park can, therefore, be viewed as a separate variable when analysing local urban parks. Also, it is important to remember that size of a park measured in gross terms such as area bears an important relationship with the capacity of the park.

In recreation planning practice, city park size is directly related to the level of community served. Small parks are expected to serve the limited population of a neighbourhood, whereas larger parks are designed to serve several neighbourhoods. The assumption here seems to be that the larger the park the larger will be the number of people who will use it. Also that people will be willing to travel to larger distances to use it.

In pursuance of this notion a hierarchy of parks has been proposed by recreation planners. For instance, the National Recreation and Park Association has proposed a park site of about 12 acres to serve about 5000 people. A district park is envisaged to be about 70 acres in area serving 20,000 people (51). The Greater Vancouver Regional District considers a park of a minimum size of four acres would serve a population of 3000 - 5000 people. The next level of park called the community park with a minimum area of 20 acres is visualised as serving a population of between 15,000 - 40,000 (52).

How far are the assumptions which relate park use to size, assumption upon which the above standards are based, borne out by studies on park visiting patterns?

In a study done in Baltimore, Dee found that attendance in the larger parks was significantly greater than in smaller ones. He was comparing parks of less than two acres with those between two and six acres (53). In the Burnaby Survey cited earlier, it was found that more people visit community parks than neighbourhood parks (54). Thus, there does seem some evidence to support the contention that the numbers of visitors to parks is related in a positive way to the size of the park.

2.4.3 Park Facilities

Parks contain a great variety of outdoor recreation facilities. Some are used the year round, others during a single season. Many afford opportunities for highly organised, competitive sport; others provide recreation for individuals or family

groups. They differ widely in activities they are intended to accommodate, in the space and locational requirements, in construction and operating costs and in the number of persons served (55).

Since some activities are more popular than others and among different segments of the population, it stands to reason that parks with facilities which accommodate these activities should be more popular than others and with different segments of the population.

There are few studies which have attempted to relate facilities in a park to the number of visits made to the park. However, one facility does stand out as being outstanding in its ability to attract visitors to the park in which it is located: the pool. In their study on playgrounds, Dee and Liebman found that attendance to parks with pools by children between five to fourteen years was two to three times higher than for parks without pools (56).

The other component of parks which seems very popular with park visitors as a whole is play equipment for children. In the London Open Space Survey (57) it was found that parks with facilities for children were more popular than those without. However, this popularity did not extend through all age groups. For the adolescents sports facilities were considered more important. The same study noted that visits to parks with facilities were of longer duration than those without.

2.4.4 Park Supervision

Recreation leadership and supervision takes many forms, involves widely different

functions and has varied objectives. Recreation leaders may be concerned with children, young people or adults; they help organise and conduct programs, comprising a wide variety of indoor and outdoor facilities. The importance of recreational leadership has become increasingly recognised. It is considered one of the most important factors contributing to the success of the park. As George Butler has said:

"programs have failed and facilities have received little use in communities where leadership was considered unimportant"(58).

Recreation leaders are particularly important where children are concerned. They help children to initiate play activity, guide their recreation, arbitrate in disputes, maintain order and curb undesirable activity. A supervised playground is considered safer by parents of young children. So important is supervision to the use of parks by children, that in one survey it was found that playgrounds which were not supervised had little or no attendance (59).

2.5 SPATIAL INTERACTION

2.5.1 Aspects of Spatial Interaction

An important aspect of spatial interaction is embraced by the concept of location, where the facilities are located with respect to their consuming publics (60).

Location affects the use of a park because of the distance to be covered by the consumer to reach the facility.

However, the spatial components of park use are not all embodied in the dimension of distance: the relationship is more complex (61). A factor considered in many site specific recreation studies is the concept of accessibility or the ease with which a facility can be reached (62). Since most visits to local parks are made on foot, the ease with which these parks can be reached depends on the extent to which there are barriers to pedestrian movement in the environment.

Thus the section examines two aspects of spatial interaction: distance and the pedestrian environment.

2.5.2 Distance

Distance is the prime barrier to the consumption of outdoor recreation services. In order to enjoy these services the user must overcome this barrier, he must transport himself to the park. This involves costs in terms of effort, time and if the park is far enough away, money as well. Since his supply of both is not unlimited, he must measure the satisfaction of the anticipated experience against the value of other experiences which alternative uses of his time and effort would have made possible. In short, distance is a measure of the dominant private costs confronting the consumer of outdoor recreation services.

An important part of park standards is the concept of service area, measured as the radius around the park. A neighbourhood or local park is expected to serve a population within a radius of one-quarter of a mile, according to the National

Recreation and Park Association. Similarly, a community park has a service radius of about half-a-mile (62 A).

How far are these distance criteria based on the behaviour of people?

According to a study done in London, the largest proportion of journeys to parks were less than one-quarter mile. However, when parks of different sizes were considered the survey showed that visitors travelled considerable distances to get to parks over 50 acres, but few travelled over one-half mile to get to parks under two acres. (63).

Other factors effecting the distance people are prepared to travel to a park depends upon the object of their visit to the park, their age. It has been found that the distance decay function varies from activity to activity. People travel longer distances for formal playground activities than for informal activities (64).

2.5.3 Pedestrian Environment

The components of the pedestrian environment are: safety, convenience, comfort and appearance (65). These elements are interrelated and overlapping. Some of them can be converted into operational terms which are measurable, though not all can be quantified. The more important operational elements of the pedestrian environment are as follows:

Pedestrian Safety:

Street Width
Vehicular Speed
Vehicular Volume
Pedestrian Crosswalks
Controlled Intersection

Pedestrian Convenience:	Pathway Directness Linkage Severance
Pedestrian Comfort:	Noise Vibration Fumes

TABLE 9

Elements of the Pedestrian Environment

Source: Pendakur, Setty V., and G. R. Brown
Community Values and Street Quality,
 in PLAN, v. 10. no. 3, 1970.

For the purpose of this study only the element of pedestrian safety will be used as a variable with street width and traffic volume being taken as indicators of this variable. The other indicators in the list above were either considered unquantifiable, or data on them was difficult to obtain.

There are no studies related to the influence of these two aspects of pedestrian safety on park use. However, physical planners have accorded them a great deal of importance. One of the common elements in planned new towns all over the world are pedestrian networks interspersed with parks and open spaces. Supporting this physical structure is the assumption that an improved, safe and convenient pedestrian environment would encourage the use of parks. A similar notion is implicit in the neighbourhood unit idea. According to this idea, as already mentioned, the local park is located in such a way as to permit residents of a neighbourhood to walk to the park without having to encounter any major traffic roads (66). The latest cluster housing designs embody an even more radical principle: a direct link between each residence and public open space, uninterrupted by any

2.6. VARIABLES IDENTIFIED

The analytical framework to be used to meet the objectives of this study can now be identified. Basically the study will examine the correlations between the five variables: Park Use, Park Activity, Park Characteristics, Population Characteristics and Spatial Interaction. The specific indicators of these five variables are given below:

Park Use:	Number of visits to each local park per week
	Average duration of visits to each park
Park Activity:	Category of recreational activity pursued in each park
Park Characteristics:	Size of local park
	Number of Facilities
	Level of Supervision
Population Characteristics:	Age of Respondent
	Stage in Life Cycle of Respondent
	Sex of Respondent
Spatial Interaction:	Distance from resident to park volume of traffic encountered.

TABLE 10

Variables and Indicators

REFERENCES

1. Seneca, Joseph J., and Charles J. Cicchetti, User Response in Outdoor Recreation, Journal of Leisure Research, Spring 1969, p. 239.
2. Barker, Roger, Ecology and Motivation, Current Theory and Research in Motivation, University of Nebraska, v. 8, 1960, p. 12.
3. Clawson, Marion, America's Land and Its Uses, Resources for the Future, John Hopkin's Press, Baltimore, 1972, p. 58.
4. Michelson, William, Man and His Urban Environment, Addison Wesley Publishing Co., Reading, Mass., 1970, p. 44.
5. Perloff, Harvey S. and Lowdon Wingo Jr., Urban Growth and the Planning of Outdoor Recreation in Outdoor Recreation Resources Review Commission Report No. 22, Washington, D. C , 1962, p. 87.
6. Perloff, Harvey S. and Lowdon Wingo Jr., op. cit., p. 89.
7. Mueller, Eva and Gerald Gurin, Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults in Outdoor Recreation Resources Review Commission Report No. 20, Washington, D. C., 1962, p. 8 - 9.
8. Patmore, Allen J., Land and Leisure in England and Wales, David Charles: Newton Abbot 1970, p. 57.
9. Department of Parks and Recreation, Statewide Recreation Planning Unit, Outdoor Recreation Outlook to 1980, San Francisco Bay Area Metropolitan Complex, Dec. 1966, p. 25.
10. ibid., p. 24.
11. Outdoor Recreation Resources Review Commission, Report No. 25, Washington, D. C., 1962.
12. Department of Parks and Recreation, op. cit., p. 24.

13. AVG Management Science, Burnaby Parks and Recreation Study, Report to the Burnaby Parks and Recreation Commission, 1970.
14. Greater London Council, Planning Department, Surveys of the Use of Open Space v. 1, 1968, p. 29.
15. Clawson, Marion, op. cit., p. 66
16. Rawley, Kim and Thomas K. Peuker, Park Awareness and Park Use in Cities, Western Geographical Series v. I, University of Victoria, 1970, p. 129 - 133.
17. Etzkorn, K. P., Leisure and Camping: The Social Meaning of a Form of Public Reation, Sociology and Social Research, Oct. 1964.
18. Greater London Council, op. cit., p. 35.
19. Cullen, P., Whither Industrial Recreation Now? (Part II) Sport and Recreation, Jan. 1967.
20. Emmet, Isabel, Youth and Leisure in an Urban Sprawl, Manchester University Press, 1971, p. 25.
21. Perloff, Harvey S. and Lowdon Wingo Jr., op. cit., p. 88.
22. Rosenberg, Gerhard, City Planning Theory and Quality of Urban Life in Ekistics, May 1969, p. 411.
23. Greater London Council, op. cit., p. 6
24. Beyer, Glen H., Housing and Society, Macmillan, New York, 1965.
25. Abernathy, W. D., The Importance of Play in Ekistics, May 1969, p. 206.
26. Greater London Council, op. cit., p. 6
27. Sillitoe, K. K., Planning for Leisure, H.M.S.O., 1969, p. 95
28. Lady Allen of Hurtwood, Planning for Play, Thames and Hudson, London, 1965.
29. Greater London Council, op. cit., p. 69.

30. AVG Management Science Ltd., op. cit., p. 88
31. Greater London Council, op. cit., p. 68.
32. Butler, George, Introduction to Community Recreation, McGraw Hill Book Co., N. Y., 1967, p. 207.
33. Sillitoe, K. K., op. cit., p. 237.
Greater London Council, op. cit., p. 29.
AVG Management Science Inc., op. cit., p. 34.
34. Sillitoe, K. K., op. cit., p. 76.
35. AVG Management Science Inc., op. cit., p. 84.
36. Greater London Council, op. cit., p. 31.
37. AVG Management Science Inc., op. cit., p. 34.
38. Greater London Council, op. cit., p. 15.
39. AVG Management Science Inc., op. cit., p. 95 - 99.
40. ibid, p. 95 - p. 99
Greater London Council, op. cit., p. 13 - p. 38.
Sillitoe, K. K. op. cit., p. 77.
41. Mueller, Eva and Gerald Gurin, op. cit., p. 14.
42. Greater London Survey, op. cit., p. 24 - p. 26.
43. Schnore, Leo, Social Morphology and Human Ecology, American Journal of Sociology, v. 63, 1958, p. 628.
44. Cesario, Frank J., Operations Research in Outdoor Recreation in Journal of Leisure Research, v. 1, Winter 1969, p. 48.
45. Van Doren, C., An Interaction Travel Model for Projecting Attendance of Campers at Michigan State Parks, Ph. D. Dissertation, East Lansing, Michigan, Michigan State University, 1967.
46. Cesario, F. J., S. E. Goldstone and J. L. Knetsch, A Report on Outdoor Recreation Demand and Values to Middle Atlantic Utility Group, Batelle Memorial Institute, Columbus Laboratory, Columbus, p. 38.

47. Cesario, Frank J., Jr., op. cit., p. 48.
48. Perloff, Harvey S., and Lowdon Wingo Jr., op. cit., p. 89.
49. Butler, George, op. cit., p. 252.
50. Perloff, Harvey S. and Lowdon Wingo Jr., op. cit., p. 89.
51. National Recreation and Park Assoc., Outdoor Recreation Space Standards, N.R.P.A., N. Y., 1965.
52. See Table 4, Chapter I.
53. Dee, Norbert, et. al., op. cit., p. 151, 153.
54. AVG Management Science, op. cit., p. 13 - 38.
55. Butler, George, op. cit., p. 195.
56. Dee, Norbert, et. al., op. cit., p. 149.
57. Greater London Council, op. cit., p. 19.
58. Butler, George, op. cit., p. 195.
59. Dee, Norbert et, al., op. cit., p. 195.
60. Perloff, Harvey S. and Lowdon Wingo Jr., op. cit., p. 91.
61. Cheung, Hym K., A Day Use Visitations Model in Journal of Leisure Research, v. 4., Spring 1972, No. 2., p. 143.
62. ibid, p. 143.
- 62A. National Recreation Parks Association, op. cit., p. 7.
63. Greater London Council, op. cit., p. 27, 28.
64. Sillitoe, K. K. op. cit., p. 25.
65. School of Community and Regional Planning, U.B.C., Urban Land Use Structure and Accessibility, Staff Research Project 1, 1965, p. 9.

66. Gallion, Arthur B., and Simon Eisner, The Urban Pattern, D. Van Nostrand Co. Inc., 1963, p. 253.
67. Whyte, William F., Cluster Development, American Conservation Association, 1964.

CHAPTER III

3.1 METHODOLOGY OF ANALYSIS

3.1.1 CHOICE OF SURVEY TECHNIQUE

Since the main objective of this study is to analyse the response of local parks by the surrounding residential population. It was decided to focus on the residential area rather than parks when conducting the sample survey. It was felt that to conduct the survey in the parks would have given only a part of the picture: only the users of the parks would have been sampled. On the other hand a household survey of residences located near the park, would provide a sample of the local area population, user and non-user. The response of the non-user population and the characteristics of this population was considered an important insight in itself. As Seymour Gold has stated:

"An emphasis on the phenomenon of non-use is fundamental not only to the survival of local public park and recreational systems but to a better understanding of existing or projected use at the neighbourhood level" (1).

It must be acknowledged that there are disadvantages in the household survey technique. It relies on recall to a greater extent than does on-the-spot interview. But as far as this study is concerned its major drawback seems to be that it ignores all those users of parks who reside outside the designated local area. However, as has already been pointed out this study is mainly concerned with the response

of the local area population to local parks and not with all users. Certainly, an understanding of non-local park users would be useful for a comprehensive view of park use, it does not constitute the main thrust of this study.

Five variables have already been identified as constituting the focus of this study: park use, park activity, population characteristics, park characteristics and spatial interaction. Three of these variables are peculiar to the population: park use, park activity and population characteristics. Two of them are physical-spatial characteristics of the area environs and the parks. Thus only one part of the data is obtained from the sample population: the data concerning park use, park activity and population characteristics. The rest of the data: that concerning the physical and spatial dimension is obtained from the Parks and Recreation Department and the Department of Planning.

	Variables	Source of Data
Population Elements	Park Activity Park Use Population Charac- teristics	Sample Population
Physical Elements	Park Characteristics Spatial Interaction	Planning Department Parks and Recreation Department

TABLE 11
Variables and Data Sources

3.1.2 Choice of Study Area

In selecting the study area four criteria were used as a basis:

1. parks in the study area must exhibit a variety of characteristics;
2. it must be a predominantly working class area:
3. it must be a predominantly single family area without a wide variation in physical characteristics between different segments of the area;
4. the resident population must exhibit similar characteristics throughout the study area.

As a first step the working class areas of Vancouver were first established with the help of the United Community Services study which delineated the various "local areas" of the city based on socio-economic indices (2). Then four contiguous parks which exhibited a variety of characteristics were selected. It was felt that the delineation of the study area based on contiguous parks would ensure the fulfillment of criteria three and four.

The decision to limit the study to only four parks was made in spite of the realization that this is a very small number upon which to make valid generalisations concerning park use. However, it was felt that to increase the number of parks would mean that few valid correlations could be made between variables, unless the sample size was very large. However, owing to limitations of time only a small number of households could be sampled.

Four parks were selected in what is known as the Cedar Cottage-Kensington Area

of Vancouver East. This is a predominantly working class area as will be shown later in this section. The boundaries of the study area were based on the service area of the parks. A radius of about 1/4 mile was assumed as the service area of each park - as suggested in the N.R. & P. A. standards (3). The study area as a whole, therefore, consisted of the combined service areas of the four parks.

3.1.3 Selection of Sample

The selection of the sample population was accomplished in two stages. Having delineated the study area, each block within the area was assigned a random number. As it was decided to survey only 120 households, a random selection of 120 residential blocks were made. For the second stage each address in the randomly selected blocks was assigned a random number and then 120 addresses were selected. These 120 addresses constituted the household sample. The anticipated rate of return was 50%, so that the data analysis was to be carried out on the basis of the response from 60 households.

3.1.4 Survey Technique

The survey technique used was the household interview. It was felt that the generally lower level of schooling among the working class as well as the lack of familiarity with the English language among the immigrant population would result in a very low rate of return if the mailed questionnaire technique was used. Also, it was feared that a bias would result from the use of such a technique. Since the

interviews were conducted by the writer, there was little possibility that lack of consistency in the method of interviewing would vitiate the interview.

Questionnaires formed the basis of the interviews. Data was obtained concerning each member of the family. On some occasions all members of the family were not present for the interview. In these instances, the members who were present at the interview were asked about the absent members. This, it was realised, diluted the accuracy of the survey. However, lack of time necessitated this procedure. As a safeguard against inaccurate information, attitudinal questions relating to preferences, satisfaction etc., were obtained only concerning the interviewees themselves. Questions regarding activities in the park concerning absent members were obtained from those present at the time of the interview.

3.1.5 Questionnaire Design

The interview schedule was divided into two sections. The first section contained questions concerning the household: number of children, stage in lifecycle or heads of the household, occupation of household head. The second section contained questions relating specifically to Park Use and Activity, Satisfaction, etc. The questions contained in the first section were asked only of one member of the household, usually of the older ones. Questions in the second part were asked of each member within the household.

The questionnaire was pretested for clarity. Some changes in wording was found

necessary in the initial questionnaire. The term "park" seemed to lead to misinterpretation. For many respondents it had a special meaning: a landscape open space whose major qualities were visual appeal and in which passive recreation took place. The term "parks and playgrounds" had to be used in its place.

The questionnaire was pretested during the third week in August and the survey was conducted during the last week of that month and continued into the beginning of September.

During the survey, it was found that in the month of August parks are not very actively used. Several trips to the selected parks at different times of the day, during weekends and week days revealed a bleak picture of silent, deserted neighbourhoods and empty parks. On questioning the residents and park officials it emerged that August is the quietest summer month as far as park use was concerned. There are no organised sporting activities during this month, people travel outside the city during week-ends for recreation and it is generally considered that the exposed, unshaded parks are too hot for use. This knowledge forced a change in the wording of the questionnaire. Instead of asking, as was the original intention, "How many times during the last week did you visit the parks in your area" the question was reworded as follows: "How many times in a week do you visit the parks in your area?". The reworded question relied on memory and recall to a greater extent than the original one. However, there was no alternative, since the original question would have resulted a response that was only valid for the month of August, which was not the intention of the question.

3.2 STUDY AREA CHARACTERISTICS

3.2.1 Physical Characteristics

The study area is located some 3 1/2 miles from downtown Vancouver in the eastern part of the city. It is roughly one mile in length and about half-a-mile in width. It extends from 29th Avenue in the North to 56th Avenue in the South, from Ross Street in the West to Nanaimo Street in the East. It straddles five census tracts: 52, 29, 28, 47 and 48.

The area is overwhelmingly single family residential, dominated by 33 foot lots, though there are a few larger properties scattered throughout the study area.

There are no apartment developments within the boundaries of the area.

The major land use, apart from single family residential, is retail commercial. This is concentrated in a ribbon along Victoria Drive which runs in a North-South direction towards the eastern part of the site. Besides four parks, there are three schools dispersed through the area: one secondary, one elementary and one primary.

3.2.2 Population Characteristics

There are approximately 3735 dwelling units within the study area according to the Greater Vancouver Regional District Landuse map for the area. Assuming that each dwelling unit represents a household with an average of 3.3 persons (4) per



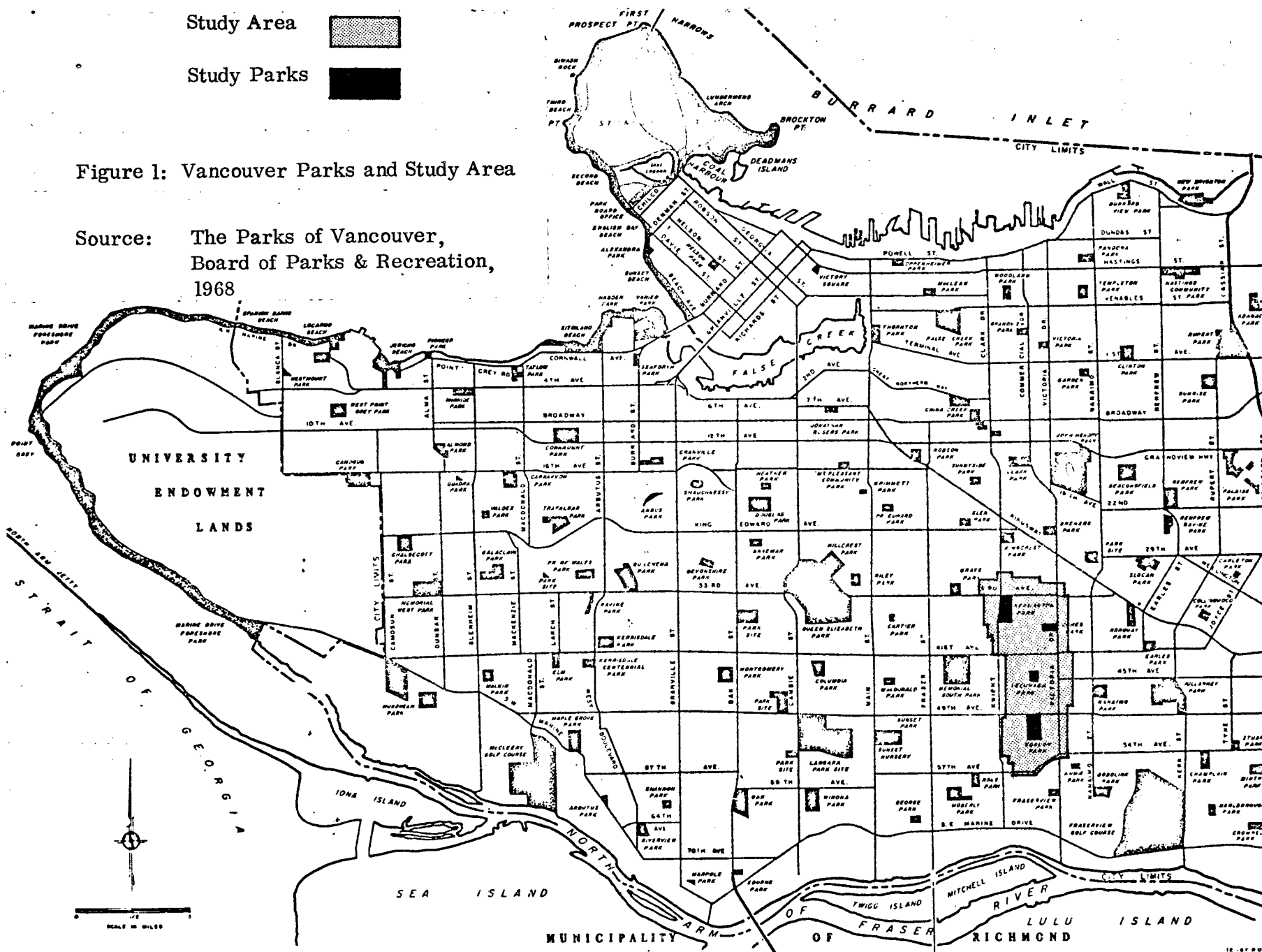
Study Area 
 Study Parks 

Figure 1: Vancouver Parks and Study Area

Source: The Parks of Vancouver,
 Board of Parks & Recreation,
 1968



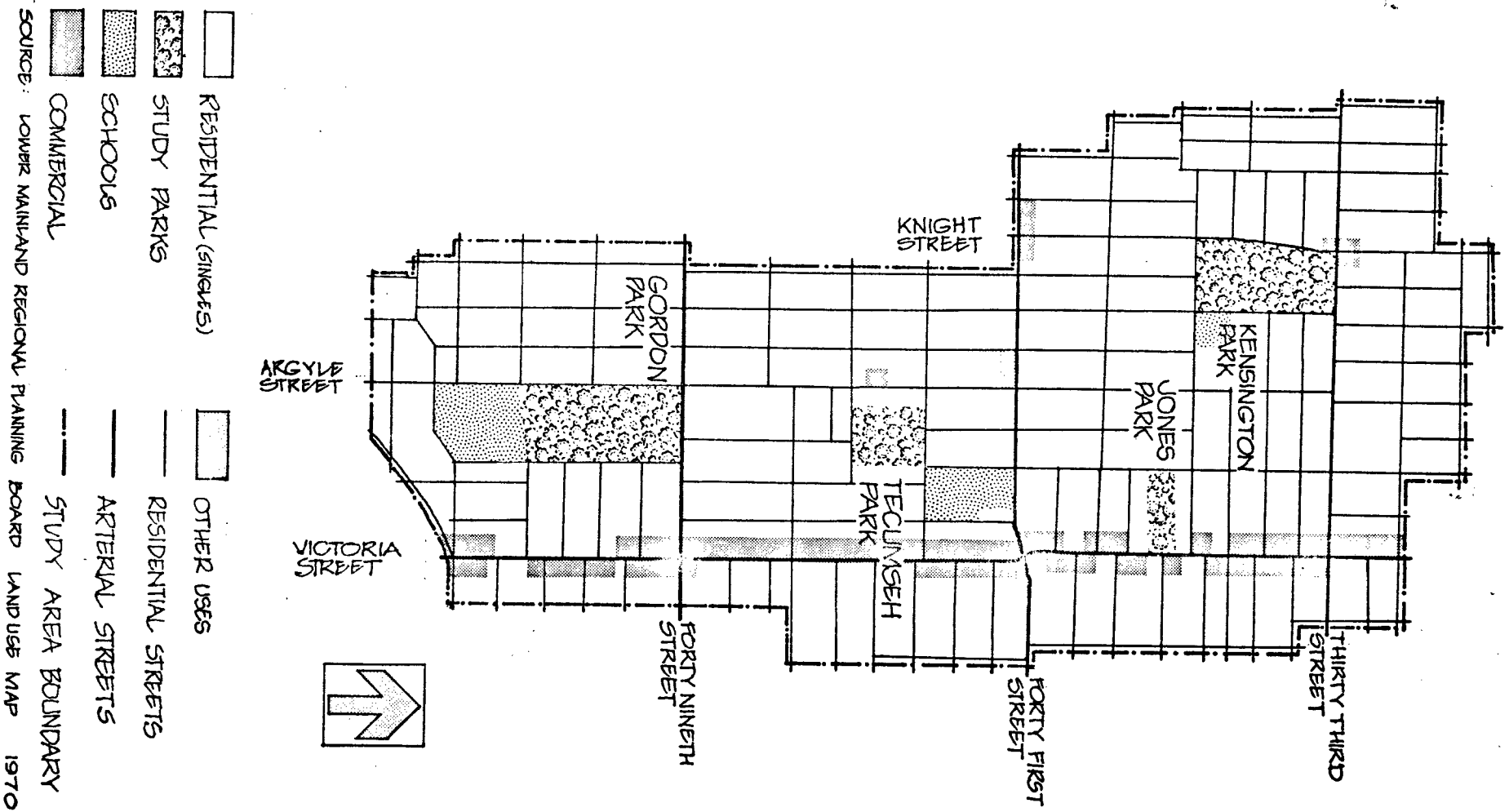


Figure2: Study Area Land Use

household, the population of the study area works out to be approximately 12,300 persons. This population constitutes the universe from which the actual sample was taken.

There are no population studies which deal exclusively with this area. In order to gain some insight into this aspect information from the 1961, 1966 and 1971 census will be used. Since the sample area covers only a part of each census tract the figures below give only a highly generalised picture of the universe.

	Census Tracts					Total
	28	29	47	48	52	
1. Population (1966)	9414	7958	9211	5840	5856	38279
(1971)	9606	8529	10189	5924	5695	39943
2. Households(1966)	2825	2323	2560	1546	1601	10848

TABLE 12
Population by Census Tract

Age	Total	Percentage
less than 4	3393	8.8
5-9	3783	9.8
10-14	3504	9.3
15-19	3205	8.3
20-64	20720	53.6
65 +	3901	10.2

TABLE 13
Age Composition (1966 Census)

no. of children	no. of families	percentage
no children	3403	34.6
1-2	4383	44.5
3-4	1774	18.1
5 +	274	3.8

TABLE 14
Families by Number of Children

occupation	number	percentage
managerial, professional, technical	1115	11.4%
clerical and sales	1496	15.3%
skilled and unskilled blue collar workers	5085	52.2%
other (service, recreation, transport)	2038	21.1%

TABLE 15
Occupational Composition of Household Heads
(1961 Census)

Among the household heads the dominant occupation falls within the blue collar category as indicated by the table above. In terms of socio-economic status, according to the 1961 census, the census tracts representing the universe constitute the lowest and second lowest levels in Vancouver.

When stability of the population is considered, measured by the percentage of population resident for less than one year, this area varies from average to below average. Owner occupied houses constitute from 75% - 82% of the dwellings in the area covered by the five census tracts, which is above average for Vancouver (5).

Thus the study area population can be characterised as a predominantly stable working class population with a below average standard of living, as compared to Vancouver. This profile is based on 1961 census figures. There is no comparable data from which to judge whether there has been any radical change in the composition of this population in the intervening decade.

3.2.3 Road and Traffic System

Four major streets run through the study area: 49th Street, 41st Street, 33rd Street and Victoria Drive. These streets have been designated as secondary arterials by the Vancouver Traffic Department (6). They carry long distance intra-municipal traffic. Besides these major streets there are two others: Knight Street and Commercial Drive which within the study area have been designated as neighbourhood streets, though north of the site both these streets function as secondary arterials. All the other streets in the study area are neighbourhood or local streets.

Apart from 49th Street, the secondary arterials within the study area are all 60 feet wide with two paved lanes for parking and four driving lanes, 49th Street is 45 feet wide and has two unpaved lanes for parking. The heaviest traffic volume is

on 41st Street followed by Victoria Drive, 49th Street and 33rd Street. For the purpose of this study traffic volume on 41st Avenue will be ranked "High", on Victoria "Medium" and 33rd Street and 49th "Low".

Streets	Designation	Width	Driving Lanes	No. of Park.	Traffic Volumes *	Traffic Category
41st St.	Secondary Arterial	60'	4	2 paved	2500	High
49th	"	45'	4	2 unpaved	1300	Low
33rd	"	60'	4	2 paved	1150	Low
Victoria Drive	"	60'	4	2 paved	1500 **	Medium

TABLE 16
Street and Traffic System in the Study Area
Source: Traffic Department, City of Vancouver.

* Two directional counts for July and August 1970 during peak hours

** Refers to counts taken at Victoria and 38th Street.

3.3 Park Characteristics

3.3.1 Component of Parks

There are four parks exhibiting varying characteristics in the study area. They are called Kensington Park, Jones Park, Tecumseh Park and Gordon Park. They have been classified as local parks since none of them are equipped to deal with

long distance visitors as indicated by the lack of car parking facilities. Interviews with Parks Board Officials confirmed that all the parks within the study area were designated by the Board as being for the use of the surrounding residential population.

A description of the characteristics of each park follows under the following heads: physical features, accessibility, size, facilities, supervision.

3.3.1 Kensington

Physical Features

This park is situated just off 33rd Street and Knight Street. It is on a sloping site and there is a change in grade of 60 feet along the length of the park. Landscaping of the park has resulted in three large terraces. The emphasis in the landscaping seems to have been on the provision of the maximum number of playing fields on a sloping site.

There are a few widely spaced young trees barely 15 feet high along the boundaries of the park and even smaller ones scattered along two pedestrian paths that run through the site. There is also some shrubbery around a small parking lot behind the field house.

Size

Kensington Park is roughly rectangular in shape about 1150 feet long and 500 feet in width along the northern boundary. This width increases to about 600 feet along the southern side. The area of the park is 15.80 acres.



Figure 3: Kensington Park

Accessibility

Kensington Park is bounded by three neighbourhood roads and one secondary arterial: 33rd Street which carries a peak traffic volume of 1150 vehicles per hour. Also, along 33rd Avenue there is a 3' - 6" metal fence which restricts access to the park from the northern side. Thus, the accessibility from three sides is good, whereas from the fourth it is restricted.

Facilities

This park is well-endowed with a variety of facilities and a large number of activities organized by local recreation associations are sited in the park.

For active sports there are playgrounds for football, soft ball, soccer and rugby. There is also a fieldhouse with washrooms and a community hall.

For small children there is a wading pool, some play equipment in the form of two swing-sets, a see-saw and a sand-pit. A resident superintendent looks after the play-equipment and does minor repairs.

An active community organization called the Kensington Community Association with dues paying members organizes many activities. There is a play school organized by the association during the summer months, a soccer club, and a soft ball association. Besides this dance programmes, senior citizens programmes and pageants are organized from time to time (7).

Supervision

During the Summer and Fall months, Parks Board provides the services of

recreational leaders to help with the organization of recreational programmes. These leaders do not supervise the various organized activities such as sports or other programmes sponsored by the community association. However, they do coordinate the use of the playfields, arbitrate in disputes. They take a more active part in the supervision of young children in the park. They watch over the activities of these children, particularly as regards their safety and security by providing them protection against bullying adolescents, by preventing altercations. They also attempt to prevent misuse of the equipment, misuse that may result in injury of the children or damage to the equipment.

Two recreation leaders are in attendance during the Summer and Fall on week days from 10 a.m. to 9 p.m. and on week-ends from 1 p.m. to 5 p.m.

3.3.2. Jones Park

Physical Features

Jones Park is located between Victoria and Commercial Drive. A major portion of Jones Park is flat and featureless. However, the eastern part of the park slopes gently. On this sloping section there are a dozen mature trees: largely cedar and also a few hemlock. These trees are clustered together around the play equipment and provide areas of shade as well as a sense of enclure for those using the play equipment.



Figure 4: Jones Park

Size

The approximate dimensions of Jones Park are 700 feet by 220 feet.

The area of the park is 4 acres. It is a long and narrow park in the shape of a regular rectangle.

Accessibility

Along its length this park is bordered by rows of single family dwellings and gravel service roads. Access to the public in general is principally available from two of its narrow sides: from Victoria Drive and Commercial Drive. However, access from these two sides is limited by metal fences.

Thus access to Jones Park from the surrounding residential area seems limited. Indeed, effort seems deliberately to have been made to contain Jones Park and restrict entry to it rather than to integrate it with the surrounding area.

Facilities

Jones Park seems largely designed for organized field sports. Most of its four acres are devoted to playgrounds for various games. These include team games such as football, softball and soccer.

There is a small field house with washrooms and accommodation for a resident superintendent. However, there has been no resident superintendent in the park

for over a year, and none could be found during the survey.

Near the field house there are two pieces of play equipment: one set of swings and one see-saw. Apart from a few benches along the children's play area there are no other facilities in this park.

Supervision

No recreation leader visits Jones Park. The Parks Board merely looks after the maintenance of the park facilities and landscape elements. It does not provide any staff for developing recreational activities among park users. Jones Park is not a supervised park.

3.3.3. Tecumseh Park

Physical Characteristics

This park is located off 43rd Avenue between Argyle Street and Commercial Drive. It has a billiard table topography and the only physical features worth mentioning are a few newly planted trees and shrubs.

Size

The area of this park is just under 5-1/4 acres and its dimensions are approximately 325 feet by 425 feet.

Accessibility

Two sides of the park abut private residential lots and service lanes. The other two sides are bounded by neighbourhood streets. These two streets do not carry



Figure 5: Tecumseh Park

a great deal of traffic and are not, therefore, significant barriers to accessibility of the park. Besides, there are no fences controlling park entry.

Facilities

A large part of the park is devoted to childrens' play equipment. There is a monkey bar set, a set of see-saws, swings, log-sculpture and a sand-pit. For organized sport there is a soccer field. This park does not have a field house or wash-room facilities.

Supervision

Tecumseh Park is not a supervised park.

3.3.4. Gordon Park

Physical Features

Gordon Park is a large, flat, featureless piece of turf situated between Argyle Street and Commercial Drive. Young, widely spaced cedar trees flank the boundaries of the park. A few are clustered around the field house off Commercial Drive.

Size

Gordon Park has an area of 15 acres. It has a roughly rectangular shape and its dimensions are approximately 1200 feet by 600 feet.

Accessibility

One of the narrower sides of the park abuts David Thompson School, while



Figure 6: Gordon Pa rk

the other side is bounded by 49th Street. This is a secondary arterial with a peak traffic of 2500 vph. Along the longer sides of the park there are neighbourhood streets over which there is little traffic.

Facilities

This park has a large number of facilities for organized active field sports. There are playgrounds for baseball, football, grass hockey, soccer, soft ball, rugby as well as tracks for athletics. There is also a field house with a resident superintendent. The field-house is provided with washroom facilities. There is no play equipment or playground facilities for children.

Supervision

Gordon Park is not a supervised park.

3.3.5. Comparison

It is evident from the descriptions of the four parks above that they exhibit a variety of characteristics, both physical and organizational. On the other hand, some elements of the parks are quite similar, such as landscaping and natural features. Apart from Kensington Park which is composed of a series of flat terraces, the parks are more or less flat. With the exception of Jones Park, in which there is a clump of cedars and hemlock in one corner, there are few mature trees in the parks.

Kensington and Gordon Parks are relatively large parks whereas Tecumseh and Jones are small in size. Accessibility of Gordon Park and Kensington good, whereas that of Jones is poor and Tecumseh is moderately good. Tecumseh and Kensington are well endowed with facilities for children, Jones has moderately good childrens' facilities while Gordon Park has no facilities for children in the form of play equipment.

As far as facilities for organized sport are concerned Gordon and Kensington are well provided, whereas Jones has a moderate amount of facilities and Tecumseh is not so well-endowed. Facilities for passive recreation are uniformly absent from all the parks. As far as supervision is concerned only Kensington Park can be classified as a supervised park.

A summary of comparative park characteristics is given below:

Park Name	Size	Access.	Child. Facil.	Organ. Sport.	Level of Supervision
1. Kensington	Large	High	High	High	High
2. Jones	Small	Low	Medium	Medium	None
3. Tecumseh	Small	Medium	Medium	Low	None
4. Gordon	Large	High	None	High	None

TABLE 16
Classification of Park Characteristics

3.4. CHARACTERISTICS OF SAMPLE

3.4.1. Population Characteristics

120 households were approached for interviews, only 64 households responded, or 53.3% of the sample. The total number of respondents about whom information was forthcoming numbered 248.

The age structure of the sample is given below.

Age	No.	%	Disparity Between Sample & Census (1966)
Less than 4	18	7.2	-1.6%
5 - 9	32	13.2	+3.4%
10 - 14	38	15.5	+6.2%
15 - 19	29	11.8	+3.5%
20 - 64	111	44.6	-9.0%
65+	20	7.7	-2.5%

TABLE 17
Age Structure of Sample Compared With Census

It is clear from the table above that the 5 - 19 year age group has been over-represented in the sample, while the population above 20 years old has been under-represented.

These figures confirm the impression received during the survey: that heads of households with children above 6 or 7 years old were more likely to co-operate and show interest in the survey than any other group. Retired people or families with no children showed little interest in the survey. As many of them said, "we have no children, we aren't interested in the parks in this area." And even repeated pleas concerning the importance of their response to the questionnaires fell on deaf ears.

The following table illustrates the extent of the bias in favour of families with children:

No. of Children	No. of Families	Percentage	Disparity Between Sample & Census
None	12	18.7	-15.9
1-2	31	48.5	+4.0
3-4	17	26.5	+8.4
5+	4	6.2	+2.4

TABLE 18
Families by Number of Children

In relation to census figures for the area, households without children are significantly under-represented in the sample. Similarly, households with children are over-represented.

Using Beyer's classification of life-cycle stages, it is evident that there is a preponderance of families in the middle stage of the life cycle: that is the stage referred to as the founding family.

Stage in Life Cycle	No.	%
young couples (women under 35 no children)	-	-
founding families (all children under 9 years)	35	54.6%
expanding families (all children above 10)	17	26.5%
contracting family (women above 35, no children)	12	18.9

TABLE 19
Stage in Life Cycle of Sample

The bias in the sample is not carried on into occupational structure.

The divergence between the census figures and the sample figures is not very pronounced.

Occupation	No.	%	Disparity Between Sample and Census Figures
Professional and Executive	6	10.5	- 0.9%
Sales and Clerical	9	15.8	+ 0.5%
Skilled and Unskilled Blue Collar	31	54.4	+ 2.2%
Others	11	19.3	- 1.8%

TABLE 20

Occupational Structure of Sample Population

Though the sample is not perfectly representative with regard to certain aspects, the disparity is not so overwhelming as to vitiate the intent of the survey. Also, one of the important objectives of the study is to gain an insight into the use of parks by the working class. The sample provides ample scope in that direction.

REFERENCE

1. Gold, Seymour, The Non-Use of Urban Parks in Jounral of the American Institute of Planners, Nov. 1972, p. 369.
2. United Community Services, Local Areas of Vancouver mimeo 1967
3. National Recreation and Parks Assoc. Outdoor Recreation Standards Washington, D. C. 1961.
4. Canada Dominion Bureau of Statistics, census 1966, Queen's Printer, Ottawa, Ontario.
5. United Community Services of the Greater Vancouver Area, Research Dept., A Preliminary Study of the Cedar - Cottage Kensington Area, mimeo, 1968.
6. City of Vancouver, Traffic Department.

CHAPTER IV

4.1. Specific Hypotheses

Among the major objectives of this study, as stated in Chapter I, is to relate the variables of the "physical system" (the park characteristics) and those of the "activity system" (the park use and visiting patterns). In other words, the objective is to ascertain whether there is a relationship between the use of parks and the activities pursued in them, on the one hand, and the characteristics of the parks, on the other.

The general hypothesis which ties together the major concern of this study has already been stated in Chapter I:

"The use of local parks is influenced by the characteristics of the parks and the population characteristics of the local area residents."

As is evident, the general hypothesis is concerned with the relationship between population characteristics, park use and park characteristics. However, the specific null hypothesis do not directly include park characteristics as variables. These hypotheses deal with the relationship between components of park use and population characteristics as shown below.

1. There is no relationship between population characteristics of local area residents, the parks visited by them and activities conducted by them in the parks.
2. There is no relationship between distance travelled to parks, the parks visited and the activity conducted in the parks.

3. There is no relationship between duration of park visits, park activity and the parks visited.
4. There is no relationship between the frequency of park visits, park activity and the parks visited.

The relationships noted in these four hypotheses is used as a basis for testing the general hypothesis concerning park characteristics. Each park consists of a "package of characteristics" with respect to size, facilities, extent of supervision and accessibility (see Chapter III). Each park is, therefore, taken to represent the "package of characteristics" of which it is composed. Thus, the relationship between the use to which each park is put and the characteristics of each park, forms the basis for inferring the relationship between park use and park characteristics.

An indirect method such as this was necessitated because of the limited number of parks sampled. For a direct relationship between park characteristics and park use to be examined, a considerably larger sample of parks would be needed. Since this was not possible in a small survey of the sort conducted for this study, the methodology explained above had to be adopted.

4.2 Population Characteristics and Park Use

About half the sample (49.2%) visited the parks at least once a week and this proportion constitutes the category called park users. However, this group is not a homogeneous one. There is a wide variation in the use of parks between different age groups as shown in Table 21.

Age in Years	Sample Size	Park Users	% of Users in each age group	% of Sample in each age group
Less than 9	50	37	74.0	30.3
10 - 14	38	29	76.3	23.8
15 - 19	29	13	44.8	10.7
20 - 64	111	40	36.0	32.8
65 +	20	3	15.1	2.5
Total	248	122	49.2	100.0

Table 21

Age Composition of Park Users

Two inferences can be drawn from this data: that a very high proportion of children less than 14 years of age used the parks and that large proportion of park visitors were above the age of 20 years (35.3%). Whereas, the first inference seems unexceptionable, the second needs more analysis for a clearer insight to emerge. Even a cursory observation of the users of local parks indicates that the number of adults using parks at any one time, is very small. Thus, superficially at least, the figures for adult park use seem to belie common observation.

To get a more balanced view, an analysis of data concerning the number of weekly trips made by park users in each age group is necessary (see Table 22).

Age in Years	1 Trip	2-3 Trips	More than 4 trips	Total
Less than 9	21.4% (15)	38.6% (17)	36.0% (9)	29.5% (41)
10 - 14	24.3% (17)	29.5% (13)	44.0% (11)	29.5% (41)
15 - 19	12.9% (9)	4.6% (2)	8.0% (2)	9.4% (13)
20 +	41.4% (29)	27.3% (12)	12.0% (3)	31.6% (44)
Total	100% (70)	100% (44)	100% (25)	100% (139)
<hr/>				
$\chi^2 = 13.05$		6 d f		$P < 0.05$

Table 22

Frequency of Trips by Age Group

Table 22 shows that a little less than half of all those who visited the parks only once a week were those above the age of 20 years. On the other hand, a majority of those who visited the parks more than twice a week were those under 14 years old. It is interesting to note that, though only 9.4% of those who visited parks at all were in the age group between 15 and 19 years of age, almost 13% of those in this age group who visited parks visited them only once a week. This indicates that the majority in the adolescent age group visited parks only once. To complete the picture of dominance of those under 14 years of age in the park user category, Table 23 shows that almost 60% of all those who went to parks were children under 14 years of age.

Age in Years	1 Trip	2-3 Trips	Over 4 Trips	Total
Less than 14	23.0% (32)	21.6% (30)	14.4% (20)	59.0% (62)
Over 15	27.3% (38)	10.1% (14)	3.6% (5)	41.0% (57)
Total	50.4% (70)	31.6% (44)	18% (25)	100% (139)

$$X^2 = 10.88$$

2 d f

$$P < 0.01$$

Table 23

Frequency of Park Visits Compared:
Under 14's and Over 15's

Age in Years	Less Than 30 Mins	30 to 60 Mins	Over 60 Mins	Total
Less than 9	33.3% (19)	25% (10)	28.6% (12)	29.5% (41)
10 - 14	28.1% (16)	27.5% (11)	33.3% (14)	29.5% (41)
15 - 19	8.8% (5)	2.5% (1)	16.7% (7)	9.4% (13)
Over 20	29.8% (17)	45.0% (18)	21.4% (9)	31.6% (44)
Total	100% (57)	100% (40)	100% (42)	100% (139)

$$X^2 = 9.02$$

6 d f

$$P < 0.20$$

Table 24

Duration of Park Visits by Age Group

As indicated by Table 24, almost half the park visitors spent less than half-an-hour per visit in the parks and somewhat less than one-third of the visitors spent over an hour. However, a higher proportion of park visitors between the ages of 10 years and 19 years of age visited the parks for over one hour, than any other age group. A striking aspect of the data on duration of visits is that, though a relatively small proportion of those between 15 and 19 years of age visited parks, a high proportion of those who did, stayed for more than one hour and constituted 16.7% of those who visited parks for over an hour.

The data on park visiting patterns of the adult age group is highly aggregated in the above tables. Since this age group does not have homogeneous characteristics, Table 25 examines the relationship between stage in life-cycle and park visiting patterns among the adults.

	Male	Female	Total
Adults with youngest children under 9 years old	30.3% (13)	46.6% (20)	76.9% (33)
Adults with children between 10 & 19 years	9.4% (4)	6.9% (3)	16.3% (7)
Adults above 35 years with no children	2.3% (1)	4.5% (2)	6.8% (3)
Total	42.0% (18)	58.0% (25)	100% (43)

Table 25
Adult Park Visitors by Stage in Life Cycle and Sex

The proportion of females who visited parks among the adult population was higher than males. However, more significant is the overwhelming dominance of adults with children under 9 years of age among those adults who visited parks. This group comprised over three-quarters of the adults who visited the parks.

Distance as a factor affecting park use has been much discussed in literature, as already indicated. As far as this survey was concerned it was found that for certain age groups this variable was more salient than for others. Park visitors under the age of 9 years and over the age of 20 years seemed to be influenced by the distance to parks, in their visiting patterns to a larger extent than those between 10 years and 19 years of age. In fact, for the age group between 15 years and 19 years, the further away the parks were the greater was their popularity.

Age in Years	Less than 1000 feet	1000 - 2000 feet	Over 2000 feet	Total
Less than 9	31.9% (23)	29.2% (12)	23.1% (6)	29.5% (41)
10 - 14	27.8% (20)	31.7% (13)	30.8% (8)	29.5% (41)
15 - 19	5.6% (4)	4.9% (2)	26.9% (7)	9.4% (13)
Over 20	34.7% (25)	34.1% (14)	19.2% (5)	31.6% (44)
Total	100% (72)	100% (41)	100% (26)	100% (139)
<hr/>				
$\chi^2 = 26.65$	6 d f			$P < 0.001$

Table 26

Distance Travelled to Parks by Age

In aggregate terms, Table 26 shows that somewhat less than half the park visitors lived within 1,000 feet from the parks they visited, while one-third were within 2,000 feet from the parks they visited. What is surprising is that about one-fifth of the park visitors travelled more than 2,000 feet ^{area} to get to the parks. Since the study was so delineated that the maximum distance between the respondents and any one park was less than 2,000 feet, it seems evident that a significant number of park visitors did not use the park nearest to them.

Once the respondents got to the parks, what did they do there? The answer to that question is given in Table 27. The highest participation rate was in activities of a passive variety (54.9%), followed by the use of play equipment (34.4%). The lowest rate was for formal field sports (23.8%).

Activity	Participants
Passive Recreation	54.9% (67)
Informal Field Sports	27.9% (34)
Formal Field Sports	23.8% (29)
Use of Play Equipment	34.4% (42)
Use of Pool	30.3% (37)

Table 27

Activity Participation

However, this table does not give a true picture of the popularity of different recreational activities. It underestimates the popularity of those activities which require capital intensive facilities, such as the use of pool or play equipment, since these facilities do not exist in all the parks. If any inference can be drawn it is limited to those activities for which facilities exist in all the parks. Such activities are "formal and informal field sports".

How is participation in these activities distributed by age group? Table 28 shows that among those who participated in passive recreation, the overwhelmingly largest single group was the 20 years and over age group (56.8%). In fact, the participation of this age group in any other activity was at an insignificant level. Formal field sports appeared to be a popular activity among those between 10 years and 14 years of age; 44.8% of those who participated in this sport were in the pre-adolescent age group. The second largest proportion of participants in formal field sports was the 15 years to 19 year old age group (24.1%). This is particularly interesting because few respondents in the 15 years to 19 years category went to parks at all. As far as the use of play equipment and pool were concerned, these activities were understandably monopolized by those under 14 years of age. (See Table 28).

Age in Years	Passive Recreation	Informal Field Sports	Formal Field Sports	Use of Play Equip.	Use of Pool
Less than 9	14.9% (10)	23.7% (8)	13.8% (4)	47.6% (20)	45.9% (17)
10 - 14	19.4% (13)	64.7% (22)	44.8% (13)	52.4% (22)	27.1% (10)
15 - 19	8.9% (6)	5.9% (2)	24.1% (7)	--	--
More than 20	56.8% (38)	5.9% (2)	17.3% (5)	--	--
Total	100% (67)	100% (34)	100% (29)	100% (42)	100% (37)

Table 28

Participation in Park Activity by Age

So far the emphasis has been on the use of parks by residents of the local area.

In order to get an idea of how the residents evaluated the parks two questions were asked. The first was: "What do you think is missing in the parks in your neighbourhood"? The second question asked was: "Why do you not visit parks in your neighbourhood or visit them more often"? As mentioned in Chapter III, the entire survey sample did not answer this question.

However, since these questions related as much to users of parks as to non-users, the answers to them constituted a valuable source of information on the attitudes of local area residents as a whole to the existing parks.

Table 29 gives an indication of the response to the question concerning "facilities missing in the parks". The response of the adult age group to this question is particularly interesting.

A very large proportion in this age group considered the parks quite satisfactory as far as the facilities were concerned. Few complained about the lack of adult oriented recreation facilities. There seemed some dissatisfaction regarding lack of trees and vegetation in the parks. If trees and vegetation can be construed as constituting an essential setting for certain types of passive recreation, an indirect inference of such a response may be that there was a perceived dissatisfaction with facilities for some forms of passive, adult oriented recreation. However, other shortcomings of parks pointed out by adult respondents seems to be in the area of child-oriented facilities, such as: Lack of supervision, lack of pools or equipment, etc.

Age in Years	Play Equip.	Pool	Trees & Vegetation	Super- vision	Adult Recreat.	Okay
Less than 9	33.3% (4)	25% (5)	13.1% (3)	--	--	5.0% (1)
10 - 14	8.3% (1)	32% (8)	21.7% (5)	--	--	15.0% (3)
15 - 19	---	8% (2)	13.0% (3)	--	--	5.0% (1)
Over 20	58.4% (7)	40% (10)	52.2% (12)	100% (10)	100% (5)	75.0% (15)
Total	100% (12)	100% (25)	100 % (23)	100% (10)	100% (5)	100% (20)

Table 29

Facilities Lacking in the Parks as Perceived by Different Age Groups

Though the sample returns to this question from those under the age of 20 years were small, the evidence from this sample did indicate there was less satisfaction with the parks in this age group than that exhibited by the older respondents. Certainly, a much smaller percentage in this age group considered the parks "okay".

In answer to the second question, concerning reasons for not going to the parks or not going more often, several reasons were given. These have been placed in two categories in Table 30: 1) reasons that are related to the characteristics of the park or its location, and 2) reasons related to the characteristics of the respondents.

Age in Years	No Time No Interest Old Age Have own lot	Too far	Nothing To Do In Parks	No Super- vision in Parks
Less than 9	12.5% (6)	22.2% (2)	23.5% (8)	38.9% (7)
10 - 14	8.3% (4)	22.2% (2)	23.5% (8)	16.7% (3)
15 - 19	4.2% (2)	--	11.8% (4)	--
Over 20	75.0% (36)	55.6% (5)	41.2% (14)	44.4% (8)
Total	100% (48)	100% (9)	100% (34)	100% (18)

Table 30

Reasons for not Visiting Parks or not Visiting Them More Often

Table 30 seems to indicate that for a large percentage of the respondents, lack of active involvement in park-oriented activity was not a reflection on the characteristics of the park. The reasons given by this group concerned personal matters. For these people, it may be inferred, that a change in the park characteristics or improvement in the facilities would probably not change participation rates. This is particularly true of the adult age group.

On the other hand, the characteristics of the parks did appear to have a considerable bearing on participation rates for a significant proportion of the sample. For instance, more than half the reasons given for not participating more actively in park activity pointed to the inadequacy of the parks. Non-adults were more likely to point to the inadequacy of the parks as their reason for not going to parks more often than adults.

An analysis of the data concerning the parks visited by various age groups reveals a wide difference in the popularity of the various sample parks.

Table 31 shows that Kensington Park received by far the largest proportion of visitors (almost twice as many as any of the other parks). In terms of popularity, this park was followed by Tecumseh Park, with Jones Park and Gordon Park at the bottom of the list.

However, it is interesting to note that for the 10 - 19 year age group, though Kensington Park was the most popular park there appeared to be little difference in the popularity of the other three parks. As far as park visitors below the age of 9 years and above the age of 20 years were concerned, there seemed to be a significant difference between the popularity of Tecumseh Park and the two remaining parks.

Parks	Less Than 9 Years	10 - 19 Years	Over 20 Years	Total
Kensington	46.3% (19)	46.3% (25)	54.5% (24)	100% (68)
Jones	14.6% (6)	16.7% (9)	4.6% (2)	100% (17)
Tecumseh	31.8% (13)	18.5% (10)	29.5% (13)	100% (36)
Gordon	7.3% (3)	18.5% (10)	11.4% (5)	100% (18)
<hr/>				
$\chi^2 = 12.62$		6 d f		$P < 0.05$

Table 31

Park Visiting Patterns by Age Group

An analysis of the data on park use and population characteristics has shown that population characteristics, generally speaking, appeared to have a considerable bearing on park use. The survey indicated that the use of parks by adults differed greatly from non-adults. A larger proportion of those below 14 years of age used parks, used them more often, stayed longer in the parks, and travelled longer distances to go to parks, than did those above the age of 20 years. Few of those in the 15 year to 19 year age group went to parks, but those who did, did not go to parks that were closest to them, but to those which were further away.

As far as choice of recreation pursuits conducted in the parks is concerned, those below 19 years of age preferred active forms of recreation, while those

above this age group indulged in more passive types of pursuits. In fact, adult activities appeared to be directed toward supervision of children rather than more autonomous adult oriented recreation. This is borne out not only by the choice of recreational activities by park users in this age group, but also in their evaluation of the adequacy of parks. Although all the parks are more or less bereft of adult-oriented recreation facilities, the largest proportion of complaints related to child-oriented recreation facilities. Also an analysis of data on park use and "stage-in-life cycle" of the park users suggests that the largest proportion of adults who visited parks were women with children under the age of 9 years old.

As far as park preference of different age groups was concerned, the evidence was more equivocal. All age groups overwhelmingly preferred Kensington Park, indicating that as far as this aspect of park use was concerned there was little difference in the response of the various age groups in the sample. However, Tecumseh Park was next in the line of popularity, but only for those less than 9 years of age or those above the age of 20 years. On the other hand, for those between the ages of 10 years and 19 years, Tecumseh Park was not significantly more popular than the remaining two parks.

On the basis of the evidence mentioned above, hypothesis No. 1 can be only partially rejected.

4.3. Distance and Park Use

Analysis of the survey findings show that, though distance travelled to parks did bear some relationship to frequency of park use, the relationship is a complex one, as shown on Table 32.

Distance Travelled in Feet	1 Visit/ Week	2-3 Visits/Week	4 or More Visits/Week	Total
Less than 1000 ft.	50.0% (35)	47.7% (21)	60.0% (15)	51.1% (71)
1000 - 2000 feet	22.9% (16)	40.9% (18)	28.0% (7)	29.5% (41)
2000 feet or more	27.1% (19)	11.4% (5)	12.0% (3)	19.4% (27)
Total	100% (70)	100% (44)	100% (25)	100% (139)

$\chi^2 = 7.84$	4 d f	$P < 0.10$
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Table 32

Distance Travelled to Parks by Frequency of Visits per Week

As is evident, a majority (60.0%) of those who visited parks frequently (more than 4 times a week) were those who lived within 1,000 feet from the parks they visited. In comparison, only about half of the moderately frequent visitors (2 - 3 times a week) and infrequent visitors (one visit a week) lived less than 1,000 feet from the park they visited. On the other hand, about 40% of the moderately frequent park visitors lived between 1,000 to 2,000 feet from the parks that they visited. Also, only about one-quarter of the infrequent park visitors or frequent park visitors lived between 1,000 and 2,000 feet from the parks. Interestingly enough, about one-quarter of the infrequent park visitors went to parks over 2,000 feet away from their homes, although the entire sample population lived less than 2,000 feet from one of the parks.

As far as the relationship between distance travelled to parks and duration of visits is concerned, Table 33 gives some indication. According to this analysis, a majority (about 55%) of those who stayed less than 30 minutes in the parks lived within 1,000 feet from these parks. On the other hand, of the "moderate duration" (30 - 60 minutes) and the "long duration" park visitors (over 60 minutes), somewhat less than half travelled less than 1,000 feet to parks. Also a little over 40% of the "long duration" park visitors travelled between 1,000 feet to 2,000 feet to go to parks. In contrast to this, of the "moderate" and "short duration" visitors, only about one-quarter travelled between 1,000 feet and 2,000 feet.

Distance Travelled	Less Than 30 Minutes	30 - 60 Minutes	60 Min. or More	Total
Less than 1,000 feet	55.4% (31)	47.5% (19)	48.8% (21)	51.1% (71)
1,000 - 2,000 feet	23.2% (13)	25.0% (10)	41.9% (18)	28.8% (41)
2,000 feet or more	21.4% (12)	27.5% (11)	9.3% (4)	20.1% (27)
Total	100% (56)	28.8% (40)	100% (43)	100% (139)

$$X^2 = 7.37$$

4 d f

$$P < 0.20$$

Table 33

Distance Travelled to Parks by Duration of Visits

How far did the respondents travel for the different activities that they pursued in the parks? Among those whose major activities was passive creation, a

little less than 50% of them travelled under 1,000 feet to go to a park.

In comparison, only one-third of those who used the pool travelled less than 1,000 feet to go to a park. Roughly one-third of the participants of each activity travelled between 1,000 to 2,000 feet. Finally, only about one-fifth of all those who participated in passive recreation, informal field sports or used play equipment, travelled more than 2,000 feet. However, more than one-quarter of those who indulged in formal field sports or used the pool, travelled over 2,000 feet (See Table 34).

Distance Travelled	Passive Recreation	Informal Field Sport	Formal Field Sport	Use of Play Equip.	Use Of Pool
Less than 1000 ft.	47.8% (32)	44.1% (15)	41.4% (12)	42.8% (18)	33.3% (9)
1000 - 2000 ft.	32.8% (22)	35.3% (12)	31.0% (9)	35.7% (15)	37.1% (10)
2000 + ft.	19.4% (13)	20.6% (7)	27.6% (8)	21.4% (9)	29.6% (8)
Total	100% (67)	100% (34)	100% (29)	100% (42)	100% (27)

$X^2 = 40.10$
8 d f
 $P < 0.001$

Table 34

Participation in Activities by Distance Travelled to Park

For those who travelled large distances to go to a pool, there is a ready explanation. Since only one of the parks has a pool (Kensington Park), many of those who wish to participate in this activity were forced to go long distances.

However, for the large number of park visitors who travelled over 2,000 feet to participate in organized field sport, there appears to be some other reason, since all the sample parks have facilities for field sports. At any rate, it would appear that distance was not such critical factor for those who indulged in organized field sports, as it was for those who pursued other recreational activities in the parks.

The interaction between each study park and the distance travelled to them is shown in Table 35.

Park	Less than 1000 ft.	More than 1000 ft.	Total
Kensington	32.4% (23)	66.2% (45)	100% (68)
Jones	70.6% (12)	29.4% (5)	100% (17)
Tecumseh	69.4% (25)	30.6% (11)	100% (36)
Gordon	61.1% (11)	38.9% (7)	100% (18)
Total	51.1% (71)	48.9% (68)	100% (139)

$\chi^2 = 16.28$	3 d f	$P < 0.001$
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Table 35

Distance Travelled to Each Park

A significant majority of visitors to Kensington Park travelled over 1,000 feet to go to this park (about 66%). However, only about 29% of those who visited Jones Park travelled over 1,000 feet. On the other hand, about 38% of the

visitors to Gordon Park and about 30% of those who visited Tecumseh Park travelled that far. This would indicate that more people were willing to travel larger distances to get to Kensington Park than to any other park.

On the basis of these findings it would appear that distance from home to parks did have a bearing on park use. Also, that distance effected the popularity of Kensington Park to a lesser degree than it did the other parks.

4.4. Frequency of Park Visits and Park Use

In order to ascertain whether there was a relationship between frequency of visits to parks and park use, two sets of findings were analyzed: frequency of visits to each of the sample parks and the relationship between frequency of park visits and the recreational activity pursued.

Visits per Week	Passive Recreation	Informal Field Sports	Formal Field Sports	Use of Play Equip.	Use of Pool
1 Trip	59.7% (40)	52.9% (18)	44.8% (13)	42.9% (18)	33.3% (9)
2-3 Trips	29.9% (20)	29.5% (10)	41.4% (12)	26.1% (11)	25.9% (7)
Over 4 Trips	10.4% (7)	17.6% (6)	13.8% (4)	31.0% (13)	40.8% (11)
Total	100% (67)	100% (34)	100% (29)	100% (42)	100% (27)
<hr/>					
$X^2 = 15.57$		8 d f		P < 0.05	

Table 36

Frequency of Park Visits by the Recreational Activity Pursued

It is clear from Table 36, that a large majority of those who indulged in passive recreation made only one trip to the parks, while little over 55% per cent of those who indulged in informal field sports, were once-a-week visitors. In contrast, less than one-third of those who used pools visited the parks only once a week. About 40% of those who played organized field sports went to parks two to three times a week.

Of the respondents who participated in the other recreational activities, only about one-quarter went to parks two to three times in one week. An interesting finding is that about 44% of those who used pools visited parks more than four times a week.

The data on frequency of visits to the sample parks shows that among those who went to Kensington Park a majority made more than two visits per week. An overwhelming majority of those who went to Jones Park also went more than twice a week (70.6%).

In comparison, less than half of those who visited the other two parks made more than two visits a week. For instance, of those who visited Gordon Park, only about 22% made more than one visit a week to parks. (See Table 37.)

Park	1 Trip	More than 2 Trips	Total
Kensington	44.1% (30)	55.9% (38)	100% (68)
Jones	29.4% (5)	70.6% (12)	100% (17)
Tecumseh	58.3% (21)	41.7% (15)	100% (36)
Gordon	77.8% (4)	22.2% (4)	100% (18)
Total	50.3% (70)	49.7% (69)	100% (139)
<hr/>			
$\chi^2 = 10.41$		3 d f	$P < 0.02$

Table 37

Frequency of Visits to the Parks

It would seem that the number of trips to parks was related to the recreational activity pursued. In other words, participants of some activities, such as playing in the pool, visited parks more often participants of other activities. Similarly some parks, such as Jones and Kensington, were visited more frequently by those who did choose to visit them at all, than were Tecumseh and Gordon. This analysis would indicate that there appears to be a relationship between park use and frequency of park visiting patterns.

4.5. Duration of Visits and Park Use

The relationship between the recreational activities pursued by park users and the duration of park visits made by them is shown on Table 38.

Duration of Park Visit	Passive Recreation	Informal Field Sport	Formal Field Sport	Use of Play Equipment	Use of Pool
Less than 30 min.	61.2% (41)	35.3% (12)	24.1% (7)	45.2% (19)	33.3% (9)
30=60 min.	16.4% (11)	20.6% (7)	27.6% (8)	19.1% (8)	11.1% (3)
More than 60 min.	22.4% (15)	44.1% (15)	48.3% (14)	35.7% (15)	55.6% (15)
Total	100% (67)	100% (34)	100% (29)	100% (42)	100% (27)

$$X^2 = 18.48$$

$$8 \text{ d f}$$

$$P < 0.02$$

Table 38

Relationship Between Duration of Park Visits and Recreational Activity

A large majority (61.2%) of those who participated in passive recreation spent less than half-an-hour in the parks. In contrast, only about 25% of those who indulged in organized visits to parks spent less than half-an-hour. As far as those who used the pool, more than 50% of them visited parks for more than one hour. Also, somewhat less than 50% of those who participated in organized sport spent over an hour at the parks. In comparison, less than 25% of those who indulged in passive recreation stayed in the parks for over an hour.

The duration of park visits also varied significantly from park to park, as shown in Table 39.

Parks	Less Than 30 Minutes	More Than 30 Minutes	Total
Kensington	32.4% (22)	67.6% (46)	100% (68)
Jones	41.2% (7)	58.8% (10)	100% (17)
Tecumseh	52.8% (19)	47.2% (17)	100% (36)
Gordon	44.4% (8)	55.6% (10)	100% (18)
Total	40.3% (56)	59.7% (83)	100% (139)

$X^2 = 4.25$
3 d f
P < 0.20

Table 39

Duration of Visit in the Parks

The table indicates that about 67% of those who went to Kensington Park stayed longer than half-an-hour. On the other hand, 55% to 60% of those who visited the other parks stayed more than half-an-hour, with the exception of visitors to Tecumseh Park. Only 47% of visitors to this park stayed more than half-an-hour in the parks.

In view of these findings, it is impossible to say in general terms that there was a relationship between activities conducted in parks and the duration of park visits. Also, there did appear to be a relationship between the time spent in the parks and the park visited.

4.6. Park Characteristics and Park Use

The previous sections have provided some evidence concerning the relationship between the following:

Population Characteristics:

- Park Use, Recreational Activity, Park Visited

Distance:

- Park Use, Recreational Activity, Park Visited

Park Use:

- Recreational Activity, Park Visited

In order to examine the relationship between park characteristics and Park Use the following relationships will need to be examined in details from the list noted above:

Population Characteristics	}	
	}	Characteristics
Distance	}	of the
	}	Park Visited
Park Use	}	

The characteristics of each of the study parks have already been examined in detail in Chapter III. Here an attempt will be made to ascertain whether some relationship can be inferred to exist between Park Use and these characteristics.

It has been shown in the earlier sections that Kensington Park was visited by more people of all ages and was visited more often. Visitors stayed longer and travelled larger distances to get to it, than any other park. Kensington Park, according to our earlier analysis, is a large park, with a high level of facilities, a supervised playground and easy accessibility to the surrounding residents. It is possible to infer from this that according to the survey findings, a relationship existed between

a high level of facilities, supervision, large size of park and a high level of use by every age group.

However, the analysis also showed that Gordon Park -- approximately equal in size and level of accessibility to Kensington Park -- was one of the least popular of the parks. This would indicate that size of park by itself does not ensure popularity. Two findings in the survey support this proposition. Tecumseh Park is a small park, but it was far more popular than Gordon Park, particularly if the number of visitors to the two parks and the frequency of their visits is considered. Tecumseh Park was more popular than Gordon Park for all age groups other than those 10 years to 19 years of age. Also, all the most popular recreational activities -- such as passive recreation, use of play equipment, use of pool -- are not dependent upon large size of park. The only recreational activity where size of park is very important is formal or organized sports. This recreational activity, we have seen is the least popular of all the activities examined in this survey. In view of all this evidence, it would not be too presumptuous to infer that size of park is not a critical determinant of park popularity.

Another relationship that can be examined here is accessibility.

Tecumseh and Jones Park, we have seen, are very similar in aspects such as size, facilities, level of supervision. The only striking difference

is in the accessibility. Whereas Tecumseh Park is highly accessible, Jones Park is not. There is a considerable disparity between the two in terms of popularity as we have seen. This would indicate that accessibility of the park may have been important as far as popularity of these parks is concerned. But this inference needs to be substantiated further.

Facilities and supervision also seemed to be quite important as far as popularity was concerned. As indicated earlier, Kensington Park and Gordon Park are similar in terms of size and accessibility. However, Kensington Park appeared to be far more popular than Gordon Park. The difference between these two parks is in the level of facilities and supervision. Gordon Park only has playing fields and is not supervised, while Kensington Park is well endowed with a whole range of facilities and is a supervised park. It can be inferred here that park facilities and supervision do appear in the survey to have a positive influence on the popularity of the parks.

Such an inference is supported by the response to the attitudinal questions asked in the survey. There seemed to be a general agreement among a large number of respondents, particularly those above 20 years of age, that the parks lacked sufficient play equipment for children. An even larger number of respondents pointed to "lack of supervision" as a feature that they found wanting in the parks (Table 29). Also, a large number of people over 20 years of age who answered the question "why do you not go the park, or go more often", indicated that there was nothing to do in the parks (Table 30).

On the basis of this analysis it would seem that park characteristics did influence park use - particularly where the aggregate number of visitors was concerned. In more specific terms it is possible to say that the survey provided some evidence that a high level of facilities, supervision and high level of accessibility was positively related to popularity of the parks. On the other hand, size of the parks, in the absence of other "popular features" did not appear very important as far as use in aggregate terms was concerned.

CONCLUSION

5.1. Residential Neighbourhood and Neighbourhood Parks

It is increasingly being recognized by the various levels of government that a dwelling unit, whether it be a single family house, an apartment or town house, is only a small part of the total "housing package". Not only are the "hard services" like piped water, sewage lines, roads, etc. considered essential ingredients of a civilized residential setting, but ready access to community supplied "soft services" such as schools, libraries, day care centres and parks are being seen in the same light.

In addition, a new view of problems related to physical living conditions of people is being accepted by government across Canada. This view suggests that living conditions constitute a dependent variable while the structure of settlements is the independent variable. As a result many problems such as those related to transportation, housing, open space, are being labelled as urban problems. Solutions to these problems are being sought within the realm of the urban structure since major components of these problems are seen as being inherent in the process of urbanization, as it has occurred in North America.

As a result of this new perception, the federal and provincial governments, both in the United States and Canada, are attempting a direct assault on these

urban problems, rather than leaving them to be solved by their constitutional creatures - the municipal governments, or by the undiluted free enterprise system. For instance, the realm of housing in urban areas is receiving an unprecedented infusion of money, programs and policy directives from both the federal and provincial governments of Canada. One such new initiative has been taken by the Federal Government in Canada, in its Neighbourhood Improvement Program. This program envisages the rehabilitation of private property and the improvement of public facilities in designated neighbourhoods of cities and towns. One of the neighbourhood related facility specifically mentioned in this program is the local park. Similar statutory provisions are to be found in the legislation passed at the federal level in the United States over the past decade.

The Provincial Governments in Canada have not ignored the issue of local parks either. The Government of Ontario, for instance, has on its books, a statute requiring municipalities to accept a dedication of 5% of land covered by every residential subdivision for park purposes. In a recent amendment to the Planning Act, this government has expanded these park provisions. The amendment would permit municipalities, under certain conditions, to require subdividers to dedicate one acre of park land for every 120 dwelling units proposed on a piece of land. This provision is aimed specifically at medium and high density developments, since it was found that the provision of 5% of land covered in these subdivisions was insufficient and was starving apartment developers of park space.

The introduction of these policies indicates that a comprehensive statutory framework is being created in Canada for the provision of park space in residential areas. As a result, professionals involved in the detailed design of park delivery systems will need a rational methodology to allocate this service, in accordance with the stated objectives of these legislative initiatives and in a manner that is efficient, economic and equitable.

The need for such a methodology is further accentuated because of the skyrocketing price of land in urban areas, the increasing distance that most urban residents have to travel in order to get to non-urban open spaces and the inability of large segments of the urban population to make these trips on a regular basis.

At present, planners are relying on decades old park standards as a basis of design and allocation. These standards are not supported by studies of recreational preferences and activities of urban residents. There are suggestions that the standards are in fact arbitrary and are widely used for reasons of expediency rather than relevance. In view of the impetus given to the issue of parks in residential areas by various levels of government in Canada, such unconvincing allocation and design methodologies can no longer be considered adequate. The search must be joined by all those involved with urban recreational facilities for more rational methodologies which are based on analysis of recreational preferences of urban residents rather than on thumb rules. The first stage in the design of these methodologies is an

understanding of the whole issue of recreational preferences of urban residents.

This study was undertaken with a view to reconnoitring a rather small part of the territory covered by the issue of urban parks and recreational preferences of urban residents. It has attempted to provide some insight concerning the use of local parks by those residing in the immediate vicinity of these parks. The hypothesis guiding this study has been that the physical characteristics of a park have some influence on the popularity of the parks and the activities conducted within them. To test this hypothesis a questionnaire survey was conducted on a working class area of Vancouver comprised of single family dwellings and in 2 which four parks are located. An analysis of the data derived from this survey, at least partially, upheld the hypothesis concerning the relationship between park use and the characteristics of local parks.

5.2. Summary of Findings

Though this study was basically designed to test the stated hypothesis, it was not intended to limit the product of the study to that which is scientifically respectable. In other words by stretching the analysis of data beyond the immediate purpose of testing the hypothesis, some useful findings concerning park use have emerged. Some use of inference from, and extrapolation of the analysis conducted in Chapter IV has been necessary in order to arrive

at a list of tentative findings below. These findings will be used as a basis for formulation of policy statements related to local parks in Section 5.3.

The other use of these tentative findings may be as a set of detailed tentative hypotheses to be tested as a part of further search for scientifically valid bases for parks planning.

These findings are not meant to be applicable to all urban residents or urban areas. Rather the generalizations are specific to working class areas in single family subdivisions in the city of Vancouver, and refer to local parks only. Their applicability in other residential contexts, however, could be tested by further research.

Parks User Characteristics

1. The most frequent users of parks are children under 14.
2. Teenagers are not frequent users of parks.
3. Among the adults, those most likely to use parks are young mothers with children below 9 years of age.
4. Senior citizens are not frequent users of parks.

Distance Travelled to local Parks

1. Distance is not a critical factor for teenagers in their choice of parks to visit.
2. A significant minority of people travel large distances (over 2000 feet) to indulge in formal field sports.

3. The largest proportion of frequent park visitors and park visitors who stay at the parks for over an hour during a visit, are those who live within 1000 feet from a park.
4. People travel larger distances to visit a park which is well endowed with facilities and is supervised than to other parks.

The Effect of Local Park Characteristics

1. More people visit supervised parks which are well endowed with facilities, more often, and stay longer at these parks than any other parks.
2. Large size by itself is not a critical factor in the popularity of parks.
3. Accessibility has a positive influence on the popularity of a park. In other words, of two parks which are similar in other respects, the one which has access from many sides is likely to be more popular than one which is less accessible.

Facilities, Activities and Park Preferences

1. The facility for which there is the greatest demand, particularly by those under 9 years of age, is the wading pool. This is followed by the demand for play equipment.
2. The activity indulged in by the smallest proportion of park visitors is formal field sport. This activity is most popular among those between 10 and 19 years of age.

3. The dominant activity of park visitors over 20 years of age is passive type recreation. Indications are that the main activity in this category is the "supervision of children".
4. The reasons for a large proportion of those who do not visit parks at all or do not visit them often, are to be found outside the realm of park characteristics. This is particularly true of adults.

5.3. Implications for Parks Planning

The findings noted above, as well as the analysis contained in Chapter IV, suggest several parks policies, which may be used to improve the effectiveness of local park programmes and increase the use of local parks by local area residents. However, much more research will be needed in the realm of recreational preferences of people, research which takes into account, not only park oriented recreation, but the whole expanding gamut of urban oriented leisure activities. Also, research needs to be done on the economic, institutional and organizational aspects of alternative programmes and policies. It is only when a comprehensive view of parks within an urban framework, derived from these studies, is forthcoming that valid over-arching policy statements regarding urban parks can be made.

However, based on the limited insight provided by this study the following approaches to parks planning suggest themselves:

1 . The findings of this study provide some evidence that the basic tool of planning -- that is park standards -- needs re-evaluation, at least as far as local parks are concerned.

The basis of these park standards which also permeates parks planning theory, is that there is a direct relationship between park area and the population served by a park. This is a very simplistic notion which needs to be corrected before new planning concepts can be introduced which are more representative of reality than is presently the case.

This survey has shown that a large parcel of undifferentiated park space (as far as local park system is concerned) does not by itself attract a large number of visitors. Support for this notion is to be found in the findings on the subject of characteristics of frequent park users and their activity preferences. As shown in this survey, local parks are most alluring for those under the age of 14 years. For this age group the most popular recreational pursuits are of an active kind which require specific supporting equipment and activity spaces to facilitate them, such as pools or play equipment. Thus the availability of space or land by itself is not sufficient to constitute a popular park and must be looked upon as the raw material out of which a local park is created. The local park, on the other hand, should be considered as an aggregate of open air activity spaces, each providing settings for designated recreational activities and the whole structured to operate as one interdependent unit.

This concept would require that park endowment of a neighbourhood be measured in terms of recreational activity spaces that go to make up a park rather than the land area which is the raw material of the park.

Also, park standards should be composed of activity spaces per unit of population rather than park area per unit of population. Such a standard would encompass the spatial aspect of the park as well as the facilities supporting the various activities.

According to this standard one activity space could be one item of play equipment or facility along with the space required to support it which is utilized by one user at one time. For instance, a swing set with two swings and the space around the set would constitute two activity spaces. A wading pool would constitute several activity spaces, depending upon the size of the pool and the water area considered sufficient for one user. A soccer field with goal posts and nets would be considered as 22 activity spaces, according to this methodology.

A refinement of this tool also suggests itself. Each activity space can be weighted according to the relative popularity of the activity. The park endowment of an area, as measured by the activity space index would be based not only on the number of activity spaces, but also on the demand for such activities.

A composite measure of the sort indicated here would link the three vital elements required for a proper allocation of park space in a residential area: facilities, space and the recreational preferences of local park users. Needless to say that a considerable amount of research needs to be done in the area of recreational preferences to operationalize a methodology such as the one described here. However, once this data base is put together, it will be possible to establish park standards based on relevant and functional measures which quantify only those elements of parks that are meaningful to the users and ignore other components which are of peripheral value. As a result, a standard based on the activity space index would come closer to communicating the recreational needs of a community than the standards used presently.

2. Local park standards based on activities and recreational preferences rather than on area of land point to a "neighbourhood recreation and parks program" in which facilities, general improvements, supervision and maintenance of parks would play a larger role than is the case at present. Conversely, the role of land in this package would be reduced both conceptually and in practice. Conceptually, park land itself would be considered just an element rather than as the locus of the recreation program. In practice, this may lead to a relatively greater attention being paid to and a larger proportion of the municipal park and recreation fund being directed

to non-land items -- for instance on supervision, on acquisition and maintenance of facilities, on landscaping, etc.

3. Large parcels of land are necessary for certain types of recreation such as organized field sport. However, not many park visitors indulge in these activities. Also, these participants are in a relatively mobile age group (10 years to 19 years). On the other hand, the most popular park activities are those that do not require much land to support them.

It would appear, therefore, that parks serving the residents of a residential neighbourhood, may be of two types: small parkettes, sprinkled throughout the residential areas of the city which are well endowed with facilities and supervised. These may be less than an acre in area. Supplementing these parks would be larger parks, several acres in area, but spaced far apart, so that these parks can serve several neighbourhoods.

According to this concept the parkettes would be intensively used for active recreation which are supported by the park facilities. It would be used by children of a younger age group generally. The larger parks would be used extensively for activities which require a large land area, field games like soccer, baseball, etc.

BIBLIOGRAPHY

Abernathy, W. D., The Importance of Play in Ekistics, May 1969

Atkinson, Arthur A. and Ira M. Robinson, Amenity Resources and Urban Living in Quality of the Urban Environment ed. Harvey S. Perloff, Resources for the Future, John Hopkins Press, Baltimore, 1969.

AVG Management Science, Burnaby Parks and Recreation, Report to the Burnaby Parks and Recreation Commission, 1970.

Bangs, Herbert P., Jr., and Stuart Mahler, Users of Local Parks in Journal of the American Institute of Planners, Sept. 1970.

Barker, Roger, Ecology and Motivation in Current Theory and Research in Motivation, V. 8, 1960.

Berger, Bennet, Suburbs, Suburbanites, and the Urban Future in Planning for a Nation of Cities edit. or S. B. Warner, M.I.T. Press, Cambridge 1966.

Beyer, Glen H., Housing and Society, Macmillan, New York, 1965.

Blumenfeld, Hans, Comments on the Neighbourhood Concept in The Modern Metropolis ed. Paul D. Speiregen, the M.I.T. Press, 1967.

British Travel Association - University of Keele, Pilot National Recreation Survey Report no. 1, 1967.

Brady, Maurice, Planning for People, The Bedford Square Press, 1968.

Buchard, John, Some Antidotes in Journal of the American Institute of Planners, April 1965.

Butler, George, Introduction to Community Recreation, McGraw Hill Book Co., N. Y. 1967.

Canada, Department of Indian Affairs and Northern Development, Proposed Research Programme on Estimating Park Attractiveness Factors and Population Participation Factors, Unpublished paper, National Historic Parks Branch, March 1971.

Canada, Dominion Bureau of Statistics, Household Facilities and Equipment in May 1967, Queen's Printer, Ottawa, 1968.

Canada, Dominion Bureau of Statistics, Urban Family Expenditure 62-527, Queen's Printer, Ottawa, 1969.

Cesario Frank J. Operation Research in Outdoor Recreation in Journal of Leisure Research V. 1, Winter, 1969.

Cesario, Frank J., S. E. Goldstone and J. L. Knetsch, A Report on Outdoor Recreation Demand and Values to Middle Atlantic Utility Group, Batelle Memorial Institute, Columbus Laboratory, Columbus.

Cheung, Hym K., A Day Use Visitation Model in Journal of Leisure Research V. 4, Spring 1972.

Clawson, Marion, Dynamics of Park Demand, Regional Plan Assoc. Inc., N. Y., 1960.

Clawson, Marion, Land for Americas, Rand McNally and Co., Chicago, 1963.

Clawson, Marion, How Much Leisure Now and in the Future in Leisure in America: Blessing or Curse ed. James C. Charlesworth, Monograph no. 4, American Academy of Political and Social Science, Philadelphia, 1964.

Cullen, P., Whither Industrial Recreation Now? (Part II), Sport and Recreation, Jan. 1967.

Department of Parks and Recreation, Statewide Recreation Planning Unit, Outlook to 1920, San Francisco Bay Area, Metropolitan Complex, ie 1966.

Doell, Charles E., Elements of Park and Recreation Administration, Burgess Publishing Co., Minneapolis, Minn. 1968.

Doxiadis, C. A., Human Development and the City in Ekistics, March 1968.

Dubin, Robert, Industrial Workers Worlds: A Study of the "Central Life Interests" of Industrial Workers in Work and Leisure ed. Erwin O. Smigel, College of University Press, New Haven, Connecticut, 1963.

Emmet, Isabel, Youth and Leisure in an Urban Sprawl, Manchester University Press, 1971.

Everly, Robert E., Put the Parks Where the People Are in American City, March, 1972.

Etzokorn, K. P., Leisure and Camping: The Social Meaning of a Form of Public Recreation in Sociology and Social Research, Oct. 1964.

Farina J., The City as an Environment for Leisure, Community Planning Review, Winter 1970/71.

Gallion, Arthur B., and Simon Eisner, The Urban Pattern, D. Van Nostrand Co. Inc., 1963.

Gans, Herbert, People and Plans Basic Books Inc., N. Y., 1968.

Gist, Noel P. and Sylvia Fleis Fara, Urban Society, Thomas Y. Crowell, N. Y. 1964.

Gottman, Jean, The Rising Demand for Urban Amenities in Planning For a Nation of Cities ed. S. B. Warner, M.I.T. Press, Cambridge, 1966.

Greater Land Council, Planning Department, Surveys of the Use of Open Space V. I, 1968.

Gold, Seymour, The Non-Use of Urban Parks in Journal of the American Institute of Planners, November, 1972.

Greater Vancouver Regional District, Livable Region Newsletter, Aug. 1972.

Gutman, Robert, Site Planning and Social Behaviour in Environmental Psychology: Man in his Physical Setting eds. Harold H. Proshansky, William H. Ittelson and Leanne G. Rivlin, Holt Reinhart and Winston, 1970.

Herbert, John D., and Benjamin H. Steven, Model for the Distribution of Residential Density, Journal of Regional Studies V. 2, no. 2, 1960.

Keller, Susanne, The Urban Neighbourhood, Random House, N. Y., 1968.

Kensington Community Centre, Annual Report May 1971 - April 1972, Mimeo.

Lady Allen of Hurtwood, Planning for Play, Thames and Hudson, London, 1965.

Liverpool Corporation Review of City Development, Plan Report no. 15, Open Space Study, 1964.

Lithwick, N. H., Urban Canada, Problems and Prospects, Central Mortgage and Housing Corp., Ottawa, 1970.

Meyer, Harold D., and Charles K. Brightbill, Community Recreation, Prentice Hall, Englewood Cliffs, N. J., 1964.

Michaelson, William, Man and His Urban Environment, Addison Wesley Publishing Co., Reading, Mass. 1970.

Mittelstaedt, Arthur et. al., Appraisal of Park Standards in Park and Recreation, July, 1969.

Mueller, Eva and Gerald Gurin, Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults in Outdoor Recreation Resources Review Commission Report no. 20, Washington, D. C., 1962.

Mumford, Lewis, Philosophy of Urban Open Space in Small Urban Spaces ed. Whitney North Seymour, Jr., New York University Press, N. Y., 1969.

Myrdal, Gunnar, National Planning for Healthy Cities: Two Challenges of Affluences in Planning for a National of Cities, ed. S. B. Warner, M.I.T. Press, Cambridge, 1966.

National Recreation and Park Association, Outdoor Recreation Standards Washington, D. C. 1961.

Orczak, Louis H. Work as a "Central Life Interest" of Professionals in Work and Leisure ed. Erwin O. Smigel, New Haven, Connecticut, 1963.

Outdoor Recreation Resources Review Commission, Report no. 20, Washington, D. C., 1962.

Outdoor Recreation Resources Review Commission, Report no. 22, Washington, D. C., 1962.

Parker, Stanley, The Future of Work and Leisure, McGibbon and Kee, London, 1971.

Patmore, Allan J., Land and Leisure, David and Charles, Newton Abbot, 1970.

Perloff, Harvey S., Framework for Dealing with the Urban Environment, in Quality of the Urban Environment, ed. Harvey S. Perloff, Resources for the Future, John Hopkins Press, Baltimore, 1969.

Perloff, Harvey S., and Lowdon Wingo, Urban Growth and the Planning of Outdoor Recreation in Outdoor Recreation Resources Review Commission Report no. 22, Washington, D. C., 1962.

Perry, Clarence A., Housing in the Machine Age, Russel Sage Foundation, N. Y. 1939.

Rawley, Kim and Thomas K. Peuker, Park Awareness and Park Use in Cities, Western Geographical Series V. I, University of Victoria, 1970.

Rosenberg, Gerhard, City Theory and Quality of Urban Life in Ekistics, May, 1969.

Schnore Leo, Social Morphology and Human Ecology in American Journal of Sociology V. 63, 1958.

Seneca, Joseph J., and Charles J. Cicchetti, User Response in Outdoor Recreation, Journal of Leisure Research, Spring, 1969.

Sillitoe, K. K., Planning for Leisure, H.M.S.O., 1969.

School of Community of Regional Planning, Urban Land Use Structure and Accessibility, Staff Research Report, University of British Columbia, Mimeo, 1965.

Tims, Duncan, The Urban Mosaic, Cambridge University Press, 1970.

Trist, Eric, Urban North America: The Challenge of the Next Thirty Years, Plan V 10, No. 3, 1970.

United Community Service of the Greater Vancouver Area, Research Dep., Local Areas of Vancouver, Mimeo, 1967.

VanDoren C., An Interaction Travel Model for Projecting Attendance of Campers at Michigan State Parks, Ph. D., Dissertation, Michigan State University, East Lansing, 1967.

Weaver, Robert C., Re isolation needs in Urban Areas in Small Urban Spaces, editor Whitney North Seymour Jr., New York University Press, N. Y., 1969.

Whyte, W. F., The Last Landscape, Double Day and Co., 1968.

Whyte, William F. Cluster Development, American Conservation Association, 1964.

Willner, Alfred, French Sociology and the Problem, French Sociology and the Problem of Social Engineering, Paper presented at the British Sociology Association Conference, 1967.

Wilson, Robert L., Livability of the City: Attitudes and Urban Development in Urban Growth Dynamics ed. F. Stuart Chapin, John Wiley and Sons, 1962.

Webber, M. M. et. al., Cultural, Territoriality and the Elastic mile in Taming Megalopolis V. I, ed. H. Wentworth Eldredge, Anchor Books, Garden City, N. Y., 1967.

Wilensky, Harold L., Work, Careers, and Social Integration in International Social Science Journal, 12, 1960.

APPENDIX A: QUESTIONNAIRE

APPENDIX A

THE STUDY QUESTIONNAIRE

School of Community and Regional Planning
University of British Columbia.

Factors Influencing Local Park Use
the Vancouver Area

Record of Calls:

	Date	Time	Result (Ring Code)
1.			I, PI, R,RO
2.			I, PI, R,RO
3.			I, PI, R,RO

Code: Interview, Partial Interview, Refusal
Respondent Out.

Hello, I am a student at the University of British Columbia. I am doing a survey of neighbourhood parks and playground use in this area. For this I am interviewing members of selected households and am asking them questions on how they use parks in their neighbourhood. The information obtained from members of your household along with answers of selected households will help in the design of parks according to peoples needs. Your answers will be completely confidential. The interviews will be short. I feel members of your household will enjoy discussing the questions.

Address

Interviewee

Household no.

Male head

Female head

Child sex

Other sex

1. First of all, did you visit any of the parks in your neighbourhood during the summer?
 - a. Kensington ____ c. Tecumseh ____
 - b. Jones ____ d. Gordon ____
 - e. no park ____ (if answer is no park go to 6)
2. How many times per week on an average did you visit these parks?
 - a. Kensington ____ c. Tecumseh ____
 - b. Jones ____ d. Gordon ____
3. Roughly how long did you spend in these parks on each occasion?
 - a. Kensington ____ b. Tecumseh ____
 - b. Jones ____ c. Gordon ____
4. What were your dominant activities in these parks?

a. Kensington

b. Jones

c. Tecumseh

d. Gordon

i	ii	iii	iv	v	vi	vii	viii	ix

- i. took a walk
- ii. sat in the park
- iii. supervised children's play
- iv. sat in the park
- v. played team sports formally
- vi. played team sports informally
- vii. used the pool
- viii. used play equipment
- ix. other

5. Why do you not visit the parks in your neighbourhood? (If respondent has answered positively to question #1 the question is: Why do you not visit parks more often):

- a. no time _____ nothing to do in park _____
- b. not interested _____ no supervision _____
- c. old age _____ too far _____
- d. have own yard _____ other _____

6. What do you think is missing in the parks in your area?

- a. not enough facilities for children _____
- b. not enough facilities for adults _____
- c. no pool _____
- d. lack trees and vegetation _____
- e. no supervision _____
- f. okay _____
- g. other _____

7. May I have your age please?

- a. 4 yrs. and under _____
- b. 5-9 yrs. _____
- c. 10-14 yrs. _____
- d. 15-19 yrs. _____
- e. 20-64 yrs. _____
- f. 65 yrs. _____

9. May I ask what the occupation of the head of the family is? (ask only of one member of the household)

10. Are there any further comments you wish to make concerning the physical conditions of the parks in your area, their facilities and your feelings toward them generally.