

AN INVESTIGATION OF THE ELDERLY  
IN THE URBAN ENVIRONMENT  
WITH SPECIAL REFERENCE TO THEIR HOUSING

by

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## ABSTRACT

This thesis represents an attempt to understand better the housing of elderly people. With this object in mind an investigation of the physiological-psychological and socio-cultural processes of aging is carried out. The geography of aging is similarly investigated with the study of national, regional and urban distribution patterns of the aged which leads to a partial rejection of the hypothesis that the bulk of the aged are found in older, deteriorating areas of the city. Clusters of the aged are identified in urban centers and some of the factors operative in their formation are considered. With the identification of some clusters of the aged of low economic status housing needs are considered especially in subsidized and specialized forms. Location of senior citizen housing developments is found to be of considerable importance and a model is developed for the assessment of alternative sites. Finally, some alternatives to such housing are discussed.

The disappointment of manhood succeeds to the  
delusion of youth; let us hope that the heritage  
of old age is not despair.

Benjamin Disraeli.

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The Hon. A. J. MacEachen's opening remarks to the Canadian Conference on Aging in Toronto in 1966 led to much of the research taking the form of field work amongst the aged. In his address the Minister said ".....old people themselves should be brought into planning at every level. They should be given the chance to express themselves on those matters which are of direct concern to them. 'Planning with' old people rather than 'planning for' old people needs more emphasis."

Mr. Stratton of the Vancouver Housing Association provided me with much material and assisted me in making contacts with housing developments in the Vancouver area. Thanks are due to the many elderly people who, over the past two years, took the time to talk to me, to consider my questions, and to express their views. It is to be hoped that this paper adequately reflects not only the views, but also something of the lives and aspirations of these people.

Special thanks are also due to Alan LeFevre who worked with me during the formative stages of the section on locational aspects of senior citizen housing.



## CHAPTER I

## INTRODUCTION

The question of senior citizen housing first came to my attention in the spring of 1968 when I was engaged in a study of consumer preferences in housing.<sup>1</sup> I discovered at that time that young and middle-aged couples seldom gave any thought whatsoever to the type of housing they might desire or require during their retirement years. Generally, these people expected to remain in housing very much similar to what they already had. A survey of the housing of old people in a number of neighbourhoods revealed that this, in fact, was what many of them did. That such a number of two and three bedroom homes should be occupied by only one or two people seemed to be a squandering of the existing housing stock especially since at that time many young families were unable to acquire such accomodation. The question that immediately came to mind was "why didn't these older retired people vacate these homes with the extra space they didn't need and seek more suitable housing?" At this time I became associated with a small group of architectural students from the University of British Columbia and we assumed that the reasons that the elderly did not move into

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<sup>1</sup>G. Priest, "Consumer Preferences in Suburban Housing," Unpublished undergraduate paper, Simon Fraser University, 1968.

senior citizen housing developments were, firstly, that existing stocks were inadequate, and secondly, that for some reason these developments were not attractive to the aged, possibly due to the stigma of living in an "old folk's home" or possibly due to some deficiencies in design. No one in the group at this time, however, was familiar with any literature in gerontology nor had any of us done any extensive field work in the subject. Initial investigations were scarcely underway before it was discovered that our assumptions were indeed unsound and that the whole problem was a great deal more complex than we had at first suspected. At this point the architectural students felt that they were straying too far from their discipline and went on to other things. While my interest waned I did take the opportunity to visit a number of senior citizen housing developments in the course of a motor trip from British Columbia to Ontario. It was from these observations that I first began to discover and formulate some of the problems that this paper deals with. The real incentive, however, came from The Final Report of the Special Committee of the Senate on Aging, which stated in the summary of the Committee's deliberations:

One of the striking findings is how few universities in Canada at the present are doing research in the aging field..... It was also disappointing to discover the little research, directly or indirectly related to the problems of old people, which is proceeding under federal or provincial government auspices, and this in face of the very large public expenditures that are being made in this field.<sup>2</sup>

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<sup>2</sup>The Senate of Canada, Ottawa, Queen's Printer, 1966, p. 171.

Furthermore, it was discovered through contact with the Vancouver Housing Association that a need existed for a fundamental study that would provide basic data on the elderly and their urban environment. Many agencies desirous of providing housing or other facilities for the aged admit quite freely that they know little or nothing about the aged, their habits or their habitats. They understand neither the physiological-psychological or the socio-cultural aspects of aging, nor do they have more than a vague notion or what facilities are needed or desired by the aged. What is more, many decisions on design and location of proposed developments are made primarily on the basis of purely economic capital costs. Long run costs that may be encountered due to faulty design or poor location are given little or no consideration.

The object of this investigation then is quite simply, to compile basic data and to consider certain relationship in this data for the use of those who are concerned with the well-being of one of the minorities who are probably least able to help themselves in a contemporary industrial society-- the senior citizen. Four general areas will be investigated; the processes of aging, the geographical distribution of the aged, the living conditions of the aged, particularly the aged poor with whom welfare agencies are most concerned, and finally specialized housing for the aged. Some of the basic questions that are asked are as follows: What are the processes of aging? In what ways are the elderly different

from other age groups? Where and under what conditions do they live? Is there a need for specialized housing for the aged? To what extent do such facilities exist? How adequate are their facilities, and how can they be improved?

The methodology employed in seeking the answers to these questions is designed for each different analysis. The chapter on the Process of Aging is primarily an analysis of the literature in the newly developing field of gerontology and the intent is not only to delimit the physiological and psychological aspects of aging but also to fit them to the social reality of our time. Chapter III on the Geography of Aging attempts to place the aged in the urban scene considering spatial distributions of the aged in relation to the evolution of spatial patterns and certain socio-economic factors. Canadian census materials provide the data for establishing certain trends and patterns as well as for the formulation of relationships between these patterns and the above mentioned socio-economic factors. To this point the discussion tends to be abstract but Chapter IV, The Urban Experience, investigates the actual life experiences of the aged in an urban setting. Particular attention is paid to the less affluent for these are the people who are most likely in need of subsidized housing or other specialized facilities. Investigation here includes an informal survey or some of the Vancouver neighbourhoods identified in Chapter III as having fairly high densities of aged persons

but having low economic status. A number of residences were visited, including hotels, rooming houses, apartments, and single family dwellings and informal interviews were made in an effort to feel and to understand what is involved in living in such conditions. No questionnaire was used at this point but notes were made either during or following the discussions. As a follow-up, 170 applications for subsidized housing were studied in order to confirm statistically, some of the impressions of the informal survey. The application form from which the data are compiled is included in Appendix I. The data used, however, also contain additional notations by social workers who had visited the applicant. Chapter V considers the need of the aged not only for subsidized or low-rental housing but also for specialized housing, that is, housing that is designed to meet the special physical, psychological, sociological and economic needs of the aged. In an attempt to establish just what those needs might be two formal surveys were carried out, one dealing primarily with location and the other with location as well as building design. Both surveys used formal questionnaires (Appendix I) and both were conducted exclusively in senior citizen housing developments as these people were aware of the possibilities available to them in both their own homes as well as the development homes. Two hundred and fifty interviews were conducted (100 for questionnaire 1 and 150 for questionnaire 2) at 36 different senior citizen housing developments in the Greater Vancouver area. Tenants were

selected by chance at each development visited as were the developments themselves. The first survey using questionnaire 1 was conducted between February and April, 1969, while the second survey using questionnaire 2 took place from September 1969 to April 1970. The actual phrasing of the questionnaires was developed largely through informal conversations with tenants in 1968 during visits to a number of developments throughout Western Canada. It was during these 1968 visits that it was indicated that location of a development relative to various shops and services frequented by the aged, was somewhat of a determinant of the "success" of any given development. It was with the aim of establishing some method of measuring the suitability of various sites that questionnaire 1 was first developed. Chapter V, therefore, also presents a model for assessing spatial costs incurred by senior citizens. Some of the alternatives to specialized housing are discussed in Chapter VI as are considerations of the extension of existing developments to include more intensive care for the less mobile aged. This chapter concludes the work with an attempt to relate the four main themes of the previous chapters.

## CHAPTER II

## THE PROCESS OF AGING

1. Physiological and Psychological Aspects

Aging in the human animal is more than a simple physiological process for it has effects not only upon man's physical capabilities but also upon his psychological ones as well. Furthermore, there are many sociological adjustments that are made as the individual attempts to adapt to new stages in the life cycle as well as to roles and values that have changed since his grandfather or even father provided the example of the expected pattern of "elderly" behavior for him. This is particularly true in industrial societies where accepted norms may suddenly shift leaving the aged, whom we might consider a bio-cultural group, to adapt to new situations for which they have no patterned behavior and for which their decreased physical and mental capabilities may precipitate a sense of bewilderment.

Aging is not a disease but a physiological phenomenon-- a process that is notable for its precocity, its steadiness and its insidiousness.<sup>1</sup> While it is not the intent here to

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<sup>1</sup>Dr. Francois Bourliere, "Aging in the Individual," in Canadian Conference on Aging, Proceedings, Toronto, Canadian Welfare Council, 1966.

dwell at any length upon the biological aspects of aging some understanding of the process must of necessity precede our following discussions. As suggested by Dr. Bourliere, there must be no confusion between the normal physiological deterioration which is disease induced. Disease here also includes those maladies that are normally associated with old people. The aging process is progressive, gradual, cumulative, and at present irreversible. It is associated with the passage of time which, as has been said "is the breaker of youth," and as such must be considered a life-long process marked by growth, maturation and deterioration. Aging then is not a static state of being but a dynamic process of change and modification. The changes, however, as have been mentioned are cumulative, and usually, detrimental to the biological organism to the point that any given species appears to have a finite life span. The human life span is presently thought to be 100 to 120 years,<sup>2</sup> although, due to environmental conditions, life expectancy is generally considerably less.

This aging process works upon the body in primarily the following ways:<sup>3</sup>

- (1) There is a gradual dessication or drying up of body tissues.

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<sup>2</sup>Wilma Donahue, "Physical and Psychological Changes With Age," in National Association of Housing and Redevelopment Officials, Management of Public Housing for the Elderly, Washington, 1965.

<sup>3</sup>Anton J. Carlson and Edward Stieglitz, "Physiological Changes in Aging," Annals of the American Academy of Political and Social Sciences, Vol. 279 (January, 1952), p. 21-23.



- (2) Cell division is gradually retarded as in the capacity for cell growth and tissue repair.
- (3) There occurs a gradual retardation of the rate of tissue oxidation, which is essentially the lowering of the metabolic rate or speed of living.
- (4) Cells degenerate through atrophy, or wasting away, and pigmentation increases as does fatty infiltration.
- (5) There is a gradual decrease in tissue elasticity and degenerative changes occur in the elastic connective tissues of the body.
- (6) Speed, strength, and endurance of neuromuscular reactions all decrease.
- (7) Progressive atrophy and degeneration of the nervous system takes place combined with impairment of hearing, vision, memory, attention, and mental endurance.
- (8) Finally, there is a gradual impairment of the process of homeostasis whereby there is a gradual failure of the mechanisms which maintain a moderately constant internal environment for cells and tissues.

Of particular significance are the factors listed (5) through (7) for these are related to the ability to perceive, interpret, and react to the surrounding environment. In addition one might also add the condition of osteoporosis, a process whereby bone structure becomes light and porous,

rendering it much more fragile, subject to breaks and unable to mend quickly. The manifestations of the above noted processes of aging are most readily observed in the general deterioration of:

- (1) sensation--vision, hearing, kinesthesia;
- (2) perception;
- (3) response;
- (4) locomotion.

It is through the senses, of course, that the individual maintains contact with his environment but it is in the sensory organs that detrimental and irreversible effects of aging are often most noticeable. Vision is reduced in clarity, range, in speed of adaptation to intensity changes, and in sensitivity to brightness and color contrasts. Hearing is affected, particularly in the loss of audio acuity in the high frequencies. With this loss lower range sounds sometimes become more noticeable to the aged with resultant annoyance with muffled thumps and bumps that would otherwise go unnoticed. Kinesthetic senses also suffer a loss often seriously affecting balance and coordination. While the senses of taste and smell are reduced, sensitivity to temperature often becomes more acute probably due to the deterioration of the temperature-regulating mechanisms of the body.

As might be expected with a lowering of the quality and quantity of sensory input, perception also decreases with age. Particularly affected is the speed with which the individual

Perceives; therefore, it follows that response is also adversely affected in that decisions can no longer be made as quickly or as efficiently. Locomotion, as well, is detrimentally affected not only by slowed reactions but also by reduced muscle strength, lower cardiac output and other physical handicaps.

To this point disease has not been discussed. However, it cannot only add to the effects of the aging process but in some cases it may influence the rate of that process. According to Donahue<sup>4</sup> 61 percent of persons 45 to 65 suffer from chronic diseases. This increases to 80 per cent in persons aged 65 and over. Furthermore, two-thirds of those over 65 with such conditions find that movement is restricted because of them. While acute illness is not so prevalent in the aged such sickness, when it does occur, tends to last longer as recuperative power is diminished. Health, then, is a relative condition--good health at seventy is not the same as good health at thirty.

Of those senior citizens who find that they have health conditions that limit their activity, 23.7 per cent have chronic heart ailments, 33.6 per cent have heart ailments plus high blood pressure, while arthritis or rheumatic diseases are suffered by some 22.5 per cent.<sup>5</sup> Skeletal or muscular

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<sup>4</sup>op cit, pp. 12-14.

<sup>5</sup>Ibid.

impairments limit the mobility of over 15 per cent while restricted vision afflict another 10 per cent. As will be related later in this paper a study of applicants for senior citizen housing in Vancouver revealed that 37 per cent had one or more disabilities. Of these, 43 per cent suffered from arthritis, 39 per cent had heart or circulatory problems, 16 per cent were handicapped by severely impaired vision or hearing, while eight per cent had respiratory problems. Eight per cent also had diabetes and 19 per cent suffered from other miscellaneous maladies, an indication that regional environmental differences may have an effect upon health.

Wilson suggests that

diminishing mobility is one of the major characteristics of the aged, partly as a consequence of declining strength and difficulty with the sense of balance, and partly because of disease, or other pathological conditions.....<sup>6</sup>

He goes on to note that the most frequent causes of restriction of outdoor movement are difficulty in breathing, arthritis, weakness, and lack of self-confidence. The physical consequences of aging of most importance, he says, are as follows:<sup>7</sup>

- (1) Mobility decreases with occasional periods of inability to get about.
- (2) There are limitations on movements and adaption to immediate physical surroundings.

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<sup>6</sup>R. L. Wilson. Urban Living Qualities from the Vantage Point of the Elderly, Chapel Hill, University of North Carolina, 1960. p. 9.

<sup>7</sup>Ibid, pp. 11-13.

- (3) Special difficulties are encountered with walking and climbing stairs. The problems of balance make these activities especially hazardous on varied or unfamiliar terrain.
- (4) Physical strength is reduced which often makes basic household tasks such as dressing, bathing, cooking, and laundry difficult or impossible.
- (5) There is an increasing need for medical and other health care for increasing periods of time.
- (6) There are relatively frequent transitions from ambulatory to bedridden status, and frequent rehabilitative transitions in the other direction from bed to ambulatory status.

Wilson estimates that at least 25 per cent of those aged 65 and over are suffering from one or more of these symptoms and are "quite limited in movement." He speculates that some four to eight per cent are bedridden or housebound. In an attempt to categorize degrees of physical mobility Wilson developed the following scheme in which the individual is:

- (1) restricted to dwelling unit;
- (2) able to move about in sheltered outdoor space but with wheel chair, walker, or other assistance;
- (3) able to move about sheltered outdoor space without assistance;
- (4) able to walk relatively short distances (less than

- one block) but able to get in and out of automobiles;
- (5) able to walk fairly long distances (several blocks) but unable to use public transportation;
- (6) able to walk fairly long distances (several blocks) and able to use public transportation without help;
- (7) not limited in travel given the usual physical abilities of the aged.

Not considering those who were institutionalized in his sample, Wilson estimated that five per cent fell into class (1) while 15 to 25 per cent were in classes (2) and (3), 15 to 30 per cent were in class (4), and 50 to 60 per cent were in classes (5) and (6).<sup>8</sup>

<sup>8</sup> Mental illnesses also exact their toll. Donahue relates that those over 65 presently constitute over 25 per cent of the population of mental hospitals.<sup>9</sup> Mental disorders are of two groups, psychogenic or functional and organic. In the aged functional disorders are slightly more common than organic, and are found in the absence of brain damage. These disorders are labelled as neurotic, behavioural, or psychotic and are manifested in involuntary psychotic reaction or depression, manic-depressive reaction or excessive mood swings, and schizophrenia. Such disorders can often be dispelled if discovered and treated in time. Organic disorders, or those

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<sup>8</sup>Op cit, p. 15.

<sup>9</sup>Ibid, p. 21

resulting from brain damage, are more serious as they are usually irreversible due to the slow recuperative powers of the aged. Chronic brain syndromes are of this type and are often the cause of physical impairments, sometimes to the point of paralysis. Senility may be partially the result of organic damage but would more probably be due to functional causes. In senility the individual increasingly begins to "live-off" his memories. According to Verwoerd,<sup>10</sup> advanced senile regression represents a complete break with reality in which the person becomes totally engrossed in his past and the people contained in it.

In summary then, it might be said that aging is a natural process that is manifested in varying degrees of restriction upon both the physical and mental capabilities of individuals. While life expectancy is slowly increasing in contemporary industrial society, medical advances have significantly increased the numbers who are approaching the expectancy level, if not the potential level of longevity. Clark and Anderson contend that the increase in expectancy has resulted "from a reduction of threats to life from the environment--that is, the major factors in longevity are cultural rather than biological."<sup>11</sup> This interpretation,

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<sup>10</sup>Adriaan Verwoerd, M.D., "Psychiatric Aspects of Aging." Foundations of Practical Gerontology, ed. Rosamonde R. Boyd and Charles G. Cakes, Columbia, S.C., University of South Carolina Press, 1969, pp. 123-125.

<sup>11</sup>Margaret Clark and Barbara G. Anderson, Culture and Aging, Springfield, Charles C. Thomas, 1967, p. 4.

of course, considers technology as dependent upon culture.

While increasing longevity is adding to the numbers of the aged as a biological group certain sociological factors are also swelling their numbers as a cultural group.

## 2. Socio-Cultural Aspects of Aging

Any definition of "old age" is relative to the culture within which the definition is made. Therefore:

In societies where old age is defined in functional terms, it is the onset of biological deterioration (as this affects mobility, strength, or other abilities required in adult work) that signals the end of active adult status. That is, old age is defined by observed changes in physical condition--and its onset corresponds with the individual's need to restrict his activities substantially. However, in human groups which define old age in formal terms, change of status is linked to other factors--usually to some external event which is arbitrarily invested with symbolic significance.<sup>12</sup>

In contemporary Western industrial societies the definition of old age is at present essentially a formal rather than a functional one. As might be expected in such a society calendar years dictate many aspects of life. Entrance to school, the right to vote, and the age of retirement are such examples. In Anglo-America the age of retirement is usually 65, as is the age at which individuals become eligible for government pensions. Due to pressures of automation and unemployment, however, there are indications that this retirement age may be lowered to sixty. The question here is

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<sup>12</sup>Ibid, p. 6.



will our definition of "old" also drop to this new level? The implications of such an action would, of course, add to the already growing number of "old people" who are approaching the level of life expectancy and who do not have a productive role to play in society. Because of the accelerating rate of physiological deterioration in elderly people it may become necessary to differentiate between the "young" aged, the "middle-aged" aged and the "aged" aged.<sup>13</sup>

Clark and Anderson who investigated the role of the aged in contemporary American society found that there exists a "normlessness" which they attribute to four historical factors.<sup>14</sup> The first of these they claim is the demise of the extended family, possibly related to the frontier pattern of settlement and colonization in which children grew up and left the parental home to break new ground. Nucleated families became customary and persist today, leaving the older generation with what is sometimes called the "empty nest".<sup>6</sup> A second factor which has influenced the role of the aged is the rapid rate at which technological and industrial change have occurred throughout the brief history of this continent. In the thirty or forty years following the age at which people are young adults at the center of social life, the content of society's culture changes so

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<sup>13</sup>Michael B. Barker, California Retirement Communities, Berkeley, University of California, 1966, p. 14.

<sup>14</sup>Op cit, pp. 13 - 18.

much that they are left carrying a dying or extinct culture. Furthermore, technology may have changed so that their particular skills and abilities no longer contribute to productive work. The aged then, are largely stripped of the traditional role of village elders in which the wisdom of age commanded respect. A third factor is the steadily accelerating increase in the number of aged in the society. "In 1830 only one American out of twenty-five was sixty years of age or older; in 1960, one out of eight."<sup>15</sup> A new social group has been created by society and yet that society has rendered this group socially and economically dependent. Finally, a fourth factor is the emphasis placed upon the value of productivity and this, in a society that arbitrarily defines people "old" and unfit for work at age 65, invariably leads to stress, particularly in contemporary industrial societies in which many values are based upon the "Protestant Ethic". Social sanctions demand that in order to maintain respect an individual must be productively employed, but in the Anglo-American society the aged by and large are denied the right to remain in that situation. Clark and Anderson summarize the implications of these factors in the following way:

The aged in American life face a dilemma. They are rendered helpless, either by personal default or by social definition, to meet cultural ideals and consequently they are devalued. The principal alternative

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<sup>15</sup>Ibid, p. 14.

now provided by society is that of enacting certain secondary cultural values, such as orientation to play and the emphasis on consumption characteristic of the American leisure class generally. This alternative is available to the affluent aged, but not to the majority.<sup>16</sup>

Lack of a meaningful role, however, is only one of a number of crises that must be met by the elderly. As age advances it is usually accompanied by a number of situations that require considerable personal re-adjustment. The first of these is what is commonly referred to as the empty-nest phase of the family cycle. According to 1960 United States Census data quoted by Barker<sup>17</sup> the average American woman has her last child at age 26. It follows, therefore, that between the ages of 45 and 50 her last child will have left home leaving her faced with the problem of reorienting her life purpose. She cannot even look forward to the traditional role of grandmother and matriarchal head of the family, although very recent studies by Boyd<sup>18</sup> suggest that the increasing trend to working mothers may provide the grandparents with baby-sitting activities. If we are to believe the forecasts on cybernetics and automation, however, this trend may be short-lived. Nevertheless, additional recent

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<sup>16</sup>Ibid, p. 18.

<sup>17</sup>Op cit, p. 3.

<sup>18</sup>Rosamonde Boyd, "Emerging Roles of the Four-Generational Family," Foundations of Practical Gerontology, Op cit, Chapter 4.

evidence from Britain suggests that family contacts remain fairly close despite theories to the contrary.<sup>19</sup> While the relinquishing of the family home can precipitate a crisis for women perhaps a greater crisis, particularly for men, comes with compulsory retirement.

In traditional societies, particularly those that were agrarian or rural, it was possible for men to gradually relinquish their work load according to, primarily, the state of their health. Forced into a non-productive role, the now "defined" senior citizen faces not only loss of respect and status, but also loss of meaningful activity and perhaps more important, loss or reduction of income. Retirement then, can be an exceedingly traumatic experience. Moore notes this in the number of "lost souls" who haunt places of employment.<sup>20</sup> Ironically too, he relates that the retired worker may experience severe mental depressions by remaining in or near the working community of which he was once a part and which serves to remind him of his once active role and his former duties and responsibilities.

A relatively new problem precipitated in part by marriage at a younger age and in part by increased longevity is that of the four-generational family in which the "young"

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<sup>19</sup>Peter Townsend, "The Changing Role of the Older Person in Our Society," Proceedings, ed. Canadian Conference on Aging, Toronto, Canadian Welfare Council, 1966.

<sup>20</sup>Elon H. Moore, The Nature of Retirement, New York, Macmillan, 1959, p. 12.

aged may be called upon to care for the "aged" aged. This responsibility may serve to some extent to replace the children in the "empty-nest" but it can also become a burden that becomes increasingly difficult as both generations suffer the progressive processes of aging.

Often overlooked in the literature but strikingly revealed in the field work associated with this study is the loss of mobility due to the loss of license or ability to drive an automobile. In our highly mobile society, particularly in suburban society where public transit is almost nonexistent, the loss of the family automobile can sharply curtail the independence of the aged. It was discovered that for many of the elderly this loss represented the most critical situation they had yet to face.

The greatest crisis, however, is probably met in the death of one of the marriage partners where the survivor is left to face the future in the words of Tunstall, "old and alone".<sup>21</sup>

Higher life expectancy levels for females than for males in most industrial countries dictate that widows will most usually outnumber widowers. Increasing infirmity can also precipitate crises in which mobility may be affected thereby further diminishing independence. At no stage in the life cycle are so many situations met that require radical

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<sup>21</sup>J. Tunstall, Old and Alone, London, Routledge, 1966.

readjustment. Certainly crises are met all through life (entering the educational system, leaving home, marriage, the birth of children) but these situations are usually happy, not debilitating, and they are met when the individual is psychologically and physically fully capable of handling them.

In summation it might be said that old age is a time when the cumulative forces of the process of aging are beginning to be felt. Loss of sensory acuity renders the aged less able to cope with their environment. Rapidly changing technology combined with a slowing down of the mechanics of perception and response can increase the bewilderment of the aged with the passing scene. Problems of locomotion can seriously affect mobility as can socio-economic factors associated with income or bureaucratic restrictions. The elderly, then are forced into a position of almost continual readjustment, or adaptation. They also have the need to search for a meaningful role to play in a society which sets them aside, worships youth, mobility, and productivity, and which admonishes those who do not "think young".

While it has been necessary, in order to cover the material, to generalize somewhat in the above account of the physical and social aspects of aging it may be wise to here dispel some common misconceptions regarding the aged that have no doubt arisen from just such generalizations.

Verwoerd<sup>22</sup> who considers aging to be "a process leading to increased vulnerability to stresses, such as disease, accident, widowhood, economic deprivation, or loss of status," warns again certain misconceptions that can often creep into and bias many studies of the aged. A number of the misunderstandings cited by Verwoerd are outlined as follows.

The concept that the aged are all alike is a common misconception which, of course, is not so for the aged are as diverse a group as any other biological or cultural group. That most of the aged do or should live in institutions is another misconception. Actually in the United States only about five per cent of the aged reside in nursing homes or mental institutions. Furthermore, the aged desire to maintain their own homes and households as long as possible. The idea that there is little or no contact between the aged and their relatives is not at present held to as firmly as it has been in the past. In fact it would appear that contacts are fairly frequent in spite of the relatively greater spatial segregation of families in our present society. Generally, however, both children and the elderly prefer to maintain separate households. It is often said that old people are unable to make decisions. It may be closer to the truth to say that it merely takes them longer due to the reduced

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<sup>22</sup>Adriaan Verwoerd, M.D., "Biological Characteristics of the Elderly," Foundations of Practical Gerontology, op cit, Chapter 5.

factors of perception and response and due to the greater number of alternatives that their experience may have provided them with. Other common misconceptions are that old age is a second childhood, that the aged are in poor health and that they have no sex life. Actually senility affects only a very small segment of the aged and health, as has been explained is relative to age, any age, be it 30 or 70. As for sex life, according to Verwoerd, there is no reason why it could not and should not continue well into old age.

In summary it may be re-emphasized that aging is not a disease, but a process--a process that has certain ramifications upon the physical and mental abilities of the individual. How this individual adapts to his new and changing age-wrought conditions depends, in good measure, not only upon the culture in which he lives, but also upon the environment which that culture helps to create. Having defined the aged in terms of biological as well as sociological characteristics it may be said that they constitute a particular and identifiable bio-cultural group and that they exhibit certain common behavioural characteristics. In the following chapter some of these characteristics will be investigated as they apply to spatial distributions of the aged, particularly in urban centers, while in Chapters IV and V both physiological-psychological and sociological characteristics will be investigated in their relationships to the urban environment.



## CHAPTER III

## THE GEOGRAPHY OF AGING

1. Regional Distribution of the Aged

As noted previously more people in our society are living longer than has been the case in the past. According to the Senate Committee report on aging in Canada<sup>1</sup> life expectancy has risen from 60 years in 1931 to 68 years in 1961 for males and 62 to 74 years for females. Furthermore, this population is becoming increasingly urbanized as the number of aged 65 and over living in urban areas were found to be 70 per cent in 1961 with only 20 per cent in rural non-farm areas and 10 per cent on farms. Between the years 1951 and 1961 the number of persons in urban Canadian centers who were over age 65 increased by 40 per cent. This trend is perhaps better illustrated in Figures 1 and 2 which also reflect the predominance of women over men in this age group.

As a whole, however, compared to other countries, Canada has a relatively young population. In terms of the percentage of the total population only 7.6 per cent are

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<sup>1</sup>Senate, Canada, Final Report of the Special Committee of the Senate on Aging, Ottawa, Queen's Printer, 1966, p. 3.

aged over 65 (1961).<sup>2</sup> Comparison with other Western Countries is seen in Table 1. Here it may be noticed that sustained immigration of predominantly younger people may be a factor in holding the last three countries at lower levels just as emigration of these same people may be a factor in the higher levels of the European countries.

TABLE 1

PERCENTAGE OF TOTAL POPULATION  
AGED 65 AND OVER  
SELECTED WESTERN COUNTRIES (1960-1961)

Sweden .....	12.0
United Kingdom .....	11.9
Norway .....	10.9
West Germany .....	10.6
Denmark .....	10.6
United States .....	9.3
Netherlands .....	9.0
New Zealand .....	8.6
Australia .....	8.4
Canada .....	7.6

SOURCE: Final Report Special Committee of Senate on Aging.

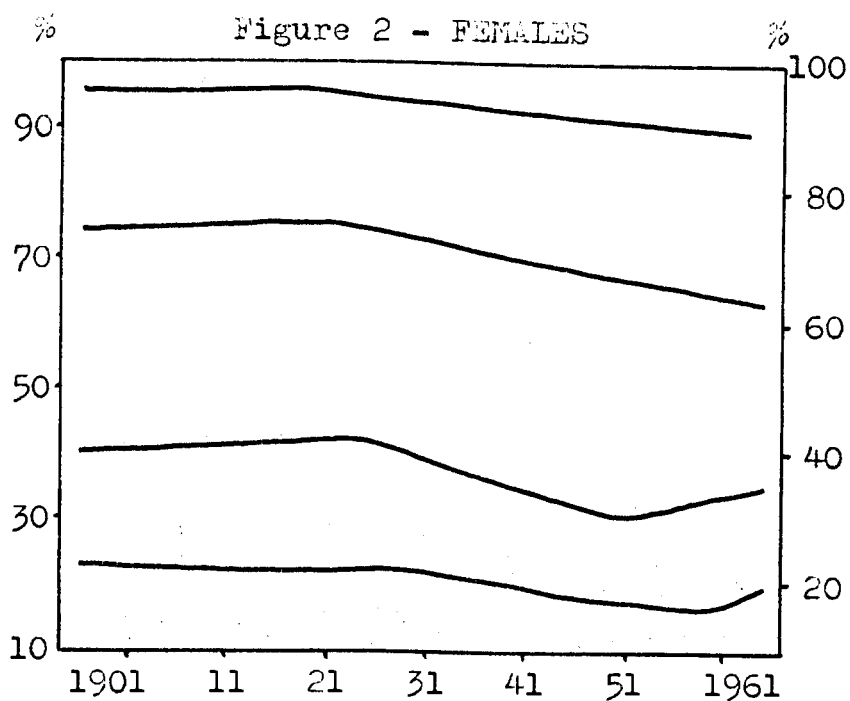
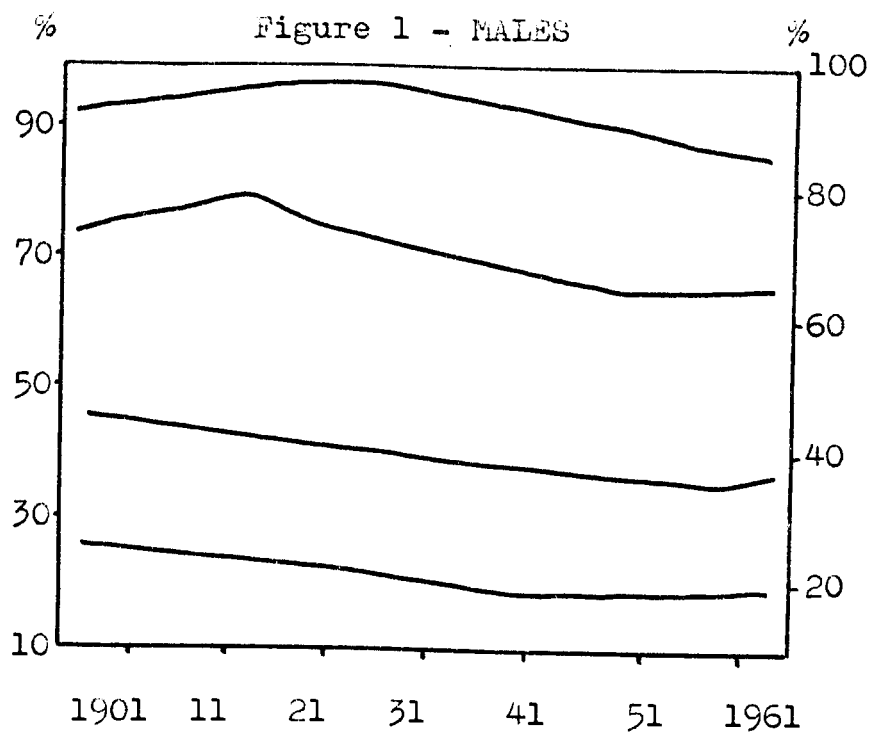
There is also considerable regional variation in the distribution of the aged within Canada. As the Senate Committee reported this percentage of the aged ranged from "highs of 10.4 per cent in Prince Edward Island and 10.2 per cent in British Columbia to lows in Quebec and Newfoundland of 5.8 per cent and 5.9 per cent respectively."<sup>3</sup>

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<sup>2</sup>Ibid, P. 1. It is estimated that by 1991 this figure will be nine per cent.

<sup>3</sup>Ibid, P. 2.

CHANGES IN THE AGE COMPOSITION OF POPULATION  
INCORPORATED CENTERS 30,000 AND OVER.  
CANADA, 1901 - 1961



Interprovincial migration is most certainly a factor here for in the case of Prince Edward Island the emigration of the younger labour force will naturally leave a larger percentage of aged behind. British Columbia is somewhat a different case, where it may be that the relatively mild climate has attracted older immigrants from other areas of the country.

Urban centers are also considerably diverse in the number of aged they contain. (See Table 2)

TABLE 2

PERCENTAGE OF TOTAL POPULATION AGED 65 AND OVER SELECTED CANADIAN METROPOLITAN AREAS (1961)	
Victoria .....	15.9
Vancouver .....	11.1
Saskatoon .....	10.1
Winnipeg .....	9.0
Hamilton .....	7.8
Toronto .....	7.7
Calgary .....	6.9
Montreal .....	6.1
Halifax .....	5.7

SOURCE: 1961 Census of Canada, Series CT.

The factors influencing these diversities are probably the same as those influencing the regional variations. It is interesting to note, however, the difference between a region and its metropolitan areas. British Columbia, for example has 10.2 per cent of its population 65 or over while its two principal metropolitan areas, Vancouver and Victoria, have 11.1 and 15.9 per cent respectively. This substantiates

the earlier finding of the Senate Committee that there are more urban aged than non-urban. Furthermore, analysis of census tract data reveals that central cities of metropolitan areas have even higher percentages of aged and that core areas of these cities have concentrations that are higher still. Using Vancouver as an example again, Table 3 illustrates this phenomenon which would appear to indicate that the central city core area of Vancouver has a concentration of aged that is four times greater than the national average.

TABLE 3

PERCENTAGE OF TOTAL POPULATION  
AGED 65 AND OVER  
VANCOUVER (1961)

Vancouver, CBD* .....	30.9
Vancouver, city .....	13.4
Vancouver, metro area .....	11.1
British Columbia, region .....	10.2
Canada .....	7.6

\*Central Business District, Tract 5.

SOURCE: 1961 Census of Canada, Series CT

Much of the literature suggests that there is a link between these high densities and older neighbourhoods close to the city center. M. R. Koller, for example writes:

.....the bulk of the elderly are found in deteriorating city neighbourhoods in substandard dwellings, trapped by low incomes, as well as by strong ties with familiar surroundings.<sup>4</sup>

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<sup>4</sup>M. R. Koller, Social Gerontology, New York, Random House, 1968, p. 34. See also Paul Niebanck, Housing the Elderly in Older Urban Areas, University of Pennsylvania, 1965.

In order to ascertain the degree, if any, of such relationships the following section will analyse residential location of the aged in the urban center of Vancouver.

## 2. Distributions of the Aged in Greater Vancouver

Many groups, ethnic, racial, socio-economic, and deviant have at one time or another been analysed not only with respect to their culture or life-styles but also to their distributional patterns throughout the city.<sup>5</sup> The aged as a group, however, have not been studied to any considerable extent in this respect with the exception of the works of Koller and Niebanck cited previously. To determine the distribution of the aged in Vancouver a map of the metropolitan area is constructed using census tracts and 1966 Census of Canada data. Densities of the percentage of aged per total population of each tract are plotted which yields an over-all visual impression of the distribution of the aged upon the urban landscape. This pattern is reproduced in Figure 3. It is noticeable that there are two areas in which the elderly exceed 30 per cent of the population--the central business district of Vancouver and the provincial mental hospital in Coquitlam which, of course, is an exception. Actually there is also a third center of over 30 per cent which is located in the small town of White Rock on

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<sup>5</sup>See for example the works of Robert Park, E. W. Burgess, and R. D. McKenzie.

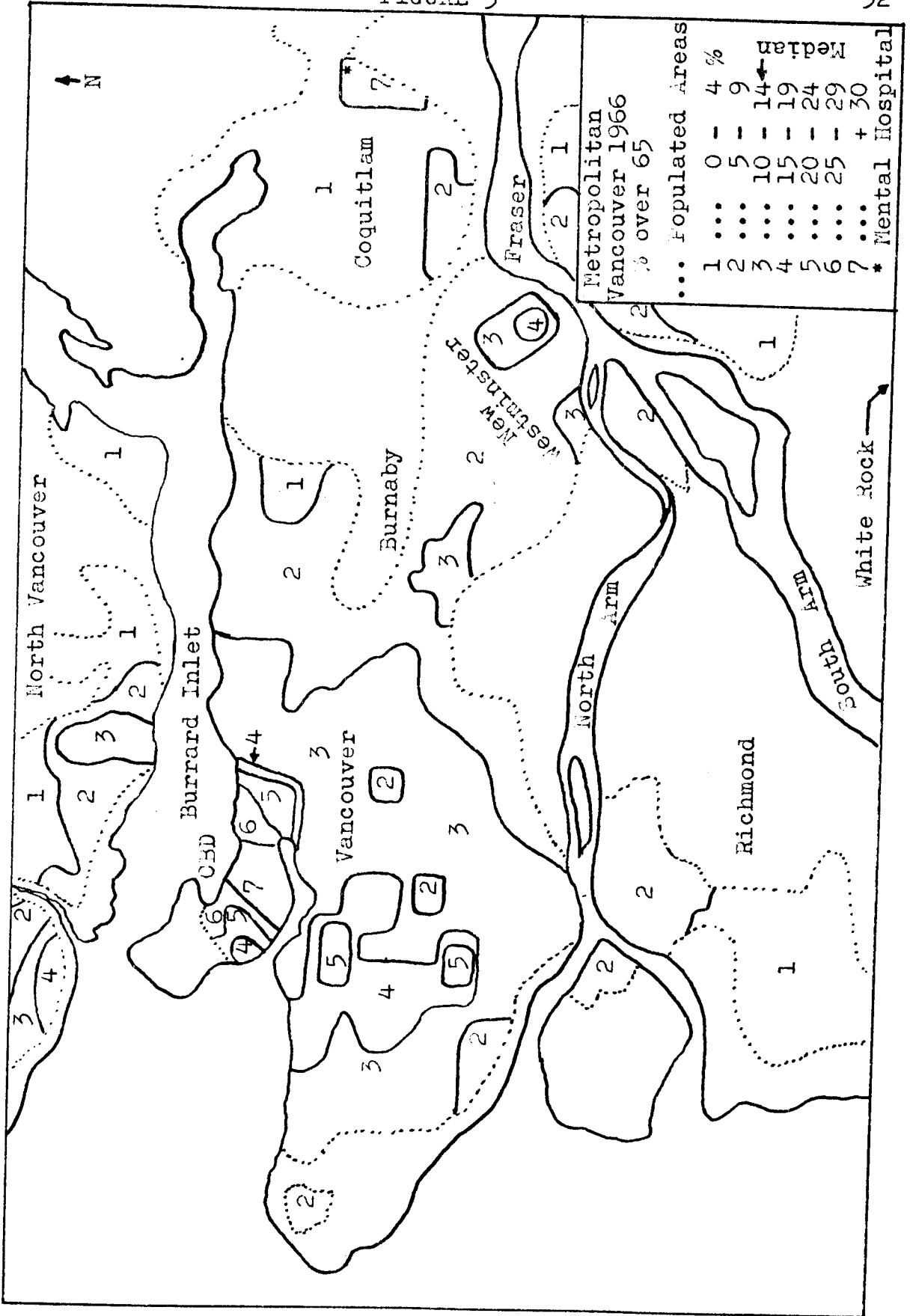
the southern boundary of the metropolitan area. It has become somewhat of a retirement mecca purportedly because of its mild and sunny climate.<sup>6</sup> In the city core, however, high densities extend outward in two directions, along the peninsula upon which the CBD is built. There are three other areas that are above the metropolitan average of 11.1 per cent. One is in the older core area of the nearby city of New Westminster, one is in the Dunderave area of West Vancouver, and the other is a crescent-shaped sector in Vancouver city which has two peaks, the northernmost one runs along the Broadway - 16th alignment, while the southernmost encompasses the Kerrisdale area. Most of the remainder of the city is close to the metropolitan average with the exception of peripheral areas where densities fall below the average. This then, is the distribution of elderly population for the census year 1966. But how have historical events conditioned this pattern? Is this situation static or is it likely to change?

Once again census material is used in an attempt to answer these questions. Data for the years 1941, 1951, 1956, and 1961 is plotted in the same manner as for 1966. Figure 4 reveals that indeed there has been a trend in the general out-

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<sup>6</sup>According to the British Columbia Atlas of Resources, The British Columbia Natural Resources Conference, 1956, the precipitation at White Rock is less than one-half that at Vancouver.

FIGURE 3





ward expansion of the clusters<sup>7</sup> of high densities of the elderly. In 1941 it is seen that only the CBD--West End and the south shore of False Creek had densities above the civic average which at that time was less than 10 per cent. By 1951 areas of above average density had spread eastward from Main Street along Hastings. A second cluster developed on an east-west axis along Broadway and 16th and southward along Oak Street. Meanwhile the percentage of aged increased throughout most areas of the city, particularly in the CBD--West End. The south shore of False Creek, however, which in 1941 had been above average, merely retained its previous value and therefore fell to a par with the new civic average. Five years later, in 1956, there was also an example of a relative decline as the eastern half of the Broadway - 16th area fell to average. The western half, however, showed a significant increase as did the Hastings--Main area and the CBD--West End. Two new clusters also developed during this period; the Alma - 10th area and the Kerrisdale area. Once again the overall civic average increased as well. 1961 saw only one new cluster develop, this was on Kingsway in Burnaby, and it proved to be transitory as it had disappeared by 1966. Densities in the CBD - West End and Hastings - Main areas once again increased as did the Oak Street sector. The eastern section of the Broadway - 16th alignment again increased to an

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<sup>7</sup>Cluster is here defined as any area that has above average densities of population aged over 65.

above average position. Four new clusters appeared in 1966, one on the North Shore in Dundarave, one in the core area of New Westminster, one in the Arbutus area and one in the Point Grey area. Densities increased in Kerrisdale but Oak Street, Point Grey and part of the West-End showed a decline.

From this it may be seen that the growth of clusters of senior citizens has in part been a relatively steady outward growth from the central core and in part independent growth from a number of nucleated centers. Figure 5 further illustrates this growth where some care must be given to its interpretation as the first step represents a ten year span while the remainder are five. It is also apparent that growth does not proceed regularly in all areas. That there may be different socio-economic factors operating in different areas will be investigated in the next section. It must be noted, however, that in processing the census material it was evident that frequently peripheral areas whose makeup of aged was close to average would experience a sudden drop in the percentage of aged and then very slowly begin to approach average again. In each case a building boom or establishment of a subdivision coincided with the apparent dip in the percentage of aged. This evidently reflects an influx of young families, an influx which widened the base of the demographic pyramid.<sup>8</sup> Herein

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<sup>8</sup>See for example, W. H. Dobriner, ed., The Suburban Community, New York, Putnam, 1958; B. Chinitz, ed., City and Suburb, Englewood-Cliffs, N.J., Prentice-Hall, 1964; Robert C. Wood, Suburbia, Boston, Houghton Mifflin, 1958.

lies the danger in using a relative percentage value in determining concentrations of the aged as shifts in other age groups of the population may disturb the relationship. If, however, the absolute numbers of aged per census tract is also plotted it becomes apparent that the same clusters appear. It may be claimed, therefore, that for our purposes the relative percentage method presents a sufficiently accurate picture.

In the following section, once again using census data, some explanation of the growth of clusters is sought.

### 3. Economic Determinants of the Distribution of the Aged

If, as Koller states, the "bulk of the aged" are to be found in deteriorating urban areas, it is to be expected that there would be significant correlations between densities of the aged and housing-related economic factors. The census provides data on two such economic factors, average contract rents and median value of owner-occupied dwellings, as well as building type information. In the Vancouver metropolitan area in 1961 single family dwellings outnumbered apartments, flats, and duplexes by a ratio of three to one. Using this ratio as a base it is discovered that with the exception of two areas Kerrisdale and Point Grey the high density clusters of elderly persons are all in areas in which apartments, etc. outnumber single family dwellings. In fact, in the areas with the highest percentages of the aged,

particularly the CBD - West End the ratio is at least ten to one, apartments over single family dwellings. It would appear, therefore, that there exists a relationship between clusters of the aged and higher density housing such as apartments.

Concerning strictly economic factors it is noted that in the city of Vancouver average contract rents in 1961 were seventy-five dollars per month, only slightly higher than the seventy-five for the metropolitan area as a whole. The average median value of owner occupied dwellings is 13,783 dollars, only slightly lower than that of the metropolitan area. To determine the correlation between clusters of aged and average rents a scattergram is presented in Figure 6. Rent is considered to be dependent (Y on X). Figure 6 illustrates the plotted data for the city of Vancouver. It may be seen that there does not appear to be a relationship between rents and densities of aged persons for if low rents are indicative of low socio-economic areas and poor housing which is said to be associated with clusters of aged it would be expected that there would be a concentration of co-ordinates in the upper left field of Figure 6. This does not appear to be the case in fact, the correlation coefficient between the two variables is only 0.04 which is not significant at any level.<sup>9</sup> Only the CBD, Hastings - Main, and the eastern half of the Broadway - 16th

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<sup>9</sup>F. Gregory, Statistical Methods in Geography, London Longman's, 1968, p. 202.

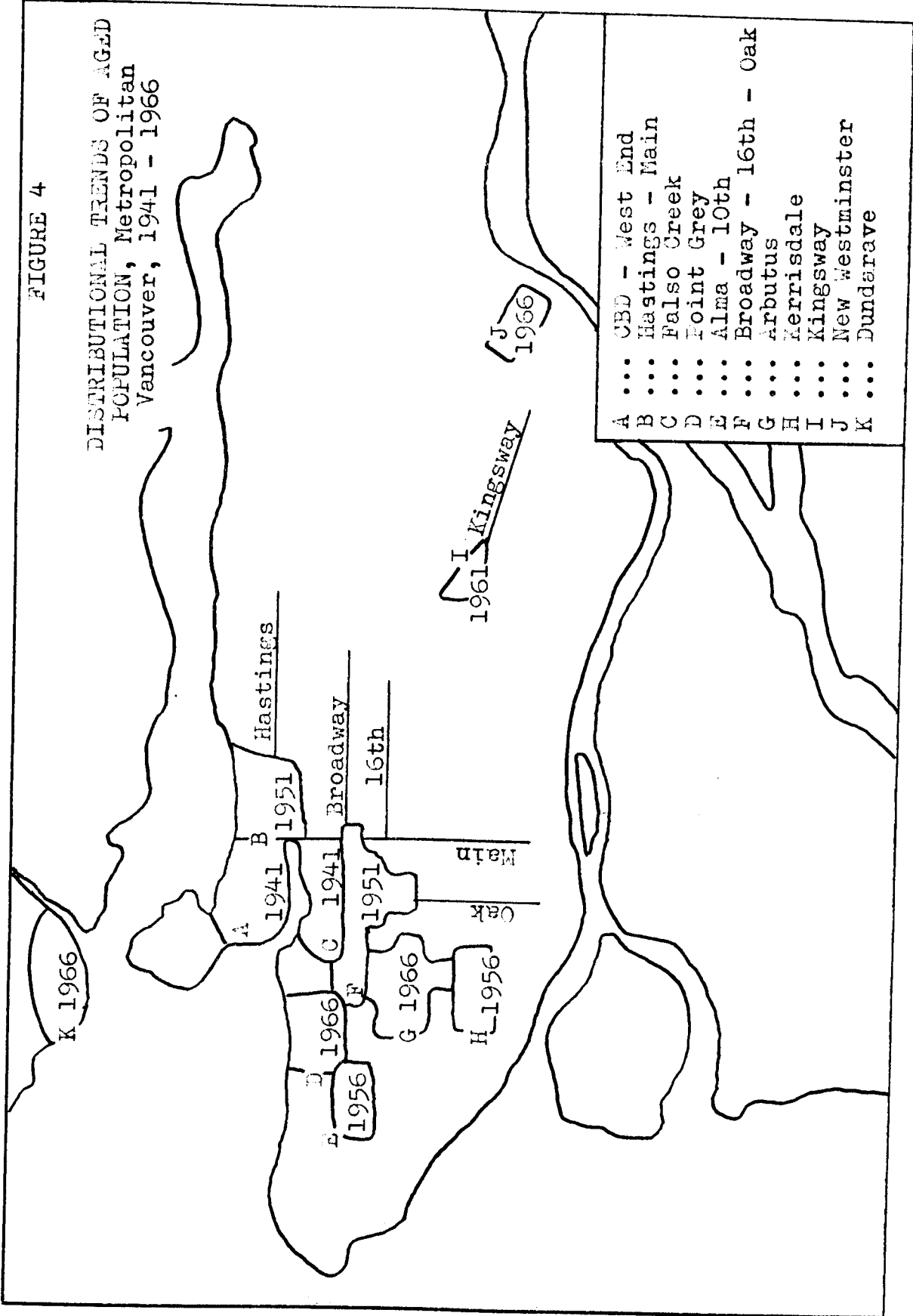
sector equate high densities and low rents. On the other hand, both Alma and Kerrisdale have relatively high densities and also high rents. Kerrisdale actually has the highest rents in the city. Figure 7 shows the plotting of density against the median value of owner occupied homes. Here again there is no definite trend born out by a correlation coefficient of only 0.04. It would appear, therefore, that in the metropolitan region of Vancouver there is not a significant correlation between aged persons and low value housing. On the basis of this evidence Koller's hypothesis cannot be supported. It should suffice to say that some of the city's elderly tend to cluster in lower socio-economic areas, however, many other clusters are also found in the whole spectrum of the cities economic areas.

It may be questioned whether Vancouver is typical of Canadian cities in this respect for it has been noted that Vancouver has a higher concentration of aged than any other major Canadian city with the exception of Victoria. To determine if this indeed is the case seven additional Canadian cities are studied. These include Victoria, Calgary, Saskatoon, Hamilton, Toronto, and Halifax. These city's are selected because they represent most of the country's regions as well as a diversity of city population sizes.

Commencing with Halifax it is discovered that that city has only one cluster of elderly persons. The core of this

FIGURE 4

DISTRIBUTIONAL TRENDS OF AGED  
POPULATION, Metropolitan  
Vancouver, 1941 - 1966



A	...	CBD - West End
B	...	Hastings - Main
C	...	Falco Creek
D	...	Point Grey
E	...	Alma - 10th
F	...	Broadway - 16th - Oak
G	...	Arbutus
H	...	Zerrisdale
I	...	Kingsway
J	...	New Westminster
K	...	Dunderave

FIGURE 5

Growth of Clusters of Aged Persons  
City of Vancouver 1941 - 1966

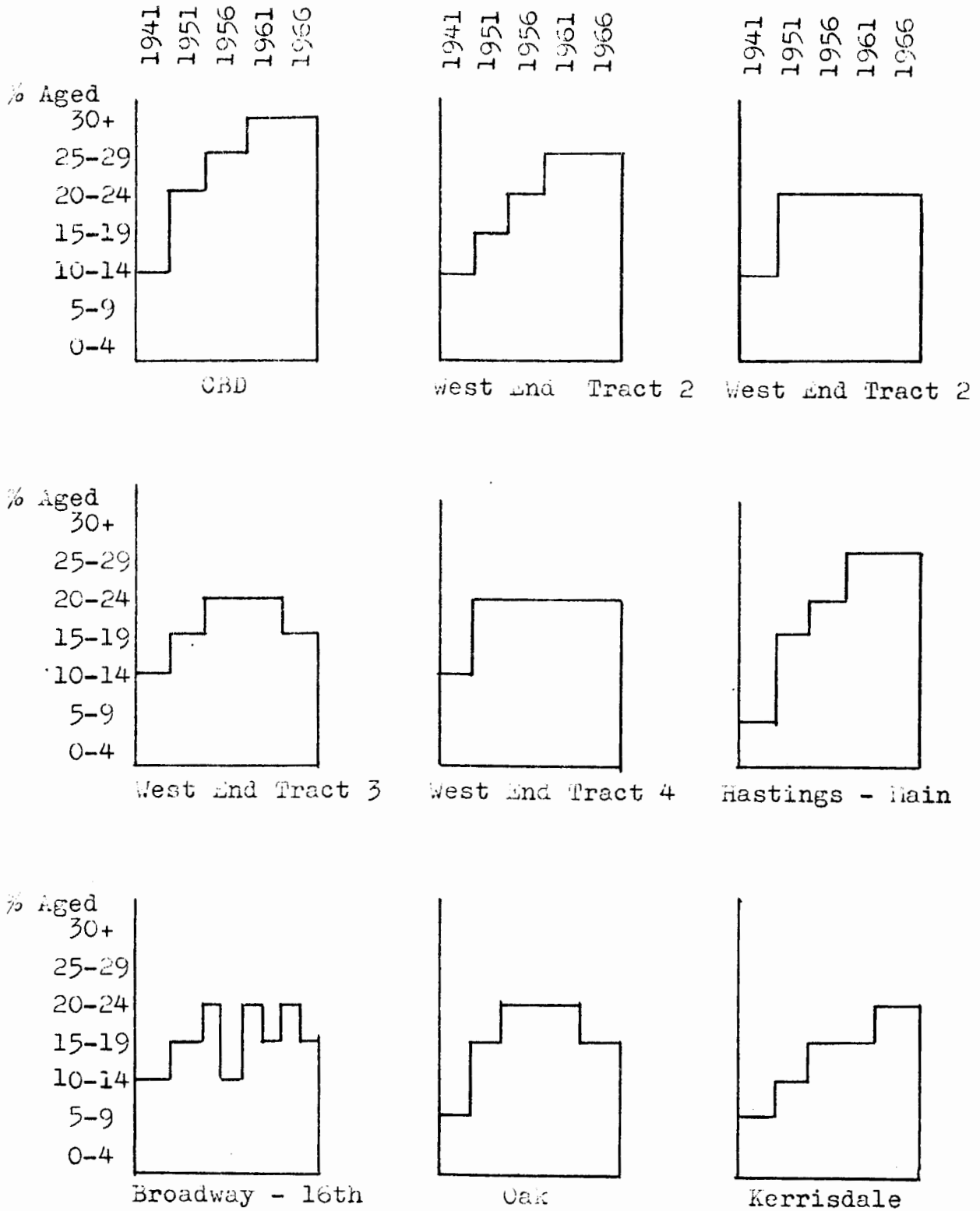


FIGURE 6

Housing: Average Rents - % Population over age 65,  
Vancouver, 1966

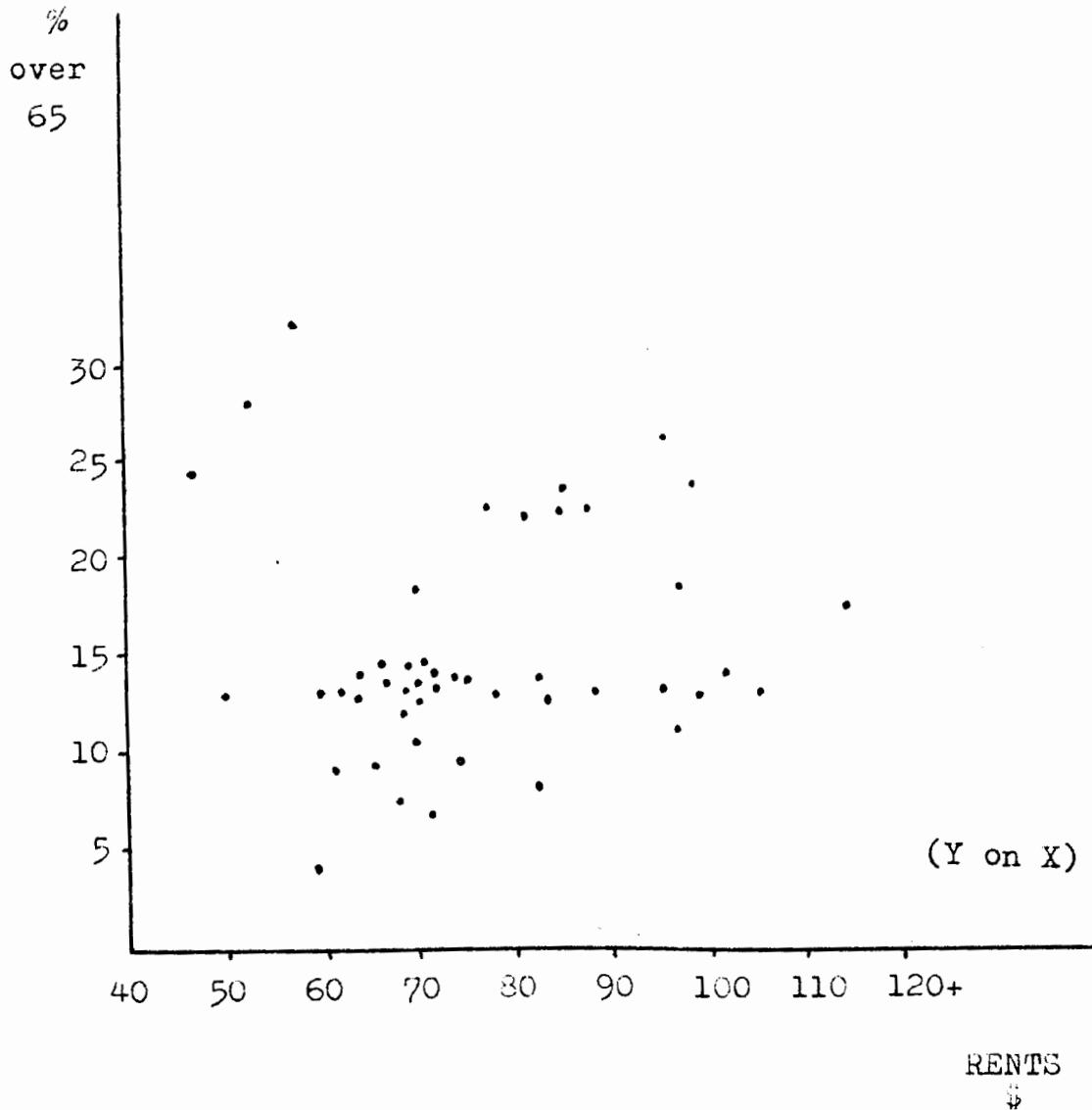
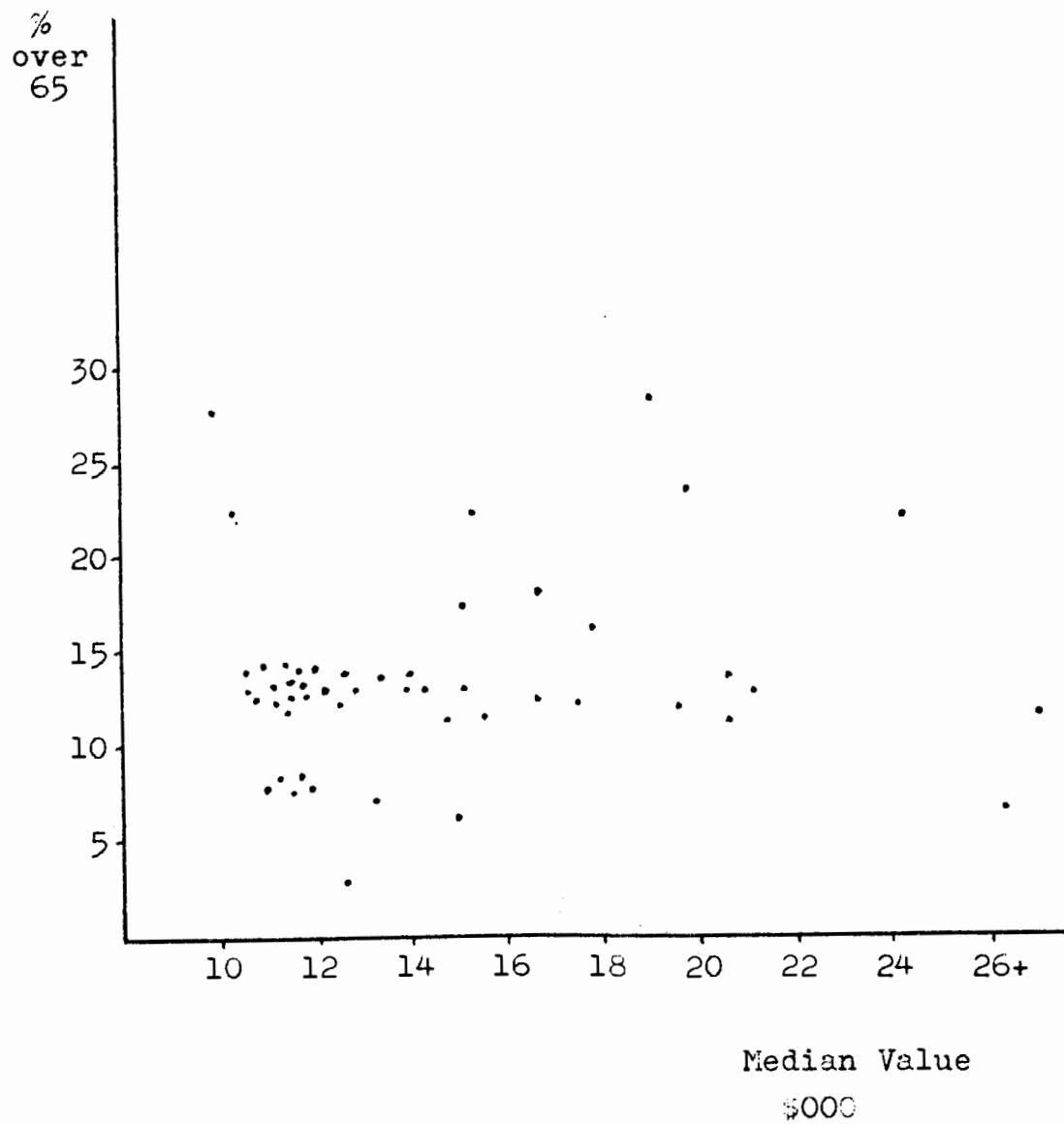




FIGURE 7

Housing: Median Value - % Population over 65,  
Vancouver, 1961



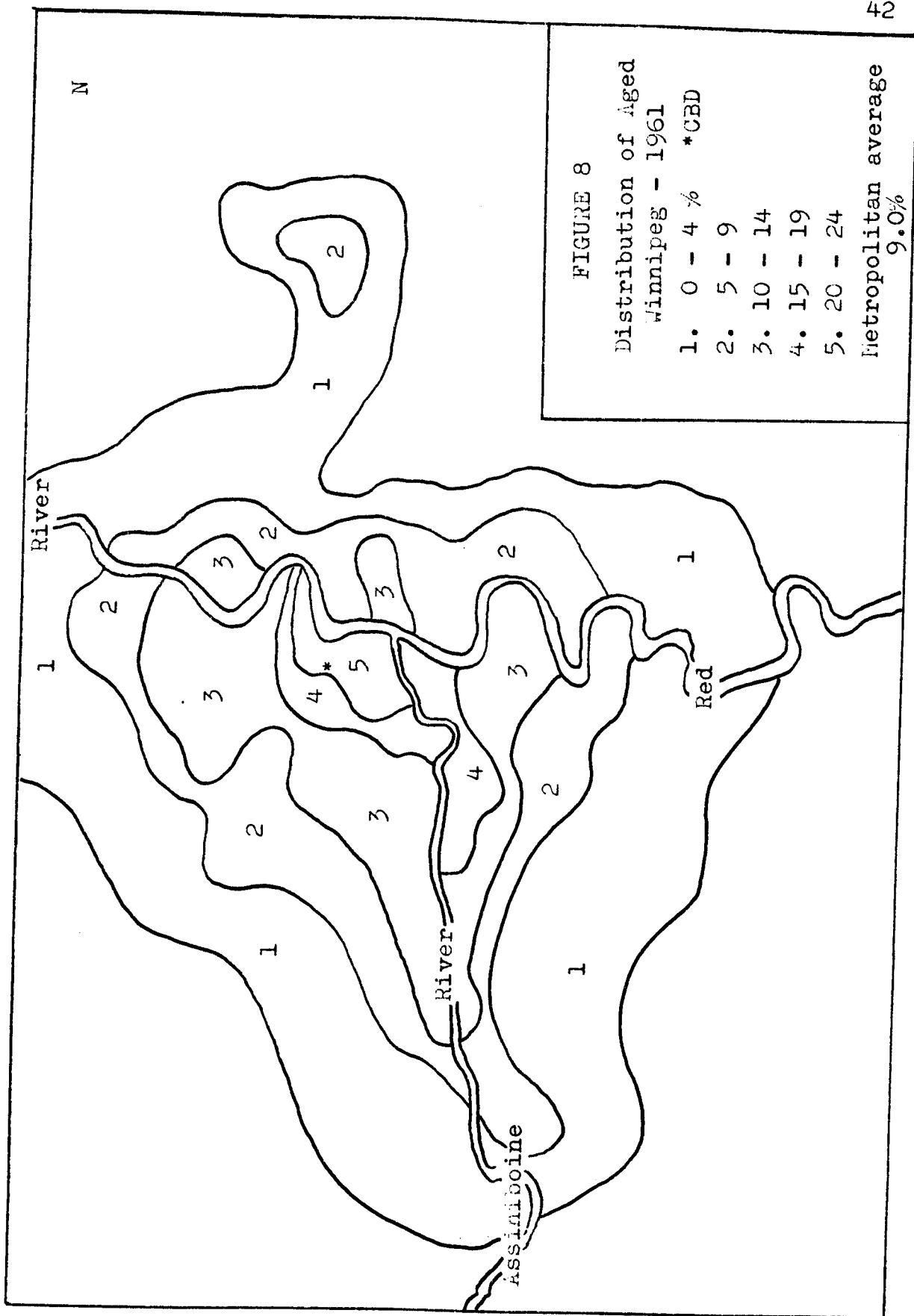


FIGURE 8

Distribution of Aged  
Winnipeg - 1961

- 1. 0 - 4 % \*CBD
- 2. 5 - 9
- 3. 10 - 14
- 4. 15 - 19
- 5. 20 - 24

Metropolitan average  
9.0%

cluster, close to the CBD and back a few blocks from the harbour has fifteen per cent of its population over 65, that is, almost double the civic average of 5.7 per cent. This core is sharply defined on all sides except to the south where it tapers off through tracts containing 13, 11, and 10 per cent respectively followed by a sharp drop to well below average. As is the case in Vancouver it is discovered that there is a relationship with the apartment-detached dwelling ratio but a poor correlation with rents and housing values.

Toronto is found to have only two, but very large clusters, one with three cores, the other with two, one of which is actually outside of the city of Toronto in the township of Etobicoke. Three of these cores, that is those closest to the city center, has high density-apartment relationships, while those cores nearer the periphery have almost no relationship whatsoever. In those tracts for which data is available it is discovered that all core areas have average or slightly above-average rents and housing values.

Hamilton has three clusters<sup>10</sup> two of which are very small compared to the third one which extends on an east-west axis along Main Street and contains three core areas of high concentration. In three of the core areas for which

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<sup>10</sup>A third cluster appeared in the data, but this proved to be due to an institution so was dropped from the analysis.

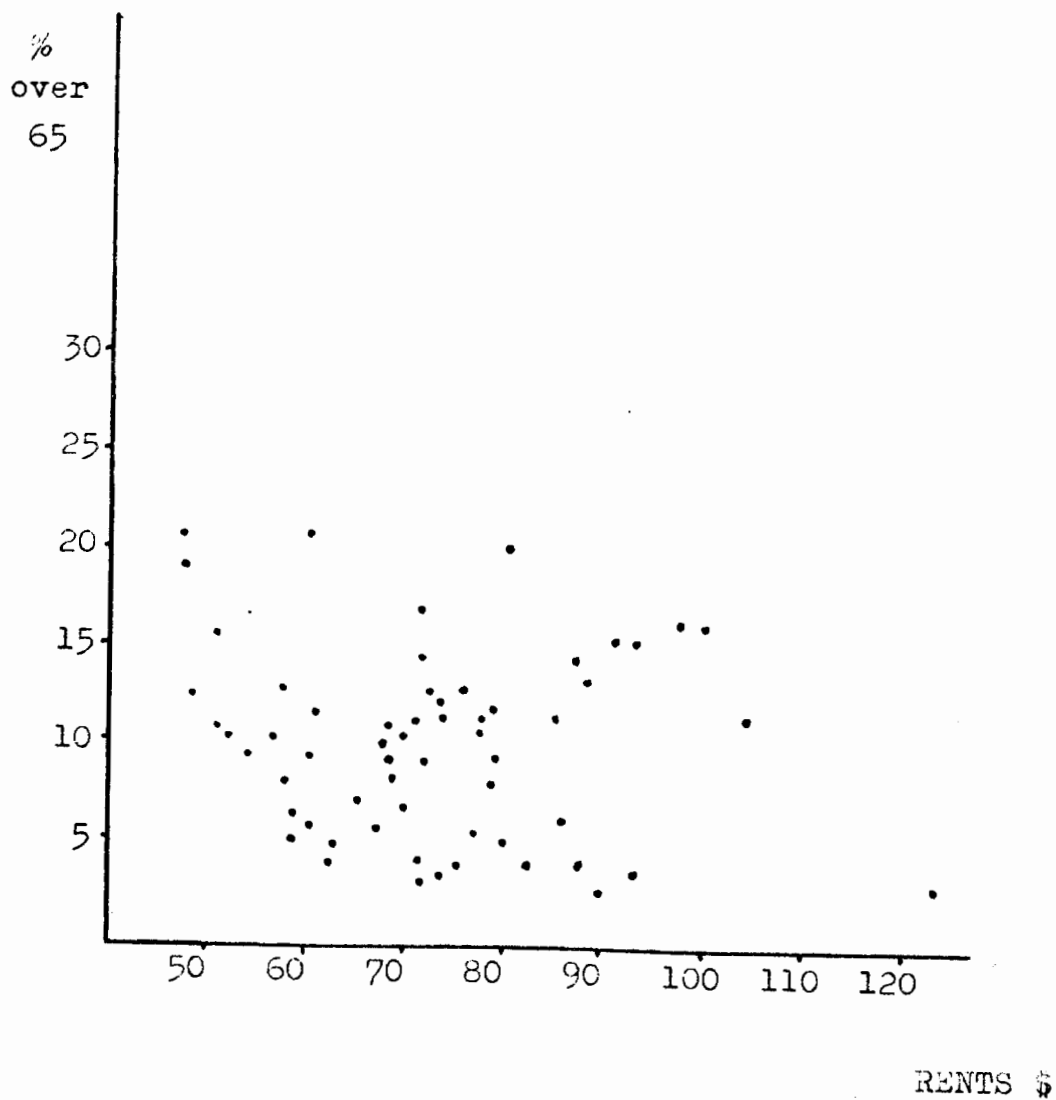
data is available it is revealed that the correlation of aged with apartments is extremely high in two of them and is close to the civic average in the third. Rents prove to be close to the civic average and show no significant trends.

Winnipeg data reveals a striking pattern of distribution as seen in Figure 8. It is noted that the heaviest concentration is in the CBD where it falls off rather gradually except to the east in the French-Canadian community, which has the civic average. To the west Portage Avenue, parallel to the Assiniboine River, has served to draw above average densities outward as Main Street has to the north. These are older business streets behind which older residential areas spread. As is the case in all other cities the lowest densities are to be found in the newer peripheral suburban areas. The scattergram in Figure 9 reveals that the tracts closer to the CBD have a fairly high correlation between rents and the number of aged persons but in some areas, particularly that south of the Assiniboine River the correlation is poor.

Saskatoon is found to have a high concentration of aged in the CBD, in fact over twenty-five per cent of the city's aged live in, or very near, the downtown area. This city is unusual in that it is the only one studied that has more elderly men than women. It too, is one of only two cities that show a positive and significant correlation

FIGURE 9

HOUSING: Average Rents - % Population over 65,  
Winnipeg - 1961



between low rents and high concentrations of the aged, (Figure 10). Saskatoon, in fact, shows a correlation coefficient of -0.60 between the two variables which is significant at the 1% level. It may be seen, therefore, that in this case high densities may be equated with low rents. The reasons behind these anomalies have proved to be elusive as no explanation has been forthcoming to date. Institutions such as mental hospitals that include units for the aged can often distort the demographic age structure of a census tract or indeed even of a city but this is not the case in Saskatoon, other factors are apparently operative here.

Calgary, with only 6.9 per cent aged over 65 has the lowest level in the Western cities studied. Once again there is only one cluster of aged, this being located in or adjacent to the CBD. A number of this city's rapidly expanding suburbs contain less than one per cent aged over 65. Like Saskatoon, Calgary is the only other city that shows a significant correlation between rents and clusters of aged persons. While no substantiating evidence can presently be put forward it is suggested that perhaps the more affluent of the prairie centers leave this area for the milder coastal cities of Vancouver and Victoria. This would mean that the less affluent would be left behind and their locational decisions would be determined more by economic need than by personal preference.

FIGURE 10

HOUSING: Average Rents - % Population over 65,  
Saskatoon - 1961

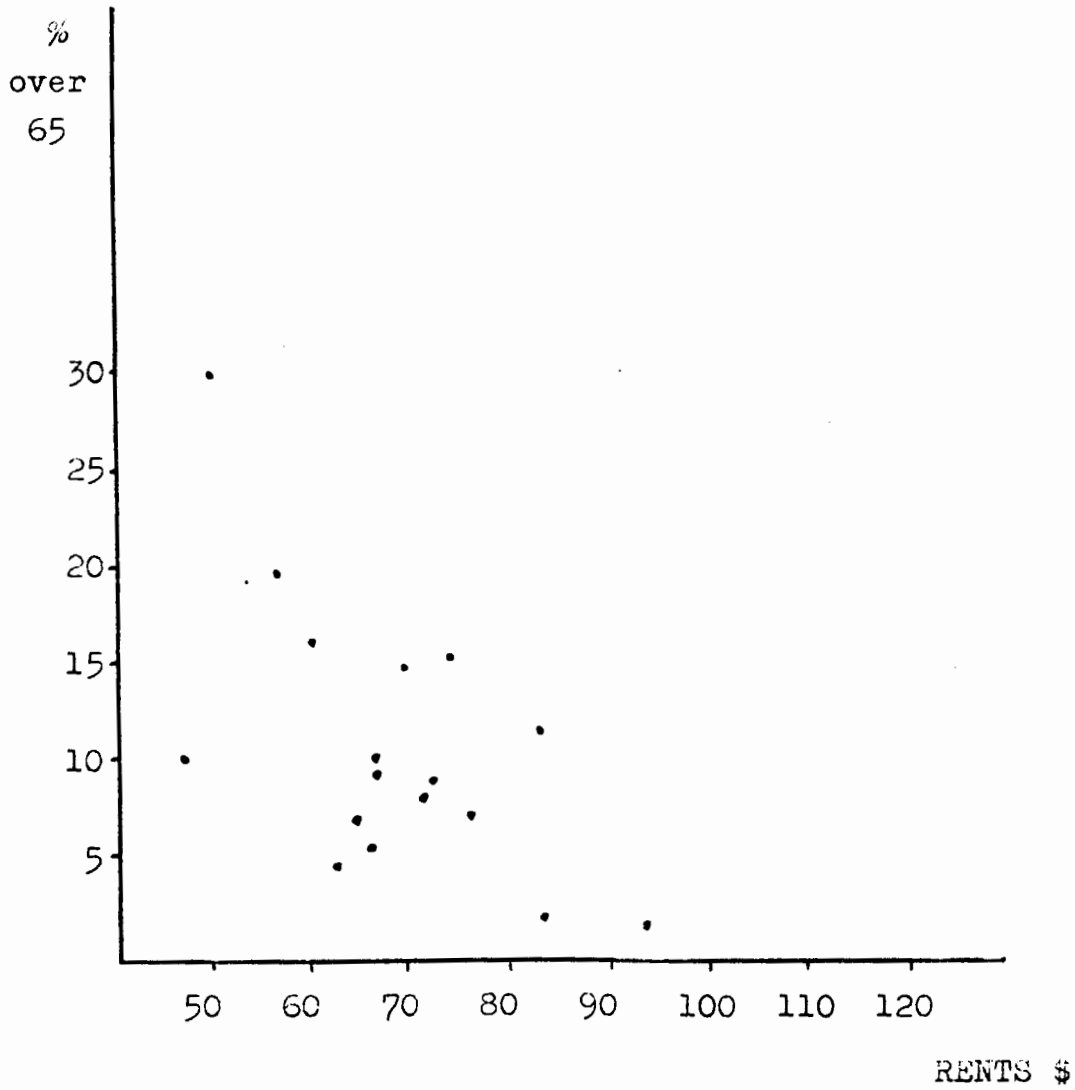


FIGURE 11

HOUSING: Average Rents - % Population over 65,  
Calgary - 1961

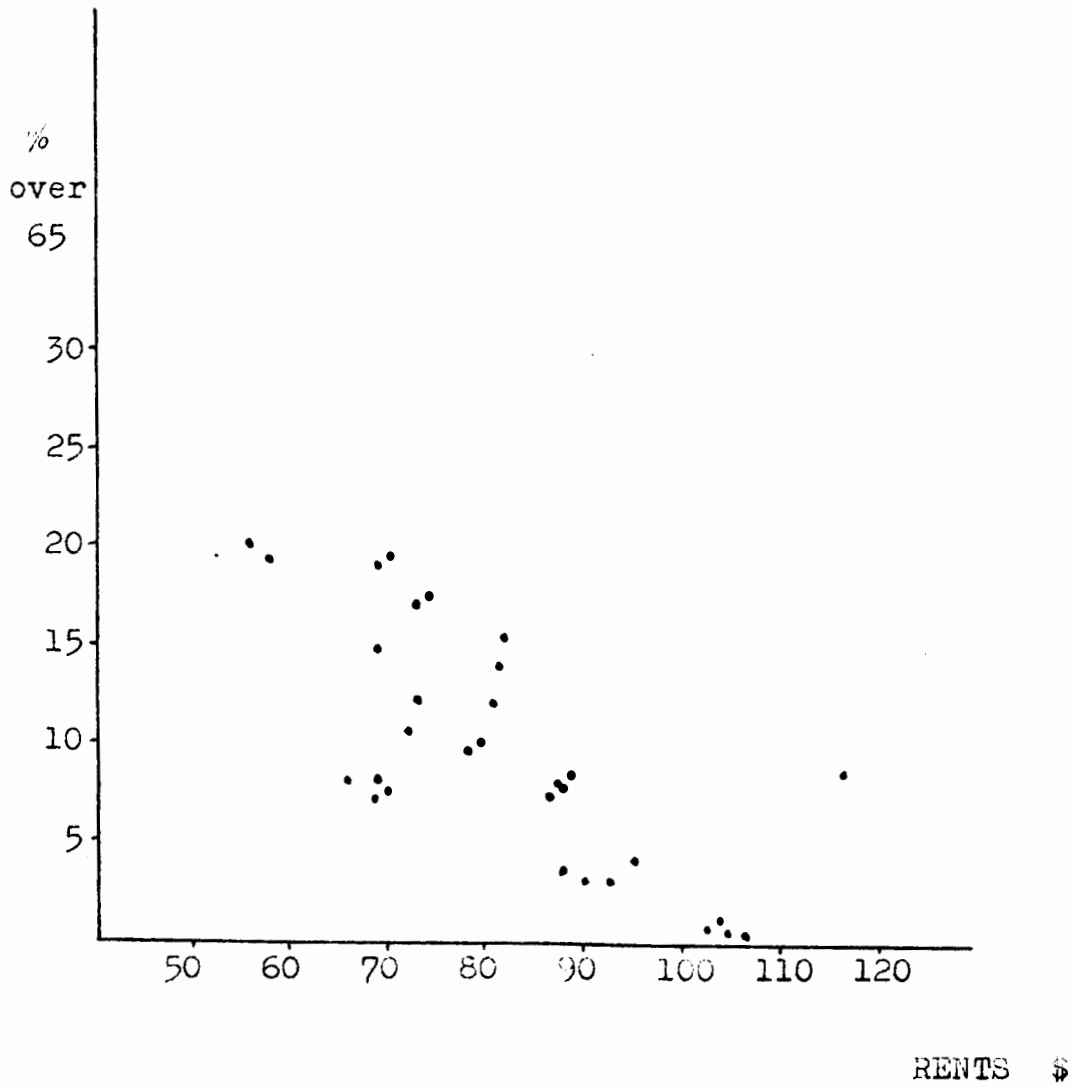
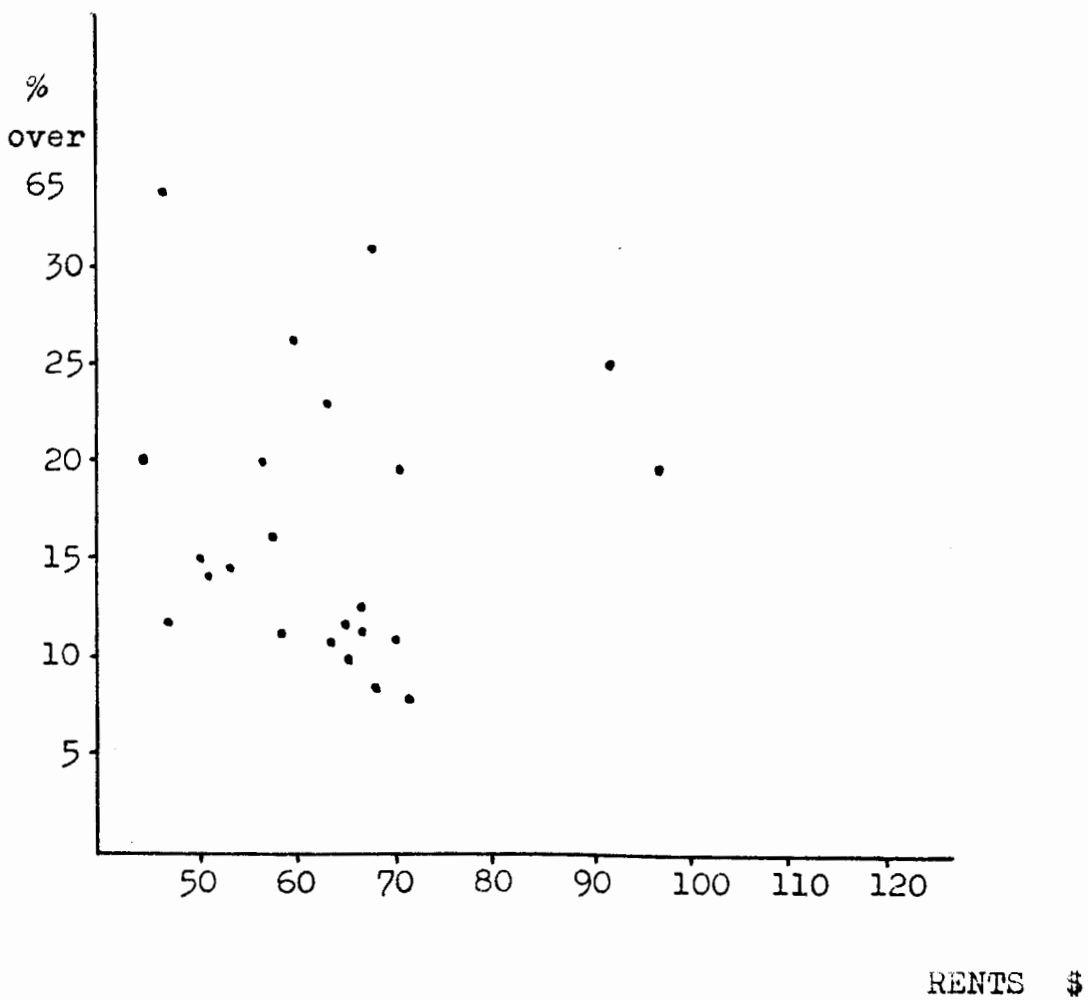




FIGURE 12

HOUSING: Average Rents - % Population over 65,  
Victoria - 1961



Victoria is something of a special case having the highest percentage of aged in its population (15.9) and having no area in the city with less than seven per cent, a figure that is higher than the metropolitan average of Halifax, Calgary, and Montreal. There are, nevertheless, three core areas in Victoria with percentages higher than its own metropolitan average: these are Sidney, Oak Bay, and the southern shore of the Inner Harbour--Figure 12 illustrates that there is some relationship between low rents and clusters of the aged; however, it is also noticeable that the area's two highest rent sectors both have above average concentrations of the aged.

It would appear, therefore, that Vancouver is indeed not typical of Canadian cities in its spatial distribution of its' aged. While Vancouver, Victoria, and Winnipeg show no significant relationships between rents and clusters, Toronto actually shows a relationship between high density clusters and high rents.<sup>11</sup> Saskatoon and Calgary, on the other hand show negative relationships with correlation coefficients of -0.60 and -0.76. That is the bulk of the aged in these two cities alone do concentrate in poorer areas of the city and only in these two cities may Koller's hypothesis be fully supported.

On the basis of the analysis in this chapter, Koller's

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<sup>11</sup>Their correlation coefficients are 0.04, -0.03 and -0.01 respectively. Toronto's is a positive 0.40.

hypothesis may be accepted only in part. The chapter also serves to identify certain tendencies of the aged to cluster in various areas of the city. Economic limitations are related to the formation of some of these clusters but it appears obvious that other factors are operative as well. It may be that some choose to remain in the family home in a familiar neighbourhood and the neighbourhood and its' inhabitants age together; but pride in upkeep and location may tend to keep the area from deteriorating. At any rate census material alone does not provide the answers to all our questions which could well provide the basis for future research. The following chapter will consider in large part the life experiences of those aged who do live in the lower socio-economic areas that have been identified in the city and, while they do not constitute the majority of the aged, they do involve a considerable and needy minority.

## CHAPTER IV

## THE URBAN EXPERIENCE

1. Life Styles

In the words of G. A. Kooy:

There is a parallel change in status as well as in role, making old age a burden to many people for whom it was a privilege a few generations ago.<sup>1</sup>

In metropolitan Vancouver in 1966 there were very close to 90,000 persons aged 65 and over (Table 4).

TABLE 4

DISTRIBUTION OF AGED BY MUNICIPALITY  
METROPOLITAN VANCOUVER--1966

Municipality	No. of Persons Aged 65 and over	% of Total Municipal Population
Vancouver	55,229	13.4
New Westminster	4,533	11.8
West Vancouver	3,232	10.1
Coquitlam	3,962	9.6*
North Van. City	2,546	9.5
Surrey	6,866	8.4
Richmond	2,563	5.1
North Van. Dist.	2,186	4.5
White Rock	2,500	35.0

\* Includes Mental Home. Coquitlam alone is 3.7

Source: 1966 Census of Canada

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<sup>1</sup>G. A. Kooy, "Social System and the Problem of Aging," Processes of Aging, Vol. II, R. H. Williams, et al, eds., New York, Atherton Press, 1963, p. 53.

It is not known how many of these people have inadequate incomes or unsatisfactory accomodation or for how many old age has become a "burden." It is known, however, that any one of a number of changes in life style that come with old age ("the empty-nest", retirement, death, loss of income or health) can precipitate a sudden change in housing needs. The loss of the ability or licence to drive an automobile for example may necessitate a move to a location that is closer to shops and services. The death of one of the marriage partners may initiate a move to smaller and more compact quarters as may illness or increasing infirmity. Finally, advanced infirmity or chronic illness may bring about the need for intensive care which can best be managed in a nursing or chronic-care hospital. Evidence, suggests, however, that despite these forced changes in the life-style, the elderly

↳ ... prefer to live their own independent lives in their own homes. They cling to the memories which these homes contain, they want to maintain them as a place where their children and grandchildren can come to visit and where the family can be reunited on special occasions. They want to remain part of the community in which they have spent so many years of their lives. When it is possible for them to do so, it is the best possible arrangement for them--for them this makes life worth living.<sup>2</sup>

It is not known how many of Vancouver's elderly have been able to maintain their own homes, but in adjacent

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<sup>2</sup>M. Field, Aging with Honor and Dignity, Springfield, Charles C. Thomas, 1967, p. 101.

Burnaby a recent survey of Senior Citizen and Old Age Pensioners organizations revealed the following:<sup>3</sup>

- (1) Approximately two-thirds of those aged over 65 are single individuals.
- (2) Widows make up the larger proportion of this single person group.
- (3) The single family house is the major type of accomodation and accounts for 40 per cent of the single person's residences and 66.7 per cent of the couples' housing.
- (4) Of the single persons, 21.3 per cent share accomodation with relatives.
- (5) Some forty per cent live in owner-occupied dwellings. This would indicate that most of those living in single family detached dwellings own their own homes (see item 3).

To recapitulate, this would indicate that of the single elderly, 40 per cent live in their own family home, 21 per cent share accomodation with relatives, and 39 per cent have other accomodation such as apartments or flats. It is possible that Vancouver city with its higher percentage of aged and with its higher apartment ratio has fewer persons living in their own accomodation. Nevertheless, the Burnaby figures may provide a rough estimate in which case it would seem that there are some 33,000 aged individuals in Vancouver

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<sup>3</sup>The Corporation of the District of Burnaby, Proposed Senior Citizen's Housing, Burnaby, The Corporation, May, 1968.

who do not own their own home. Because of lower apartment ratios as well as generally lower taxes it may be, however, that there are more elderly in suburban areas who are in their family homes. If it is estimated that this number is 60 per cent this would give a metropolitan total of 45,000 aged persons who are not home owners. How many of these individuals are suffering from a lack of income and subsequently poor housing is not known. For those who do not have any independent income the base federal pension is \$79.58 per month. This may be supplemented by various bonuses or welfare payments but it would seldom exceed \$130.00 to \$140.00 per month, per individual.<sup>4</sup> It is well known that there is a considerable time-lag between cost-of-living increases and increases in welfare or transfer payments. In times of inflation, therefore, people dependent upon such sources of income are sorely pressed. Inflation also plays havoc with savings and retirement plans as "nest-eggs" that looked adequate during previous years are greatly depreciated. It must also be remembered that the generation that is presently in or joining the retirement ranks was hit by the 1930 depression at a critical time in their life-cycle. It is evident from this study and others<sup>5</sup> that some of the aged are forced through economic necessity into older run-

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<sup>4</sup>Vancouver Housing Association, April, 1970

<sup>5</sup>See for example, Philip H. Rees, "A Factorial Ecology of Metropolitan Chicago, unpublished M.A. Thesis, University of Chicago, 1968.

down areas of the city where much of the accomodation tends to be of substandard quality.

In 1951, a Vancouver survey of rooming houses in such areas revealed many deplorable conditions.<sup>6</sup> A more recent informal survey in connection with this study indicates that little has changed in the intervening years. Poor lighting and ventilation were common as were steep stairwells with often unsound handrails. A gentleman interviewed on the third floor of an old hotel indicated that he had not left his room since he had had a stroke three years previously as he was unable to negotiate the stairs. At another site, occupied exclusively by elderly tenants there were twenty units of slightly over 150 square feet each. They were each lit by one small bare electric bulb while heat and cooking facilities were provided by a wood stove for which the residents had to cut their own fuel. There were only two toilets on the site and these were in an attached shack outside. Water for cooking and washing was provided by four sinks which were also outside on a porch. This building was located in an industrial area that was both noisy and smokey. The only favourable asset of the site was its low rent (\$28 per month) and its close proximity to shopping and public transportation. As a result of this survey it was judged that there is a very definite need, one way or another for improving the housing of many of the city's elderly.

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<sup>6</sup>Vancouver Housing Association, A Survey of Rooming Houses in the West End and Downtown Districts of Vancouver, Vancouver, The Association, 1951.



## 2. Old and Alone

With the object of learning more about the needy aged (and their living conditions) and with the cooperation of the Vancouver Housing Association it was possible to analyse 170 randomly selected applications for admission to senior citizen housing developments. The Association operates a central housing registry, providing a clearing house service for such applicants. This operation will, however, be dealt with more fully later.

The first exercise undertaken is to determine from what areas of the city the applicants came. Some rather surprising results are obtained. Many of these applications come from high density clusters such as the CBD - West End and Broadway - 16th. Other clusters offer no or very few applicants at all; notable are Kerrisdale, Oak, Dundarave, and Hastings - Main. With the exception of Hastings - Main, however, these areas are all of above average economic status and it would appear that the elderly in these clusters are not in need of subsidized housing. The Hastings - Main neighbourhood, on the other hand, having a very low economic status is composed largely of men. This skidroad area averages 84 per cent men in its population and according to Donahue<sup>7</sup> as well as local officials men are not generally attracted to senior citizen housing. In fact, Donahue states

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<sup>7</sup>Wilma Donahue, "Housing and Community Services," Aging in western societies, ed. E. W. Burgess, Chicago, University of Chicago Press, 1960, pp. 112 - 113.

that such housing is more attractive to women than men, to childless people rather than to those with children, and to lower socio-economic groups than to higher. The decision to apply for such housing is usually precipitated by inability to maintain own premises, lack of suitable housing on the private market, and loneliness.<sup>8</sup>

In plotting the applicant data on a census map it becomes apparent that there are areas that are of only average densities of the aged but have a fairly high number of applicants living in them. The area to the east of the Broadway - 16th cluster is such a case. In checking the applications from this area it was discovered that 54 per cent of these applicants noted that their housing was about to be torn down. It would seem, therefore, that the function of this area is changing as redevelopment is either taking place, or is about to occur. It appears that something of a similar process is taking place in the West End where 26 per cent of the applicants are being forced to move as their present housing is being razed. Eighteen per cent here also complain of physical defects in their housing while 44 per cent are unable to cope with the high rents. This evidence together with interviews with residents and a visual assessment of available housing indicates that a process of invasion and succession may be taking place. Elderly persons are

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<sup>8</sup>Ibid.

attracted to the area because of its proximity to the many shops and services of the CBD as well as by the low rents of the old apartment blocks and converted rooming houses. Owners, however, in anticipation of sale of the property for high-rise apartment development, presently common to the area, allow buildings to deteriorate. As these units are torn down the residents are forced to move unless they can afford the much higher rents in the new units. Furthermore, the increasing scarcity of the older units has also tended to drive their rents up. From the sample as a whole 40 per cent could no longer cope with rising rents, although both the highest and lowest rents paid by applicants are in this area.

Rents paid by the applicants as a whole are shown in Table 5 where the median rent is seen to be \$65.00 per month, while the mean is \$62.70. The 170 applicants pay a total joint rent of \$10,675 per month. Rents are, of course related to the type of accommodation but also vary somewhat from area to area.

TABLE 5

## RENTS PER MONTH IN DOLLARS (1966)

20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110+
1%	9%	16%	14%	10%	11%	7%	10%	4%	8%

Various types of accommodation in which the applicants are living are listed in Table 6. Of these different types the units in which the aged experience the greatest diffi-

culties are the sleeping rooms, where they have to go out for meals and the light housekeeping rooms where toilet and cooking and refridgeration facilities often have to be shared with a number of other tenants, sometimes even on a different floor.

TABLE 6  
TYPES OF PRESENT ACCOMODATION  
VANCCOVER

Light Housekeeping - 1 room	15%
Suite - separate bedroom	30%
Basement suite	8%
Sleeping room	7%
Apartment - 3 rooms or more	18%
With family	10%
Boarding	5%
Unable to classify	7%

Nearly all of those living in basement suites complained of cold and dampness while 26 per cent of all housing were found to have what the applicants considered to be serious physical defects. Ranked in order of prevalence these defects are as follows:

- (1) Cold and damp.
- (2) Crowded and noisy.
- (3) Dirty, with insects or rodents.
- (4) Stairs that were dark, unsound, or just too numerous
- (5) Inadequate plumbing facilities.

It is further noted that for the entire sample, 15 per cent are being forced to move because their present accomodation is being torn down. Many of these housing conditions

would surely discomfort most people used to better accommodation but to the aged and their special problems due to those physiological factors discussed in Chapter II these conditions can be critical. Consider, for example, that most aged are more sensitive to extreme temperatures, to muffled noises and that dark, unsound stairs can be even more dangerous to those whose vision and agility is limited. Urine retention is often difficult for the aged over extended periods as well and inadequate plumbing facilities could cause additional inconveniences.

The applicants themselves were primarily women whose mean and median ages were found to be 72 (Table 7).

TABLE 7

AGES OF APPLICANTS  
VANCOUVER

60-64	65-69	70-74	75-79	80-84
14%	22%	31%	24%	9%

This would indicate that for the majority who are widows, the situation where they have to seek specialized housing comes seven years after their husbands would have retired. Generally, these applicants are found to be quite healthy. Of course, one of the requirements for entrance to most senior citizen housing developments is that the tenants be mobile and able to care for themselves. Sixty-three per cent of the applicants have no disabilities while of the 37 per cent who do, arthritis is the most common (Table 8).

TABLE 8  
 DISABILITIES OF APPLICANTS  
 VANCOUVER

63% had none, of the 37% who did,  
 Breakdown is as follows\*

Arthritis	43%
Circulatory	39%
Sensory	16%
Respiratory	8%
Diabetes	8%
Other	19%

\*Will not equal 100% as some claimed more than one disability.

According to Donahue's data quoted in Chapter II of this paper it would appear that this sample is somewhat healthier than normal except that the sample has a much higher incidence of arthritis.

[Data provided by the applications indicates that while economic and health factors play a large part in precipitating the desire to live in a housing development there are also sociological factors as well. According to the Burnaby survey 21 per cent of the elderly live with relatives while this present study indicates that 10 per cent of the applicants for housing are in this situation and find it untenable. Kooy's studies in the Netherlands provide excellent examples of some of the problems involved in relationships of the aged in extended families.<sup>8</sup> A few of the applicants wish to move because they desire locations nearer to friends, shops, or services.

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<sup>8</sup>G. A. Kooy, Op cit.

The hypothesis of Verwoerd<sup>9</sup> that the aged prefer to live in familiar neighbourhoods is supported somewhat in that roughly 50 per cent of the applicants specify that they wish to live close to their present neighbourhood. Thirty per cent say that they would take housing anywhere while 20 per cent express a desire to live in a neighbourhood other than the one in which they presently live. It is noted, however, that many of the applications have frequent changes of address in the time that their card has been on file and reasons for moving are often indicated as being rising rents or the demolition of the building. The evidence that this less affluent group of the elderly are driven along in the face of rising rents and urban renewal is substantiated by interviews with tenants who had succeeded in gaining entrance to housing developments.<sup>10</sup> This factor may offer some explanation of the location of some of the clusters of senior citizens in urban centers. In areas such as the West End of Vancouver where rapid high rise development is taking place there are virtually two distinct socio-economic groups--those affluent who can afford the high-rise rents of the luxury apartment buildings and those poor who inhabit the old apartment blocks, old mansions, and family homes that have been converted into rooming houses. This duality is, of course hidden in the

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<sup>9</sup>A. Verwoerd, Op cit.

<sup>10</sup>See Appendix I.

census data that uses only means or medians in its figures. It should be recalled, however, that the aged are as diverse a group as any other, they too have their wealthy and their poor and like any other group some are able to exercise choice in the selection of their neighbourhood and some are not. Nevertheless, as indicated by census material and the evidence of the applicants themselves, the distribution of aged across the urban landscape is not determined solely by inadequate incomes.

A brief note on the immigration of elderly persons to the coastal centers of British Columbia seems warranted as information from the sample of applicants indicated that most of them had lived in the province for over twenty years. This should negate the premise that is sometimes voiced locally that this province, as well as local governments are being burdened with "someone else's aged". As mentioned earlier, it would appear that it is primarily the more affluent elderly who migrate to this area.

In summary it may be said that there is an obvious need and demand for improved housing for some of our elderly population. Much of this demand is from single women in their early seventies, who are in relatively good health but lack the income to compete on the open market for housing. While it is admitted that estimates of the number of persons in this situation are vague the following chapter will attempt to look into this more fully.]



## CHAPTER V

### LOW-RENTAL HOUSING

#### 1. Adequacy of Existing Developments

In discussing the need for low-rental housing for senior citizens Frush and Eschenbach make the following statements:

Until recently, our national concern for the elderly has been limited to the indigent aged whose housing needs were solved by the old-age institution--an institution which relieved the conscience while keeping the old folks out of sight--an institution which by its nature exchanged hope for security. It was a life aptly described by Dr. Johnson as "rowing without a port."

In essence, the problem until recently has been an economic problem and partially a social problem. Today it is not only both economic and social, but because of the increased elderly population, arthimetical. It is necessary to find solutions for all economic and social strata of our elderly citizens..... the elderly person (now) is confronted with a housing problem which is new and complex. Until a few years ago it was a problem that was left to religious and fraternal organizations; today it is regarded as a national crisis.<sup>1</sup>

In the Vancouver area religious and fraternal organizations are still very much in the forefront in the provision of senior citizen housing developments although both federal

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<sup>1</sup>James Frush Jr., and Benson Eschenbach, The Retirement Residence, Springfield, Charles C. Thomas, 1968, p. 6. This book provides an excellent reference on the financing of subsidized housing. CPHC provides material on the same subject with a Canadian background.

and provincial funds are available for construction.<sup>2</sup> In the past the object of this housing has been primarily to provide accomodation for the needy, while presently in the United States, particularly in Florida and California, there has been considerable activity in the development of retirement communities for the more affluent.<sup>3</sup> There is also evidence that there is a growing interest in providing specialized housing for those senior citizens whose higher incomes disqualify them from low-rental projects.<sup>4</sup>

Both the Vancouver Housing Association and the British Columbia Housing Foundation maintain listings from the majority of the senior citizen developments in the Vancouver metropolitan area. They also handle applications for admission and attempt to act as clearing houses. There are some housing societies that do not avail themselves of these facilities but the Vancouver Housing Association alone lists some forty-three developments containing some 1898 units for singles and 641 for couples. This represents housing for close to 3200 elderly persons. Including those developments not listed with the Central Registry and those units that are

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<sup>2</sup>See for example, The Vancouver Housing Association, Building for the Senior Citizen, Vancouver, the Association, 1967.

<sup>3</sup>Michael B. Barker, California Retirement Communities, Berkeley, University of California, 1966.

<sup>4</sup>See a series of news items during the week of April 27 to May 2, Columbian, New westminster, 1970.

presently under construction it is estimated that there are approximately another 800 units presently or soon to be available for a total of 4000. While new construction, as well as the planning of additional units is proceeding more rapidly than at any time in the past there is still obviously a serious time-lag. It may be noted that existing units provide for less than ten per cent of the estimated 45,000 senior citizens in metropolitan Vancouver who are not homeowners. Furthermore, the British Columbia Housing Foundation has a waiting list of 1300 single applicants while the Vancouver Housing Association has 550 singles and 75 couples listed.<sup>5</sup> The waiting period at the time of this study is two years for singles and six months for couples.<sup>6</sup> Evidence collected through interviews with inhabitants of a number of the developments, however, indicates that in the past there have been occasions when it has taken as much as five years to gain occupancy.

As mentioned previously, consideration for tenancy in housing developments is largely dependent upon the applicant's ability to care for himself and upon the declaration of a limited income. The research herein reported has been

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<sup>5</sup>There may be some duplication here, however, with some people registered with both agencies.

<sup>6</sup>Reasons for differences in delay are due to greater demand from single persons, and to the fact that the surviving spouse of a couple who have had occupancy in a development has first option on single vacancies as they occur.

concerned solely with units that were designed as self-care units although boarding and nursing homes will be dealt with briefly at a later point. The construction of these self-care developments has taken primarily three forms: cottages, one or two storey apartments, and high-rise apartments. Due in large measure to rising costs of urban land the trend has been increasingly to high-rise developments and although a good deal of recent construction has been of the second type, while the construction of cottage units has virtually ceased.

[ Guides for the planning and design of senior citizen homes have been available to architects for some time, both in professional journals and through housing agencies who are familiar with some of the problems of the aged.<sup>7</sup> Typical design guides contain most of the following recommendations:

- (1) One floor - few if any stairs.
- (2) Elimination of thresholds and other tripping hazards.
- (3) Non-skid surfaces in halls, bathrooms, kitchens.
- (4) Living space separate from sleeping space.
- (5) Good illumination of halls, stairs, and other hazardous areas.
- (6) Handrails for stairs and handgrips for bathtubs.
- (7) If stairs are necessary, frequent landings are needed for resting and for shortening falls.

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<sup>7</sup> See, for example, Vancouver Housing Association, Building for the Senior Citizen, Vancouver, The Association, 1967

- (8) Windows must be easily opened and operated.
- (9) Some guides suggest keeping windows small to facilitate washing and to diminish heat loss - others recommend large windows to let in as much sunlight as possible.
- (10) Temperature should be self-controlled and should be capable of maintaining at least 70°F.
- (11) Doorways wide enough for wheelchairs.
- (12) Emergency bells located near bed or in bathroom that would ring in Manager's office.

As a result of the information obtained from the survey using Questionnaire 2 in which 150 elderly persons were interviewed at 24 different senior citizen housing developments in the Greater Vancouver area it is revealed that the above recommendations have been met in varying degrees. A full report on this investigation is forthcoming<sup>8</sup> but for our purposes here only the highlights will be discussed.

In view of the material presented in Chapter II it would be thought that those designing specialized housing for the aged would avoid stairs as much as possible. However, they are very much in evidence at many sites. This may be a compromise of necessity. Land costs often prohibit the low density use of land in the erection of single storey

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<sup>8</sup>Gordon E. Priest, A Report on Design Inadequacies in Vancouver Senior Citizen Housing Developments. Vancouver, The Vancouver Housing Association, 1970.

dwellings. On the other hand, the developers may not have the resources or may not wish to erect a high-rise dwelling that could make economical use of an elevator. It would appear, therefore, that in spite of the physical difficulties of the aged in dealing with stairs certain external diseconomies are still precipitating their inclusion in many developments even now under construction. Lighting constitutes a problem for tenants at a number of developments surveyed where those interviewed state that low wattage bulbs combined with dark floors resulted in a dim environment, especially for the deteriorated vision often suffered by the aged. Difficulty with bathtubs that do not have handrails is another problem often cited by tenants as is the problem of cupboards that are placed too high to reach without the aid of a stool. As noted in Chapter II the deterioration of the temperature regulating mechanism of the body cause the aged to be particularly sensitive to temperature and the lack of individually controlled thermostats in many developments is a source of considerable dissatisfaction to the elderly inhabitants.

## 2. Locational Aspects

While many of the design inadequacies precipitate a number of problems for tenants no problems are as great as those caused by the location of the unit itself. Certainly a considerable amount of planning usually goes into the decision to locate any facility, whether it be a privately

developed shopping center or a public service building. Nevertheless, it would appear that various conditions of location have not been considered in the placing of senior citizen housing where many sites appear to have been selected primarily on the basis of cheap land.

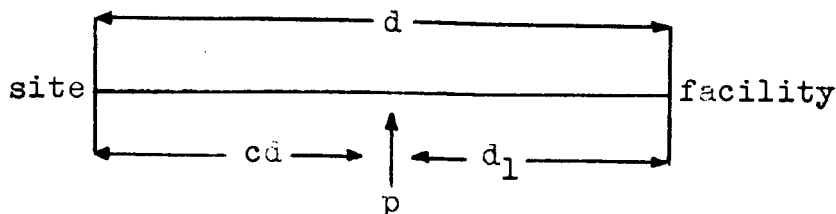
Generally, there are four factors to be considered in locational decisions. Certainly land cost is an important one and where an agency lacks the resources to compete in the bidding for favourable sites it may often find itself having to accept second or third choice sites. Concerning the aged and the social-psychological environment it is stated by Verwoerd<sup>9</sup> that the aged prefer to remain in familiar neighbourhoods where they have friends and associations. This applies to lower socio-economic areas as well as to those of higher status. This is born out not only by the informal discussions held with the aged in lower economic areas but also by the formal interviews held with the tenants of housing developments in these same areas. The physical environment also bears consideration especially in relation to conditions of topography and in particular, slope, which can seriously affect the mobility of elderly persons. The ability to walk any great distance is often sharply curtailed, especially if hills are involved. A slight gradient not only up but also down can become difficult to negotiate. Perhaps

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<sup>9</sup>Adriaan Verwoerd, Cp Cit, Chapter 5.

the most critical factor concerning location, however, is that of access.

In the United States, Paul L. Niebanck reported that a survey of 117 senior citizen housing developments revealed considerable inadequacies in access to site locations. His results are shown in Table 9 where critical distance is defined as the actual distance travelled minus the distance past the point at which dissatisfaction is expressed. That is:



$$cd = d - d_1$$

where

- cd = critical distance
- d = actual distance
- d<sub>1</sub> = distance beyond point of dissatisfaction
- p = point of dissatisfaction

This critical distance was found to be closely associated with frequency of use. In the words of Niebanck:

Facilities that receive infrequent or irregular use, such as the library, the church, the movie house and the hospital, can be a long walk away before dissatisfaction is expressed. On the other hand, convenient stores, which are regularly and frequently used and involve the carrying of bundles, must be located within a block or two or the trip length becomes disagreeable.<sup>10</sup>

As a result of Niebanck's survey the distances cited

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<sup>10</sup>Paul L. Niebanck, The Elderly in Older Urban Areas, University of Pennsylvania, 1965.



TABLE 9  
ADEQUACY OF SITE LOCATIONS  
UNITED STATES

Facility	% Violating Critical Access Distance
Grocery Store	23
Bus Stop	5
House of Worship	31
Drug Store	27
Clinic or Hospital	54
Bank	49
Social Center	26
Library	29

SOURCE: Housing the Elderly in Older Urban Areas

TABLE 10  
CRITICAL DISTANCES  
UNITED STATES

Facility	Rank of Importance	Critical Distance
Grocery Store	1	2 - 3 blocks
Bus Stop	2	1 - 2 blocks
House of Worship	3	¼ - ½ mile
Drug Store	4	3 blocks
Clinic or Hospital	5	¼ - ½ mile
Bank	6	¼ mile
Social Center	7	3 blocks
Library	8	1 mile

SOURCE: Housing the Elderly in Older Urban Areas

in Table 10 are found to be critical. Through the informal discussions held with the aged previous to the formulation of the questionnaires it was learned that perception of distance may be relative to a number of factors in an individual's background. For example people with a largely rural background would discuss distances in terms of miles while urban dwellers would speak in terms of blocks, implying

a quite different perception of distance. As the investigation here is concerned with the urban environment the term block is used. This is considered to be, and was defined during the questioning, as an average city block, mid-point in length between the "long" block and the "short" block typical of the Vancouver grid system.

It is contended, therefore, that locational priorities for senior citizen housing developments should be given to the following criteria:

- (1) Location should be in or near former neighbourhoods of inhabitants.
- (2) Congested areas of heavy industrial or commercial use should be avoided.
- (3) Access should be provided to the listed facilities within the critical distances.
- (4) Steep grades or other hazards should not intervene between the site and the needed facilities.

These criteria were developed from material presented by Niebanck, The Burnaby Planning Department and interviews made locally in association with this study.

In surveying senior citizen developments in metropolitan Vancouver it is found that these criteria are met in widely varying degrees. The units are scattered fairly well throughout the city and only at a few locations are there problems with industrial noise, smoke, or heavy traffic. The problem

of access is, however, more pressing as is revealed in the somewhat intensive questioning of residents as to what trips they make, to what facilities, over what distances, by what mode of travel, and with what frequency. Once this problem was identified it was hoped that even more intensive questioning would reveal data upon which to construct a theoretical model of locational priorities for senior citizen housing.

In conducting interviews with inhabitants of the surveyed developments it was discovered that certain dissatisfactions with the location of the various sites existed. Specifically, these dissatisfactions concerned distances that had to be travelled to community facilities such as grocery stores, medical clinics, recreation centers, and so on. Certain costs are involved in overcoming distance and are known usually as spatial costs which are a composite of economic costs, social costs, and physical costs. To quote Richard V. Radcliff, formerly Professor of Land Economics at the University of Wisconsin:

This disutility of distance is the joint product of the activities involved, the distance, the available means of overcoming the distance, and the importance of the contact to the persons or activity concerned.

He then goes on to discuss location and its unique complex of space relationships and the physical problem of overcoming the friction of space. This friction of space or distance,

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<sup>11</sup>Richard V. Radcliff, "Efficiency and the Location of Urban Activities." The Metropolis in Modern Life, ed., Robert Moore Fisher, Garden City, Doubleday, 1955, pp. 125-160.

he says, is costly in terms of time and energy. That is, once a site has been selected for a certain activity, the total costs of locating on it do not stop merely with the purchase price of the land but must also include the later transport costs involved in overcoming the friction of space. These costs can variously include such things as bus fare, time loss, physical exertion or discomfort. Location of an activity, therefore, should be determined by more than the actual cost of the land involved but must also include the spatial or transport costs. In relation to senior citizen housing developments it is noted that time loss is of relatively little importance to the elderly. Of more critical concern is the actual monetary and physical expenditure.

The problem here is that such costs are difficult to quantify and yet in the matter of determining the locations of senior citizen residences such costs are extremely important due to the increasing physical disabilities and subsequent decreasing mobility of the aged. Therefore, since the aged have more problems in overcoming space and distance the ideal location is one at which spatial or transport costs are minimized. In an attempt to measure or quantify these costs the following procedure is adopted. Each site included in the survey is assessed the actual number of blocks from the site to the various facilities used by the residents. For example, a development which we shall identify as "Site D", the actual number of blocks from site

to facility are measured as shown in the following table.

In the Niebanck study this measure of actual blocks is used in the determination of critical distances. This, however is felt to be deficient in that it does not consider such variables as the availability of public transport or the degree of slope (or other hazards) over the distances walked.

The availability of public transport can, of course, decrease the physical exertion necessary to reach more remote facilities. Slope also affects physical exertion in that an

TABLE 11

SITE D - ACTUAL BLOCKS  
SITE TO FACILITY  
VANCOUVER

Supermarket	5
Medical Clinic	2
Bank	3
Corner Store	3
Drug Store	3
Church	3
Library	16
Social Center	18
Bus Stop	2
Park	2

increased amount of difficulty is encountered in movement over space. It is imperative therefore, that these two factors be considered in the locational analysis of any senior citizen development. For example, at Site D it is found that a considerable grade has to be overcome in the two blocks between the site and the main street where the bus stop and the shopping facilities are located. The

residents interviewed here stated that they encountered difficulties in not only walking up the hill but also down. On the other hand, however, the availability of public transport makes the site much more accessible to both the library and the senior citizen recreation center which are 16 and 18 blocks away respectively.

It becomes obvious, therefore, that it is necessary to assign weights to actual blocks in order to get a more accurate picture of the spatial costs involved. The physical hazards encountered at the various locations studied consisted mostly of hills with fairly steep slopes. From information acquired from the respondents it is determined that a slope of from five to ten degrees would increase the physical exertion of the average senior citizen by about 100 per cent. Therefore, any block in which such a slope is encountered should be doubled in terms of physical distance. Site D. residents, for example, had to walk three blocks to their nearest supermarket. However, on two of the blocks there is a slope of about 12 degrees. Therefore, these two blocks are weighted in the following manner:

Actual blocks	=	3
Blocks with slope	=	2
Weights 1 + 1	=	2
<u>Level Block</u>	=	1
TOTAL	=	5

This measure is termed as physical exertion blocks: a level

block being given a weight of one but a sloped block given a weight of two.<sup>12</sup> Travel by public transport has also to be considered for movement by bus certainly reduced the physical exertion required. There are, however, still some costs to be considered, which are:

- (1) Economic cost of transit fare.
- (2) Difficulty in boarding or alighting from vehicle.
- (3) Restriction to schedules.
- (4) Discomfort encountered in riding vehicle was found to increase with distances (for senior citizens at least).

The degree to which these costs tended to cancel out the advantages of travelling by bus is somewhat hard to measure. It is suggested, however, in questioning the respondents, that advantages are not entirely cancelled by the disadvantages, but rather there is a gain in advantage of about 50 per cent. This figure, therefore, is applied to the actual distance travelled by bus. Basically this is

$$\frac{\text{actual distance}}{2} .$$

It is realized that this formula is workable only to the point that the average senior citizen is actually able to walk.

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<sup>12</sup>The number 2 used here is an arbitrary rather than an absolute measure as it is realized that the degree of slope and the ability to overcome it varies from site to site and person to person. Although arbitrary, this number closely approximates the extra physical exertion required to overcome an average slope. This is based upon the interviews with the elderly themselves and upon a discussion with three students in kinesiology at Simon Fraser University.

To use the Site D example again, a trip to the library involved 16 actual blocks. The two blocks walked to the bus stop were sloped so that they are given a weight of four. This leaves 14 blocks to travel by bus and by the use of the above formula  $14/2 = 7$ . This is then added to the 4 of the walking distance for a rating of the entire trip of 11. Table 12 illustrates the physical exertion blocks calculated for eleven of the various sites studied. While this shows the amount of difficulty in getting from any one development to its nearest facility it does not show the relative importance of the various shops and services visited. At this point the concept of aggregate distance is introduced. Respondents were questioned regarding the frequency of trips they made from their site and the purpose of these trips. From this data a frequency of use factor is calculated. The averages for the interview sample are shown in Table 13 where it is seen, for example, that the nearest supermarket generated 3.26 trips per month, the nearest bank is 1.08 trips per month and the nearest medical clinic only 0.20 trips.

In order to introduce this factor to the formula for the establishment of spatial costs, which here have been termed aggregate physical exertion blocks, the computed physical exertion blocks are merely multiplied by the frequency of use. That is:

P.E.B. x F = Aggregate P.E.B.  
 Where P.E.B. = Physical Exertion Blocks, and  
 F = Frequency of Use. (Table 14)



TABLE 12

 PHYSICAL EXERTION BLOCKS  
 VANCOUVER

	$l + 2(S) + T/2 = F.E.B.*$											
SUPERMARKET	1.0	1.0	0.5	0.5	7.5	4.5	5.0	5.0	6.0	4.5	7.0	SITE A
MEDICAL CLINIC	4.5	1.0	0.5	0.5	7.5	5.0	3.0	4.0	6.0	3.0	10.0	SITE B
BANK	4.5	1.0	0.5	0.5	7.5	5.0	4.0	5.0	6.0	5.0	9.0	SITE C
CORNER STORE	1.0	1.0	0.5	0.5	6.0	6.0	1.0	5.0	6.0	2.0	7.0	SITE D
DRUG STORE	4.5	1.0	0.5	0.5	7.5	5.0	1.0	5.0	6.0	4.5	9.0	SITE E
CHURCH	1.0	1.0	0.0	1.0	6.0	3.0	0.5	5.0	6.0	5.0	10.0	SITE F
LIBRARY	7.0	3.0	5.0	0.0	0.0	6.0	4.0	11.0	18.0	3.0	12.0	SITE G
SOCIAL CENTER	5.0	3.0	5.0	5.0	0.0	7.0	3.0	13.0	19.0	9.0	7.0	SITE H
BUS STOP	1.0	0.0	0.0	0.0	1.0	0.0	0.5	4.0	4.0	0.0	10.0	SITE I
PARK	3.0	1.0	0.0	1.0	6.0	0.0	3.0	4.0	4.0	12.0	5.0	SITE J
												SITE K

\* WHERE l = number of blocks walked  
 S = number of blocks with 5° gradient or greater  
 T = number of blocks travelled by public transport

TABLE 13

FREQUENCY OF USE VANCOUVER	
AVERAGE NUMBER OF TRIPS PER MONTH	
SUPERMARKET	3.26
MEDICAL CLINIC	0.20
BANK	1.08
CORNER STORE	3.80
DRUG STORE	1.50
CHURCH*	3.50
LIBRARY**	1.00
SOCIAL CENTER***	2.00

\* Used by 33% of respondents

\*\* " " 25% " "

\*\*\* " " 40% " "

These facilities would generally  
have been more intensively used  
had they been more accessible.

To use the example of Site D once more, calculations of the total spatial costs of a trip to the library are as follows:

- (1) Walk two blocks to the bus stop.
- (2) These two blocks have a slope in excess of five degrees - add weight of two.
- (3) Travel 14 blocks by bus, gaining an advantage of 50% or  $14/2 = 7$ .
- (4) P.E.B. then equals  $4 + 7$  or 11.
- (5) Frequency of use is 1, therefore,  $11 \times 1 = 11$  which is the spatial cost involved or aggregate P.E.B.

The complete formula is as follows:

$$(L + 2(s) + \frac{T}{2}) \times F = \text{Aggregate P.E.B. where}$$

L = number of level blocks walked

S = number of blocks walked with slope of 5° or greater or other stated hazard (where applicable).

T = number of blocks travelled by public transport (where applicable).

F = frequency of use.

It is assumed here, of course, that once a certain critical distance has been reached, bus transport will be used if available.

With the use of this formula various sites can be studied in an attempt to compare their individual merits. The data for eleven randomly selected sites in the Vancouver area are fed into the formula with the results shown in Table 15 and

TABLE 14

RELATIVE SPATIAL COSTS - MEASURED IN AGGREGATE F.F.B.  
VANCOUVER

SUPERM	3.26	3.26	1.63	27.71	14.67	16.30	19.56	17.43	22.82	9.78	
CLINIC	1.00	0.20	0.10	1.70	1.00	0.80	1.20	0.80	2.00	0.80	
BANK	5.40	1.08	0.54	9.18	5.40	4.32	6.48	6.48	9.72	8.24	
CORNER	3.26	3.80	1.90	4.56	22.80	3.80	14.20	7.60	26.60	3.80	
CRUG	7.50	1.50	0.75	12.75	7.50	1.50	6.50	8.25	13.50	4.50	
CHURCH	7.00	3.50	0.00	21.00	5.25	15.25	21.00	5.25	30.50	17.50	
LIBRAR	7.50	3.00	5.00	0.00	6.00	4.00	18.00	8.00	12.00	9.00	
SOCIAL	12.00	6.00	10.00	0.00	14.00	13.00	38.00	18.00	14.00	4.00	
BUS	1.00	0.00	0.00	1.00	0.00	4.00	0.00	0.00	10.00	1.00	
MARK	3.00	1.00	0.00	6.00	0.00	4.00	4.00	7.00	7.00	3.00	
TOTAL	50.92	23.34	19.92	83.90	76.62	55.27	142.94	72.81	148.14	56.62	
Integr	Good	Good	Good	Fair	Good	Good	Good	Good	Good	Good	
Compat Land U	Good	Good	Good	Good	Good	Poor	Good	Good	Good	Good	
											SITE A
											SITE B
											SITE C
											SITE D
											SITE E
											SITE F
											SITE G
											SITE H
											SITE I
											SITE J
											SITE K

Figure 13. The data presented in Figure 13 strikingly reveals the wide range of spatial costs. This in turn reflects the locational attributes of the various sites. Quite obviously, some are much better than others, which leads to the next problem. Is there, at some point, a place at which these costs become critical and should not be exceeded?

Niebanck, in his study of senior citizen housing uses the term critical distance. This, he says, is that point beyond which the senior citizen expresses dissatisfaction in making his trip. These critical distances are shown in Table 10. In order to substantiate these distances the residents interviewed locally were questioned regarding what they felt were maximum distances various needed facilities should be located from their site. The responses correlated remarkably with those figures given by Niebanck (Table 13). The respondents were instructed to assume that there would be no intervening slope or physical hazard and that distances would be such that public transit would not be necessary. Therefore, to determine a critical spatial cost the critical distance was simply multiplied by the frequency of use. That is as follows:

$C.D. \times F. = C.S.C.$  where  
 C. D. = critical distance  
 F. = frequency  
 C.S.C. = critical spatial costs or critical P.E.B.

The results are shown in Tables 13 and 14 where the critical distances determined in the local study were found

TABLE 15  
 COMPUTATION OF CRITICAL P.E.B.  
 VANCOUVER

$$C.D. \times F. = C.P.E.B.*$$

	C.D.	F/MONTH	C.P.E.B.
SUPERMARKET	3	3.26	9.78
MEDICAL CLINIC	4	0.20	0.80
BANK	3	0.20	0.80
CORNER STORE	1	3.80	3.80
DRUG STORE	3	1.50	4.50
CHURCH	5	3.50	17.50
LIBRARY	9	1.00	9.00
SOCIAL CENTER	2	2.00	4.00
BUS STOP	1	**	1.00
PARK	3	**	3.00
TOTAL	-	-	56.62

\*WHERE C.D. = Critical Distance

F. = Frequency of Use

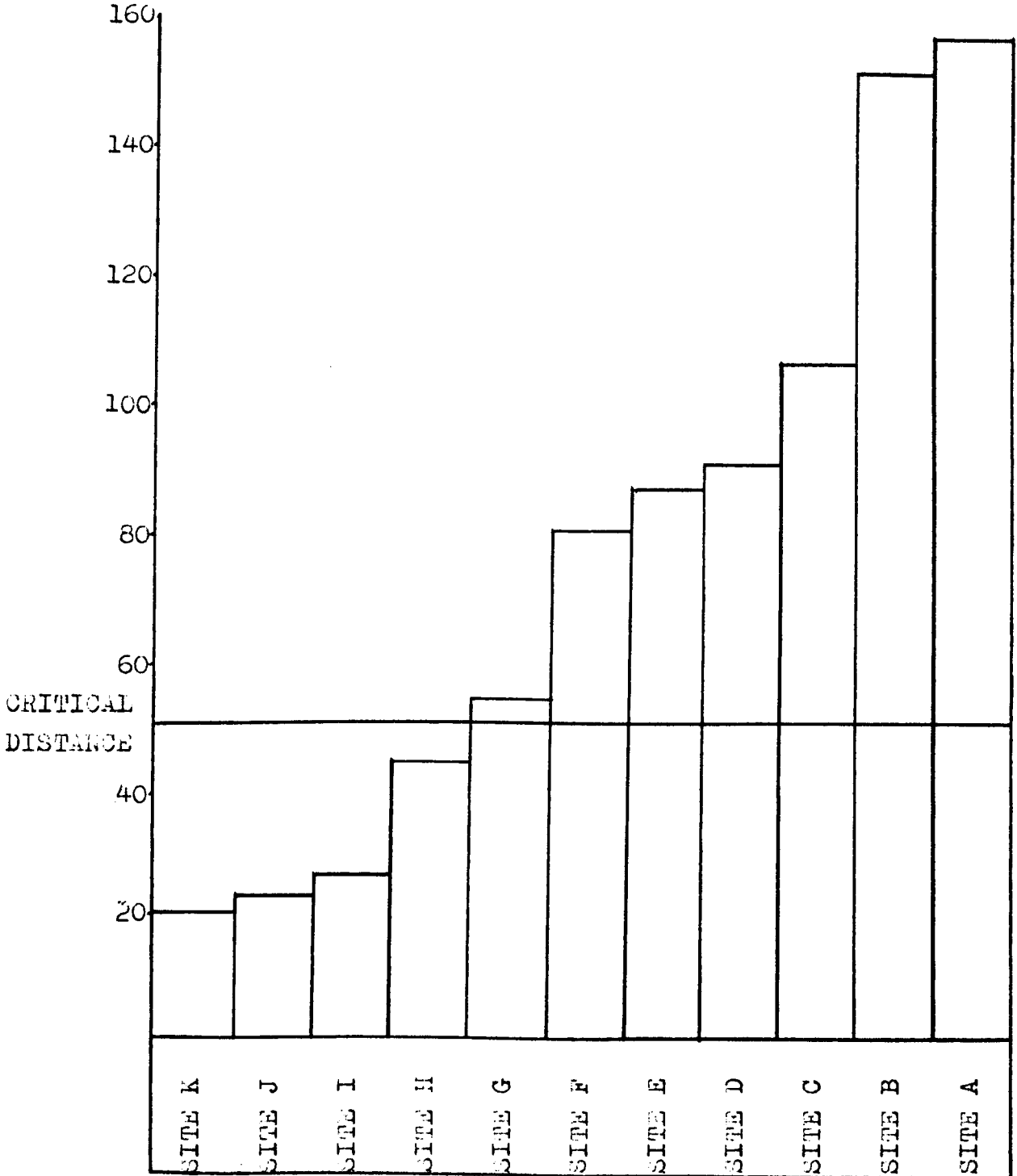
C.P.E.B.= Critical Spatial Costs or  
 Critical Physical Exertion Blocks

\*\*Essential Regardless of Frequency of Use

FIGURE 13

AGGREGATE F.E.B.  
AND CRITICAL DISTANCE, SELECTED  
VANCOUVER HOUSING DEVELOPMENTS

AGGREGATE  
F.E.B.



to be closely related to those set out by Niebanck. The critical spatial cost, or critical physical exertion blocks, can now be determined for any single facility or for the totals of all facilities. It will be noted that this critical distance of 56.62 is also plotted on Figure 13 revealing that only five of the eleven developments selected meet this ideal requirement.

While it has been demonstrated by the application of the concept of P.E.B., a few qualifications are in order. Shopping and service facilities need not be on a large scale to satisfy the needs of the elderly. Those facilities of most importance to the aged are often located in small neighbourhood centers and it may be here that land costs and spatial costs may be compromised, particularly if there are public transport connections with larger, higher-order shopping centers.

In summary it would appear that in the City of Vancouver a demand for specialized and subsidized housing for senior citizens does exist. Furthermore, it is evident that attempts to meet this demand are being made and while demand still exceeds supply some progress is being made. Interviews reveal however, that tenants in existing developments feel that there is room for improvement not only in building design but in locational aspects. In respect to the latter the concept of P.E.B. is developed in order to provide a yardstick of spatial costs. While this chapter has stressed the need for senior citizen housing the following will, in part, discuss alternatives.



## CHAPTER VI

## ALTERNATIVES AND CONCLUSIONS

The assumption that the provision of senior citizen housing has become a necessary task of our society is an assumption underlying the present study. But is it valid? Are there, perhaps, other alternatives? Rosow, for one believes there are. From a study in Cleveland he concludes:

Gerontologists, housers, and practitioners may generally over-emphasize the importance of housing problems of older people. Our sample indicates some 8 per cent with housing complaints and only 4 per cent who regard these as serious....Housing dissatisfaction is primarily a manifestation of an income problem.<sup>1</sup>

Furthermore,

Actually, most older people function perfectly adequately in ordinary housing without any special provision. And the preoccupation with special design features for older tenants not only distorts what is essentially a simple problem, but diverts attention from the fundamental social consequences of various housing arrangements, the social patterns that they breed or sustain, the social networks which they engender. Thus, there is significant evidence that gerontologists, housers, and executives of agencies and foundations are seriously mistaken about older people's housing problems - regarding them as unique, over-estimating their extent and confusing their nature....if retirement income were adequate, the person could essentially solve the housing problem himself. For appropriate housing seems to be available, but at prices beyond the limited reach of many retirement incomes.<sup>2</sup>

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<sup>1</sup>Irving Rosow, Social Integration of the Aged, New York, Free Press, 1967, pp. 333 - 334.

<sup>2</sup>Ibid, p. 6.

Contrary to many other authorities Rosow also claims that health is not affected by poor housing and what is needed is not money wasted on housing research but higher incomes for pensioners, and simply more ordinary housing.

It cannot be denied that higher income would enable the aged to bid on the open housing market. Neither can it be denied that many of these people require higher incomes, but until there is evidence that such transfer payments are not going to lag behind cost of living increases, the elderly are still going to be the lowest bidders on the open market. Furthermore, in times of inflation, when such incomes are in the tightest squeeze it is well known that governments are reluctant to increase transfer or welfare payments. [Rosow talks about "social consequences of various housing arrangements" as if senior citizen housing were still in some way associated with the poor house or the old folk's home of yesteryear. There appears to be a growing demand for specialized housing not just on the part of the needy but on the part of the more affluent as well. The statement that "most older people function perfectly adequately in ordinary housing" is, in part, true for many do, but what of those who don't? Are they to be placed in institutions and lose their independence entirely simply because they have a few handicaps?

It is the contention here that senior citizen housing as it is presently evolving is filling a very real need. It

helps bridge any one of the numerous adjustments of lifestyles indicated in Chapter II. Senior citizens who were interviewed at the various locations were asked, "If you had the resources to bid on the open market, where would you choose to live?" An almost unanimous majority stated that they would still choose the specialized housing because it offered security, companionship with privacy, entertainment and recreation, and an opportunity for a number of ways to keep busy and feel useful. Furthermore, the developments themselves being specifically designed for aged persons were usually considered more compact and easier to look after than a conventional suite. In addition most preferred an age-segregated dwelling from which they could venture if they wanted contact with other age groups, but where they would not have to continually "put up with" noisy young people. If we recognize the aged as a distinct biological-cultural group with special needs then it follows that attempts to create environments that harmonize with these needs is, indeed, in the interest of this group.

This study has not considered specifically planned retirement communities or the question of nursing homes, as the object was primarily to consider self-care housing as it presently exists in Canada. Planned retirement communities<sup>3</sup> open up a whole new aspect that is beyond the scope of this present paper but some brief discussion of nursing homes and

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<sup>3</sup>See Barker, op cit.

their relationship to self-care housing is perhaps desirable. The problems of nursing homes have been well documented on the radio and in the press as well as the Senate Report on Aging.<sup>4</sup> This too, is an area that requires much thought as well as much soul-searching as to what value we as a society are going to place upon aging with "honour and dignity". Perhaps the nursing home situation can best be exemplified in the following anecdote which was gleaned from one of the interviews conducted in Vancouver.

One couple interviewed had enjoyed many years of a happy and fruitful marriage. Upon retirement they had a little "nest-egg," a small but comfortable home, and an automobile. All went well until the wife had a stroke whereupon she was hospitalized. When she recovered she was discharged in her husband's care even though she was bed-ridden. After some months, the husband, whose own health was not the best, realized that he simply could not cope with the problem. He searched for more suitable accomodation but found there was nothing available except for private nursing homes. After some time on the waiting list the wife was finally admitted but at a cost her spouse found appalling. In no time the "nest-egg" had disappeared and the couple were forced to sell the home. By the time the wife died, her husband had nothing left but the automobile which he used for visiting her. In spite of the best laid plans the survivor

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<sup>4</sup>Op cit.

found himself in ill-health, in poor housing, in financial difficulty, and alone.

While this study is confined to housing for the ambulatory aged perhaps the above anecdote indicates that an investigation of the integration of extended care facilities with the type of housing that is presently being constructed may be warranted. It would appear that the present policy in housing developments that those who are no longer capable of self-care must live is not conducive to the well-being of that individual. At an extremely critical stage in the life cycle this policy presently means that these people must once again leave all that has become familiar and make new adjustments, not only to a new style of life but to new surroundings and new people.

Andre M. Guillemette in discussing the requirements needed for the minimum satisfaction and welfare of the aged makes the following points:<sup>5</sup>

- (1) A degree of material security through adequate income.
- (2) Health care for both prevention and rehabilitation.
- (3) Decent housing adapted to the physical capacities and incomes of the aged.
- (4) A degree of permanence and continuation in the

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<sup>5</sup>Andre M. Guillemette, "Future Action on Behalf of the Aging." Proceedings, Canadian Conference on Aging, Toronto, Canadian Welfare Council, 1966, pp. 52 - 59

social institutions and surroundings with which they are familiar.

(5) The opportunity to engage in leisure activities. Guillemette stresses the importance of housing which, he says, "may be the most crucial and difficult problem to solve for the elderly." Speaking specifically of those "needy old people in the major cities of Canada (who) are concentrated in the old, run-down neighbourhoods," he states that it is here that, "the dwellings are the least functional of all in relation to the physical condition of the elderly tenants."

Here it may be noted that, as supported by the findings set forth in Chapter III, Guillmette specifically speaks of "needy old people" rather than "the bulk of the aged" and the relationship with lower economic areas. Furthermore, it would appear on the basis of both Guillmette's remarks and the investigation related in the previous chapters that housing adapted to the special needs of senior citizens can contribute significantly to the group's well-being.

In conclusion, it might be said that to this end this investigation has attempted to understand not only the processes of aging and the relationship of those processes to the socio-economic world of the aged citizen but also to understand the special needs of this group in respect to housing and the physical environment in which they move. If there is a concern with creating special environments for this group, particularly in familiar neighbourhoods, then knowledge of where these

people live, how they live and how they desire to live is essential. In Chapter III it is noted that while many of the less affluent aged do live in lower socio-economic areas there are many aged who do not and, in fact, clusters of aged are to be found in a diversity of economic areas in those Canadian cities studied. Investigation of existing housing developments has revealed that one of the major problems of tenants is that of access to the shops and services they require. In order to illustrate the spatial costs incurred by these people a model is developed for assessing such costs and for measuring the relative accessibility of the location of senior citizen housing developments to the various facilities their tenants visit. Wherever possible it has been the objective to use empirical evidence to develop the relationships between the aged and their environment; but it should be recalled that this research concentrates upon one segment of this diverse group, namely, the less affluent. Even at that, merely the surface has been scratched. Obviously, there is a need for much more intensive research in the demographic aspects of aging for, if we are to be concerned with the creation of special environments for any or all segments of this diverse biological-cultural group then we must have projections of where, when, and how many aged, of what various conditions of health and affluence we can expect in future years.

## BIBLIOGRAPHY

## Public Documents

- American Public Health Association. Committee on the Hygiene of Housing. Housing an Aging Population. New York, The Association, 1955.
- Canada, Special Committee of the Senate on Aging. Final Report of the Special Committee of the Senate on Aging. Ottawa, Queen's Printer, 1966.
- Canadian Conference on Aging. Proceedings. Toronto, Canadian Welfare Council, 1966.
- Central Housing and Mortgage Corporation. Housing the Elderly: Design of the Unit. Ottawa, Queen's Printer, 1969
- Corporation of the District of Burnaby, Proposed Senior Citizen's Housing. Burnaby, The Corporation, May, 1968.
- Housing Research Center, Cornell University. Housing Requirements of the Aged: A Study of Design Criteria. Albany, New York State Division of Housing, 1958.
- Housing Research Council of Southern Cal. Inc. The Architect Looks at Housing the Aged, Pasadena, The Council 1953.
- James, Robert L. Edmonton Senior Resident's Survey. Edmonton, Edmonton Welfare Council, 1964.
- Massachusetts. State Housing Board. Standard of Design: Housing for the Elderly. Boston, The Board, March 1954.
- National Association of Housing and Redevelopment Officials. Management of Public Housing for the Elderly. Washington, The Association, 1965.
- United Community Services of Metropolitan Boston, Follow-up Study: Housing Preferences of Older People. Boston United Community Services, 1957 and 1962, 2 volumes.
- U. S. Department of Health Education, and Welfare. Selected References on Aging. Washington, D. C., U. S. Government Printing Office, 1959.



- Vancouver Housing Association. Building for the Senior Citizen. Vancouver, The Association, 1967.
- Vancouver Housing Association. Apartment Construction for Single Elderly People. Vancouver, The Association, 1962.
- Vancouver Housing Association. A Survey of Rooming Houses in the West End and Downtown Districts of Vancouver. Vancouver, The Association, 1951.

## BOOKS

- Barker, M. B. California Retirement Communities. Berkely, University of California, 1966.
- Barron, M. L. T. The Aging American. New York, Thomas Y. Crowell, 1961.
- Bergel, E. E. Urban Sociology. New York, McGraw-Hill, 1955.
- Beyer, Glenn H. Economic Aspects of Housing for the Aged. Ithaca, Cornell University.
- Beyer, Glenn H. and Mierstrasz, F. H. J. Housing the Aged in Western Countries. Amsterdam, Elsevier Publishing, 1967.
- Boyd, Rosamonde Ramsay and Oakes, Charles G. ed. Foundations of Practical Gerontology. Columbia, S. C., University of South Carolina Press, 1969.
- Brockington, F. and Lempert, Susanne, M. The Social Needs of the Over-80's. Manchester, University of Manchester, 1966.
- Burgess, E. W., ed. Aging in Western Societies. Chicago, University of Chicago Press, 1960
- Carp, F. M. A Future for the Aged. Austin, University of Texas Press, 1966.
- Clark, Margaret and Anderson, Barbara. Culture and Aging. Springfield, Charles C. Thomas, 1967
- Cumming, E. and Henry, W. D. eds. Growing Old. New York, Basic Books, 1961.
- Donahue, W., ed. Housing the Aged. Ann Arbor, University of Michigan Press, 1954.

Donahue, W. and Tibbits, C., eds. The New Frontiers of Aging. Ann Arbor, University of Michigan Press, 1957.

Field, H. Aging with Honor and Dignity. Springfield, Charles C. Thomas, 1967.

Fisher, R. M. The Metropolis in Modern Life. Garden City, Doubleday, 1955.

Frush Jr., James and Eschenbach, Benson, The Retirement Residence. Springfield, Charles C. Thomas, 1968.

Goldstein, Sidney and Zimmer, Basil G. Residential Displacement and Resettlement of the Aged. Providence, Rhode Island Division on Aging, 1960.

Hall, Edward F. The Hidden Dimension. Garden City, Doubleday, 1969.

Koller, M. R. Social Gerontology. New York, Random House, 1968.

Lang, Gladys E., ed. Old Age in America. New York, H. W. Wilson, 1961.

Langford, Marilyn, Community Aspects of Housing for the Aged. Ithaca, Cornell University, 1962.

Moore, Elon H. The Nature of Retirement. New York, Macmillan, 1959.

Niebanck, L. Paul. The Elderly in Older Urban Areas. University of Pennsylvania, 1965.

O'Reilly, Charles T. CAA Profile: The Old Age Assistance Client in Chicago. Chicago, Loyola University Press, 1961.

Rosow, Irving. Social Integration of the Aged. New York, Free Press, 1967.

Rosset, Edward, Aging Process of the Population. New York, Macmillan, 1964.

Simpson, Ida H. ed., Social Aspects of Aging. Durham, N. C. Duke University Press, 1966.

Smith, Wallace F. Housing for the Elderly in California. Berkeley, University of Cal., Press, 1961.

Sommer, Robert. Personal Space. Englewood Cliffs, Prentice-Hall, 1969.

- Stone, Leroy. Urban Development in Canada. Ottawa, Queen's Printer, 1969.
- Tibbitts, C. Handbook of Social Gerontology. Chicago, University of Chicago Press, 1960.
- Tryon, Robert C. Identification of Social Areas by Cluster Analysis. Berkely, University of Cal. Press, 1955.
- Tunstall, J. Old and Alone. London, Routledge and Kegan Paul, 1966.
- Williams, R. H., Tibbitts, C., and Donahue, W., eds. Processes of Aging. Vols. I and II. New York, Atherton Press, 1963.
- Wilson, R. L. Urban Living Qualities from the Vantage Point of the Elderly. Chapel Hill, University of North Carolina, 1960.
- Zay, Nicolas. Living Arrangements for the Aged. Ottawa, Canadian welfare Council, 1966.

#### PERIODICALS

- "Buildings for the Aging." Architectural Record. Vol. 119, Man, 1956.
- Burns, Peter G. "Housing Ottawa's Older Citizens." Ontario Housing. Vol. 12, no. 2, (Spring '66)
- Boigon, Irving D. "Accomodating Our Senior Citizens." Ontario Housing. Vol. 12, no. 2 (Spring '66)
- Carlson, Anton J. and Stieglitz, E. J. "Physiological Changes in the Aging." Annals of the American Academy of Political and Social Science.
- Crawford L. "Homes for the Aged." Editorial in Journal of Royal Architectural Ins. of Canada. Vol. 39, (August 1962).
- Goldberg, L. H. "Care of the Elderly in Norway, Sweden, and Denmark." Geriatrics. Vol. 14, (1959).
- Havighurst, Robert J. "Social and Psychological Needs of the Aging." Annals of the American Academy of Political and Social Science. Vol. 279 (January, 1952)

- Hinkle, L. E. and Wolff, H. G., "Ecological Investigations of the Relationship Between Illness, Life Experiences and the Social Environment." Annals of Internal Medicine. Vol. 49, no. 6, (Dec. 1958).
- Kaplan, Oscar J. "Psychological Aspects of Aging." Annals of the American Academy of Political and Social Science. Vol. 279, (January, 1952).
- Kraus, Hertha. "Housing Our Older Citizens." Annals of the American Academy of Political and Social Science. Vol. 279, (January, 1952)
- Nicholson, Edna E. "Housing as a Basic Need of Senior Citizens." Journal of the American Medical Association. Vol. 165, (Oct. 26, 1957).
- Schwenger, C. "How Shall the Elderly Live?" Canadian Welfare. Vol. 40, (1964).
- Smith, A. "Senior Citizens." Canadian Labour. Vol. 12, (1967).
- Smith, W. F. "Housing Preferences of Elderly People." Journal of Gerontology. Vol. 16, no. 3, (July, 1961).
- Sweetster, Dorrian Applie, "The Social Structure of Grandparenthood." American Anthropologist. Vol. 58, (1956).
- Tibbits, C. "A Sociological View of Aging." Proceedings: American Philosophical Society. Vol. 98. (April, 1959).
- Tibbits, Clark and Sheldon, Henry D. "Introduction: A Philosophy of Aging." Annals of the American Academy of Political and Social Science. Vol. 279, (January, 1952).
- Townsend, Peter. "The Changing Role of the Older Person in Our Society." Ontario Housing. Vol. 12, no. 2, (Spring, 1966).
- Vivrett, W. K. "An Environment for Living Independently." Geriatrics. Vol. 12, (April, 1957).
- Vivrett, W. K. "The Environment for Group Living." Geriatrics. Vol. 12, (April, 1957).

#### NEWSPAPERS

The Columbian April 27, 1970 - May 2, 1970.

The Edmonton Journal April 23, 1970.

Sketch, Marion Ogden. "Are Retired People an Economic Asset?"  
Financial Post Vol. 61. (December 30, 1967)

UNPUBLISHED MATERIALS

Lawrence W. A. "A Geographical Study of the Elderly Population of Southwestern Ontario." Thesis, M.A., University of Western Ontario, London, Ontario. 1966.

Rees, Philip H. "The Factorial Ecology of Metropolitan Chicago." Unpublished M.A. Thesis, University of Chicago. 1968.

APPENDIX I  
QUESTIONNAIRE 1.

1. Location \_\_\_\_\_
2. Length of residence \_\_\_\_\_
3. Previous type of accomodation and address - reason for leaving \_\_\_\_\_
4. Own or have access to an automobile \_\_\_\_\_
5. What do you like most about living here? \_\_\_\_\_
6. What do you like the least? \_\_\_\_\_
7. Do you feel that your location here is accessible to the places that you would like or have to travel to? \_\_\_\_\_  
\_\_\_\_\_
8. Do you feel isolated here from the rest of the community?  
\_\_\_\_\_
9. Can you think of a location that would be a better site for a housing development such as this? \_\_\_\_\_
10. If you had to choose between high density apartment units close to shops and services or low density cottage units with lawns and trees, but no shops or services nearby, which would you prefer? \_\_\_\_\_  
\_\_\_\_\_
11. Note any infirmities or disabilities (without asking) and any other general comments. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. Ask for number of trips per month where possible  
OTHER STORE might include specialty shops or department stores (specify). \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## QUESTIONNAIRE 1. (con't.)

13. What journeys do you make from home?

PLACE	DISTANCE	HOW OFTEN	MODE OF TRAVEL	MAX. DIST. PREFERRED
GROCERY STORE				
DRUG STORE				
OTHER STORE				
MEDICAL CLINIC				
BANK OR POST OFFICE				
CHURCH				
LIBRARY				
VISIT FRIENDS + RELATIONS				
ENTERTAINMENT OR RECREATION				
ANY OTHER				
PUBLIC * TRANSPORT				

\*Nearest Bus Stop.

14. Do you find it difficult or expensive to make any of these trips? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

15. Do you rely upon phone or mail order for the delivery of goods or services? \_\_\_\_\_

\_\_\_\_\_

## QUESTIONNAIRE 2.

SITE \_\_\_\_\_  
 SUITE \_\_\_\_\_  
 DATE \_\_\_\_\_

LENGTH OF RESIDENCE \_\_\_\_\_

TYPE OF ACCOMODATION BEFORE MOVING IN HERE \_\_\_\_\_

REASONS FOR MOVING \_\_\_\_\_

A. THE NEIGHBOURHOOD ENVIRONMENT

1. ARE YOU BOTHERED BY STREET OR INDUSTRIAL NOISES HERE? \_\_\_\_\_
2. DO YOU HAVE ADEQUATE ROOM OUTSIDE WHERE YOU CAN WALK OR SIT? \_\_\_\_\_
3. ARE THERE SIDEWALKS LEADING TO PLACES YOU HAVE TO GO, LIKE STORES OR BUS-STOPS? \_\_\_\_\_
4. DO YOU HAVE ANY DIFFICULTY GETTING TO STORES OR BUS-STOPS? \_\_\_\_\_
5. HOW IS THE TRAFFIC ON THE STREET HERE? IS IT DIFFICULT TO GET ACROSS? \_\_\_\_\_
6. WOULD YOU PREFER TO LIVE IN A NEIGHBOURHOOD THAT WAS ALL OLDER PEOPLE OR ONE IN WHICH THERE ARE ALL AGE GROUPS? \_\_\_\_\_

B. THE HOUSING UNIT

1. HOW DO YOU LIKE (NAME OF DEVELOPMENT)? \_\_\_\_\_
2. IS THERE ANY WAY IT HAS NOT MET YOUR EXPECTATIONS? \_\_\_\_\_
3. WHAT DO YOU LIKE MOST ABOUT IT? \_\_\_\_\_
4. WHAT WOULD YOU CHANGE IF YOU COULD? \_\_\_\_\_
5. ARE CUPBOARDS ADEQUATE? \_\_\_\_\_  
 ARE ANY TOO HIGH OR TOO LOW? \_\_\_\_\_
6. ARE WINDOWS LARGE ENOUGH? \_\_\_\_\_ DO YOU GET AS MUCH FRESH AIR AS YOU WOULD LIKE? \_\_\_\_\_



## QUESTIONNAIRE 2. (con't.)

7. DO YOU HAVE ANY DIFFICULTY WITH CLEANING OR WITH ANY OF YOUR ELECTRICAL APPLIANCES? \_\_\_\_\_
8. ARE YOU ABLE TO CONTROL YOUR OWN HEAT? \_\_\_\_\_
9. ARE YOU ABLE TO ENTERTAIN FRIENDS OR RELATIVES HERE OR IS IT TOO CROWDED? \_\_\_\_\_  
\_\_\_\_\_
10. DO YOU HAVE YOUR OWN FURNITURE HERE? \_\_\_\_\_  
DO YOU FIND IT DIFFICULT TO GET UP FROM LOW CHAIRS? \_\_\_\_\_
11. IS THERE ANY OTHER PLACE ON THE PREMISES WHERE YOU CAN ENTERTAIN? \_\_\_\_\_
12. DO YOU HAVE MUCH OPPORTUNITY TO MEET THE OTHER TENANTS? \_\_\_\_\_  
\_\_\_\_\_
13. DO THE TENANTS HERE HOLD MANY SOCIAL GET TO-GETHERS? \_\_\_\_\_
14. IS THE LAYOUT OF YOUR ROOMS SATISFACTORY? IF YOU WERE DESIGNING A UNIT LIKE THIS HOW WOULD YOU CHANGE IT? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
15. DO YOU HAVE ANY PROBLEMS WITH STAIRS? \_\_\_\_\_
16. ARE THE LAUNDRY FACILITIES ADEQUATE? \_\_\_\_\_  
\_\_\_\_\_
17. WOULD YOU PREFER LIVING IN SOME OTHER TYPE OF ACCOMODATION? COTTAGE? SMALL APARTMENT? HIGH RISE? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
18. OTHER COMMENTS? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## SENIOR CITIZENS - APPLICATION FORM - CENTRAL HOUSING REGISTRY

Operated by: The Vancouver Housing Association,  
616 - 198 West Hastings, Vancouver 3.

FULL NAME: Mr. \_\_\_\_\_  
Mrs. \_\_\_\_\_  
Miss \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

DATE or DATES OF BIRTH: \_\_\_\_\_

NEXT OF KIN: name & relationship:  
(In or near Vancouver) \_\_\_\_\_

ADDRESS & PHONE NO. OF KIN: \_\_\_\_\_

VETERAN or VETERAN'S WIDOW: \_\_\_\_\_ WIDOW or WIDOWER \_\_\_\_\_  
SINGLE: \_\_\_\_\_ COUPLE: \_\_\_\_\_

HEALTH: (Any disabilities) \_\_\_\_\_

INCOME: (Indicate amounts). OLD AGE SECURITY \_\_\_\_\_ GUARANTEED  
INCOME SUPPLEMENT \_\_\_\_\_ OLD AGE ASSISTANCE \_\_\_\_\_  
SUPPLEMENTARY SOCIAL ALLOWANCE \_\_\_\_\_ WVA \_\_\_\_\_ DVA \_\_\_\_\_  
SUPERANNUATION \_\_\_\_\_ OR OTHER TYPE OF PENSION \_\_\_\_\_  
TOTAL INCOME \_\_\_\_\_

ASSETS: (Real Estate, Bonds, Cash in Bank, House Payments, etc.)  
\_\_\_\_\_

PRESENT ACCOMMODATION: \_\_\_\_\_

WHY DO YOU WISH TO MOVE: \_\_\_\_\_

RENT: \_\_\_\_\_ Gas, Electricity, Heat: \_\_\_\_\_

HOW LONG HAVE YOU LIVED IN BRITISH COLUMBIA: \_\_\_\_\_

PROJECT PREFERRED: (See note below) \_\_\_\_\_

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_ 19 \_\_\_\_\_

PLEASE NOTE: This application form refers only to the Senior  
Citizens' Projects as listed on the single sheet inclosed.  
They are: Beulah Gardens Homes Society; B. C. Housing  
Foundation; New Vista Society (Burnaby); and Soroptimist  
Club, and Scottish Manor.

OFFICE HOURS: 1:00 p.m. to 4:00 p.m. - Monday to Friday  
TELEPHONE: 684 - 3515

## APPENDIX II

The model developed in Chapter V has actually been applied in two cases where senior citizen housing agencies were unable to decide upon desirable locations. In the first instance the model was applied to a situation in Port Coquitlam, B. C. where the Senior Citizen Housing Society attempted with its use to persuade the city council to provide a more favourable site. In this they were unsuccessful and a sports auditorium now stands on the site. In the second case the model was used in Port Alberni, B. C. by a firm of planning consultants who requested permission to use it. Here, through its use, the bodies involved were able to reach a favourable compromise.