

Neighbourhood Satisfaction:  
Contributing Factors in Varying Environments.

by

Paul Laurence Smith

A Thesis  
presented to the University of Manitoba  
in partial fulfillment of the  
requirements for the degree of  
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## ABSTRACT

The present study was prompted by the belief that urban and neighbourhood planning should rely on more than tradition, economics, and convenience in its decision making, and attempt to incorporate other, more human considerations into the shaping of urban form. One of the fundamental means of achieving such a goal is to increase peoples' satisfaction with their residential environments or neighbourhoods. Therefore, it is the intent of this study to ask the residents of varying neighbourhoods how satisfied they are with their areas, and to relate these results to the socio-economic and physical characteristics of the neighbourhoods in order to discover which conditions (if any) are most frequently associated with higher levels of neighbourhood satisfaction. It is hoped that this information will prove useful in the planning of future neighbourhoods.

To this end, the body of literature pertaining to this aspect of planning was identified and reviewed, and from this a list of variables which were believed to have a significant effect on satisfaction was compiled. These variables were incorporated in a questionnaire which was administered in thirteen neighbourhoods selected for their varying characteristics of socio-economic status, street layout pattern, access to urban infrastructure, and location within the city. The data obtained was processed using a standard SPSS program, and the results were crosstabulated in order to determine the strength and significance of various relationships. These relationships were used in testing eight hypotheses related to neighbourhood satisfaction which had been suggested by the focus of the study and by the literature review.

The results revealed that both socio-economic and physical design characteristics appeared to have some influence on a person's satisfaction. At the same time, however, the testing of one hypothesis showed that satisfaction levels varied widely among neighbourhoods sharing essentially identical characteristics, while some other neighbourhoods with dissimilar characteristics showed very similar satisfaction levels.

It was also found that the relationship between satisfaction and several perceptions of neighbourhood remained strong regardless of the controlling variables used. Three of these perceptions - the 'friendliness' of the area, its attractiveness, and the privacy it offered - were the most highly associated with satisfaction, while two more (the quality of the area as a place for children, and its 'identifiability' as compared to nearby areas) also showed a strong association.

Other findings showed that most people are satisfied with their neighbourhoods; that on the whole, residents of 'bay' areas showed higher levels of both satisfaction and perceptions of neighbourhood than residents of 'grids'; and that higher levels of satisfaction were strongly associated with higher educational attainment, but not as strongly with a person's age.

It is encouraging to note that several of the key perceptions in determining satisfaction with neighbourhood can be directly influenced by planning activities. Neighbourhood attractiveness and maintainability, privacy, 'identifiability', and the quality of the children's environment may all be influenced by the physical aspects of neighbourhood planning. The present research suggests that positive



perceptions (and thus satisfaction) could best be fostered in areas with definite 'edges' or boundaries, street layouts designed to enhance maintainability and privacy while reducing through traffic, and housing layouts designed to produce a series of micro-neighbourhood environments.

## ACKNOWLEDGEMENTS

When I began what was intended to be a short and simple analysis of neighbourhood satisfaction, I had only a vague idea of how much material actually existed on the topic and of how much ground the investigation would ultimately have to cover. This 'simple' planning thesis eventually required a healthy dose of urban sociology, questionnaire design techniques, statistical analysis and interpretation, and computer techniques; doses which were made palatable primarily by the people administering them. My committee deserves first mention in this regard for their valuable advice and perseverance: Dr. Raymond Currie of Sociology acted as advisor, bravely accepting the task of guiding a neophyte through the intricacies of data interpretation, and whose efforts helped to shape the study's final direction and form; and my readers, Professors Mario Carvalho and Basil Rotoff of City Planning, whose comments brought into focus several issues which helped to reinforce the validity of the research. Others whose efforts and interest had a significant impact on the study include Mr. Jim Chim, a fellow student who introduced me to the SPSS program and who spent hours showing me which buttons to push (and why); Professor Leo Driedger of Sociology, whose input during the formative stages of the questionnaire was very useful; Muriel Innes, typist extraordinaire; and the fellow students and friends who also helped in many ways, even if only by keeping a straight face while listening to my explanations of what it was all about. Special thanks in the latter regard go to Ms. Valerie Forcese, who patiently listened to each rethinking of the study while providing tremendous technical

and emotional support; and to my parents, whose support was in every way unreserved and invaluable - and who at the same time managed to raise the finding of new and subtler ways of saying "Shouldn't you be working on your thesis?" to an art form.

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## Chapter I

### INTRODUCTION

One of the paradoxes of the twentieth century is that in a time of vast leaps forward in so many aspects of human knowledge, there are still some fields of study which remain in a remarkably crude and unscientific state. The accelerating pace of change in knowledge and technology which characterizes the world of today only serves to underscore the contrasts between those disciplines which have undergone and adapted to revolutionary advances, and those which have apparently fallen farther and farther behind a rapidly transforming world. Strangely enough, some of these 'stagnating' fields are neither irrelevant nor obscure, but actually touch upon some of mankind's most basic and immediate needs. One such need is for the provision of housing to shelter a rapidly increasing urban population; and one such field is the practice of neighbourhood planning.

It seems somewhat odd that even as we expanded our understanding of the universe, the earth, the atom, and of the human body and mind, we remained in comparative ignorance of the nature of the very environments that we have chosen to build and to live in. It would have seemed only logical for the city and especially the neighbourhood to have immediately aroused mankind's desire to innovate and improve; for although a relatively small group of people cannot be expected to alter the entire world to suit their needs and desires, it should be well within their power to shape a small part of it - their homes, their gardens, their streets, their parks - in short, their neighbourhoods.

Instead, we find that the task of shaping the urban environment is no longer in the hands of the individual, but in those of the professional planners. We also find that the planners seem to be scarcely more knowledgeable or capable when faced with the problem of producing a satisfactory urban environment than they were when their profession was first created. Their efforts have produced useful guidelines related to the problems of health, safety, and the efficient and economical operation of urban systems - but seem to have produced almost nothing regarding the 'quality of life' that people experience. More emphasis seems to be placed on the understanding of traffic patterns and zoning bylaws than on understanding neighbourhoods and what makes them satisfying places to live.

And so, almost a century after the establishment of a profession dedicated to the understanding and improvement of the urban environment, the planning of residential neighbourhoods is still less the careful practice of an artistic science than the routine application of an unquestioned tradition. Indeed, if the residents of a suburb of the year 1900 suddenly found themselves in one completed just this year, they would find remarkably little to surprise them in its appearance, layout, or functioning. What might surprise them, however, would be the changes in society and technology that eight decades had brought; and then, upon a little reflection, they might wonder why the neighbourhoods had not shown a corresponding change.

This line of thought raises an unsettling question for those professionals dealing with urban issues. It has been argued that the basic pattern of urban neighbourhoods has seen remarkably little

change for many years now, while in the same period of time the world in which they are supposed to function has changed radically; can it be that the planners, sociologists, and psychologists who have looked into this problem have not been able to suggest any ways to change neighbourhoods in order to increase their residents' satisfaction with them as places to live?

If it is assumed that this speculation has some truth in it, we are again led to wonder why so little definite knowledge has been produced about the urban environment as a place to live. Are we then to conclude that the concerns of the urban milieu are so diffuse and variable that it is impossible to formulate definite recommendations for its improvement? Or does planning simply not affect those factors which produce 'improvements' or 'satisfaction' as far as urban residents are concerned? Are random, economic factors the only ones which can have an effect on our cities' development? Or might it be worthwhile to attempt to identify some basic and fundamental relationships between people and the cities they create, in the hopes of being able to incorporate such relationships into the planning of future neighbourhoods?

### 1.1 The Problem

Searching for 'fundamental relationships' in the above context may seem at first to be an overly optimistic, if not futile quest. After all, if such relationships actually existed, would they not have been discovered and documented many years ago? And if human needs and desires cannot be demonstrably related to the urban environment, why

bother with neighbourhood planning at all?

Supporters of this viewpoint frequently refer to studies carried out in the suburbs of various American cities which found that the degree of social and physical planning which took place before a neighbourhood's construction could not be consistently related to the degree of satisfaction which was later felt by its residents. In other words, these studies seem to show that the residents of 'less planned' environments often found them to be equally satisfying places to live as the residents of 'highly planned' neighbourhoods found theirs (92, 136, 265).

There is, however, another aspect of these findings which is frequently overlooked. As Zehner points out in his analysis:

"In effect, environments tend to recruit and hold those persons who expect to, and do, find these settings satisfying." (274:4)

This would make the suburbs of large American cities one of the worst possible places to look for differences in satisfaction levels, as most of the residents would be those trying to get away from the poor conditions within the city itself. To such people, almost any suburban neighbourhood would represent a clear improvement over the inner city alternative, and their satisfaction levels might well be produced by this factor rather than by the characteristics of the area itself.

In terms of the present research, Zehner's hypothesis is an interesting one not only because it would help to explain the findings of the previously mentioned studies, but because it would also seem to indicate that people choosing among prospective neighbourhoods make a conscious choice based on some criteria; and, if they later find that

some additional factor is reducing their satisfaction with the area, they move on, while those who are still satisfied remain.<sup>1</sup> This would imply that over time, most neighbourhoods will become predominantly populated by people who are 'satisfied' with their environment, and that those who decide to move on will do so until they find an area incorporating characteristics which they find satisfying. Upon investigation, it is found that these assumptions are indeed borne out by the findings of many studies (1, 39, 89, 105, 125, 138, 155, 168, 177, 179, 180, 244, 265, 274, 276, 277).

From this evidence, it would seem logical to assume that most individuals find some kinds of neighbourhoods more satisfying than others. This leads us to ask two questions which are central to this study: firstly, which factors have the strongest influence on a person's perceived satisfaction with their neighbourhood? And secondly, if these factors can be identified, is it possible to use this knowledge to plan neighbourhoods which are more satisfying to greater numbers of people?

For the most part, it is the latter question which led to the present research. Another of the contributing factors was the subjective belief that planners, when making decisions affecting the quality of life of hundreds or even thousands of people, still seldom know what those people want or need except in the vaguest of terms. And,

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<sup>1</sup>For a discussion of an ecological model of the matching of individuals to sites, and their desire to move, see "Migration as an Adjustment to Environmental Stress" by J. Wolpert (270:92). This study focusses on two aspects affecting the decision to move, these being stress (environmental pressures, whether social or physical) and strain (the individual's reaction to the stress inducing factors). Also see Saegert's article on environments and stress (214).



while the residents of established neighbourhoods will sometimes let their feelings be known if they believe that they will be adversely affected by some proposed change, it is most often left entirely to the planners to shape the changes now taking place in our cities.

Since more and more of these changes must inevitably come, it would only seem wise for planners to put much more emphasis on the task of systematically increasing their understanding of human responses to various neighbourhood and community environments, so that they may attempt to preserve and reinforce those characteristics that people find satisfying.

## 1.2 The Research

To this end, it is the intent of this thesis to examine various neighbourhoods exhibiting differing socio-economic and physical layout characteristics in order to determine the residents' perceived satisfaction with their neighbourhoods. Once this has been done, the data obtained can be used to examine to what extent and in what ways the residents of varying environments differ in their perception of satisfaction, and if any particular neighbourhood characteristics or groups of characteristics are consistently associated with either high or low levels of satisfaction.

In order to carry out this program of research, a considerable amount of preliminary work had to be carried out. For example, the city in which the study took place (Winnipeg, Manitoba) had to be subdivided into identifiable neighbourhoods, based on such determining factors as the presence of physical boundaries, the degree of social

homogeneity, and others which will be detailed in the chapter dealing with the methodology of the study. After the neighbourhoods were identified, a set of socio-economic and physical layout 'scales' had to be established in order to provide a means of choosing areas for detailed examination, and a systematic method of grouping and comparing the data obtained.

Within each of the areas chosen, a questionnaire was administered in order to evaluate various neighbourhood and community characteristics (both demographic and perceptual), including the residents' feelings of 'neighbourhood satisfaction'. Finally, a computer analysis was performed in order to find out what factors have the greatest effect on the perceived satisfaction with neighbourhoods held by population sub-groups living in varying environments; and, whether any of the characteristics of neighbourhoods and/or the people living in them are consistently associated with high or low levels of satisfaction.

Should the study meet with a fair degree of success, it may also prove possible to translate those characteristics which have been demonstrated to be significant in producing satisfaction among people into recommendations for the planning of future neighbourhoods. If, on the other hand, no conclusive findings can be reached, it is important to remember that only the focus of the study must be changed, and not the goal itself. For in the near future, planners must find the knowledge from which they can develop an understanding and a sensitivity for the people and the environments that they will deal with - before they attempt to change them.

At this point, it is necessary to clarify two of the underlying assumptions of this study. Firstly, it is assumed that both the neighbourhood and the community are recognizable and functional units of the modern city;<sup>1</sup> and secondly, that both neighbourhood (physical) characteristics and community (social) characteristics play a role in determining a person's satisfaction with his or her residential environment. Therefore, when the term 'neighbourhood satisfaction' is encountered in following sections, it is meant to refer to the satisfaction with one's neighbourhood that is produced when both of these aspects are combined (for example, the houses, streets, and parks, plus the people, friendships, and neighbouring activities), as this study assumes that neither operates independently of the other.

This assumption may not seem in any way unusual, but it is only the most recent research into the general area of 'neighbourhood satisfaction' that has accepted the idea that both factors may exert an influence on peoples' perceptions. When the concept of 'neighbourhood' was still in its formative stages, the first assumption of designers and planners was that the physical organization of an area acted as the sole factor influencing the residents' satisfaction. Later on, in the late 1950's and the 1960's, social scientists pointed out the flaws in this simplistic concept - but then took matters to

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<sup>1</sup>It is not within the scope of this study to debate the existence of 'neighbourhood' and 'community' or their importance to urban residents; such arguments have been thoroughly covered in many other studies (48, 54, 92, 109, 117, 175, 189, 192, 235, 236) and will therefore only be mentioned in the literature review, when relevant.

the opposite extreme by hypothesizing that only the social organization of an area had any significance in that regard.

Each of these ideas was supported with great single-mindedness. Today, however, researchers recognize that any phenomenon seldom has a single cause, especially where human behaviour is involved. It would therefore seem logical to assume (at the outset, at least) that both physical and social factors can influence residents' perceived satisfaction with their neighbourhoods to a greater or lesser degree, depending on the individual. It remains to be seen, however, whether or not the results of the study support this view.

Before the study itself could be undertaken, it was first necessary to expand its scope and refine its goals in order to reflect the current state of the research into this subject. To this end, a thorough analysis of the related literature was performed; its findings form the substance of the following chapter.

## Chapter II

### NEIGHBOURHOOD SATISFACTION - A REVIEW OF RELATED LITERATURE

Assembling an overview of the literature dealing with the issue of 'neighbourhood satisfaction' has proven, for the most part, to be an arduous and unrewarding task. This is because the greater part of the researchers' efforts in this regard appear to have been channelled into the support or denial of the concept of 'architectural determinism' on a purely binary basis; depending on the writer's intellectual or professional background, design either accounted for the greater part of a person's behaviour in an urban setting, or for none at all. Those who took the latter view offered as an alternative a form of 'social determinism', in which the social organization of an area was assumed to be totally responsible for any feelings of satisfaction held by its residents. Unfortunately, this concept was almost useless to planners, in that they could determine neither the form of social organization nor the type of people to occupy an area prior to its construction. This lack of direction may have been partially responsible for the rise of an even less constructive hypothesis - one which claimed that the concept of the 'neighbourhood unit' itself was an anachronism in an increasingly mobile and transient world, and that traditional planning concepts were therefore useless in contemporary society.

The content of subsequent literature suggests that this conflict of ideas was partially 'resolved' in at least one way - any form of neighbourhood study which would involve touching on either viewpoint was

carefully avoided by researchers for quite a period of time. It is unfortunate that this turned out to be the time when urban crises began to make themselves obvious, and when the formation of a systematic basis for analyzing urban environments and problems would have best been begun. As it turned out, the few rational voices that tried to establish a 'middle ground' were drowned out by those from the extremes. Their theories and findings were not to receive a wide audience until only recently, when some of the first tentative steps were taken towards the establishment of a methodical and comprehensive means of analyzing neighbourhood environments and the responses of their residents towards them. This process is still going on with painful slowness - and the end is nowhere in sight.

This brief overview does not give a proper appreciation of the growth and decline of the theories which were proposed, tested, and vigorously defended (and attacked) by various groups of professionals with an interest in the urban condition. In order to provide such an appreciation, it will be necessary to expand on the tenets of each major school of thought and on what their proponents and detractors had to say. This does not pretend to be an exhaustive historical review, but will provide a summary of the most important lines of thought and the conditions which gave rise to their appearance, leading ultimately to the study of neighbourhood satisfaction.

## 2.1 Architectural Determinism

The concept of architectural (or design) determinism suggested that the physical characteristics of urban settings have a direct

effect on the way that people behave. The extreme proponents of this once widely held theory believed that the arrangement of housing and facilities in a neighbourhood would not only influence but determine the quality and distribution of social contacts among an area's residents, thus giving rise to 'neighbourhood spirit' or satisfaction. The researchers whose work was most often referred to in connection with this theory included Festinger, Schacter, and Back's report, published in 1950 (68); Kuper's work from 1953 (132); Caplow and Forman, also in 1950 (40); and Whyte, from 1957 (256). However, while portions of these works were being cited by planners and architects in support of some rather extreme views, most of the theorists themselves were actually making much more moderate claims.

For example, Festinger, Schacter, and Back, in their study of the Westgate and Westgate West housing projects at the Massachusetts Institute of Technology, found that:

"The architect who builds a house or designs a site plan, who decides where the roads will and will not go, and who decides which directions the house will face and how close together they will be, also is, to a large extent, deciding the pattern of social life among the people who will live in those houses." (68:160)

This was the most widely circulated statement of the entire report, due to its seemingly clear-cut support of architectural determinism. Somewhat less attention was given to a preceding and more conditional finding from the same report:

"In a community of people who are homogeneous with respect to many of the factors which determine the development of friendships, the physical factors arising from the arrangement of houses are major determinants of what friendships will develop and what social groupings will be formed." (68:151)

In other words, the researchers were actually saying that physical layout will only have a significant effect when a homogeneous social community is already in existence. Another example of the moderation present in the thinking of the early researchers appeared in a British report prepared in 1943 by the National Council of Social Service, titled "The Size and Social Structure of a Town", which said that:

"Though physical planning and administrative measures cannot by themselves change social relationships, they can, if wisely and positively conceived, encourage and facilitate the growth of that spirit and fellowship without which true community life is impossible." (178:5)

However, this sort of caution appears to have been thrown to the winds during the post-war building boom, when planners and architects enjoyed a position of considerable power and influence. During this period, architectural determinism was at its height, and claims were made such as those by Whyte:

"Given a few physical clues about the area, ...you may come up with an unsettlingly accurate diagnosis of who is in the gang and who isn't." (256:366)

and by Caplow and Forman:

"Interaction rises... with almost molecular simplicity in terms of the spatial pattern of the community." (40:366)

Again, however, it must be remembered that the publication of such views was an exception rather than a rule. As Broady, a critic of the architectural determinism model states:

"It is more often found implicit in architects' thinking than in any clearly argued form: and it is probably the more dangerous for that." (33:13)



And, while it may not have had a clearly argued form, the notion was evidently held widely enough for Broady to comment that:

"...one stands aghast at the naivety, the sheer lack of intellectual discipline which often marks the enthusiastic designer's confrontation with social theory." (33:11)

In the light of these and other criticisms, those who supported the concept of architectural determinism were gradually silenced, as no clear proofs of the theory could be produced in its defence.

Some offered a more reasoned outlook, such as Lee:

"But single instances of architectural manipulation which fail or succeed do not invalidate the process of architectural determinism. It could simply mean that the wrong means have been chosen, or that we do not yet understand the complex interlocking system of variables that is involved. This would seem plausible for a field where almost no research has been done. The main misunderstanding arises when critics attribute to architectural determinists the absurd claim that the built environment is the only or even the main agent in the formation of behaviour. This is obviously not the case, nor is it implied in the concept as ordinarily understood by scientists. Social forces such as family, school, and so on also shape human behaviour, probably with much greater potency. The physical environment should not, however, be under-rated. It is long-enduring and relatively consistent, and it frequently operates in subtle concert with social forces, serving as a catalyst in the formation of relationships between people." (141:256)

On the whole, however, the concept of architectural determinism had been effectively silenced, if not completely suppressed. It is interesting to note that many of the theory's most vocal critics agreed that the physical environment could have some effect on people's behaviour - for example, Broady also said that:

"Some physical forms, it is true, do have determinate social consequences. But the most that physical design can do, sociologically, is to set conditions that are favourable or unfavourable to particular social activities." (33:51),

but objective views such as these were lost in the general rush to condemn the theory's excesses. This was to have an unfortunate effect on the field of neighbourhood studies, as we shall see with the benefit of hindsight in the following sections. Next, however, we will look at some of the criticism levelled at the concept of architectural determinism, and at what its critics proposed to take its place.

## 2.2. Social Determinism

Inasmuch as the empirical basis for the theory of architectural determinism was never fully documented, it is curious that most of the criticisms levelled at it by social theorists tended to rely just as much upon subjective observation as did the object of their scorn. It was readily admitted by these theorists that huge gaps existed in the knowledge on this subject; and yet, without a factually documented base on which to support their viewpoint, their main spokesman felt sure enough to write that the possibility of the built environment having an effect on a person's sense of community or satisfaction was "...sheer speculation masquerading as sociological truth." (74:139)

The most common 'proof' offered in support of this viewpoint was the results of several studies which had found a good deal of 'neighbourhood spirit' present in urban slums; where physical conditions were very poor. (76, 271)

This approach may appear quite reasonable, but there are two inherent flaws. Firstly, one might similarly try to disprove the statement 'listening to music makes people happy' by pointing out that some happy people have not been listening to music; a valid point, perhaps, but one which does nothing to disprove the hypothesis. It merely indicates that some other factor or factors are capable of producing happiness - or in the case of neighbourhoods, satisfaction. Secondly, their 'proof' assumes that the people who have no other choice but to live in a slum will react in the same way to poor physical conditions as the researchers would. In this way, many theorists obscured the real issue by concentrating their efforts on denying that physical factors had any effect on people whatsoever.

Those who took a more reasoned approach noted that for the most part, the supporters of architectural determinism had linked physical design (or more specifically, one aspect of it, that being 'propinquity' or physical nearness) with social contact, and little more. It was then argued by these researchers that this contact by itself was not always sufficient to create neighbourly relations or a sense of community. And from this, it was hypothesized that there must be some additional preconditions of a non-physical nature. For example, Gans found that:

"Propinquity not only initiates relationships, but it also plays an important role in maintaining the less intensive ones, for the mere fact of living together encourages neighbours to make sure that the relationship between them remains positive. Propinquity cannot determine the intensity of the relationship, however; this is a function of the characteristics of the people involved." (76:136)

In looking at the descriptions of the people involved in previous studies, sociologists found two clues pointing towards the characteristic which they were ultimately to use in formulating a theory to supercede that of architectural determinism. The first was the failure of several experiments with 'balanced communities' in which families of varying socio-economic backgrounds were relocated into the same neighbourhood. This was done in the hope that through the sharing of local space and facilities, a sense of inter-group co-operation and of community would develop among the residents. Such attempts were less than successful (132, 149, 181, 187, 266), and the concept was speedily dismissed (36, 75, 128). The second clue was provided in the literature supporting architectural determinism. Festinger, Schacter, and Back had said in their report that physical factors were major determinants of friendship formation, but had then gone on to say that this was only true "... in a community of people who are homogeneous with respect to many of the factors which determine the development of friendships." (68:151). They did not provide a clear definition of these factors; it remained for researchers such as Greer and Gans to hypothesize that the most important characteristics affecting peoples' choices and demands regarding neighbourhood qualities were:

"... class - in all its economic, social,  
and cultural ramifications - and life  
cycle stage." (82:111)

Gans went on to note that most of the studies which supported the concept of architectural determinism had examined areas where the residents already showed great similarity in the above characteristics, such as graduate student housing and military housing districts.

This led Gans to conclude that:

"Homogeneity of residents turns out to be more important as a determinant of sociability than proximity. If the population is heterogeneous, there is little social contact between neighbours, either on apartment-house floors or in single-family-house blocks; if the people are homogeneous, there is likely to be considerable social contact in both house types." (82:108)

To summarize, then, it was these conclusions which led to the formulation of the theory of social homogeneity, for which the chief spokesmen were Gans, who produced several papers dealing with the subject during the period from 1961 to 1969 (75, 77, 79, 83, 84); Dyckman, also during the same period (62, 63); Michelson, during the late 1960's and the early '70's (165, 167); and Buttimer, publishing during the early 1970's (35, 36). All of these works suggested that the prerequisite for the development of neighbourly relationships beyond the stage of superficial politeness was the presence of a fair degree of similarity in social class, life style, and stage in the life cycle among the residents of a given area.

This theory received wide support, and has considerable influence today despite the fact that some of the major evidence in its support was simply the failure of several heterogeneous communities. Another apparent difficulty with the theory of social homogeneity (from a planner's point of view) is that it is primarily explanatory and not predictive in nature. Planners would naturally like to know to what extent sociologists feel that a neighbourhood should be homogeneous, in order to increase their chances of causing feelings of community and satisfaction to appear. But, as Gans concluded:

"The proper solution is a moderate degree of homogeneity, although at this point no one knows how to define this degree operationally or how to develop planning guides for it." (74:163)

As has so often been the case in the field of urban studies, researchers were proving to be far more adept at identifying problems than at reaching solutions; empirical research into planning problems had not yet even come close to keeping pace with purely theoretical work.

However, the conclusions which social theorists had reached left planners with a much bigger problem to consider - did their work have any value at all? If the research that had been done was to be taken at face value, physical design had only a very minor effect on a person's behaviour or satisfaction, and then only if certain social conditions were already in existence. To make matters worse, nobody seemed able to state what forms these social conditions should take, to what extent they should be present, or even how to go about creating them. This left planners wondering just what it was that they could expect to achieve, and how they were to do it.

### 2.3 'Antithetical' Studies

There was a third position taken in the debate over which factors had the most powerful effect on a person's perceptions and behaviour in an urban setting. The main characteristic of the studies produced by this school of thought was that they did not propose some other factor to be more powerful than architectural or social ones; rather, they took a completely different view, one that assumed that it was impossible to link any of the attributes of 'neighbourhood' (as

defined by architectural determinism or social homogeneity) directly with 'community spirit' or with any form of satisfaction felt by an area's residents. This attitude was most clearly expressed in one of the few theories which appeared after that of social homogeneity. The theory of 'community eclipse', as it was known, hypothesized that in the face of the tremendous increase in the average citizen's mobility (and thus in their choice of social contacts), the widening range of lifestyles to choose from, and the changing forms of social organization catering to these lifestyles, the modern city no longer contained 'neighbourhoods' in the traditional sense.

Stein, who gave this theory its name (229), went on to claim that both the theory of architectural determinism and the theory of social determinism were completely irrelevant under these conditions for two main reasons. Firstly, they both assumed that 'neighbourhood' in either its physical or social aspects could be created and maintained in modern cities; and secondly, they both assumed that a feeling of community spirit could be fostered through the existence of neighbourhoods and explained by their physical or social characteristics - both of which were ideas that the supporters of the theory of community eclipse held to be totally removed from the realities of modern urban life. Articles written in support of Stein's viewpoint appeared in the late 1960's, such as those by Dennis in 1968 (59), Webber in the same year (250), and by Stacey in 1969 (223).

The spread of this hypothetical position thus created a very discouraging atmosphere for those researchers concerned with either neighbourhood or community; the inevitable result was a backlash in

support of both. As Bernard put it,

"People still live next door to others, they eat, sleep, live, hate, avoid, or seek out one another in a given locale ...it is still on the community scene that for the most human beings interaction takes place...and to them the concept of local community is far from anachronistic." (29)

During the period when the position of the 'antithetical' studies was gaining some acceptance, Greer still chose to use locale as a key concept in his studies of community, as did Gans in his research into the Italian communities of west Boston (76). Janowitz, in trying to explain the renewed interest in community studies after a decline during the 1950's stated that in his opinion, it was the inherent 'vitality' of the subject which accounted for its resurgence, and that "...community study remains a basic vehicle for the holistic and comprehensive understanding of the metropolitan condition." (121) And Alexander, in his book A Pattern Language, included both "identifiable neighbourhood" and "neighbourhood boundary" in his list of 'patterns' which represented fundamental and desirable features in urban areas.

But despite this renewed confidence in the relevance of the object of their studies, and the voicing of the first opinions that locale (or neighbourhood) might also have a role to play in its understanding, there still remained an almost total lack of agreement among the researchers in this field concerning its most important aspects and how they should be studied. And now, they not only had to contend with a dualistic interpretation of urban residential space (neighbourhood/community), but had to justify their basic premise - that community and neighbourhood were relevant planning and social units.



The most likely source of all this confusion and disagreement was in the consistent failure of planners and sociologists to get together to work out a middle ground from which a comprehensive approach to the problem could be launched. Perhaps Ruth Glass put it best when she said that

"It is because the Utopians have provided planners with their own home-made sociology that there has been a persistent separation between town planning and the social sciences ... The Utopian version of 'sociology', mechanistic and romantic and so happily definite in its conclusions, is of course one which appeals especially to the disciplines represented in the planning profession."  
(86:401)

This would seem to suggest that the planners' misunderstanding of the nature of true sociological research (and their resulting determinist bent) can trace its origins back to Sir Thomas More's sixteenth century vision of "Utopia", in which the perfect society was pictured as having a perfect city to live in. And, since the city was the easier of the two to visualize, people came to think of it as "Utopia", and of society as its product rather than its creator.

So, we can see the basis for the disagreement between the two disciplines - sociologists with planners for their apparently simplistic approach to the sociological aspects of urban issues, and planners with sociologists due to their apparent inability to provide conclusive input towards immediate planning problems (96).

This stubborn refusal on the part of both professions to accept the validity of the other's point of view may have been responsible for that period when community and neighbourhood studies were carefully

avoided, and diverse 'safe' topics were explored instead. For example, this period saw studies performed on the rates of participation in formal and informal associations both inside and outside the community (17, 28, 71, 240); studies of the factors contributing to the desire to move to another neighbourhood, coupled with studies of locational preference (125, 177, 180, 173, 255); an investigation into the concept of 'social space' (35, 37); the study of behaviour-environment 'congruence' (22, 172, 208, 231, 257); 'proxemics' (30, 99, 100, 221); the symbolic meaning of space (6, 7, 12, 147, 230, 279); neighbourhood 'images' (38, 52, 70, 103, 140, 157); and 'mental maps' (88, 123, 222). Studies of 'congruence' and neighbourhood images seemed to have led the field in terms of the numbers of papers published, but all topics received considerable attention.

This 'schism' in the efforts to understand the urban environment may eventually prove to be a blessing (albeit a well-disguised one) for both planning and sociology. The 'architectural determinism' versus 'social homogeneity' debate which had sapped the creative efforts of many theorists was essentially over; these same theorists were now compelled to seek out new and hopefully more tenable avenues of research. And so, while those studies undertaken in an attempt to fill the vacuum left after the debate had subsided may have appeared to deal with scattered and apparently unrelated topics, they did serve to open up new areas of investigation for planning and sociology, revitalizing their efforts and preparing the way for new forms of neighbourhood and community studies - a 'middle ground' where the expertise of both professions could be applied with positive effect.

## 2.4 Satisfaction Studies - Searching for the 'Middle Ground'

As the topics listed in the previous section illustrate, satisfaction studies do not represent the only direction that planning research has taken in the recent past; but to some researchers at least, they do appear to offer one of the most direct approaches to the problem of incorporating peoples' needs and desires into the physical and social environment - thus providing the 'middle ground' that both planners and sociologists can work from.

Early efforts by planners and architects to incorporate citizen input into the design process seldom met with any great measure of success. This was perhaps due to a combination of factors; a lack of communication between designer and resident, professional bias against the 'layman's' opinion, and the difficulty the average person has with 'reading' a plan still on paper. Nevertheless, there were those who did not give up on the idea that the planning process and its physical product could be made more responsive to those that it was intended to serve. Their response was to approach the problem from the opposite direction; in other words, if citizen input during the planning period was proving difficult to implement and was producing indeterminate results, then perhaps it would be more effective to study a number of projects after they were completed and occupied for a suitable period of time in order to see which ones were found by their residents to be more 'satisfying', and why.

As early as 1951, Leo Kuper had suggested that:

"Basic research is needed into the condition  
under which 'community spirit' is found;

(and) the relevance of physical structures and their arrangement, which is the element the planner controls, to this social psychological entity..." (131:241)

He also recommended that a series of experiments be undertaken along these lines in order to dispel the 'pseudo-scientific approach' which he felt had characterized previous planning theory and practice. This call for a systematic study was lost at the time in the heat of the debate over architectural versus social determinism - but the idea did suggest a basis for future 'rational' studies, and was to appear again after several fundamental changes took place in the attitudes of both planners and sociologists.

One of these changes was the gradual acceptance of the idea that the built environment did indeed play a role in influencing the residents of any given area. One of the first hints of the idea's revival (in a less extreme form, of course) came from Willmott and Cooney, the joint authors of Family and Kinship in East London. This study was considered by many to deal quite a blow to the idea of architectural determinism by pointing out that the residents of an urban slum, where the physical conditions were quite poor, were generally satisfied with their environment due to the social organization which existed there. Nonetheless, in a later article published in 1963, they found that

"These conclusions about the limited influence of physical design are supported by a number of other studies, mostly American. But that is not the end of the story. Though our initial findings were along these lines, we came to realize at Dagenham what a number of other surveys have shown - that, within limits and under certain conditions, design can have an important influence." (263:124)

A more fundamental role for the built environment was pictured by Alexander just six years later:

"...we must face squarely, just what the task of city planning is: it is, in short, the design of culture. A culture is a system of standard situations. Each of these situations specifies certain roles, certain allowed limits of behavior for the persons in these roles, and the requisite spatial setting for this behavior. Each situation thus specifies a certain physical pattern - and each pattern recurs many thousands of times in a given city. The form of the city is generated by the combination of these patterns. In this sense, the city, viewed as a purely physical system, is a direct concrete manifestation of the culture. Any attempt to change the physical organization is an indirect attempt to change the culture."  
(6:79)

It is important to note that each of these 'patterns' which Alexander went on to identify was closely associated with some kind of social change. As he said,

"The environmental change, without the social, would accomplish nothing. But the reverse is also true. These social changes cannot be made unless the physical changes are made with them."  
(6:85)

This last idea also describes the second of the fundamental changes which took place - that is, the gradual acceptance by planners and sociologists of the validity of each others' theoretical positions, and the desire to incorporate both outlooks into a single approach to urban research. As Perloff put it,

"It seems logical to assume that efforts to create more desirable cities would be significantly advanced if physical and social planning could be brought together around a set of rather basic goals common to, and meaningful for, both of these activities." (186:348)

This sentiment was closely echoed by Alexander, who said that:

"We have not found a way of making a coherent, criticizeable, and empirically founded statement about the kind of future we want for the living of life in cities. So long as the split between utopians and data-gatherers persists, it will not be possible to make such a statement." (6:78)

This last quote voices the thing that many planners and sociologists were coming to realize - that despite all of their theoretical claims, no empirical method had yet been developed that was of any real use in attempting to decide what an urban residential area should be like from a perceptual point of view. The desire to achieve this and to find a useful measure to employ in such studies led to the third and final change, which embodied two points. The first of these was the recognition that research carried out in the urban setting was the only way to formulate or substantiate any hypotheses dealing with human perceptions of the urban environment and with their response to it. Kuper put it in this way:

"Planning is an experiment, a design in social change, and the social scientist may conceive his study in terms of experimental design, analysing the behaviour of the group both prior and subsequent to the introduction of new amenities... Or he may...compare adaptive behaviour under different conditions in urban neighbourhoods, with a view to generalizing as to the conditions which are conducive to specified forms of neighbourhood living." (131:243)

A more concise expression of this thought was provided by Studer, who said in 1969 that:

"Designed environments, then, should be both conceptualized and realized as dynamic systems capable of moving towards more appropriate states. They should be viewed as experiments to test hypotheses and record relevant aspects." (231:195)

The final point to be made, then, is that many researchers settled upon satisfaction studies as one of the most promising methods of discovering how to move neighbourhoods towards 'more appropriate states'. As Rent and Rent put it when introducing a study of the factors related to residential satisfaction:

"Closely associated with life satisfaction generally, and that of the neighbourhood or residential area, is the degree of integration or involvement of an individual in society...one could expect that a satisfied resident might be likely to exhibit overt behavior which was conducive to the physical maintenance and even social order of his residential area; dissatisfaction might be manifested in contrasting behaviour..." (199:462, 464)

And, more directly, Lansing and Marans had said that:

"An environment of high quality may be defined as one that conveys a sense of well-being and satisfaction to its population through characteristics that may be physical..., social ..., or symbolic..." (137:195)

In these and other statements, both planners and sociologists hypothesized that a person's satisfaction with his or her residential environment represented a valid measure of the quality of that environment - for the residents were the ones who were exposed to it on a day-to-day basis. Satisfaction, then, became the focus of a number of studies in which a common approach was to try to associate certain features of neighbourhood or community with the residents' perceived satisfaction. It was believed (or at least hoped) that the knowledge gained through such an approach might ultimately increase the designers' ability to create better residential environments for those people who would live in them. The principal findings of these studies are

summarized in the following section.

## 2.5 Satisfaction Studies - Findings

Despite this general (if tentative) agreement on the possibilities offered by satisfaction studies, the early efforts were not considered to be very successful (188). However, these apparent failures could be largely attributed to methodological shortcomings. For example, inadequate scaling techniques and the failure to relate satisfaction to the differing characteristics of the people tested in the studies were particular drawbacks of these first attempts. This sort of error is inevitable whenever a completely new body of research is being established, and efforts were soon made to correct these shortcomings. However, at least two major problems remain; firstly, there is still next to no consistency in the methodology or in the measures used among the research that has been carried out. This makes it extremely difficult to combine or even to compare their data with any meaningful results. Secondly, there has not yet been an attempt to introduce time as a variable in the study of satisfaction. These remain as the last major difficulties to be overcome before the validity and usefulness of this type of study can be put to the test through its application in real-life planning situations.

Nevertheless, an important body of work has already been completed on the subject of neighbourhood satisfaction. In terms of the intent of this study, six pieces of research stand out as the 'core' works (39, 138, 155, 275, 276, 277) and about another twenty are of considerable value (13, 14, 25, 50, 64, 69, 90, 103, 134, 137,



158, 163, 177, 180, 199, 210, 222, 240, 244, 278, 305). In the interest of clarity (and brevity) their findings will be summarized in point form; also, the six 'core' studies will be dealt with individually while the rest will be grouped under one heading.

The Quality of American Life: Perceptions, Evaluations and Satisfaction (Campbell, Converse, and Rodgers, 1974)

This study represents the broadest approach to the study of satisfaction, covering as it does some seventeen aspects of satisfaction with life in the United States. 'Neighbourhood' is one of these aspects, as are 'community' and 'housing'. In a section dealing with previous research, the authors report that:

"The most salient conclusions that can be drawn from these past studies can be briefly summarized. Most people, including many of those living in 'substandard' environments, tend to be fairly content with the residential environment in which they live. The social setting, including interpersonal relations, and the type of housing (i.e., whether or not one is living in single-family housing) are salient factors influencing an individual's level of satisfaction with the community. Other important factors related to general satisfaction include the physical conditions of the residential environment, the convenience of having nearby public and private facilities and services, the size of one's dwelling, and the presence of conditions, such as spacious, quiet, and safe surroundings." (39:218)

Other findings of this study include:

- people who have lived in a variety of residential situations tend to be less satisfied with their present surroundings than those who have always lived in similar situations.
- there is a correlation between less education and living in consistent situations, and therefore a correlation between less education and higher community satisfaction.

- women and men show little or no difference in satisfaction levels or in factors contributing to satisfaction, although women do tend to show a slightly higher preference for a safe environment (for both themselves and for children).
- younger people tend to be less satisfied with their neighbourhoods than older people.
- getting along with neighbours, good property maintenance, personal safety, convenience to facilities, and safety with regard to property were found to account for one-third of the variance in connection with neighbourhood satisfaction.

#### Toward an Understanding of Community Satisfaction (Marans and Rodgers, 1975)

This study formed the basis of the sections dealing with neighbourhood and community satisfaction in the previous work; therefore, conclusions already attributed to that study will not be repeated here.

Additional findings indicate that:

- the correlation between lower education and higher satisfaction levels is also claimed to be a result of age. The elderly are assumed to have completed less education than younger people, and are at the same time demonstrated to have higher levels of satisfaction.
- the length of residence in an area, if less than twenty years, is shown to be poorly related to neighbourhood satisfaction.
- life cycle stage and education levels are shown to be among the best predictors of neighbourhood satisfaction, with older and less educated people having higher levels of satisfaction.

#### Planned Residential Environments (Lansing, Marans, and Zehner, 1970)

This study was conducted among ten communities which had been classified by their degree of 'plannedness'. Among its findings were:

- all ten communities studied were highly rated by their residents, although some variation was apparent.

- 'highly planned' communities were generally correlated with higher degrees of resident satisfaction, with a few inexplicable exceptions.
- the perceived presence of safe play spaces for children was closely associated with neighbourhood satisfaction.
- accessibility or nearness to facilities had a negative impact on satisfaction as often as it had a positive one.
- the maintenance of dwelling unit exteriors and the compatibility with neighbours were found to be the strongest predictors of neighbourhood satisfaction.
- non-through traffic neighbourhoods (culs-de-sac and bay street patterns) are rated more highly by their residents than neighbourhoods with through streets.
- while single family housing on a cul-de-sac street was characterized by a high level of satisfaction, town house units on similar streets showed much lower levels of satisfaction.
- density had very little effect on neighbourhood satisfaction except at extreme levels (at 2.49 units per acre or less, satisfaction was higher, while at 12.5 units per acre and up it was lower).
- the length of residence in a neighbourhood was not strongly related to satisfaction with that neighbourhood.
- privacy, a quiet environment, and not hearing one's neighbours were closely associated with satisfaction.

"Neighbourhood and Community Satisfaction in New Towns and Less Planned Suburbs" (Zehner, 1971)

This article's review of the earlier literature dealing with this topic had found that they had:

"...established or implied the importance for neighbourhood evaluations of privacy, social interaction, compatibility, neighbourhood maintenance level, relative socioeconomic standing of a person in his neighbourhood, accessibility to local facilities, and a variety of other factors." (275:383)

Zehner's own research found that:

- the plan or concept of a neighbourhood was a significant consideration both in a resident's choice of neighbourhood and in later determining their satisfaction with it.
- factors showing a high correlation with neighbourhood satisfaction were maintenance levels, friendly people, similar neighbours, low noise levels, and safe play areas for children.
- factors showing little or no correlation with neighbourhood satisfaction included length of residence, relative standing of house value in relation to neighbours, and frequency of casual interaction with neighbours.
- while accessibility to work, shopping, entertainment, and other facilities appeared to be important in the evaluation of a community (micro-neighbourhood) setting, they had little effect on neighbourhood satisfaction itself.
- young families found the quality of schools important in determining satisfaction.
- 'more planned areas' (new towns, in this example) received generally higher satisfaction ratings than less planned areas.

Across the City Line: A White Community in Transition (Zehner and Chapin, 1973)

- all areas studied showed high levels of satisfaction with the neighbourhood.
- there was only a weak correlation between accessibility to facilities and satisfaction.
- people living in mixed land use situations were less satisfied with their neighbourhoods than people living in exclusively residential areas.
- people living on thoroughfares were less satisfied with their neighbourhoods than people situated on non-through or low traffic streets.

Indicators of the Quality of Life in New Communities (Zehner, 1977)

- satisfaction with one's immediate neighbourhood and dwellings is a primary determinant of satisfaction with

the larger community.

- the age of the dwelling unit or neighbourhood as a whole is not closely tied to satisfaction.
- the density of housing only had an effect on renters, and not on owners; for renters, satisfaction decreased as density increased.

### Related Studies (Various Authors)

Rather than merely repeat findings which have already been covered in the review of the six 'core' studies, the work of these other researchers will be presented here only if it does not repeat earlier conclusions, if it offers a new interpretation of an earlier conclusion, or if it represents a direct contradiction of an earlier conclusion.

- income appears to be related to higher neighbourhood satisfaction in that those with a larger income have a larger number of neighbourhoods to choose from, and are therefore likelier to find one which they perceive as satisfactory. (Virirakis, 1968)
- suburban residents perceive their neighbourhoods to be larger than those living in inner areas do. (Haney and Knowles, 1978)
- casual contact with neighbours was more closely related to satisfaction in suburban communities than in central ones. (Greer, 1956)
- neighbourhood satisfaction is higher in homogeneous areas. (Fish, 1976)
- higher traffic levels on a person's front street were associated with lower satisfaction levels, less casual contact with neighbours, fewer acquaintances, and a smaller perceived 'home territory'. (Appleyard and Lintell, 1972)
- the perceived crime rate was not closely related to neighbourhood satisfaction. (Newman and Duncan, 1979)

## 2.6 Investigating Neighbourhood Satisfaction

It is evident from the stated intent of this study that it must be both descriptive and explanatory in nature. Therefore, the problem of resolving the mass of information that has so far been reviewed into a logical and comprehensive program of research is a considerable one. It is fortunate, then, that the direction of the research and the literature review itself have conveniently provided a point of departure by suggesting a number of hypotheses that may be tested in order to determine whether or not this study's findings agree or disagree with the findings of the research that has been carried out beforehand. Undoubtedly, the testing of these hypotheses will suggest others, and still others may become evident in the course of the data analysis; these will be dealt with as they occur. A short section of the analysis will also be devoted to comparing those conclusions in the previous studies which do not appear in the hypotheses to the findings of the present study.

The first hypotheses to be examined are the product of both the previous research and the current objective. Assuming that both socio-economic and physical design factors can have some effect on a person's perceived satisfaction with their residential environment, we are faced with three possibilities: both factors may exert an equally powerful influence on satisfaction; one or the other may predominate in this respect; or neither may have any significant effect at all. In order to provide a basis for testing these possibilities, the first hypothesis is stated in two parts:

- 1.0 Both socio-economic and physical design characteristics have an effect on a person's perceived satisfaction with his or her neighbourhood.
- 1.1 Socio-economic characteristics will have a greater determining effect on neighbourhood satisfaction than physical design characteristics will have.

Assuming that the first hypothesis can be satisfactorily demonstrated, we are then led to the second hypothesis, which attempts to expand on the possible effects of socio-economic and physical design characteristics in an attempt to determine whether or not satisfaction with one's neighbourhood can be consistently related to these easily measured neighbourhood characteristics, or whether it is too complex a phenomenon to be successfully predicted by the variables used in this study.

- 2.0 Groups of people exhibiting similar socio-economic characteristics and living in areas with similar physical characteristics will feel approximately equal levels of satisfaction with their neighbourhoods.
- 2.1 Groups of people exhibiting similar socio-economic characteristics but living in areas with differing physical characteristics will feel dissimilar levels of satisfaction with their neighbourhoods.
- 2.2 Groups of people living in areas with similar physical characteristics but having dissimilar socio-economic characteristics will feel dissimilar levels of satisfaction with their neighbourhoods.

The next group of hypotheses are more closely associated with the conclusions of the 'satisfaction studies' reviewed in the examination of the literature, and are primarily intended to test the level of agreement between the results of the present research and those of the previous studies, and to expand upon their findings wherever possible. These hypotheses are as follows:

3. The higher the average socio-economic status held by the people of a neighbourhood, the higher their perceived satisfaction with that neighbourhood will be.

This hypothesis was suggested by the findings of Virirakis, who concluded that "... per capita income has a significant effect on the strictness of the inhabitants' judgement about their community." (244:57) It is felt that in the case of the present study, those having higher socio-economic status will be able to choose from a greater number and variety of residential environments, with a corresponding increase in the chance of finding satisfying surroundings.

4. Residents of 'more highly planned' neighbourhoods will exhibit a generally higher satisfaction level than residents of 'less planned' areas.

Lansing, Marans, and Zehner had found that 'more planned' areas were generally characterized by higher levels of resident satisfaction in their study, carried out in 1970. As they put it, "... planned communities... score high... (and) neighbourhood satisfaction is lowest in the... least planned areas." (138:45, 103) In their terms, areas exhibiting a 'high' level of planning incorporated several design features, among which the most important was "... limited... public pedestrian and vehicular through traffic..." (138:111). The importance of this particular aspect of planning was backed up by the findings of Appleyard and Lintell (13) and by Zehner and Chapin (277:111), who found that people living on thoroughfares were less satisfied than those living on non-through traffic streets. In the present study, then, the term 'more highly planned' is meant to indicate those neighbourhoods in which the automobile is not given precedence over the pedestrian. Of the neighbourhoods chosen for detailed examination by this study, those areas with local street patterns laid out in the form of 'bays' were considered to be 'more highly planned', while the



standard rectangular block bounded on all sides by through streets (the 'grid' system) was deemed to be 'less planned'.

5. The higher the level of general neighbourhood maintenance (in terms of house and yard upkeep), the higher the residents' satisfaction with that neighbourhood will be.

Neighbourhood maintenance was found to be the best single predictor of neighbourhood satisfaction by Lansing and Hendricks in their study of the Detroit region done in 1967 (136:181). This relationship was also found in studies carried out in other cities by Campbell, Converse, and Rodgers (39:240, 247), Zehner (275:383), Zehner and Chapin (277:105), and by Lansing, Marans, and Zehner, who stated that "...the neighbourhood maintenance level is clearly related to satisfaction in our sample..." (138:126). Therefore, it is expected that this physical characteristic will also have a significant impact on neighbourhood satisfaction in the present research as well.

6. As the degree of perceived 'friendliness' of neighbours increases, the feelings of satisfaction that a person holds towards their neighbourhood will increase as well.

This correlation was also widely agreed upon by researchers looking into neighbourhood satisfaction. Once again, it was first demonstrated in the work of Lansing and Hendricks (136) who found that an evaluation of one's neighbours as 'friendly' was a better predictor of neighbourhood satisfaction than the respondents' frequency of casual interaction with those neighbours. Similar conclusions were reached by Zehner (275:383), by Zehner and Chapin (277:105) who found that friendliness was second only to neighbourhood maintenance in terms of the strength of relationship to satisfaction, and by Marans and Rodgers who stated that "The most important predictor (of macro-neighbourhood

satisfaction) is the respondents' assessment of their neighbours..." (155:325). It is also expected that this hypothesis will be borne out by the results of the present research.

7. The more homogeneous a neighbourhood's population is (in terms of its socio-economic status), the higher the level of satisfaction felt by those people will be.

Gans strongly suggested that the homogeneity of an area's residents was a most important determinant of a person's choices and demands in terms of neighbourhood characteristics (77:111) and was a more significant determinant of sociability than proximity was (82:108). At the same time, he was not able to define to what degree a neighbourhood's population should be homogeneous, how to plan to achieve homogeneity, or even which background characteristics, interests, values, or behaviour patterns gave people a feeling of similarity and compatibility (74:137). Lansing, Marans, and Zehner, in their 1970 study, attempted to measure homogeneity both subjectively (by asking people if they felt that their neighbours were similar or dissimilar to themselves) and objectively (by comparing their age, education, income, length of residence, race, and their neighbourhood attitudes), with the result that 'consensus' (homogeneity) about qualities of the neighbourhood was found to be more closely associated with satisfaction than were socio-economic measures. At the same time, however, over eighty percent of those people who found their neighbours 'similar' also rated their neighbourhoods most highly (138:125). A similar conclusion was reached by Zehner and Chapin, who found that "...the most satisfied residents were those in neighbourhoods with "people who are like me"..." (277:105). Zehner's study of new towns and suburbs concluded that 'similarity' of neigh-

bours, when combined with friendliness, was second only to the maintenance level as a predictor of neighbourhood satisfaction (275:383). And in 1976, Fish found that "... (the data) suggests that satisfaction with the neighbourhood is higher in homogeneous neighbourhoods." (69:159) and attributed it to the "...greater degree of social organization in homogeneous neighbourhoods that is supporting and constraining the behaviour of the residents and preserving their control of the environment." (69:162). And so, even though some difficulty is anticipated in the construction of an adequate measure of homogeneity, it is expected that some of the characteristics chosen will exhibit a significant degree of correlation with higher neighbourhood satisfaction.

8. The higher the degree of perceived privacy available to a neighbourhood's residents, the higher their satisfaction levels will be.

Lansing, Marans and Zehner found that a person was more likely to be satisfied with their neighbourhood when that neighbourhood was also rated as 'quiet' (138:118), as did Zehner (275:383). Marans and Rodgers agreed with this conclusion and went on to say that neighbourhoods were rated more favourably by "...people who had privacy and adequate outdoor space near their home." (155:333). The research of both Zehner and Chapin (277) and Appleyard and Lintell (13) pointed out that neighbourhoods with less through traffic in terms of both pedestrians and vehicles were more favourably rated by their residents. It is expected that the results of the present research will concur with these findings.

These eight hypotheses represent the major investigative thrust of the current research. Others were suggested by the literature

review, but it was felt that these eight were the most significant in planning terms. For example, previous work into neighbourhood satisfaction indicated that both age and education had a high correlation with satisfaction, but it should be obvious that these would be extremely difficult to translate into useful planning policies. A secondary aim of the investigation will be to identify other significant relationships among the identifiable neighbourhood characteristics.

## 2.7 Overview of Following Chapters

The following chapter will deal with the methodology of the study, describing its setting up through the identification of study areas, the establishment of measurement techniques and scaling methods, the use of sampling techniques, and the formation of the questionnaire which was administered. The statistical and computer analyses of the resulting data will be described, and a summary of the data will be presented.

The fourth chapter will present the actual findings and conclusions of the study as they relate to the hypotheses in particular and to neighbourhood satisfaction and planning in general. The fifth and final section will deal with the implications that the study holds for the planning of future neighbourhoods, and the additional programs of study necessary to answer further questions which will no doubt be raised by the current research. The appendices will include the questionnaire itself, various charts, graphs, and maps, and the raw data which was obtained, in the hope that it may prove useful in some future study.



## Chapter III

### METHODOLOGY

In attempting to establish a testing procedure capable of addressing the central question of this study (that is, can satisfaction with one's neighbourhood be demonstrably related to other neighbourhood characteristics) and its concomitant hypotheses, it soon became obvious that a fairly sophisticated methodology would be required. To achieve the necessary level of complexity, a questionnaire was developed by the investigator in order to supply the data upon which all analytical procedures will be based. This questionnaire was administered in the spring of 1979 to the householders of randomly selected single detached dwellings located in thirteen different neighbourhoods, which were chosen for their particular characteristics exhibited in connection with three variables - socio-economic status, physical design (street layout), and access to urban infrastructure. Additional information was also obtained through site inspections, map analysis, and from demographic data from Statistics Canada census reports and other sources, but the questionnaire remains the principal source of the data obtained and analyzed. All information gathered was then evaluated, categorized according to pre-established scales, and then processed by computer through the SPSS (Statistical Package for the Social Sciences) programs available at the University of Manitoba.

At the outset, the initial phase of research involved the setting up of criteria leading to the selection of neighbourhoods to be examined, and the design of the questionnaire. These operations

were carried out during the same time period, as it was felt that each process might well have a significant influence on the other. To simplify their presentation, however, the next section of the methodology will examine these operations in the order in which they were presented above.

### 3.1 Criteria for Neighbourhood Selection

In order to provide the 'varying environments' referred to in the title of this study, a framework had to be set up to provide a logical basis for their selection. Two of the criteria used in this regard were dictated by one of the major premises of the study - that both socio-economic and physical design variables have an influence on a person's perceived satisfaction with their neighbourhood. Therefore, it was determined that some aspect (or aspects) of each of these two variables were to be chosen as criteria for the selection of any neighbourhood for further study.

The choices offered by the former variable were fairly straightforward; from the literature, it was evident that factors such as income, level of education, and age were most likely to have an effect on a person's satisfaction with their neighbourhood. The second variable, however, presented a slight problem. The only factors which had been discussed in the previous research dealing with design characteristics in relation to satisfaction were somewhat subjective in nature. For example, the one which was found to have the strongest correlation with satisfaction was the level of neighbourhood maintenance, which could be interpreted differently depending on the observer. What was

wanted was a more objective aspect of neighbourhood design; and in the end, the one chosen turned out to be fairly clear-cut. The neighbourhoods examined were selected to represent clear examples of a particular street layout - being either 'grid' or 'bay'. It was felt that this distinction was one of the most fundamental in terms of neighbourhood design, with the grid system representing a through traffic, automobile oriented pattern, and the bay system representing a local traffic, pedestrian oriented one. It was also felt that these patterns would be easily understood and recognized by residents (an assumption later found to be true).

The third variable employed in the selection of neighbourhoods dealt with the overall placement of the area in relation to the 'infrastructure' of the city. This term refers to a neighbourhood's ease of access to shopping of various kinds, and to entertainment, recreational and other facilities, with the emphasis being placed on those within walking distance. This variable was also chosen to represent the last step in a logical progression of scale, with socio-economic factors representing 'community' (the network of people in an area), physical layout factors representing the larger neighbourhood, and access to infrastructure representing the relation of the people and the neighbourhood to the larger urban whole.

It was decided that these three variables would be the only ones used at this stage to identify neighbourhoods for detailed examination. This decision was prompted by several factors, the first being complexity, and the second, resources. Assuming that only 'high' and 'low' examples of socio-economic status and access to amenities in both

'grid' and 'bay' neighbourhoods were examined, eight cases were thus produced. If two examples of each case were studied, this would involve sixteen neighbourhoods, and the resources of the researcher dictated that this number would represent the upper limit if an adequate number of responses were to be obtained from each area. In the end, some thirteen neighbourhoods were studied, as two of the possible cases were not filled by any examples.

### 3.2 Selecting Neighbourhoods

At this point, only one thing was left to be done before the study could proceed; that is, to define and identify neighbourhoods to choose from. Using demographic data available from Statistics Canada (225, 226, 227) and the Ministry of State for Urban Affairs (196), historical data on the periods of housing construction in the city (251), and maps showing the natural and man-made physical boundaries within the city, the researcher identified some seventy neighbourhoods within the City of Winnipeg. It might be interesting to note that at a later date (July, 1979), the City of Winnipeg Environmental Planning Department released a preliminary summary of the "Winnipeg Area Characterization Study" which included a map of all residential neighbourhoods (see Appendix D) which showed a remarkably good fit with the researcher's work, particularly in those areas which were ultimately chosen for detailed examination (see Figure 1).

The next step was to characterize each of the seventy neighbourhoods according to each of the three selected variables. To determine their socio-economic status, four factors were considered -



Figure 1



### Selected Neighbourhoods

- |                 |                  |
|-----------------|------------------|
| 1. West End     | 8. Elm Park      |
| 2. St. Boniface | 9. Tuxedo        |
| 3. Brooklands   | 10. Norwood      |
| 4. Elmwood      | 11. Windsor Park |
| 5. Transcona    | 12. Woodhaven    |
| 6. Wolseley     | 13. Wildwood     |
| 7. Westwood     |                  |

family income, level of education, job type, and the average value of the housing unit (225, 226). Layout was defined as being either 'bay' or 'grid' in nature, but additional factors representing the presence or absence of 'edges' and 'breaks' , and the occupying of significantly larger or smaller areas than the average neighbourhood were also considered. 'Edges' were defined as clear-cut boundaries to the neighbourhood, whether physical or social in nature, while 'breaks' were defined as anything which prevented a neighbourhood from being a single contiguous residential area - for example, a power line right-of-way, a railway, or even a major thoroughfare. Access to infrastructure was rated in relation to four types of destinations - neighbourhood shopping (smaller food stores, banks, drug stores, etc.), shopping centres, the central business district, and entertainment/recreation facilities (movie theatres, theatres, community clubs, parks, playgrounds, etc.).

Neighbourhoods were ranked on each of the above factors, and a composite score for each of the three selected variables was determined. All seventy were then compared and were characterized as being either 'high', 'high average', 'average', 'low average', or 'low' in terms of socio-economic class and access to infrastructure, and as being either 'bay' or 'grid' in terms of physical design. At this stage, neighbourhoods which had been difficult to identify clearly during the initial procedure, which had few identifiable edges, had significant breaks, and which were either very small or very large in area were eliminated, leaving some twenty-five to choose from. After all considerations had been carefully weighed, the final choices were

made and thirteen neighbourhoods were selected (see Table 1 and Figure 1; for a more detailed look at these areas, refer to Appendix C).

Table 1

<u>NEIGHBOURHOOD CHARACTERIZATION</u>	<u>NEIGHBOURHOOD NAME</u>
High Socio-economic Status Grid Street Pattern High Access to Infrastructure	Norwood Woodhaven
High Socio-economic Status Grid Street Pattern Low Access to Infrastructure	Tuxedo Elm Park
High Socio-economic Status Bay Street Pattern High Access to Infrastructure	Westwood
High Socio-economic Status Bay Street Pattern Low Access to Infrastructure	Windsor Park Wildwood
Low Socio-economic Status Grid Street Pattern High Access to Infrastructure	Wolseley St. Boniface West End
Low Socio-economic Status Grid Street Pattern Low Access to Infrastructure	Brooklands Elmwood Transcona
Low Socio-economic Status Bay Street Pattern High Access to Infrastructure	-
Low Socio-economic Status Bay Street Pattern Low Access to Infrastructure	-

As Table 1 shows, it was not possible to identify any neighbourhoods having those characteristics required to fill two of the eight possible cases - those being 'bay' areas with low socio-economic status. These missing cases may seriously reduce the number of compari-

sons that can be made in the course of the data analysis, but it is still possible that this situation can be remedied when the actual level of each respondent's socio-economic status is determined from the questionnaire. That is to say, even though all 'bay' areas were initially characterized as being of high socio-economic status (from census data 'averages'), it may be that there are a sufficient number of individuals in those areas with low enough socio-economic status to provide the data needed to fill the two missing cases.

Fortuitously, the choice of areas to be studied has created the opportunity to examine the effects of another neighbourhood characteristic on neighbourhood satisfaction - that being the influence of an 'inner city' versus a 'suburban' location. Those neighbourhoods characterized as 'inner city' locations include the West End, Wolseley, St. Boniface, and Norwood, while Brooklands, Elmwood, Elm Park, Transcona, Tuxedo, Westwood, Wildwood, Windsor Park, and Woodhaven are classified as 'suburban' in nature.

### 3.3 Study Limitations

Many of the practical limitations of this study have already been mentioned; for example, the resources available to the researcher placed limits on the number of questionnaires that could be administered, and this in turn limited the number of neighbourhoods which could be examined. As it turned out, the number of different types of neighbourhoods (as characterized by this study) was lower than expected, and so this did not turn out to be a significant problem.

The types of neighbourhoods under consideration in this study were further limited in that only those areas predominately composed of single family detached housing were examined. This was done for two reasons; firstly, it was believed that the residents of this type of housing will show the effects of the influence of both socio-economic and physical design factors more clearly than the residents of other kinds of housing. It was felt that the residents of apartment or town-house (row) units would be affected more strongly by the architectural details of housing type and building proximity, and would in most cases feel less influenced by street layout due to housing and parking lot arrangements. Secondly, it was found that these other kinds of housing seldom occur over a large enough area to be considered a 'neighbourhood' rather than as a single 'development'. Therefore, it was judged that these housing types did not justify the additional resources required for a full examination.

As a final restriction, only established neighbourhoods were examined. While it would have been interesting to see the responses from a recently established neighbourhood in comparison to an older one, socio-economic data from the 1971 Canadian census relating specifically to such areas proved to be sketchy or non-existent. Also, these new neighbourhoods were often poorly defined spatially (in terms of 'edges' or boundaries), and their street patterns were usually of the 'spaghetti' (curvilinear) type, which was difficult to define under the terms of this research.

### 3.4 Design of the Questionnaire

Since the literature on the subject made it plain that a wide variety of factors are involved in producing feelings of 'neighbourhood satisfaction', it was accepted at the outset that the questionnaire would inevitably be a fairly lengthy one. In addition, owing to the large number of people to be surveyed, the questionnaire was also intended to be self-administered by the respondents, and to be answerable by either the male or female household head. Therefore, it became a priority in its design that the questions should be easily understood, and just as easily answered. To achieve this, certain types of questions which had been considered (such as map questions, some preference questions, and open ended like/dislike questions, for example) were eliminated, and the language and format used in the remainder was simplified considerably.

In the end, some forty-one questions related to twelve major variables were retained (see sample questionnaire in Appendix A). Several questions were asked in connection with each of the major variables (one dependent and eleven independent) under examination in this study, thus providing the option of constructing a scale for each variable, of using the one question which proved to be the best measure of the variable, or of using each question independently in relation to the variable being tested. In order to eliminate misunderstandings and to shorten the time required to fill out the survey form, questions were asked in such a way that the respondent merely had to circle one of the answers on a five point scale (usually in the 'disagree strongly/disagree/undecided/agree/agree

strongly' format). Open ended questions were kept to a minimum; at the same time, however, the respondents were encouraged to expand on their answers or write in any comments if they felt that they had some specific point to get across which was not dealt with in the answer format provided.

The twelve major variables tested in the questionnaire consist of the following:

1. satisfaction with neighbourhood
2. socio-economic status
3. neighbourhood layout (street pattern)
4. access to urban infrastructure
5. location of neighbourhood (inner city or suburban)
6. level of 'neighbouring' activities
7. level of neighbourhood awareness
8. homogeneity of residents
9. quality of children's environment
10. quality of the physical environment
11. level of perceived privacy
12. mobility of residents (in terms of transportation)

These variables were chosen to supply the data needed to test the validity of each hypothesis and to address the larger intent of the study.

The dependent variable for all of the hypotheses examined in this study is, of course, 'satisfaction with neighbourhood'; the other variables on the preceding list (as characterized by the questions associated with them) act as the independent variables. This will be dealt with in more detail in Chapter Four, which will

concentrate on the analysis of data and the acceptance or rejection of the hypotheses.

Again, it should be noted that each of the major variables has several associated items on the questionnaire; details of the original operationalization scheme are given in Appendix B, and more details will be given in Chapter Four. Individual questions were also included in order to test the relative importance of each independent variable in terms of determining each respondent's perceived satisfaction with his or her neighbourhood.

A pretest was carried out in one of the subject neighbourhoods prior to its general distribution, with good results. Only one question needed minor change due to an error in the answer format. It was also found in the post-completion interviews with these respondents that there were few difficulties in understanding the various questions; there was also very little difficulty in answering them, and a high level of interest had been maintained throughout. Approximately fifteen to twenty minutes was required to fill the questionnaire completely.

### 3.5 Administration of the Questionnaire

On the basis of the number of respondents required (it was originally hoped to obtain fifty from each neighbourhood), it was decided to mail out the questionnaires with a prepaid return envelope enclosed. This would ensure delivery, while at the same time offering the householder the convenience of filling out the form at a convenient time. Also, since demographic information was



requested pertaining to both male and female household heads, the questionnaire could be answered by either.

In each of the thirteen neighbourhoods chosen, 175 questionnaires were delivered to the householders of randomly selected single detached dwellings. Originally, it had been intended to adjust the number of forms administered slightly according to the relative population of each neighbourhood; later, it was decided that the number of single family detached households would provide a better basis for such adjustments; and finally, this scheme was dropped entirely.

This decision was made when it was found that the questionnaires could not be evenly distributed within the boundaries of the identified neighbourhoods, for several reasons. Firstly, single family detached housing seldom takes up the entire physical area of a neighbourhood. The same thing also applies to the location of clear examples of 'bay' or 'grid' street patterns. It was therefore decided to concentrate the questionnaires in a smaller area within each neighbourhood, after checking that each proposed sub-area showed the same overall demographic characteristics as the larger neighbourhood as a whole. This was done by examining the data for the much smaller 'enumeration areas' of the census in relation to those for the larger 'census tracts' (227, 228).

From these figures, it was found that each area under consideration contained approximately 250 eligible households. By estimating an overall return rate of about 40% (288:450), and with a desired return rate of about fifty samples, at least 125 questionnaires would have to be delivered in each neighbourhood. However, by distributing

the maximum number of forms which could be printed under the research budget, it was possible to send out the larger amount of 175.

### 3.6 Coding and Analysis

Most of the questions used were of the five-point, 'strongly disagree/disagree/undecided/agree/agree strongly' format, and were coded accordingly. Of the rest, the majority were multiple choice, precoded ones; only a few were open ended. For the open ended questions, scales were established after all the responses had been reviewed, so that meaningful categories could be established.

### 3.7 Characteristics of the Response

Of the 2275 questionnaires which were administered, some 659 were returned, constituting a response rate of 29%. Responses from the thirteen neighbourhoods ranged from a high of 51% (89 responses) in Wildwood Park to a low of 14% (24) in the West End (see Table 2). According to Heberlein and Baumgartner (288:450), a response rate of 29% is at the lower end of what they found to be the standard deviation from an 'average' response to one mailing of a questionnaire. The characteristics of the questionnaire and the sample which probably contributed to this relatively low response rate might include the personal nature of some of the items (demographic questions including income, marital and employment status, etc.), the lack of resources required to mail out follow-up questionnaires, and the low 'salience' of the study topic to most people. 'Salience' in this case refers to the importance, timeliness, and relevance of a subject to the person

being questioned.

Table 2

Neighbourhood	Absolute Frequency	Relative Frequency (%)	Response Rate (%)
West End	24	3.6	13.7
St. Boniface	31	4.7	17.7
Brooklands	37	5.6	21.1
Elmwood	39	5.9	22.3
Transcona	42	6.4	24.0
Wolseley	43	6.5	24.6
Westwood	51	7.7	29.1
Elm Park	51	7.7	29.1
Tuxedo	56	8.5	32.0
Norwood	59	9.0	33.7
Windsor Park	64	9.7	36.6
Woodhaven	73	11.1	41.7
Wildwood Park	89	13.5	50.9
Total	659	100.0	
Average			28.96

The question of salience and the response rate became more important when it was found that the six lowest rates of return were from the six neighbourhoods characterized by 1971 Census data averages as being of lower socio-economic status. This could be explained in two ways. First of all, it might be that only those individuals with

the characteristics of high socio-economic status responded to the questionnaire; and secondly, only those individuals who are satisfied with their neighbourhoods might have responded (assuming that lower income areas are less satisfied in this regard). Either explanation could involve the introduction of a significant bias into the data base.

Several avenues of exploration were used to test for the presence of these biases. In the former case, it was found that a preponderance of the overall responses did indeed come from those in the upper income, job type, and education categories. This was not unexpected, being the result of sampling occupants of single family detached housing exclusively. On the whole, such persons will tend to be more well-to-do than those occupying other forms of housing in a given area. An attempt was then made to compare the responses obtained from the questionnaire against the existing Census data (from 1971 and 1976) in order to see if the characteristics of the respondents in each area were representative of the total neighbourhood population (in demographic terms). In each of the three measures of socio-economic status used in this study (family income, male job type, and male education level), a large majority of the overall population in the study areas are in the upper ends of the spectrum. Therefore, the response rate could be explained just as well by the actual distribution of socio-economic status in the study neighbourhoods as by the response rate among particular status groups.

This was further confirmed by the distribution of responses among the physical aspects of neighbourhood; in each case, the major-

ity of the returns showed the response which could be said to be characteristic of a higher socio-economic status. For example, the response rate among bay areas (which had all been initially characterized as upper status areas) was at 39%, while for the grids, it was only 26%. In the case of neighbourhood location, 32% of those living in suburban areas responded as compared to 22.4% in the 'inner city'. A similar but weaker trend was found among those living in areas with a low level of access to the urban infrastructure, who had an overall response rate of 31%, while those with high access returned 27%.

It should be noted, however, that socio-economic status is by no means the sole determining factor of the response rate. For example, Brooklands and Tuxedo represent the extreme low and high ends of the socio-economic scale, yet neither corresponds to the lowest or highest response rate. Similar discrepancies exist in the middle range as well, indicating that other factors are also at work.

The second possible source of bias which was discussed (that is, responses coming only from satisfied individuals) did not appear to be particularly significant. While a majority of people did report that they were 'very satisfied' with their neighbourhoods, this was only in keeping with the results of several reports (referred to in Chapter One) which found that high levels of satisfaction with one's neighbourhood are the rule rather than the exception. Furthermore, when the satisfaction levels of each of the study areas are compared, a significant and consistent variation became apparent.

So we can see that on the whole, people with 'lower' annual family incomes (\$12000 or less, approximately), 'blue collar'

occupations, and 'less' education tended to respond less frequently than those who were characterized by higher levels of these indicators. However, it is possible to identify a sufficient number of individuals with lower socio-economic characteristics from each of the neighbourhoods to provide data for comparison purposes. Such individuals can be treated as a group to test the significance of socio-economic status on a person's satisfaction with their neighbourhood and with other factors. Naturally, the reliability of some observations will be limited by the lower number of cases present in some categories or in individual cells of the crosstabulations, but they should certainly prove to be sufficient for the purposes of this study.

### 3.8 Statistical Procedures

Since the intent of this study is to provide both descriptive and interpretive data on the relationship of 'neighbourhood satisfaction' to various characteristics of both people and their place of residence, a number of different techniques will be used.

As a first step, the simple cumulative frequency distributions of the obtained data will be presented. The responses will be grouped according to which of the twelve major (independent and dependent) variables they are intended to test. For example, under the first of the major variables (the dependent variable, 'Satisfaction with Neighbourhood'), the responses to the four relevant questions will be presented - those being the residents' satisfaction with their neighbourhood; their assessment of their neighbourhood as a place to own a home as an investment; their feelings about whether their neighbour-

hood will improve or decline in ten years; and their desire to move to another neighbourhood. This procedure will then be repeated for the eleven independent variables.

The second step will be to examine the distribution of responses for each question, to identify the trends, and to perform any 'recoding' or recombining of categories necessary to make the results more useful and meaningful. For example, in the responses to the first question related to neighbourhood satisfaction, it was found that some 48% of the respondents professed themselves to be 'very satisfied' with their neighbourhoods, while a total of only 18% were 'very dissatisfied', 'dissatisfied', or had 'mixed feelings'. In such a case, the use of a five point scale was unworkable, and so it was collapsed into a three point scale by combining the first three responses (noted above) into one. Similar operations had to be carried out in several other categories, and will be dealt with as the data is presented in Chapter Four.

The next step is to find out which questions act as the best measure of each major variable, and to confirm that they are all measuring the same thing. It might be noted that while the questionnaire was designed in such a way that the individual items could be combined into scales, preliminary testing has shown that the predictive ability of one of the most important scales - that of socio-economic status - was actually weaker than the predictive ability of the questions when used individually. Therefore, scales will only be used in those cases where they have a better ability to predict their relationship to the dependent variable (neighbourhood satisfaction).

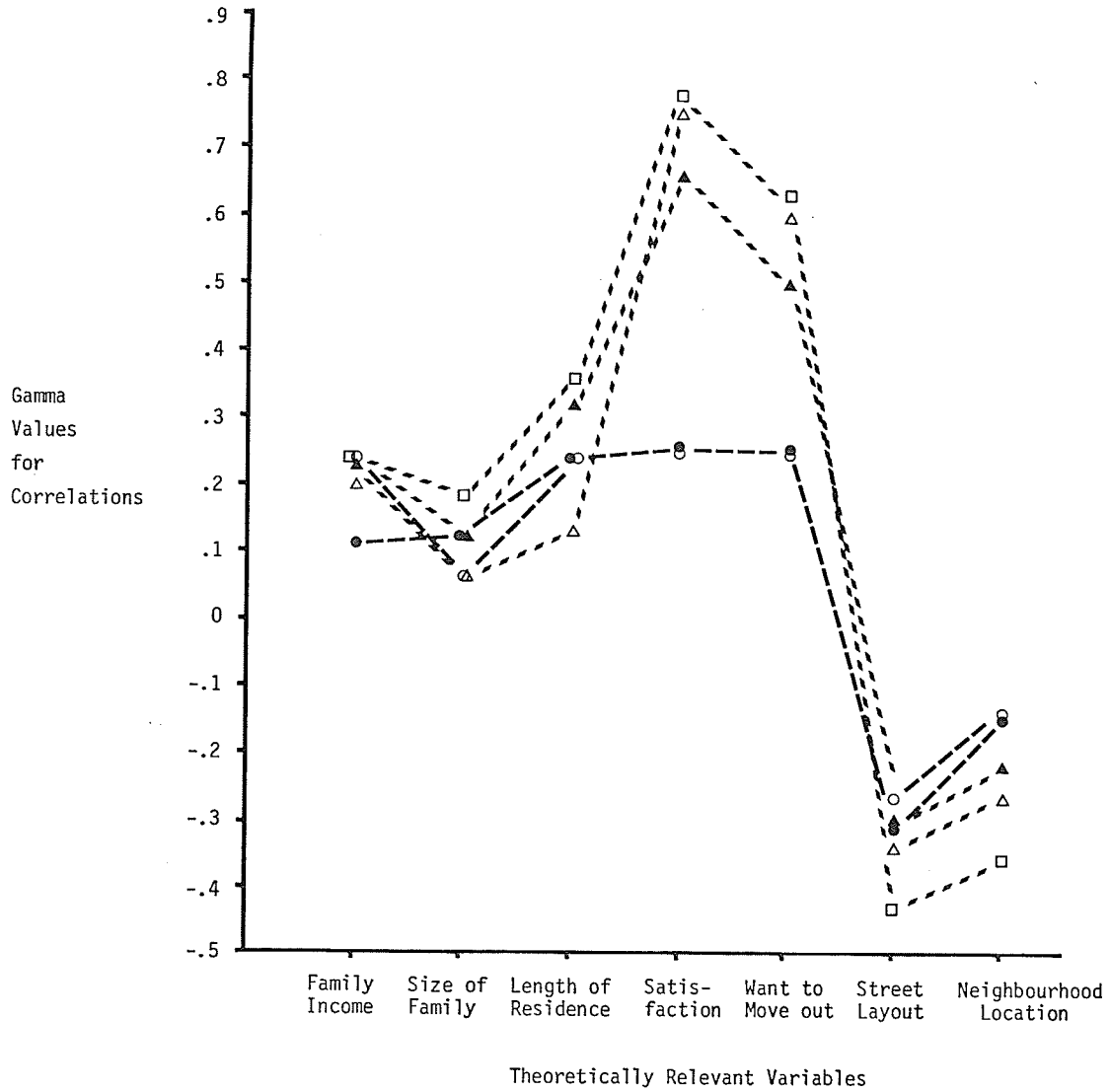
The statistic used to test each question's ability to measure the major variable to which it is related is the 'index of proportionality' ( $P^2$ ), as outlined by Piazza (304). In brief, instead of examining the correlations of the items associated with one major variable with each other, this statistic examines the correlation of each item with a number of other 'theoretically relevant variables'. By looking at the relationships of individual items to the same set of theoretically relevant variables, the similarities and differences between each of the items become apparent. One of the clearest examples of this occurs among the five items associated with the level of 'neighbouring' activities (frequency of socializing with neighbours; frequency of borrowing/lending items with neighbours; good/bad relations with neighbours; neighbourhood friendly/unfriendly; like/dislike people in neighbourhood), which were all compared with family income, size of family, length of residence, satisfaction with neighbourhood, desire to move out, street layout, and neighbourhood location. All of the latter variables were chosen on the basis of the findings of the previous literature. When the Gamma values of the correlations between the two sets of variables were graphed (see figure 2), all five items representing 'neighbouring' activities showed very similar curves, except when compared to the two theoretically relevant variables related to satisfaction with neighbourhood. Here, the two items which dealt with actual social contact with one's neighbours showed considerable difference from the three perceptually oriented items.

To quantify the relationship among these variables, the 'index of proportionality' ( $P^2$ ) is calculated, which measures the degree of



Figure 2

Correlation Profiles : 'Neighbouring' Activity Items by Theoretically Relevant Variables.



- Legend :
- --- 'Frequency of Socializing with Neighbours'
  - --- 'Frequency of Borrowing/Lending Items with Neighbours'
  - ▲ --- 'Good/Bad Relations with Neighbours'
  - △ --- 'Neighbourhood Friendly/Unfriendly'
  - --- 'Like/Dislike People in Neighbourhood'

agreement between each of the items when compared to the theoretically relevant variables. The  $P^2$  statistic is measured for each pair of items; therefore, if the values of the correlations between any two items and the theoretically relevant variables show a high degree of 'proportionality' - that is, they change in the same direction and to a similar degree from one theoretically relevant variable to the next - then those two items have a high  $P^2$  value. If the values of the correlations for each item move in different directions (increasing instead of decreasing), or if there is a high degree of change as compared to a low one, then there is a low  $P^2$  value. Referring to Figure 2, the values obtained through the calculations did show a high  $P^2$  score between the two items measuring social contact (.93; a value of 1.0 represents 'perfect' proportionality) and among the three perceptually oriented items (.94 - .99), but a lower relationship between the two sets of items (.72 - .90). This suggests that each set is measuring a different aspect of 'neighbouring', and that they should not be combined into a single scale. Through the use of the  $P^2$  statistic, we can eliminate items which are less related to the major variable in question, and can sometimes choose one item as the 'best' measure of a particular major variable.

Once the 'best' questions associated with each of the twelve major variables have been chosen, the results will be briefly presented and discussed with the responses broken down by each of the thirteen neighbourhoods. After this has been done, the only thing that remains is to test the hypotheses and to look for other relationships which might be useful to the field of neighbourhood planning.

The statistics used in the testing of hypotheses (through the crosstabulation of the items associated with each of the major variables in question) are chi-square ( $\chi^2$ ) and Gamma (G). Chi-square is simply a non-parametric test of statistical significance which helps us to determine whether a systematic relationship exists between two variables. This is done by computing the cell frequencies which would be expected if no relationship is present between the variables being tested, and comparing these values to the actual ones found in the table itself. The result is a measure of probability of the occurrence of the observed frequencies; the smaller the probability, the higher the significance of the relationship of the two variables. The researcher, however, must decide what level of significance will be used as a cut-off point for confidence in the relationship. Also, chi-square itself only helps us to decide whether the variables are independent or related. It does not tell us how strongly they are related.

The statistic used to measure the strength of association between variables in this study is Gamma (G). Gamma is a non-parametric, symmetrical measure for the association of ordinal variables (ranked but not 'equally' separated, as in attitudinal measurements), which are the type most commonly used in the present study. Gamma is one of several measures which represents the proportionate reduction of error made under two conditions; first, where the only information is the distribution of the dependent variable itself, and secondly, where there is additional knowledge about the independent variable and the way the dependent variable is distributed within the categories of

that independent variable. These measures state the proportion by which one can reduce errors made in the first situation by using information from the second.

Gamma was selected in particular due to the preponderance of ordinal items in the questionnaire. For ordinal variables, the prediction we are interested in deals with the ranking of scores on these variables, which means that we must be concerned with 'pairs' of observations, as it takes at least two scores before the idea of 'rank' is meaningful. If the knowledge of ranking of pairs on one variable is of no use in predicting rank order on the other variable, then the measure of association will equal zero; if all pairs are discordant, the relationship is perfectly negative, and has a value of  $-1.0$ , and if all pairs are concordant, it is positive, and has a value of  $+1.0$ . Gamma is of particular use here because it is capable of measuring both positive (same rank order) or negative (opposite rank order) associations between the second variable and the first. To summarize, then, Gamma represents the proportionate reduction in errors in predicting ranking that would be made by using the 'same' or 'opposite' ranking rule rather than randomly predicting ranking among pairs which are ranked differently on both of the two variables in the table (for more detailed information, see Loether and McTavish) (294:209).

Through an analysis of the literature review and the focus of the present study, eight hypotheses were established, each of which uses 'Satisfaction with Neighbourhood' as the dependent variable. To test the hypotheses in question, the items selected as the best measure of 'Satisfaction' will be correlated with the items chosen to represent

the independent variables, and the strength and direction of the association among the items will determine whether or not the hypothesis is accepted or rejected, as outlined in the previous paragraph. Sometimes, however, to check the validity of an apparently clear-cut relationship, a controlling variable may have to be introduced. For example, initial results indicate a strong relationship between neighbourhood satisfaction and street layout pattern; but before this can be accepted with any degree of confidence, it would be wise to test this relationship while controlling for socio-economic status. If the trend is still present among persons of varying status, then we may accept the relationship as 'real'.

Once all the hypotheses have been dealt with, the data will be examined in order to see if any of the characteristics (or groups of characteristics) of the respondents are consistently associated with particular levels of satisfaction. In other words, the research will try to construct a profile of satisfied and dissatisfied residents, in the hope that they will exhibit significant differences. From this, it may prove possible to identify those characteristics which have the strongest effect on 'satisfaction'. The same approach will be applied to neighbourhoods with similar characteristics and similar satisfaction levels. Finally, the results of the present study will be compared to the findings of the previous research in this field. All of these procedures will be presented in the following chapter, which deals with the testing and interpretation of the data obtained through the questionnaire.

## Chapter IV

### NEIGHBOURHOOD SATISFACTION AND NEIGHBOURHOOD CHARACTERISTICS: RESULTS AND DISCUSSION

As described in the previous chapter, we will now undertake a detailed discussion of the demographic characteristics of the respondents and their attitudes towards their particular neighbourhood.

#### 4.1 Cumulative Frequency Distributions

Questions 37 through 40 were used to measure 'Satisfaction with Neighbourhood' among the sample population; the complete questionnaire can be found in Appendix A.

Question 37. On the whole, how satisfied are you with your neighbourhood?

(1 = 'very dissatisfied'; 5 = 'very satisfied')

Question 38. Do you consider your neighbourhood to be a good place or a poor place to own a home as an investment?

(1 = 'very poor'; 5 = 'very good')

Question 39. Do you think that your neighbourhood will improve or decline in 'quality' over the next ten years?

(1 = 'decline greatly'; 5 = 'improve greatly')

Question 40. To what extent do you agree with the statement: "I would like to move to another neighbourhood right now."

(1 = 'agree strongly'; 5 = 'disagree strongly')

As the data in Table 3 shows, the majority of people are either satisfied or highly satisfied with their neighbourhoods. The responses to item 39, regarding the neighbourhoods' future improvement or decline, showed a lower level of satisfaction than the other three items although over 50% of the responses were still in the upper two categories. Item 37, the one most directly related to 'Satisfaction with Neighbourhood', showed the most bias towards the upper end of the response categories with some 81% falling into the upper two categories. For this reason, it was judged that this question would be most useful in the cross-tabulations if the lowest three categories were combined into a single category. It might be interesting to note that the preliminary findings of the study seem to indicate that the independent variables are most clearly related to satisfaction when people are 'very satisfied' or when they are 'less than satisfied' (the combination of the lowest three categories).

To establish the ability of each of the four items to measure satisfaction, they were correlated with five 'theoretically relevant variables': family income, friendly or unfriendly relations with neighbours, length of residence, street layout pattern, and attractive or unattractive physical environment. These five variables are hypothesized to have a certain relationship to satisfaction. Therefore, the items chosen to represent satisfaction in the analyses must have consistent relationships to these five variables if they are to measure the same attitude. These particular variables were selected as a result of the literature review, where previous studies found them to have a significant effect on a person's satisfaction with their neighbourhood.

Table 3

RESPONSES TO SATISFACTION RELATED ITEMS  
(Adjusted Frequency in Percent)<sup>1</sup>

		Very Low Satisfaction		3	Very High Satisfaction		Total
		1	2		4	5	
Qu. 37	Satisfaction	1.7	2.7	13.8	33.7	47.6	100% (656)
Qu. 38	Investment	2.9	6.8	12.3	26.1	51.8	100% (658)
Qu. 39	Change	3.5	15.2	30.1	38.7	12.5	100% (657)
Qu. 40	Move	4.7	7.6	12.1	19.8	55.7	100% (655)

When the Gamma values of the correlations between the four items measuring satisfaction and the five theoretically relevant variables are examined (Table 4), we find that all four items appear to be closely related on the basis of the trends shown. This is confirmed by the 'P<sup>2</sup> matrix' (Table 5), in which the lowest P<sup>2</sup> value is .89. This means that all four items are measuring the same aspect of 'Satisfaction with Neighbourhood' and that any one of them could be used in this regard. However, to simplify the testing procedures in future sections, only one item will be used to represent satisfaction, with that being item 37 ("On the whole, how satisfied are you with your neighbourhood?").

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<sup>1</sup>Percentages have been adjusted to account for missing data by the SPSS program in order to total 100%. The total number of questionnaires returned was 659.



Table 4

SATISFACTION ITEMS BY 'THEORETICALLY RELEVANT VARIABLES'  
(Gamma Values)

	Family Income	'Friendly' Neighbours	Length of Residence	Street Layout	Attractive Neighbourhood
37. Satisfaction	.53	.65	.10	-.43	.87
38. Investment	.45	.51	.10	-.45	.85
39. Change	.11	.29	-.06	-.19	.48
40. Move	.33	.50	.19	-.36	.70

Table 5

$P^2$  MATRIX: SATISFACTION ITEMS

	Satisfy	Investment	Change	Move
Satisfaction	-	.99	.90	.98
Investment	-	-	.92	.98
Change	-	-	-	.89
Move	-	-	-	-

#### 4.1.2 Socio-economic Status

Due to the inherent nature of this independent variable, it was handled in a slightly different manner than the others. It was found that most of the items that qualified as 'theoretically relevant variables' for the  $P^2$  test were actually other measures of socio-economic status, and so it was decided to test the correlation of the conventionally selected items amongst themselves to determine if they were all measuring the same aspect of this major variable, and to determine which of the items would be used to represent 'Socio-economic Status' in future analyses. For this independent variable, the items selected in Canadian Urban Trends: Neighbourhood Perspective Volume 3 (196) were used as a starting point. This publication chose four items to measure socio-economic status: family income, education level, occupation, and median house value. The first three of these were included in this study's questionnaire, with the latter two being divided into male and female categories.

Question 6. What is the present occupation of the household head(s)?  
(Please check one category for each household head, if applicable. If the categories shown are not specific enough, please fill out the last space, marked 'Other'.)

(1 = 'Managerial/Professional'; 2 = 'Manufacturing/Trades'; 3 = 'Clerical/Sales'; 4 = 'Education/Social Services'; 5 = 'Primary/Labour'; 6 = 'Retired'; 7 = 'Unemployed'; 0 = No Response.)

Question 7. Into which of the following categories does the total family income of your household fall?

(1 = '\$5000 - 6999'; 2 = '\$7000 - 8999'; 3 = '\$9000 - 10999'; 4 = '\$11000 - 12999'; 5 = '\$13000 - 14999';

6 = '\$15000 - 19999'; 7 = '\$20000 - 24999'; 8 = '\$25000 and up'; 0 = No Response)

Question 9. What is the maximum educational level completed by the household head(s)?

(1 = 'None'; 2 = 'Elementary'; 3 = 'High School';  
4 = 'Some University'; 5 = 'Technical College';  
6 = 'University Degree'; 7 = 'Post Graduate';  
0 = No Response)

After examination, all three of these items were recoded into fewer categories, primarily on the basis of each category's relation to 'Satisfaction with Neighbourhood'. In the case of male and female occupation, the 'retired' and 'unemployed' categories (6 and 7, respectively) were coded to 'no response', and 'manufacturing - trades' (2) was recoded into the 'managerial - professional' (1) classification. Family income was reduced to four categories from its original eight, so that the new classifications were:

1 = '\$5000 - 6999', 3 = '\$7000 - 10999', 5 = '\$11000 - 14999', and 7 = '\$15000 and up'. For male and female education, 'none' (1) was recoded to 'no response', and 'technical college' (5) to 'high school' (3), while all university classifications (4, 6, 7) were combined into a single category.

The responses are clearly concentrated in 'higher' status categories for both occupation and family income, with a slightly less strong trend apparent for education (see Table 6). Again, this was initially presumed to be the result of confining the administration of the questionnaire to areas of single family detached housing - an assumption reinforced (if not absolutely confirmed) by census data for the neigh-

Table 6

RESPONSES TO SOCIO-ECONOMIC STATUS RELATED ITEMS  
(Adjusted Frequency in Percent)

	<u>Lower Status</u>		<u>Higher Status</u>		Totals	
	Labour	Social Services	Business /Sales	Managerial/ Professional		
Qu. 6 Male Occupation	9.5	9.1	16.5	64.9	100% (484)	
Qu. 6 Female Occupation	5.1	37.6	4.3	53.0	100% (253)	
	\$5000-6999	\$7000-10999	\$11000-14999	\$15000+		
Qu. 7 Family Income	7.5	9.1	14.3	69.1	100% (638)	
	Elementary		High School/ Tech. College		University	
Qu. 9 Male Education	7.7		45.6		46.7	100% (568)
Qu. 9 Female Education	6.1		59.0		34.9	100% (536)

Table 7

CORRELATIONS: SOCIO-ECONOMIC STATUS ITEMS  
(Gamma Values)

	Family Income	Male Occupation	Female Occupation	Male Education	Female Education
Family Income	-	.71	.21	.68	.58
Male Occupation	-	-	.10	.70	.58
Female Occupation	-	-	-	.20	.32
Male Education	-	-	-	-	.71
Female Education	-	-	-	-	-

bourhoods in question. (Refer to section 3.7 for a discussion of possible biases.) However, these responses do not indicate which of the five items acts as the 'best' measure of 'socio-economic status'.

To determine this, each of the five items was correlated with every other item, and the resulting Gamma scores are given in Table 7. From these, it is clearly seen that female education shows only a moderate correlation with the other items, and female occupation only a weak one. Therefore, three items will be used as measures of 'socio-economic status', with those being family income, male occupation, and male education. These items will be used separately, with family income representing 'socio-economic status' in the testing of the hypotheses. The other two items will only be used when they have some particular relevance to the test in question.

#### 4.1.3 Neighbourhood Layout (Street Pattern)

This was not determined through the questionnaire, but by means of a map analysis of the seventy neighbourhoods identified by the study. Through this analysis (outlined in detail in Chapter Three), three neighbourhoods with 'bay' street patterns were selected - Westwood, Windsor Park, and Wildwood. The other ten neighbourhoods - Brooklands, Elmwood, Elm Park, Norwood, St. Boniface, Transcona, Tuxedo, the West End, Wolseley, and Woodhaven - were all characterized as 'grid' areas.

#### 4.1.4 Access to Urban Infrastructure

This variable was also identified through the use of map analysis. In a previous research project carried out while employed by the City of Winnipeg, the researcher had identified areas of commercial development,

including the central business district, shopping centres of all sizes, and areas of 'strip' commercial development. This research was quite comprehensive, and made the task of evaluating a neighbourhood's level of access to 'infrastructure' much easier. To this map were added the other aspects of infrastructure identified by this study, including sports and recreation facilities, parks and sport fields, and entertainment facilities.

The strongest determinant of the relative ease of access was the means used - that is, whether the 'infrastructure' was reached by foot, by bus, or by car. For local shopping and business needs and for sport fields and parks, the emphasis was placed on pedestrian movement (especially for the latter destinations) and movement by car. For the other two destinations, the emphasis was on car and bus movement. The ease of access was determined by travel time and difficulty. As a result, six neighbourhoods were found to have a 'high' level of access to infrastructure, those being Norwood, St. Boniface, the West End, Westwood, Wolseley, and Woodhaven. Those areas with relatively 'low' access to infrastructure were Brooklands, Elmwood, Elm Park, Transcona, Tuxedo, Windsor Park, and Wildwood.

#### 4.1.5 Location of Neighbourhood (Inner City or Suburban)

Another simple map analysis was used to determine whether each neighbourhood was best described as being part of the 'inner city' or was far enough away to be 'suburban' in nature. 'Innercity' areas are defined as those which are at least partially located within one mile of the corner of Portage and Main. Four neighbourhoods - Norwood, St. Boniface, the West End, and Wolseley - were found to be 'inner city' areas, while the other nine - Brooklands, Elmwood, Elm Park, Transcona, Tuxedo Westwood, Wildwood, Windsor Park, and Woodhaven - were classified as 'suburban'.

#### 4.1.6 Level of 'Neighbouring' Activity

- Question 12. How often would you say that you get together informally with neighbours? (For coffee or drinks, for example.)  
(1 = 'never'; 5 = 'very often')
- Question 13. How often do your household members borrow or lend items to neighbours?  
(1 = 'never'; 5 = 'very often')
- Question 14. On the whole, do you have good or bad relations with your neighbours?  
(1 = 'very bad'; 5 = 'very good')
- Question 15. Would you say that your neighbourhood is a 'friendly' or an 'unfriendly' one?  
(1 = 'very unfriendly'; 5 = 'very friendly')
- Question 16. On the whole, do you like or dislike the people in your neighbourhood?  
(1 = 'dislike very much'; 5 = 'like very much')

In the case of questions 14, 15, and 16, the responses are strongly concentrated at the end of the scale indicating a 'high' level of neighbouring activity, while questions 12 and 13 show a very weak trend towards 'low' neighbouring activity (see Table 8).

For the analysis of the  $P^2$  statistic for these five items, seven 'theoretically relevant variables' were chosen: family income, size of family, length of residence in the neighbourhood, satisfaction with neighbourhood, desire to move out, street layout pattern, and neighbourhood location (inner city or suburban). The Gamma values of the

Table 8

RESPONSES TO 'NEIGHBOURING' RELATED ITEMS  
(Adjusted Frequency in Percent)

	Very Low 'Neighbouring' Activity				Very High 'Neighbouring' Activity 5	Totals
	1	2	3	4		
Qu. 12 Meet Neighbours	12.9	26.8	39.9	16.0	4.4	100% (657)
Qu. 13 Lend to Neighbours	12.8	29.8	42.1	12.3	3.0	100% (658)
Qu. 14 Relations with Neighbours	0.6	0.2	7.8	50.6	40.8	100% (654)
Qu. 15 'Friendly' Neighbourhood	1.4	1.8	20.5	56.5	19.8	100% (657)
Qu. 16 Like People in Neighbourhood	0.6	0.6	18.8	39.6	40.4	100% (656)



Table 9

'NEIGHBOURING' ITEMS BY 'THEORETICALLY RELEVANT VARIABLES'  
(Gamma Values)

	Family Income	Size of Family	Length of Residence	Satisfaction with Neighbourhood	Want to Move	Street Layout	Neighbourhood Location
Qu. 12 Meet Neighbours	.11	.12	.23	.26	.24	-.31	-.16
Qu. 13 Lend to Neighbours	.23	.07	.23	.24	.23	-.27	-.14
Qu. 14 Relations with Neighbours	.22	.12	.31	.65	.50	-.30	-.23
Qu. 15 'Friendly' Neighbourhood	.19	.07	.12	.73	.58	-.36	-.27
Qu. 16 Like People in Neighbourhood	.23	.19	.35	.77	.63	-.44	-.36

Table 10

$P^2$  MATRIX: 'NEIGHBOURING' ACTIVITY ITEMS

	Meet Neighbours	Lend to Neighbours	Relations with Neighbours	'Friendly' Neighbourhood	Like People in Neighbourhood
Qu. 12 Meet Neighbours	-	.93	.86	.76	.90
Qu. 13 Lend to Neighbours	-	-	.84	.72	.85
Qu. 14 Relations with Neighbours	-	-	-	.94	.99
Qu. 15 "Friendly" Neighbourhood	-	-	-	-	.94
Qu. 16 Like People in Neighbourhood	-	-	-	-	-

correlation are shown in Table 9, while the  $P^2$  statistics are shown in Table 10. And, as the graph of the Gamma values clearly demonstrated (see Figure 2; section 3.8), both question 12 (frequency of informal meetings with neighbours) and question 13 (frequency of borrowing and lending with neighbours) show a similar and much weaker relationship with the two satisfaction related items (satisfaction with neighbourhood and the desire to move out) than the other three items. In all other respects, the resulting curves are very similar. This deviation in connection with the satisfaction related items can be explained in that both meeting and lending with neighbours are measures of actual social 'contact', while the other three items are related to a person's perceptions of their neighbours and of their neighbourhood as 'friendly'.

On the basis of the  $P^2$  values (see Table 10), all of the items appeared to be adequate measures of the level of 'neighbouring' activities in an area; at least, there were no results which would clearly justify the exclusion of any particular item. Question 16 ("On the whole, do you like or dislike the people in your neighbourhood?") stood out as the item most strongly correlated with the others, and will be the one used to represent the level of 'neighbouring' activities in the testing of the hypotheses.

#### 4.1.7 Level of Neighbourhood Awareness

Three items were designed to measure a person's awareness of their neighbourhood as a physical entity. One of these items (#28) measured two aspects of a person's awareness - their ability to recognize and name the features forming the 'edges' of their neighbourhood,

and their perception of the physical size of their neighbourhood.

Question 26. To what extent would you agree with the statement: "My neighbourhood is an 'identifiable' area - that is, one distinct in layout and appearance from nearby areas."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 27. To what extent would you agree with the statement: "My neighbourhood has definite 'edges' or boundaries."

(For example, major roads, a river, a railway line.)

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 28 a. In your opinion, what features form the boundaries of your neighbourhood? ('Edge' related)

(1 = 'Named one major boundary as identified by this study'; 2 = 'Named two or more major boundaries as identified by this study'; 5 = No response.)

Question 28 b. In your opinion, what features form the boundaries of your neighbourhood? (Size related)

(3 = 'Gave boundaries such that the neighbourhood's area was more than one and one-half times the size identified by this study.'; 4 = 'Gave boundaries such that the neighbourhood's area was less than one-half the size identified by this study'; 5 = No response.)

The responses to questions 26 and 27 showed a trend indicating a relatively high level of neighbourhood awareness among the respondents (see Table 11). Question 28 was an open-ended item dealing with a person's ability to recognize and name the physical boundaries of his or her neighbourhood. The responses to this item were assessed in two ways; firstly, in terms of 'edges' (that is, was the respondent able to

Table 11

RESPONSES TO NEIGHBOURHOOD AWARENESS ITEMS  
(Adjusted Frequency in Percent)

		Very Low Awareness					Very High Awareness				
		1	2	3	4	5	Total				
Qu. 26	Neighbourhood Identifiable	3.2	9.6	13.9	33.2	40.1	100%	(648)			
Qu. 27	Neighbourhood Has 'Edges'	2.0	4.8	6.2	35.7	51.3	100%	(645)			
		named one edge			named two or more edges						
Qu. 28a	Name 'Edges'	28.2			71.8			100%	(309)		
		larger			smaller						
Qu. 28b	Give Size	88.5			11.5			100%	(313)		

name any boundaries, and if so, how well did they agree with the ones identified by this study), and secondly, in terms of size (did the respondent identify an area that was larger, the same size, or smaller than the area identified by this study). In the former case, the majority of respondents were able to identify two or more of their neighbourhood's boundaries, and in the latter, the majority perceived their neighbourhoods to be significantly larger than the area identified by the study. Whether these responses also indicate a higher level of neighbourhood awareness remains to be determined.

In calculating the  $P^2$  statistic for neighbourhood awareness, seven 'theoretically relevant variables' were employed: family income, the perceived 'friendliness' of the neighbourhood, the safety of people and property in the neighbourhood, the appearance of the neighbourhood, satisfaction with the neighbourhood, the street layout pattern, and the location of the neighbourhood (inner city or suburban).

The Gamma values for the correlations between the neighbourhood awareness items and the theoretically relevant variables show that the feeling that a neighbourhood is 'identifiable' (question 26) is highly correlated with the feeling that a neighbourhood has definite 'edges' or boundaries (see Table 12). The  $P^2$  values (Table 13) show that the ability to name those 'edges' is poorly related to the other three items. They also show that the single item with the best association to the others is question 26 which deals with the residents' perceived 'identifiability' of their neighbourhood. Therefore, this item will be the one used to represent awareness of neighbourhood in future analyses.

Table 12

## NEIGHBOURHOOD AWARENESS ITEMS BY 'THEORETICALLY RELEVANT VARIABLES'

(Gamma Values)

	Family Income	'Friendly' Neighbourhood	Safe	Neighbourhood Attractive	Satisfaction	Street Layout	Neighbourhood Location
Qu. 26. Neighbourhood Identifiable	.41	.44	.51	.66	.60	-.36	-.24
Qu. 27. Neighbourhood Has 'Edges'	.49	.41	.55	.65	.58	-.35	-.24
Qu. 28a. Name 'Edges'	.17	.30	.47	.42	.37	-.17	-.64
Qu. 28b. Give Size	-.73	-.49	-.62	-.76	-.68	1.0	.37

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Table 13

P<sup>2</sup> MATRIX: NEIGHBOURHOOD AWARENESS ITEMS

	Neighbourhood Identifiable	Neighbourhood Has 'Edges'	Name 'Edges'	Give Size
Qu. 26. Neighbourhood Identifiable	-	.99	.72	.88
Qu. 27. Neighbourhood Has 'Edges'	-	-	.70	.89
Qu. 28a. Name 'Edges'	-	-	-	.61
Qu. 28b. Give Size	-	-	-	-

#### 4.1.8 Homogeneity of Residents

Considerable disagreement was found in the literature over what factors were the best measure of homogeneity, or even as to what values of some measures constituted 'homogeneity' among residents, thus harking back to Gans' statement that "...at this point, no one knows how to define this degree (of homogeneity) operationally..." (74:163). However, most of the measures chosen did deal in some way with the three aspects that he identified: "...class...life cycle stage...and the ways of life..." (82:111). Class, of course, has already been defined in this study as 'Socio-economic Status' which is derived from family income, male occupation, and male education. Life cycle stage can be determined from the items dealing with a person's marital status, age, and number of children, and categorized as 'young childless', 'preschoolers dominant', 'school age children dominant', 'young adults dominant', and 'older, children gone/no children'. For the 'ways of life', the only measure included in the questionnaire was related to 'ethnic diversity', which was described in Canadian Urban Trends: Neighbourhood Perspective (Volume 3) (196:7, 298-301). The 'Ethnic Diversity Index' is described in this volume as:

$$\text{Ethnic Diversity Index} = 1 - \sum P_i^2$$

where  $P_i$  represents the proportion of a census tract's population which is in the ethnic group 'i'. One would calculate the proportion of the tract's total population in each ethnic group, square each of these proportions, sum these squares, and then subtract the total from 1; an index of 0 would indicate a homogeneous census tract, while an index of 0.92 (maximum value) would indicate that the population was heteroge-



neous, meaning that a large number of ethnic groups are present in approximately equal numbers. Item #10 on the questionnaire enquired into the sample's ethnic backgrounds, but it was felt that it would be better to have a measure representing the entire census tract; this was drawn from Canadian Urban Trends (Volume 3).

Table 14

## NEIGHBOURHOOD HOMOGENEITY

	<u>Predominantly Heterogeneous</u>	<u>Mixed</u>	<u>Predominantly Homogeneous</u>
Socio- Economic Status	Brooklands Elmwood West End Wolseley	Elm Park St. Boniface Transcona Woodhaven	Norwood Tuxedo Westwood Wildwood Windsor Park
Life Cycle Stage	Elmwood Elm Park Transcona Wildwood Wolseley	Brooklands Norwood St. Boniface Windsor Park Woodhaven	Tuxedo Westwood West End
Ethnic Diversity	Brooklands Elmwood Transcona West End Windsor Park Wolseley	St. Boniface Norwood Tuxedo Westwood Woodhaven	Elm Park Wildwood

Table 14 summarizes the characterizations of the thirteen neighbourhoods (as being homogeneous or heterogeneous) in relation to each of the three variables described above. From this Table, we may conclude that two neighbourhoods are predominantly homogeneous (Tuxedo, Westwood), two more are somewhat homogeneous (Norwood, Wildwood), two are somewhat

heterogeneous (Brooklands and Transcona), and two are predominantly heterogeneous (Elmwood and Wolseley). These eight neighbourhoods will be used in testing the hypothesis and any other relationships involving the homogeneity of an area's residents as one of the variables.

#### 4.1.9 Quality of Children's Environment

Question 17. Do you feel that your neighbourhood is a good place or a poor place for children to grow up in?

(1 = 'very poor'; 5 = 'very good')

Question 18. What is your opinion of the quality of education provided at your neighbourhood's schools?

(1 = 'very poor'; 5 = 'very good')

Question 19. To what extent would you agree with the statement:  
"Children in my neighbourhood have enough places to go when they want to meet friends or play games."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 20. To what extent would you agree with the statement: "In my neighbourhood, children of pre-school age have no difficulty in finding children of a similar age to play with."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Table 15 shows high scores among all four items, indicating a general satisfaction with the environment that children in the tested neighbourhoods grow up in (among those people having children). Since this independent variable is not used in connection with any hypothesis, it will not be subjected to  $P^2$  analysis; it will, however, form part of the testing when satisfaction with neighbourhood is more generally

Table 15

RESPONSES TO CHILDREN'S ENVIRONMENT ITEMS  
(Adjusted Frequency in Percent)

		Very Poor Environment		3	4	Very Good Environment		Total
		1	2			5		
Qu. 17	Good Place for Kids	1.1	2.2	16.8	33.7	46.2	100%	(273)
Qu. 18	Good Schools	0.0	4.9	23.9	40.5	30.7	100%	(264)
Qu. 19	Places for Kids to go	4.8	8.9	7.0	52.2	27.0	100%	(270)
Qu. 20	Other Kids	7.0	13.0	14.4	43.7	21.9	100%	(270)

characterized. When this procedure is carried out, the first item (question 17) will be used to represent the quality of the childrens' environment.

#### 4.1.10 Quality of the Physical Environment

Question 29. To what extent would you agree with the statement:  
"Walking through my neighbourhood is a pleasant experience."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 30. To what extent would you agree with the statement:  
"My neighbourhood is a 'safe' one for people and property."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 31. Do you think your neighbourhood is a quiet one?

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 32. To what extent would you agree with the statement:  
 "My neighbourhood's streets and houses are attractive."  
 (1 = 'disagree strongly'; 5 = 'agree strongly')

Question 33. To what extent would you agree with the statement:  
 "My neighbourhood has enough trees and green spaces."  
 (1 = 'disagree strongly'; 5 = 'agree strongly')

The response to each of these items indicates an overwhelming satisfaction among the total sample with their neighbourhoods' physical environment. The literature review indicated that the physical maintenance level of a neighbourhood was the best predictor of the overall neighbourhood satisfaction; the most similar item to this out of the five shown above is question 29, which deals with the neighbourhood as a 'pleasant' place to walk in. This item had the second highest score, with just over 50% responding in the highest category, and almost 83% in the top two categories. Question 32, which deals with the neighbourhoods' 'attractiveness' also shows a high score, with just over 80% in the top two categories (see Table 16).

The items selected as 'theoretically relevant variables' for testing the best measures of the quality of the neighbourhoods' natural environments were: family income, the perceived 'friendliness' of the neighbourhood, satisfaction with neighbourhood, the desire to move out, the street layout pattern, and the location of the neighbourhood (inner city or suburban). The resulting Gamma values of the correlations between the five items and the 'theoretically relevant variables' (see Table 17) show an extremely high level of agreement. This is further confirmed by the  $P^2$  scores (Table 18). On this basis, none of the items

can be eliminated, and any one of the five can be used in testing the hypothesis related to the quality of neighbourhood environment.

Table 16

RESPONSES TO ENVIRONMENTAL QUALITY ITEMS  
(Adjusted Frequency in Percent)

		Low Quality 1	2	3	4	High Quality 5	Total
Qu. 29	Visually Pleasant	4.0	6.7	6.4	32.3	50.5	100% (653)
Qu. 30	Safe	5.0	11.6	9.6	45.2	28.5	100% (655)
Qu. 31	Quiet	5.6	9.9	3.1	45.5	35.9	100% (655)
Qu. 32	Attractive	4.1	8.4	7.2	47.6	32.7	100% (655)
Qu. 33	Green	3.2	5.0	4.0	30.8	57.0	100% (656)

#### 4.1.11 Level of Perceived Privacy

Question 34. To what extent would you agree with the statement:  
"The layout of streets and housing in my neighbourhood provides me with enough privacy."

(1 = 'disagree strongly'; 5 = 'agree strongly')

Question 35. Do your neighbours' activities ever interfere with your activities in any way?

(1 = 'very often'; 5 = 'never')

Question 36a. Do you ever hear your neighbours while you are indoors?

Question 36b. Do you ever hear your neighbours while you are outdoors?

(1 = 'very often'; 5 = 'never')

Table 17 ENVIRONMENTAL QUALITY ITEMS BY 'THEORETICALLY RELEVANT VARIABLES'

(Gamma Values)

	Family Income	Friendly Neighbourhood	Satisfaction	Want to Move	Street Layout	Neighbourhood Location
Qu. 29 Visually Pleasant	.45	.58	.87	.71	-.36	-.35
Qu. 30 Safe	.44	.54	.72	.55	-.47	-.46
Qu. 31 Quiet	.39	.51	.76	.59	-.35	-.38
Qu. 32 Attractive	.50	.45	.78	.64	-.49	-.50
Qu. 33 Green	.42	.40	.73	.54	-.21	-.25

Table 18 P<sup>2</sup> MATRIX: ENVIRONMENTAL QUALITY ITEMS

	Visually Pleasant	Safe	Quiet	Attractive	Green
Qu. 29 Visually Pleasant	-	.97	.99	.96	.98
Qu. 30 Safe	-	-	.99	.99	.93
Qu. 31 Quiet	-	-	-	.98	.97
Qu. 32 Attractive	-	-	-	-	.93
Qu. 33 Green	-	-	-	-	-

The first two items in the Table showing the responses of the sample (Table 19) have very similar trends, while the third is somewhat similar but has fewer responses in the highest category. The fourth item shows a trend toward a lower degree of perceived privacy, which is to be expected, as the question specifically refers to the outdoors, where one is much more likely to hear one's neighbours' activities and feel a correspondingly lower level of privacy. On the whole, however, people seem to feel that their neighbourhoods provide them with enough privacy for their requirements.

Table 19

RESPONSES TO PRIVACY RELATED ITEMS  
(Adjusted Frequency in Percent)

	Low Privacy 1	2	3	4	High Privacy 5	Total
Qu. 34 Privacy	4.9	8.9	4.7	40.6	40.9	100% (655)
Qu. 35 Neighbour Annoy	2.4	2.0	14.0	40.1	41.5	100% (656)
Qu. 36a Hear In	3.8	4.1	22.1	40.9	29.0	100% (651)
Qu. 36b Hear Out	7.6	16.1	45.9	26.0	4.3	100% (644)

The 'theoretically relevant variables' in this case are: family income, the age of the male household head, the perception of the 'friendliness' of the neighbourhood, the perceived 'quietness' of the neighbourhood, satisfaction with neighbourhood, the street layout pattern, and the location of the neighbourhood (inner city or suburban).

Table 20 PRIVACY RELATED ITEMS BY 'THEORETICALLY RELEVANT VARIABLES'

(Gamma Values)

	Family Income	Male Age	Friendly Neighbourhood	Quiet	Satisfaction	Layout	Neighbourhood Location
Qu. 34. Privacy	.37	.16	.47	.75	.79	-.37	-.54
Qu. 35 Neighbour Annoy	.09	.12	.30	.48	.49	-.17	-.28
Qu. 36 Hear In	.25	.15	.30	.53	.59	-.11	-.24
Qu. 36 Hear Out	.15	.16	.22	.41	.48	-.05	-.28

Table 21

P<sup>2</sup> MATRIX: PRIVACY RELATED ITEMS

	Privacy	Neighbour Annoy	Hear In	Hear In
Qu. 34 Privacy	-	.97	.96	.94
Qu. 35 Neighbour Annoy	-	-	.96	.96
Qu. 36 Hear In	-	-	-	.98
Qu. 36 Hear Out	-	-	-	-



The Gamma values between the four items and the selected variables (Table 20) show that the question directly involving 'privacy' (#34) shows the strongest trend of association, which the other three items follow. These three items show a strong correlation with each other, but do not show the same variation in relation to each of the 'theoretically relevant variables' that the first question does. The  $P^2$  scores (Table 21) indicate that the question related to 'privacy' is highly correlated to the other three questions, while the one dealing with hearing your neighbours while outdoors was slightly less correlated. To simplify matters, however, the figures seem to justify the elimination of the three 'secondary' questions (#35, 36a, and 36b). Therefore, only the item dealing with the perceived privacy afforded by the neighbourhood layout will be used to represent the 'Level of Perceived Privacy' in future correlations.

#### 4.1.12 Mobility of Residents (Transportation)

This variable is also one of those not directly connected with any of the hypotheses. However, it was felt that a person's ability to move around the city easily, and the resulting exposure to a variety of environments might have an effect on their perceived satisfaction with their own neighbourhood, and therefore, this variable will be used in correlations testing this relationship.

Question 22. Please indicate... whether you find your neighbourhood well located or poorly located in respect to the following places:

- your place of work
- food stores
- department stores
- entertainment
- recreation
- parks
- friends and relations

(1 = 'very poor'; 5 = 'very good')

Question 23. Please indicate your most common means of getting to the following destinations:

- your place of work
- food stores
- department stores
- entertainment
- recreation
- parks
- friends and relatives

(1 = 'on foot'; 2 = 'by car'; 3 = 'by bus';  
4 = No Response)

Question 24. How many cars does your household currently operate?  
(open ended; 9 = No Response)

It seems obvious from the responses (Table 22) that most people in the sample are rather mobile - almost 92% own at least one car, and most find it easy to get to most types of destinations. In terms of the means of transportation, the one used seems to represent the 'difficulty' of the trip and the nearness of the destination rather than any particular limitation in terms of mobility.

Table 22

## RESPONSES TO MOBILITY RELATED ITEMS

(Adjusted Frequency in Percent)

<u>Question 22</u> <u>Degree of Access</u>	Very Poor Access				Very Good Access	
	1	2	3	4	5	Total
Work	4.2	9.0	14.4	38.8	33.6	100% (569)
Food Stores	0.6	3.4	7.2	39.9	48.9	100% (654)
Dept. Stores	7.4	13.3	22.6	35.9	20.7	100% (646)
Entertainment	9.1	19.4	31.7	27.6	12.2	100% (638)
Recreation	3.3	8.0	23.8	37.4	27.5	100% (639)
Parks	4.9	8.0	14.3	33.3	39.4	100% (649)
Friends and Relations	2.8	6.7	24.3	40.9	25.4	100% (646)

<u>Question 23</u> <u>Means of Access</u>	On Foot	By Bus	By Car	Total
	Work	7.0	14.1	78.9
Food Stores	19.3	0.8	79.9	100% (657)
Dept. Stores	3.0	17.2	79.7	100% (656)
Entertainment	2.5	7.4	90.1	100% (645)
Recreation	22.7	4.4	73.0	100% (640)
Parks	44.1	3.0	52.9	100% (641)
Friends and Relations	11.0	5.8	83.1	100% (652)

<u>Question 24</u>	0	1	2	3	4+	Total
<u>Number of Cars</u>	8.1	43.2	39.1	8.4	1.4	100% (658)

## 4.2 Responses by Neighbourhoods

Before proceeding with the testing of the hypotheses, it might be useful to present a more detailed look at the sample by showing the variations in responses among the thirteen neighbourhoods. In order to keep this section as brief as possible, only the responses for the most important item associated with each of the major variables will be given. Also, several of the major variables have already been broken down into responses by neighbourhood; they are neighbourhood layout (street pattern), access to urban infrastructure, location of neighbourhood (inner city or suburban), and homogeneity of residents. The data for these four independent variables will not be presented again in this section.

### 4.2.1 Satisfaction with Neighbourhood (Dependent Variable)

The single item used here to represent the dependent variable is question #37: "On the whole, how satisfied are you with your neighbourhood?". The responses to this item, broken down by neighbourhood, are shown in Table 23.

For this Table, the chi-square value is 0.00 (very significant) and the Gamma value is 0.61 (a strong relationship). The Table shows that there is a clear variation in the perceived satisfaction with neighbourhood among the thirteen areas examined in this study. The most significant difference occurs between the group formed by the first six neighbourhoods and the group formed by the next seven. The first six neighbourhoods are those which were initially characterized by census data information as 'lower' socio-economic status areas,

Table 23

## SATISFACTION WITH NEIGHBOURHOOD BY NEIGHBOURHOOD

(Adjusted Frequency in Percent)

	Less than Satisfied 3	Satisfied 4	Very Satisfied 5	Total
1. West End	75.0	20.8	4.2	100% (24)
2. St. Boniface	25.8	58.1	16.1	100% (31)
3. Brooklands	73.0	21.6	5.4	100% (37)
4. Elmwood	51.3	38.5	10.3	100% (39)
5. Transcona	12.2	65.9	22.0	100% (41)
6. Wolseley	58.1	34.9	7.0	100% (43)
-----				
7. Westwood	5.9	45.1	49.0	100% (51)
8. Elm Park	3.9	54.9	41.2	100% (51)
9. Tuxedo	3.6	14.3	82.1	100% (56)
10. Norwood	1.7	32.2	66.1	100% (59)
11. Windsor Park	7.9	46.0	46.0	100% (63)
12. Woodhaven	2.7	16.4	80.8	100% (73)
13. Wildwood	2.3	17.0	80.7	100% (88)

while the last seven were identified as 'high' socio-economic areas. It remains, then, to check this initial characterization through the data given in the next sub-section.

#### 4.2.2 Socio-economic Status

The single item used as a measure of socio-economic status is the total family income of each household responding to the questionnaire.

Table 24

FAMILY INCOME BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	\$5000-6999 1	\$7000-10999 2	\$11000-14999 3	\$15000+ 4	TOTAL
1. West End	20.8	29.2	25.0	25.0	100% (24)
2. St. Boniface	10.3	10.3	37.9	41.3	100% (29)
3. Brooklands	37.1	17.2	22.9	22.9	100% (35)
4. Elmwood	21.1	18.4	18.4	42.1	100% (38)
5. Transcona	7.3	9.7	31.7	51.2	100% (41)
6. Wolseley	14.0	16.3	23.3	46.6	100% (43)
<hr/>					
7. Westwood	0.0	4.0	4.0	92.0	100% (51)
8. Elm Park	6.1	4.0	14.3	75.5	100% (49)
9. Tuxedo	0.0	2.0	2.0	96.0	100% (51)
10. Norwood	5.5	9.1	11.0	74.6	100% (55)
11. Windsor Park	1.6	1.6	7.8	89.1	100% (64)
12. Woodhaven	2.8	11.3	9.8	76.0	100% (71)
13. Wildwood	1.1	5.7	9.1	83.9	100% (87)

For this item (question #7), the responses are as shown in Table 24.

The chi-square value for this relationship (0.00) indicates that it also is a significant one, and on examination, it shows a very similar trend to that of 'Satisfaction with Neighbourhood'. When the upper and lower categories of both satisfaction and family income are compared, they show almost identical changes from neighbourhood to neighbourhood. This presumed relationship will be tested more rigorously in the section dealing with

the testing of the hypotheses.

#### 4.2.3 Level of 'Neighbouring' Activities

As the items used in measuring this independent variable showed two differing sets of responses to their 'theoretically relevant variables' (refer to Figure 2; section 3.8), it was felt that it might be more meaningful if examples of both types of items were represented here. To represent the first type of relationship to the variables ('highly' correlated with satisfaction - see Table 9), the item used was question 15 ("Would you say that your neighbourhood is a 'friendly' or an 'unfriendly' one?"). The responses to this question (Table 25) show the pattern that has also appeared in the previous comparisons; as one goes up the list of neighbourhoods, the scores show a tendency to 'rise', with a noticeable 'break point' occurring between the sixth and seventh neighbourhoods.

The second type of relationship found between some of the items in the questionnaire and the 'theoretically relevant variables' used in the  $P^2$  test showed a much lower correlation with satisfaction related items than the first set did, and the item chosen to represent this aspect of the measurement of 'neighbouring' activities was question #12: "How often would you say that you get together informally with neighbours?", for which the pattern of responses among the thirteen neighbourhoods is shown in Table 26. For this item, we again find a similar trend towards 'rising' scores in the lowest category (1), and a weaker one in category 3. For the other categories, no comparable trend is immediately apparent. Even among those neighbourhoods that scored very highly on the Table

Table 25

PERCEIVED NEIGHBOURHOOD FRIENDLINESS BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Very Unfriendly 1	2	3	4	Very Friendly 5	Total
1. West End	4.2	0.0	37.5	58.3	0.0	100% (24)
2. St. Boniface	3.2	0.0	25.8	58.1	12.9	100% (31)
3. Brooklands	5.4	5.4	32.4	51.4	5.4	100% (37)
4. Elmwood	0.0	2.6	36.8	50.0	10.5	100% (38)
5. Transcona	2.4	0.0	19.0	73.8	4.8	100% (42)
6. Wolseley	4.7	0.0	55.8	37.2	2.3	100% (43)
7. Westwood	2.0	3.9	27.5	52.9	13.7	100% (51)
8. Elm Park	2.0	0.0	15.7	72.5	9.8	100% (51)
9. Tuxedo	0.0	1.8	25.0	55.4	17.9	100% (56)
10. Norwood	0.0	1.7	11.9	59.3	27.1	100% (59)
11. Windsor Park	0.0	3.1	14.1	67.2	15.6	100% (64)
12. Woodhaven	0.0	2.8	6.9	61.1	29.2	100% (72)
13. Wildwood	0.0	1.1	3.4	41.6	53.9	100% (89)

Table 26

FREQUENCY OF CONTACT WITH NEIGHBOURS BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Never 1	Very Seldom 2	Sometimes 3	Often 4	Very Often 5	Total
1. West End	29.2	25.0	45.8	0.0	0.0	100% (24)
2. St. Boniface	29.0	29.0	16.1	19.4	6.5	100% (31)
3. Brooklands	24.3	18.9	37.8	16.2	2.7	100% (37)
4. Elmwood	25.6	20.5	28.2	15.4	10.3	100% (39)
5. Transcona	19.0	38.1	31.0	7.1	4.8	100% (42)
6. Wolseley	23.3	34.9	20.9	16.3	4.7	100% (43)
7. Westwood	7.8	17.6	56.9	15.7	2.0	100% (51)
8. Elm Park	9.8	35.3	37.3	13.7	3.9	100% (51)
9. Tuxedo	14.3	33.9	41.1	8.9	1.8	100% (56)
10. Norwood	5.1	30.5	42.4	15.3	6.8	100% (59)
11. Windsor Park	7.8	18.8	46.9	21.9	4.7	100% (64)
12. Woodhaven	7.0	23.9	52.1	14.1	2.8	100% (71)
13. Wildwood	2.2	24.7	40.4	27.0	5.6	100% (89)



showing 'Perceived Neighbourhood Friendliness', such as Wildwood, Woodhaven, and Norwood, the scores shown in Table 26 referring to the 'Frequency of Contact with Neighbours' show only slightly more positive responses than the other areas, which had been rated as much less 'friendly' by their residents. From this, one can only conclude that actual contact with one's neighbours is not a prerequisite to the feeling that one's neighbourhood is a friendly one, and also that as long as one perceives his or her neighbourhood to be friendly, they are likely to be satisfied with their neighbourhood, regardless of whether they actually have social contact with the people in that area.

#### 4.2.4 Level of Neighbourhood Awareness

Two items will be presented for this variable as well, as two completely different types of relationships were found between its associated items and their 'theoretically relevant variables'. The first set of items was found to be 'positively' correlated with 'Neighbourhood Awareness', and the item selected to represent this aspect of the relationship is question #26: "To what extent would you agree with the statement: "My neighbourhood is an 'identifiable' area - that is, one distinct in layout and appearance from nearby areas."" Again in Table 27 we see the same general trend that was shown by the first several Tables giving data broken down by neighbourhood, but some individual differences do occur. St. Boniface, for example, had no responses in the lowest category (1), a pattern which does not occur again until the uppermost four neighbourhoods. Transcona and Elmwood residents felt that their neighbourhoods were very hard to identify (even in relation to the others of the first group of

Table 27

PERCEPTION OF NEIGHBOURHOOD AS IDENTIFIABLE BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Very Unidentifiable		3	4	Very Identifiable		Total
	1	2			5	6	
1. West End	12.5	25.0	20.8	25.0	16.7	100%	(24)
2. St. Boniface	0.0	10.0	20.0	53.3	16.7	100%	(30)
3. Brooklands	5.6	16.7	36.1	27.8	13.9	100%	(36)
4. Elmwood	8.1	18.9	40.5	29.7	2.7	100%	(37)
5. Transcona	14.3	14.3	26.2	40.5	4.8	100%	(42)
6. Wolseley	9.5	19.0	23.8	33.3	14.3	100%	(42)
7. Westwood	2.0	11.8	11.8	58.8	15.7	100%	(51)
8. Elm Park	2.0	20.0	30.0	32.0	16.0	100%	(50)
9. Tuxedo	1.8	0.0	0.0	28.6	69.6	100%	(56)
10. Norwood	0.0	1.7	3.4	51.7	43.1	100%	(58)
11. Windsor Park	0.0	14.3	9.5	55.6	20.6	100%	(63)
12. Woodhaven	0.0	0.0	1.4	16.9	81.7	100%	(71)
13. Wildwood	0.0	0.0	0.0	2.3	97.7	100%	(88)

Table 28

PERCEIVED NEIGHBOURHOOD SIZE BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Larger	Smaller	Total
	3	4	
1. West End	12.5	87.5	100% (16)
2. St. Boniface	92.8	7.2	100% (14)
3. Brooklands	48.0	52.0	100% (25)
4. Elmwood	82.3	17.7	100% (17)
5. Transcona	81.3	18.7	100% (16)
6. Wolseley	86.7	13.3	100% (15)
7. Westwood	100.0	0.0	100% (46)
8. Elm Park	100.0	0.0	100% (11)
9. Tuxedo	100.0	0.0	100% (32)
10. Norwood	100.0	0.0	100% (53)
11. Windsor Park	100.0	0.0	100% (60)
12. Woodhaven	-	-	- (0)
13. Wildwood	100.0	0.0	100% (8)

six neighbourhoods), although both areas did well in another question which required them to actually name their neighbourhood's boundaries. Also, among the responses in the highest category (5), we see that the 'break point' does not occur after the sixth neighbourhood as it did in previous Tables, but after the eighth (Elm Park).

One of the items was found to be 'negatively' related to 'Neighbourhood Awareness', as the direction of its relationship to the 'theoretically relevant variables' was always the inverse of the first set's (see Table 12). The item representing this aspect was generated from a question which asked the respondents to name the physical features which represented the 'limits' or boundaries of their neighbourhoods. The responses to this open-ended item were then categorized as: 'named one major boundary' (1); 'named two or more major boundaries' (2); 'gave an area more than one and one-half times the neighbourhood's size' (3); and 'gave an area less than one-half the neighbourhood's size' (4). Response categories 1 and 2 were treated as one item, and 3 and 4 as another; we are interested in the latter in this case, and the responses for this are given in Table 28.

Again in this Table the 'break point' comes after the sixth neighbourhood, but the actual results were somewhat unexpected. All of the last seven areas identified the size of their neighbourhoods as larger than the areas defined by this study (with the exception of Woodhaven, where all 72 respondents named at least one major boundary correctly), while in the first six, a significant percentage of respondents found their neighbourhoods to be smaller than the areas defined by the study.

Table 29

PERCEIVED QUALITY OF CHILDREN'S ENVIRONMENT BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Very Poor 1	2	Average 3	4	Very Good 5	Total
1. West End	0.0	20.0	20.0	60.0	0.0	100% (5)
2. St. Boniface	0.0	0.0	25.0	37.5	37.5	100% (8)
3. Brooklands	7.1	0.0	57.1	28.6	7.1	100% (14)
4. Elmwood	0.0	8.3	50.0	33.3	8.3	100% (12)
5. Transcona	6.3	0.0	31.3	37.5	25.0	100% (16)
6. Wolseley	4.8	14.3	66.7	9.5	4.8	100% (21)
7. Westwood	0.0	3.0	9.1	45.5	42.4	100% (33)
8. Elm Park	0.0	0.0	6.7	40.0	53.3	100% (15)
9. Tuxedo	0.0	0.0	13.0	39.1	47.8	100% (23)
10. Norwood	0.0	0.0	0.0	36.8	63.2	100% (19)
11. Windsor Park	0.0	0.0	5.1	59.0	35.9	100% (39)
12. Woodhaven	0.0	0.0	0.0	20.7	79.3	100% (29)
13. Wildwood	0.0	0.0	2.6	10.3	87.2	100% (39)

Table 30

PERCEPTION OF NEIGHBOURHOOD AS VISUALLY ATTRACTIVE BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Least Attractive 1	2	3	4	Most Attractive 5	Total
1. West End	20.8	41.7	16.7	20.8	0.0	100% (24)
2. St. Boniface	0.0	10.0	13.3	53.3	23.3	100% (30)
3. Brooklands	34.3	31.4	8.6	25.7	0.0	100% (35)
4. Elmwood	5.3	21.1	31.6	39.5	2.6	100% (38)
5. Transcona	2.4	0.0	16.7	54.8	26.2	100% (42)
6. Wolseley	11.9	19.0	4.8	42.9	21.4	100% (42)
7. Westwood	2.0	2.0	2.0	64.7	29.4	100% (51)
8. Elm Park	0.0	5.9	2.0	47.1	45.1	100% (51)
9. Tuxedo	0.0	0.0	0.0	8.9	91.0	100% (56)
10. Norwood	0.0	0.0	1.7	32.2	66.1	100% (59)
11. Windsor Park	0.0	0.0	10.9	50.0	39.1	100% (64)
12. Woodhaven	0.0	0.0	0.0	11.0	89.0	100% (73)
13. Wildwood	0.0	0.0	0.0	4.5	95.5	100% (88)

#### 4.2.5 Quality of Children's Environment

The item chosen to represent this variable is #17: "Do you feel that your neighbourhood is a good place or a poor place for children to grow up in?" (see Table 29). From this data, it seems that most neighbourhoods are seen by their residents as a good place for children, although some relatively low scores occur among several of the first group of six neighbourhoods. Again, a 'break point' is apparent after the first six neighbourhoods.

#### 4.2.6 Quality of the Physical Environment

Of the five related items, the one chosen to represent this independent variable is #29: "To what extent would you agree with the statement: "Walking through my neighbourhood is a pleasant experience.", which was the most highly correlated with satisfaction (see Table 30). Most neighbourhoods were generally perceived as 'attractive', with the exception of the West End, Brooklands, and to a lesser extent, Elmwood. Again, St. Boniface shows a closer affinity in its responses to the last seven neighbourhoods rather than to the first six. Also, the 'break point' is not as clear in this case until after the seventh neighbourhood (Westwood). It might be interesting to note that the residents of Westwood also had a relatively low score on 'Perceived Neighbourhood Friendliness' and on 'Perception of Neighbourhood as Identifiable'; however, their 'Satisfaction with Neighbourhood' was still quite high. Windsor Park has also shown some lower scores than the rest of the group of seven neighbourhoods (for 'Neighbourhood Attractiveness', 'Quality of Children's Environment', 'Perception of Neighbourhood as Identifiable',

Table 31

PERCEIVED PRIVACY BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	Least Privacy 1	2	3	4	Most Privacy 5	Total
1. West End	25.0	37.5	4.2	29.2	4.2	100% (24)
2. St. Boniface	9.7	19.4	9.7	51.6	9.7	100% (31)
3. Brooklands	11.4	22.9	5.7	51.4	8.6	100% (35)
4. Elmwood	17.9	17.9	5.1	48.7	10.3	100% (39)
5. Transcona	0.0	4.9	9.8	65.9	19.5	100% (41)
6. Wolseley	23.3	34.9	9.3	32.6	0.0	100% (43)
7. Westwood	0.0	2.0	9.8	49.0	39.2	100% (51)
8. Elm Park	0.0	9.8	3.9	47.1	39.2	100% (51)
9. Tuxedo	0.0	0.0	3.6	14.3	82.1	100% (56)
10. Norwood	0.0	0.0	3.4	50.8	45.8	100% (59)
11. Windsor Park	1.6	4.7	6.3	50.0	37.5	100% (64)
12. Woodhaven	1.4	2.7	0.0	27.4	68.5	100% (73)
13. Wildwood	0.0	0.0	0.0	29.5	70.5	100% (88)

Table 32

NUMBER OF CARS BY NEIGHBOURHOOD  
(Adjusted Frequency in Percent)

	0	1	2	3+	Total
1. West End	29.2	50.0	12.5	8.4	100% (24)
2. St. Boniface	25.8	51.6	16.1	6.4	100% (31)
3. Brooklands	33.3	38.9	25.0	2.8	100% (36)
4. Elmwood	15.4	59.0	23.1	2.6	100% (39)
5. Transcona	4.8	66.7	21.4	7.1	100% (42)
6. Wolseley	23.3	58.1	14.0	4.7	100% (43)
7. Westwood	0.0	31.4	58.8	9.8	100% (51)
8. Elm Park	5.9	49.0	37.3	7.9	100% (51)
9. Tuxedo	0.0	16.1	60.7	23.2	100% (56)
10. Norwood	3.4	52.5	40.7	3.4	100% (59)
11. Windsor Park	1.6	28.1	53.1	17.2	100% (64)
12. Woodhaven	2.7	41.1	45.2	11.0	100% (73)
13. Wildwood	0.0	41.6	47.2	11.2	100% (89)

and 'Perceived Friendliness of Neighbourhood'), but in this case its level of 'Satisfaction with Neighbourhood' was the lowest of the seven neighbourhoods.

#### 4.2.7 Level of Perceived Privacy

The single item chosen to represent this variable is question 34 ("To what extent would you agree with the statement: "The layout of streets and housing in my neighbourhood provides me with enough privacy.""). for which the results follow the previously observed pattern, with one exception; Transcona shows more similarity to the group of seven neighbourhoods with higher socio-economic status than to the other five areas with lower status. These results can be seen in Table 31.

#### 4.2.8 Mobility of Residents (Transportation)

In terms of 'actual' mobility, the item selected was #24: "How many cars does your household currently operate?". For the respondents' 'perceived' mobility, however, rather than presenting a Table for each of the seven kinds of destinations (place of work, local food stores, department stores, entertainment, recreation, parks, and friends and relatives), each will simply be discussed in terms of its relation to the 'actual' mobility of the residents of each neighbourhood.

From Table 32, we can see that the residents of Tuxedo are the 'most' mobile, while the people in Westwood, Norwood, Windsor Park, Woodhaven, and Wildwood are 'highly' mobile as well. The 'least' mobile areas are Booklands, the West End, St. Boniface, and Wolseley (of which

only Brooklands was categorized as having 'low' access to urban infrastructure and as 'suburban' in nature). The 'mobile' areas and the 'less mobile' areas showed little difference in their perceptions of their ease of access to most destinations, except in the case of recreation facilities as a destination, and to a lesser extent for parks and for the homes of friends and relatives as destinations. In most cases as well, St. Boniface residents responded in a manner resembling those of 'more mobile' residents, while Brooklands' residents found themselves with very 'low' access in most cases.

In the next section, the data presented so far will be used to test the eight hypotheses derived from the literature review in a manner which will allow us to either accept or reject each of them. These data, along with the results of some items which have not yet been presented, may be used again in the sections dealing with the characteristics of 'Satisfaction with Neighbourhood', and with other significant relationships identified through the data analysis.

### 4.3. Testing of Hypotheses

#### 4.3.1 Hypotheses 1.0 and 1.1

Hypothesis 1.0 Both socio-economic and physical design characteristics have an effect on a person's perceived satisfaction with his or her neighbourhood.

Hypothesis 1.1 Socio-economic characteristics will have a greater determining effect on neighbourhood satisfaction than physical design characteristics will.

To test hypothesis 1.0 which suggests that both the socio-economic and physical design characteristics of a neighbourhood will have an impact



on a person's perceived satisfaction, the logical first step is to compare the association existing between the items used in measuring the independent variables (socio-economic status and physical design characteristics) and those chosen to represent 'Satisfaction with Neighbourhood'. To simplify the testing procedure for this and the other hypotheses, it has been determined that in the case of the dependent variable, only one item will be used (question #39; "On the whole, how satisfied are you with your neighbourhood.").

Therefore, to test hypothesis 1.0, we will be examining both the significance ( $\chi^2$ ) and strength (G) of the relationships between 'Satisfaction with Neighbourhood' and 'Socio-Economic Status' (family income, male job type, and male education), 'Neighbourhood Layout', 'Access to Urban Infrastructure', and 'Location of Neighbourhood', in order to see if both socio-economic and physical variables have a measurable effect on neighbourhood satisfaction. Keeping in mind that a  $\chi^2$  value of close to zero indicates a very high level of significance and a Gamma value of about .25 or more indicates a 'strong' association, we find in Table 33 that the nearness to urban infrastructure has almost no relationship to a person's satisfaction with neighbourhood, while all of the other variables appear to have a fairly strong relationship with satisfaction (note that the negative sign on some Gamma values is a consequence of the ordering of the response categories). For all of the crosstabulations, the higher the 'status' represented by the response category, the more closely it is associated with satisfaction.

From this, one could assume that both socio-economic and physical design factors exercise some influence over a person's satisfaction with

Table 33

THE RELATIONSHIP OF SATISFACTION WITH NEIGHBOURHOOD  
TO VARIOUS SOCIO-ECONOMIC AND PHYSICAL DESIGN VARIABLES  
(Adjusted Frequency in Percent)

A. SOCIO-ECONOMIC

i)	<u>Family Income</u>	<u>\$5000- \$6999</u>	<u>\$7000- \$10999</u>	<u>\$11000- \$14999</u>	<u>\$15000 and up</u>
	'Low/Mixed '	43.8	36.8	26.4	11.4
	<u>SATISFACTION</u> 'High '	39.6	28.1	53.8	29.4
	'Very High '	16.7	35.1	19.8	59.2
	<u>TOTALS</u>	100% (48)	100% (57)	100% (91)	100% (439)
	$\chi^2 = 0.00$	$G = .53$			
ii)	<u>Male Occupation</u>	<u>Labour</u>	<u>Social Services</u>	<u>Business/ Sales</u>	<u>Management/ Professional</u>
	'Low/Mixed '	8.6	29.1	11.4	21.7
	<u>SATISFACTION</u> 'High '	30.0	41.8	31.8	50.0
	'Very High '	61.3	29.1	56.8	28.3
	<u>TOTALS</u>	100% (46)	100% (44)	100% (79)	100% (313)
	$\chi^2 = 0.00$	$G = -.36$			
iii)	<u>Male Education</u>	<u>Elementary</u>	<u>High School/ Technical College</u>	<u>University</u>	
	'Low/Mixed '	25.6	20.6	9.4	
	<u>SATISFACTION</u> 'High '	58.1	37.7	25.3	
	'Very High '	16.3	41.6	65.3	
	<u>TOTALS</u>	100% (43)	100% (257)	100% (265)	
	$\chi^2 = 0.00$	$G = .44$			

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Table 33 (continued)

THE RELATIONSHIP OF SATISFACTION WITH NEIGHBOURHOOD  
TO VARIOUS SOCIO-ECONOMIC AND PHYSICAL DESIGN VARIABLES

B. PHYSICAL DESIGN

i) <u>Street Pattern</u>			
		<u>Bay</u>	<u>Grid</u>
	'Low/Mixed '	5.0	24.2
<u>SATISFACTION</u>	'High '	33.2	34.1
	'Very High '	61.9	41.6
	<u>TOTALS</u>	100% (202)	100% (454)
	$\chi^2 = 0.00$	$G = -.43$	
ii) <u>Neighbourhood Location</u>			
		<u>Suburban</u>	<u>Inner City</u>
	'Low/Mixed '	13.6	33.1
<u>SATISFACTION</u>	'High '	33.1	36.3
	'Very High '	53.3	30.6
	<u>TOTALS</u>	100% (499)	100% (157)
	$\chi^2 = 0.00$	$G = -.43$	
iii) <u>Access to Infrastructure</u>			
		<u>Low Access</u>	<u>High Access</u>
	'Low/Mixed '	16.8	20.3
<u>SATISFACTION</u>	'High '	34.7	32.7
	'Very High '	48.5	47.0
	<u>TOTALS</u>	100% (375)	100% (281)
	$\chi^2 = .52$	$G = -.05$	

neighbourhood. To test this assumption further, let us now look at two of these associations (satisfaction by income and satisfaction by street layout) in each of the thirteen neighbourhoods in order to see if the association between 'higher' status and higher satisfaction levels remains strong. In fact, Table 34 shows that in most of the individual neighbourhoods, satisfaction levels remain constant as income varies; it also shows that the residents of several 'grid' neighbourhoods are just as satisfied with their areas as the residents of 'bay' areas are with theirs.

From the first of these findings (satisfaction remains constant in a neighbourhood as income varies), it might appear that income plays only a small role in determining satisfaction. After all, if its effect was significant, shouldn't those people with higher incomes be more satisfied than those with lower incomes in any given area? In fact, there is a better explanation for this finding. In an earlier section, we saw that the first six neighbourhoods presented in the Tables are those which were characterized by census data averages as being of lower socio-economic status, and the last seven neighbourhoods are those which were characterized as higher status. If we then look at the satisfaction levels of those people in the various income categories in each of these two groups of neighbourhoods, we find that in the seven upper status areas, those with higher incomes are mostly satisfied - and so are those with lower incomes. Within the six lower status neighbourhoods, those with higher incomes have relatively low satisfaction levels, as do those with lower incomes. In other words, it is the overall socio-economic status of the areas (of which income is a part) that is the

Table 34

SATISFACTION BY NEIGHBOURHOOD BY INCOME  
(Number of Responses)

	INCOME			
	\$5000- \$6999	\$7000- \$10999	\$11000- \$14999	\$15000 and up
<u>SATISFACTION</u>				
3 = 'low/mixed'				
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'				
<hr/>				
<u>NEIGHBOURHOOD NAME</u>				
West End	4.1.0	4.2.1	5.1.0	5.1.0
St. Boniface	1.2.0	0.2.1	3.5.3	3.8.1
Brooklands	9.2.2	4.2.0	6.2.0	6.2.0
Elmwood	3.4.1	5.1.1	1.6.0	11.3.2
Transcona	0.2.1	2.1.1	2.9.2	1.14.5
Wolseley	3.3.0	4.2.1	6.4.0	12.6.2
Westwood	-	1.1.0	0.2.0	2.20.25
Elm Park	0.2.1	0.1.1	0.5.2	2.19.16
Tuxedo	-	0.0.1	0.0.1	2.6.41
Norwood	0.2.1	0.3.2	0.3.3	0.9.32
Windsor Park	1.0.0	0.1.0	0.5.0	4.23.29
Woodhaven	0.1.1	1.0.7	1.4.2	0.7.47
Wildwood	0.0.1	0.0.4	0.3.5	2.11.60
<hr/>				
$\chi^2$	.20	.02	0.00	0.00
G	.47	.54	.49	.56

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Table 34 (continued)

SATISFACTION BY NEIGHBOURHOOD BY STREET LAYOUT  
(Number of Responses)

	STREET LAYOUT	
	Bay	Grid
<u>SATISFACTION</u>		
3 = 'low/mixed'		
4 = 'satisfied'	3.4.5	3.4.5
5 = 'very satisfied'		
<hr/>		
<u>NEIGHBOURHOOD NAME</u>		
West End	-	18.5.1
St. Boniface	-	8.18.5
Brooklands	-	27.8.2
Elmwood	-	20.15.4
Transcona	-	5.27.9
Wolseley	-	25.15.3
Westwood	2.23.25	-
Elm Park	-	2.28.21
Tuxedo	-	2.8.46
Norwood	-	1.19.39
Windsor Park	5.29.29	-
Woodhaven	-	2.12.59
Wildwood	2.15.71	-
<hr/>		
$\chi^2$	0.00	0.00
G	.45	.66

best predictor of neighbourhood satisfaction; a clear majority of people in lower status areas are less satisfied than those in upper status areas. Therefore, these results strongly suggest that socio-economic status characteristics do have an effect on a person's perceived satisfaction with neighbourhood.

Can this test be applied to physical factors as well? There are no 'bays' among the lower status neighbourhoods, and within the higher status group, several 'grids' have satisfaction levels which are just as high as those among 'bay' areas. So, for this variable, (street layout), it would appear that while the overall trend is for 'bay' areas to be more satisfied, the effect is not consistent among each of the study areas. However, at the individual neighbourhood level, income also shows some inconsistencies. For example, Woodhaven has a lower overall income than Wildwood, and is also a 'grid' area while Wildwood is a 'bay'; and yet, Woodhaven has an almost identical satisfaction level. From this we must assume that other factors as yet unidentified also have a significant effect on the perception of satisfaction with neighbourhoods.

To further test for the existence of a connection between street layout and neighbourhood satisfaction, the distribution of satisfaction levels was examined among the various income categories while holding the street layout pattern constant. The association between satisfaction and income was significant and strong among both 'bay' and 'grid' areas ('bay',  $\chi^2 = 0.01$ ,  $G = .39$ ; 'grid',  $\chi^2 = 0.00$ ,  $G = .47$ ). The distribution of responses indicated that satisfaction is highest among 'bay' areas (62.0% reported their satisfaction as 'very high' compared to only 41.8% in the 'grid' areas) and among those in the highest income categories (in

'bay' areas, 64.8% were 'very satisfied' in the highest income category compared to only 33.3% in the next lower income category, and 55.5% compared to 17.1% in 'grid' areas).

When we look at the results of the above crosstabulation, it would appear that 'bay' areas are more satisfied in every income level than 'grid' areas; however, it is also true that all 'bay' areas are in the suburbs, while 'grid' areas are distributed among the suburbs and the 'inner city'. If we assume that 'suburban' areas are more satisfied than 'inner city' areas, then we must also control for neighbourhood location in order to get a true picture of satisfaction among 'grid' areas in relation to 'bays'. This manipulation of the data shows us that while 'suburban grids' are indeed more satisfied than 'inner city grids' (47.5% versus 31.1% in the 'very satisfied' category, respectively), 'bay' areas are more satisfied than either (62.0% in the 'very satisfied' category). Those in the highest income category are more satisfied than those in any of the lower income categories in all three types of areas. Therefore, it would seem justifiable to say that both socio-economic and physical design characteristics do have an effect on satisfaction, although there appear to be other influences at work which can also significantly affect the satisfaction levels of any neighbourhood regardless of its characteristics in the above respects. Some effort will be made to deduce the nature of these influences and to identify some of them in the last section of this chapter, which will focus on the questions raised through the testing of the hypotheses.

To determine the acceptability of the second part of the first hypothesis, we must attempt to assess the relative strengths of the



effect that socio-economic and physical design variables have on the level of satisfaction with neighbourhood. This was rendered somewhat less pertinent when it was discovered that other factors can have a significant effect on the level of satisfaction. Also, the results of the previous testing indicated the complexity of these kinds of relationships, making it very difficult to determine which of the two variables in question has a greater impact on a person's satisfaction with their neighbourhood. As an example, it was found that satisfaction levels were relatively unchanged in each neighbourhood as income varied, and that several 'grid' areas were more satisfied than the 'bay' areas. Yet at the same time, it was also determined that satisfaction levels were highest among 'bay' neighbourhoods and also among those people with the highest income levels.

One method of determining whether socio-economic or physical design characteristics have a stronger effect on satisfaction has already been discussed. As we saw in the testing of the first sub-section of this hypothesis, the majority of people in upper status areas were highly satisfied regardless of their personal income. Also, the majority of people in lower status areas showed significantly lower satisfaction levels than those in upper status areas - again, regardless of personal income. From this, it was assumed that the socio-economic characteristics of an area did have an effect on satisfaction. When a similar comparison was made by substituting street patterns for income categories, it was found that people in upper status areas were highly satisfied regardless of whether their area was a 'bay' or a 'grid', and that those in the lower status areas were all less satisfied. Since the change in

satisfaction levels in this comparison is produced by socio-economic status rather than by the street pattern, it would seem that socio-economic status is having a greater effect on satisfaction than physical layout.

These conclusions suggest that both sub-sections of this hypothesis be accepted. However, in the first sub-section there is evidence to suggest that other (and as yet unidentified) factors also have an effect on satisfaction, and in the second sub-section, one of the four possible cells in the principal crosstabulation is empty ('bay' areas of lower status). Therefore, this acceptance should be considered conditional, pending the findings of the following hypotheses.

#### 4.3.2 Hypotheses 2.0, 2.1, and 2.2

- Hypothesis 2.0 Groups of people exhibiting similar socio-economic characteristics and living in areas with similar physical characteristics will feel approximately equal levels of satisfaction with their neighbourhoods.
- Hypothesis 2.1 Groups of people exhibiting similar socio-economic characteristics but living in areas with differing physical characteristics will feel dissimilar levels of satisfaction with their neighbourhoods.
- Hypothesis 2.2 Groups of people living in areas with similar physical characteristics but having dissimilar socio-economic characteristics will feel dissimilar levels of satisfaction with their neighbourhoods.

In order to test the three sub-sections of this hypothesis, the thirteen neighbourhoods in the study were classified according to their relative similarity or dissimilarity to each other in two main respects: socio-economic status (as represented by family income, male occupation, and

male education) and physical characteristics (street layout pattern and neighbourhood location ('inner city' or 'suburban')).

The latter case proved to be fairly simple. All three 'bay' areas (Westwood, Windsor Park, and Wildwood) were also 'suburban' and therefore physically similar. Four neighbourhoods were classified as 'inner city grids' (West End, St. Boniface, Wolseley, and Norwood), while there were six 'suburban grid' areas (Brooklands, Elmwood, Transcona, Elm Park, Tuxedo, and Woodhaven).

Classifying the neighbourhoods according to their similarity on the three socio-economic variables was slightly less 'cut-and-dried'. Previous studies (39, 81, 244) have indicated that income is the most significant of the three variables under consideration, which immediately suggested the following five pairings: Westwood and Tuxedo at the top of the scale, followed by Norwood and Elm Park; in the middle section of the income range are St. Boniface and Transcona, while Wolseley and Elmwood are below them, and Brooklands and the West End occupy the bottom end of the spectrum. When the effects of male occupation and education are considered, there are no variations significant enough to require a change in these pairings.

To test the three sub-sections of Hypothesis Two, these neighbourhoods must now be grouped into three categories: those neighbourhoods that are both socio-economically and physically similar; those that are socio-economically similar but physically different; and those that are socio-economically dissimilar but physically similar. In each of these three categories, neighbourhoods will be tested in pairs owing to the difficulty of identifying more than two neighbourhoods at a time which share

the same characteristics when five variables are considered. Comparing pairs still offers a chance to cover a wide range of possibilities, as can be seen in the testing of the first subsection, where 'middle status suburban grids' (Elm Park and Woodhaven), 'upper status suburban bays' (Westwood and Wildwood), and 'lower status inner city grids' (West End and Wolseley) are all represented.

The comparison of the satisfaction levels within each pair of neighbourhoods which are similar in both socio-economic and physical design characteristics (Table 35) indicates that two pairs (Elm Park - Woodhaven and Westwood - Wildwood) diverge widely, and that one pair (West End - Wolseley) diverges moderately. The results for all three pairs are clearly at odds with the hypothesis, suggesting that subsection 2.0 be rejected.

Sub-section 2.1 requires the examination of pairs of neighbourhoods having similar socio-economic status but dissimilar physical characteristics. It is assumed in this hypothesis that the differences between the neighbourhoods in each pair will cause varying levels of satisfaction between them. In fact, as Table 36 shows, two pairs (Westwood - Tuxedo and Windsor Park - Norwood) do exhibit the expected results by having significantly different satisfaction levels. However, the third pair (Elm Park (upper-middle status suburban grid) and Windsor Park (upper-middle status suburban bay)) shows a relatively similar pattern. Therefore, sub-section 2.1 is also rejected.

The final sub-section deals with pairs of neighbourhoods that are physically similar but which have dissimilar socio-economic status characteristics. Table 37 indicates that two pairs (West End - St.

Table 35

SATISFACTION AMONG NEIGHBOURHOOD PAIRS WITH  
SIMILAR SOCIO-ECONOMIC STATUS AND  
SIMILAR PHYSICAL CHARACTERISTICS  
(in Percent)

I) <u>MIDDLE STATUS SUBURBAN GRIDS</u>					
		<u>Elm Park</u>	<u>Woodhaven</u>		
	'low/mixed'	3.9	2.7		
<u>SATISFACTION</u>	'satisfied'	54.9	16.4		
	'very satisfied'	41.2	80.8		
		<u>100.0%</u> (51)	<u>100.0%</u> (73)	$\chi^2 = 0.00$	
II) <u>UPPER STATUS SUBURBAN BAYS</u>					
		<u>Westwood</u>	<u>Wildwood</u>		
	'low/mixed'	5.9	2.3		
<u>SATISFACTION</u>	'satisfied'	45.1	17.0		
	'very satisfied'	49.0	80.7		
		<u>100.0%</u> (51)	<u>100.0%</u> (88)	$\chi^2 = 0.00$	
III) <u>LOWER STATUS INNER CITY GRIDS</u>					
		<u>West End</u>	<u>Wolseley</u>		
	'low/mixed'	75.0	58.1		
<u>SATISFACTION</u>	'satisfied'	20.8	34.9		
	'very satisfied'	4.2	7.0		
		<u>100.0%</u> (24)	<u>100.0%</u> (43)	$\chi^2 = .38$	

Table 36

SATISFACTION AMONG NEIGHBOURHOOD PAIRS WITH  
SIMILAR SOCIO-ECONOMIC STATUS AND  
DISSIMILAR PHYSICAL CHARACTERISTICS  
(in Percent)

I) <u>UPPER STATUS SUBURBAN BAY - UPPER STATUS SUBURBAN GRID</u>		<u>Westwood</u>	<u>Tuxedo</u>	
<u>SATISFACTION</u>	'low/mixed'	5.9	3.6	
	'satisfied'	45.1	14.3	
	'very satisfied'	49.0	82.1	
		<u>100.0%</u> (51)	<u>100.0%</u> (56)	$\chi^2 = 0.00$

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II) <u>UPPER-MIDDLE STATUS SUBURBAN BAY - UPPER-MIDDLE STATUS INNER CITY GRID</u>		<u>Windsor Park</u>	<u>Norwood</u>	
<u>SATISFACTION</u>	'low/mixed'	7.9	1.7	
	'satisfied'	46.0	32.2	
	'very satisfied'	46.0	66.1	
		<u>100.0%</u> (63)	<u>100.0%</u> (59)	$\chi^2 = .04$

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III) <u>UPPER-MIDDLE STATUS SUBURBAN GRID - UPPER-MIDDLE STATUS SUBURBAN BAY</u>		<u>Elm Park</u>	<u>Windsor Park</u>	
<u>SATISFACTION</u>	'low/mixed'	3.9	7.9	
	'satisfied'	54.9	46.0	
	'very satisfied'	41.2	46.0	
		<u>100.0%</u> (51)	<u>100.0%</u> (63)	$\chi^2 = .50$

Table 37

SATISFACTION AMONG NEIGHBOURHOOD PAIRS WITH  
DISSIMILAR SOCIO-ECONOMIC STATUS AND  
SIMILAR PHYSICAL CHARACTERISTICS  
(in Percent)

I) UPPER STATUS SUBURBAN BAY - UPPER MIDDLE STATUS SUBURBAN BAY

	<u>Westwood</u>	<u>Windsor Park</u>	
<u>SATISFACTION</u>			
'low/mixed'	5.9	7.9	
'satisfied'	45.1	46.0	
'very satisfied'	49.0	46.0	
	100.0%	100.0%	$\chi^2 = .87$
	(51)	(63)	

II) LOWER STATUS INNER CITY GRID - MIDDLE STATUS INNER CITY GRID

	<u>West End</u>	<u>St. Boniface</u>	
<u>SATISFACTION</u>			
'low/mixed'	75.0	25.8	
'satisfied'	20.8	58.1	
'very satisfied'	4.2	16.1	
	100.0%	100.0%	$\chi^2 = 0.00$
	(24)	(31)	

III) LOWER STATUS INNER CITY GRID - UPPER-MIDDLE STATUS INNER CITY GRID

	<u>Wolseley</u>	<u>Norwood</u>	
<u>SATISFACTION</u>			
'low/mixed'	58.1	1.7	
'satisfied'	34.9	32.2	
'very satisfied'	7.0	66.1	
	100.0%	100.0%	$\chi^2 = 0.00$
	(43)	(59)	

Boniface and Wolseley - Norwood) support the hypothesis given in subsection 2.2 by exhibiting differing levels of satisfaction, but also that one pair (Westwood - Windsor Park) clearly contradicts it by having very similar satisfaction levels. The conclusion embodied in this subsection is therefore rejected.

We have seen through the results of the testing that neither socio-economic status nor physical characteristics has a completely determining influence on the relative feelings of satisfaction with neighbourhood felt by an area's residents. In conclusion, then, the data does not consistently support any of the ideas put forward in this hypothesis, and all three subsections must be rejected for this reason.

This result does raise an interesting question, however. Is there any factor or group of factors which can be used to predict satisfaction or can satisfaction only be determined through direct testing? This will be addressed in the final section of this chapter when neighbourhoods with similar satisfaction levels will be examined for shared characteristics in the hopes of formulating the basis for a rough model capable of predicting approximate satisfaction levels among an area's residents. Such a model is not a priority for this study, and may not prove possible owing to the data available and the level of complexity involved.

#### 4.3. Hypothesis Three

Hypothesis Three The higher the average socio-economic status held by the people of a neighbourhood, the higher their perceived satisfaction with that neighbourhood will be.



To test this hypothesis, we will examine the relationship between the three items associated with socio-economic status (family income, male occupation, and male education) and 'satisfaction with neighbourhood', for both the aggregate data and for the same data broken down into individual neighbourhoods.

Table 33 showed the results of the comparison of each of the three items measuring socio-economic status with the dependent variable (satisfaction with neighbourhood). As we saw, all three correlations are significant ( $\chi^2 = 0.00$ ) and relatively strong (income,  $G = .53$ ; occupation,  $G = -.36$ ; and education,  $G = .44$ . The negative Gamma value for occupation is a result of the ordering of the categories and still indicates a correlation between higher status and higher satisfaction). These results support the hypothesis.

As a further test, it was decided to examine the relationship between satisfaction and the item with the strongest correlation to satisfaction within each individual neighbourhood, in order to see if the hypothesis held in each area. The result of this crosstabulation (Satisfaction by Neighbourhood by Income) appeared in Table 34.

This table showed that Satisfaction with Neighbourhood is affected very little by the income category of the respondent; a consistent pattern of satisfaction levels was observed in each income category for almost every neighbourhood. In other words, if a neighbourhood shows a low satisfaction level in its lowest income category, it is most likely to show a low satisfaction level in its highest income category as well. Similarly, a neighbourhood showing a high level of satisfaction will do so in its lowest as well as its highest income

category. The same effect is also observed when the other two measures of socio-economic status (male occupation and education) are used as controlling variables.

However, as was also pointed out in the discussion of Hypothesis 1.0, it is the overall socio-economic status of a neighbourhood which is the best predictor of its satisfaction level. Again, the residents of all six lower status neighbourhoods showed significantly lower levels of satisfaction (regardless of their individual incomes, occupations, or education) than the residents of the upper status neighbourhoods.

Therefore, the findings of the tests used in regard to this hypothesis can be summarized as follows:

- Income, male education, and male occupation all show a fairly high degree of positive association with satisfaction. (Table 33)
- The residents of upper status neighbourhoods show significantly higher levels of satisfaction with neighbourhood ( $\chi^2 = 0.00$ ,  $G = .86$ ) than the residents of lower status neighbourhoods showed with theirs. (Tables 23, 34)

In conclusion, this hypothesis has been supported by the data and should be considered accepted.

#### 4.3.4 Hypothesis Four

Hypothesis Four Residents of 'more highly planned' neighbourhoods will exhibit a generally higher satisfaction level than residents of 'less planned' areas.

For the purpose of this study, it is assumed that a 'bay' street pattern constitutes a 'more highly planned' environment, and a 'grid' street pattern a 'less planned' one (refer to the discussion of Hypothesis Four in section 2.6). Therefore, in order to test this hypothesis, it is necessary to examine the comparative satisfaction levels in neighbourhoods characterized by these two types of street layout pattern. The results of the simple correlation were shown in Table 33, which indicated a relatively strong association between 'bay' street patterns and higher levels of satisfaction with neighbourhood ( $\chi^2 = 0.00$ ,  $G = .43$ ).

Looking at the responses of the individual neighbourhoods in each category of street layout reveals that this relationship is not quite so simple (Table 38). For example, two 'grid' areas have more responses in the highest category of neighbourhood satisfaction than any of the 'bay' areas, for which the satisfaction levels rank third, fifth, and sixth out of the total of thirteen neighbourhoods.

Controlling this correlation for income does little to clarify matters for either grouped or aggregate data. For the aggregate (Table 39), it can be seen that the low number of responses in the lower two income categories have significantly decreased the reliability of the measure of association. If the  $\chi^2$  scores are overlooked, we find that the relationship between street pattern and neighbourhood satisfaction is always negative - that is, that 'bay' areas always have the higher level of satisfaction in any income category. However, this relationship is not always strong, fluctuating so widely that no reliable observation can be made.

Table 38

SATISFACTION BY NEIGHBOURHOOD  
(Grouped by Street Layout)  
(in Percent)

	<u>SATISFACTION</u>			
	'low/mixed satisfaction'	'satisfied'	'very satisfied'	Totals
<u>BAY NEIGHBOURHOODS</u>				
Westwood	5.9%	45.1%	49.0%	100% (51)
Windsor Park	7.9	46.0	46.0	100% (63)
Wildwood	2.3	17.0	80.7	100% (88)
			$\chi^2 = 0.00$	
			G = .45	
-----				
<u>GRID NEIGHBOURHOODS</u>				
West End	75.0%	20.8%	4.2%	100% (24)
St. Boniface	25.8	58.1	16.1	100% (31)
Brooklands	73.0	21.6	5.4	100% (37)
Elmwood	51.3	38.5	10.3	100% (39)
Transcona	12.2	65.9	22.0	100% (41)
Wolseley	58.1	34.9	7.0	100% (43)
Elm Park	3.9	54.9	41.2	100% (51)
Tuxedo	3.6	14.3	82.1	100% (56)
Norwood	1.7	32.2	66.1	100% (59)
Woodhaven	2.7	16.4	80.8	100% (73)
			$\chi^2 = 0.00$	
			G = .66	

Table 39

SATISFACTION BY STREET LAYOUT BY INCOME  
(Number of Responses)

	<u>STREET LAYOUT</u>		$\chi^2$	G
	Bay	Grid		
<u>SATISFACTION</u>				
3 = 'low/mixed'				
4 = 'satisfied'	3.4.5	3.4.5		
5 = 'very satisfied'				
<u>INCOME</u>				
\$5000 - 6999	1.0.1	20.19.7	.32	-.20
\$7000 - 10999	1.2.4	20.14.16	.33	-.48
\$11000 - 14999	0.10.5	24.39.13	.03	-.62
\$15000 and up	8.54.114	42.75.146	0.00	-.24

When the same test is applied to the individual neighbourhoods (Table 40), the conclusion is again somewhat less than clear. It would appear that in most cases, the satisfaction with neighbourhood felt by each area operates independently of income level; that is, the pattern of responses among the three levels of satisfaction does not show a significant shift as income increases or decreases. From our earlier findings concerning the effect of the overall socio-economic status of an area on satisfaction, this result was an expected one.

When other measures of socio-economic status (male occupation, Table 41; male education level, Table 42) are held constant, it was again found that no clear, overall pattern emerged in the association between satisfaction and either of the above items. Again, there was considerable variation in the strength of the association between categories and also in their significance. One thing was noticeable, however. For each of the three measures of socio-economic status, when only the highest two categories were considered (containing in each case no less than 80% of the overall responses), it was found that the Gamma figure measuring the strength of the correlation decreased significantly as the measure of status rose from the second highest to the highest category. A conclusion which could be drawn from such a pattern is that as one's social and economic status increases, the actual physical layout of one's neighbourhood becomes less important, as other factors become more significant to the person in question. The question remains, then; is physical planning as represented by street pattern important to any population group?

Table 40

SATISFACTION BY NEIGHBOURHOOD BY INCOME  
(Neighbourhoods Grouped by Street Layout)

(Number of Responses)

	<u>INCOME</u>			
	\$5000- 6999	\$7000- 10999	\$11000- 14999	\$15000 and up
<u>SATISFACTION</u>				
3 = 'low/mixed'	3.4.5	3.4.5	3.4.5	3.4.5
4 = 'satisfied'				
5 = 'very satisfied'				
<u>BAY NEIGHBOURHOODS</u>				
Westwood	-	1.1.0	0.2.0	2.20.25
Windsor Park	1.0.0	0.1.0	0.5.0	4.23.29
Wildwood	0.0.1	0.0.4	0.3.5	2.11.60
<u>GRID NEIGHBOURHOODS</u>				
West End	4.1.0	4.2.1	5.1.0	5.1.0
St. Boniface	1.2.0	0.2.1	3.5.3	3.8.1
Brooklands	9.2.2	4.2.0	6.2.0	6.2.0
Elmwood	3.4.1	5.1.1	1.6.0	11.3.2
Transcona	0.2.1	2.1.1	2.9.2	1.14.5
Wolseley	3.3.0	4.2.1	6.4.0	12.6.2
Elm Park	0.2.1	0.1.1	0.5.2	2.19.16
Tuxedo	-	0.0.1	0.0.1	2.6.41
Norwood	0.2.1	0.3.2	0.3.3	0.9.32
Woodhaven	0.1.1	1.0.7	1.4.2	0.7.47

Table 41

SATISFACTION BY STREET LAYOUT BY MALE OCCUPATION  
(Number of Responses)

SATISFACTION	STREET LAYOUT		$\chi^2$	G
	BAY	GRID		
3 = 'low/mixed'				
4 = 'satisfied'	3.4.5	3.4.5		
5 = 'very satisfied'				
<hr/>				
MALE OCCUPATION				
Labour	0.2.5	10.21.8	.02	-.83
Social Services	0.3.9	5.11.16	.21	-.54
Business/Sales	1.7.7	22.26.16	.07	-.52
Managerial/ Professional	7.46.85	20.48.107	.10	-.05

Table 42

SATISFACTION BY STREET LAYOUT BY MALE EDUCATION  
(Number of Responses)

SATISFACTION	STREET LAYOUT		$\chi^2$	G
	BAY	GRID		
3 = 'low/mixed'	3.4.5	3.4.5		
4 = 'satisfied'				
5 = 'very satisfied'				
<hr/>				
MALE EDUCATION				
Elementary	0.1.3	11.24.4	0.00	-.93
High School/ Technical College	3.32.42	50.65.65	0.00	-.44
University	6.30.72	19.37.101	.18	-.09



One of the last tests to be made is to control the association between street layout and neighbourhood satisfaction for location within the city. All of the 'bay' areas in the sample are in 'suburban' locations, while the 'grids' are in both 'suburban' and 'inner city' locations. Perhaps, then, the 'inner city grids' are less satisfied than the 'suburban grids', and are bringing down their overall result, thus making 'bay' areas appear to be more satisfied. However, as Table 43 shows, the negative association between the two variables remains fairly strong, although the Gamma value has decreased from -0.43 in the uncontrolled correlation to -0.33 in the one controlled for location. From the variation in responses between 'inner city' and 'suburban' 'grids', it would appear that a 'suburban' location is associated with higher levels of neighbourhood satisfaction than an 'inner city' location.

The results obtained through the testing of this hypothesis can be summarized in the following manner:

- a relatively high association exists between 'bay' street patterns and higher levels of neighbourhood satisfaction.  
(Table 33)
  
- when individual neighbourhoods of each street layout are examined, some 'grid' areas exhibit higher levels of satisfaction than some 'bay' neighbourhoods. All 'bay' neighbourhoods rank highly in this regard, though.  
(Table 38)

Table 43

SATISFACTION BY STREET LAYOUT BY NEIGHBOURHOOD LOCATION  
(in Percent)

<u>SATISFACTION</u>	<u>NEIGHBOURHOOD LOCATION</u>				
	<u>SUBURBAN</u>				<u>INNER CITY</u>
3 = 'low/mixed'					
4 = 'satisfied'	3	4	5	3	4
5 = 'very satisfied'					5

---

<u>STREET PATTERN</u>					
Bay	5.0%	33.2%	61.9%	-	NO CASES -
	(100% (202))				
Grid	19.5%	33.0%	47.5%	33.1%	36.3%
	(100% (294))				
				(100% (157))	

$\chi^2 = 0.00$

no

G = -.33

statistics

- when the correlation between street pattern and neighbourhood satisfaction is examined within each income category, it is found that the significance and strength of this association varies widely; responses in the two income categories showing significant  $\chi^2$  values between street pattern and satisfaction show a very strong correlation in the \$11000 - \$14999 category ( $G = -.62$ ) and a much weaker one in the highest income category ( $G = -.24$ ). (Table 39)
  
- this pattern is repeated when the correlation is controlled for each of the two other socio-economic status items (male occupation and education). In each case, the strength of the correlation decreases as status increases. (Table 41, 42)
  
- when the correlation is again controlled for income and the responses for individual neighbourhoods are examined, it becomes evident that a consistent pattern of satisfaction is found in each income category. In other words, satisfaction in both 'bay' and 'grid' areas does not increase with income, but maintains a similar distribution regardless of income. As pointed out previously, the overall socio-economic status of the neighbourhoods appears to have a stronger effect on the satisfaction of their residents than the street layout. However, we also saw that some variation in satisfaction levels occurs

within each group of neighbourhoods. (Table 40)

- when the correlation between satisfaction and street layout was controlled for the location of the neighbourhoods within the city, there was a relatively high association between 'bay' areas and higher levels of satisfaction ( $G = -.33$ ). A higher level of satisfaction was reported in 'bay' areas than in 'grid' areas, and 'suburban grid' areas reported higher satisfaction levels than 'inner city grids'. (Table 43)

It is obvious from the results that this is a complex relationship about which few definite conclusions can be reached. 'Bay' neighbourhoods do appear to be among the most highly satisfied, but this effect is partly removed by the status of the respondent. In some cases, however, the effect is strengthened. From these results and from logical analysis, it seems safe to assume that as socio-economic status increases, the impact of street layout on one's satisfaction with neighbourhood lessens. But are we in turn to assume from this that street layout does have a significant effect at some status levels? This must remain unanswered at present, although some discussion of the question will be made in the final section of this chapter which deals with the problems and findings of the study which go beyond the immediate scope of the hypotheses. For now, due to the confused nature of the data, it would seem safer to reject the hypothesis pending the acquisition of further results.

#### 4.3.5 Hypothesis Five

Hypothesis Five The higher the level of general neighbourhood maintenance (in terms of house and yard upkeep), the higher the residents' satisfaction with that neighbourhood will be.

Two measures of 'general neighbourhood maintenance' will be used in testing this hypothesis: #29., "To what extent would you agree with the statement: "Walking through my neighbourhood is a pleasant experience."", and #32., "To what extent would you agree with the following statement: "My neighbourhood's streets and houses are attractive."". When the responses to these items are crosstabulated with the one measuring satisfaction with neighbourhood (#37., "On the whole, how satisfied are you with your neighbourhood?"), the results for question #29 are  $\chi^2 = 0.00$  and  $G = .87$ , and for #32,  $\chi^2 = 0.00$  and  $G = .78$  (see Table 44), indicating a high degree of correlation between the sense that one's neighbourhood presents a well-cared for appearance and the feeling of satisfaction with that neighbourhood. This correlation is also clearly exhibited by the majority of the neighbourhoods in the study for both items (see Table 45).

When the two correlations are controlled for the income of the respondents, the association remains strong at every level (see Table 46; minimum  $G = .70$ ). When controlled for layout (see Table 47) the association again remains strong except in the crosstabulation of 'Satisfaction with Neighbourhood' with question #32 (...streets and houses are attractive...) when controlled for 'bay' areas, where the  $\chi^2$  drops to 0.15 and the  $G$  to 0.32. This considerable reduction in the significance and strength of the association in this instance can most

Table 44

SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Question #29)  
 SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Question #32)  
 (Number of Responses)

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #29)

	Very Unattractive 1	2	3	4	Very Attractive 5
<u>SATISFACTION</u>					
'low/mixed'	25	33	18	32	8
'satisfied'	1	10	21	128	61
'very satisfied'	0	1	2	50	261
	$\chi^2 = 0.00$		$G = .87$		

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #32)

	Very Unattractive 1	2	3	4	Very Attractive 5
<u>SATISFACTION</u>					
'low/mixed'	23	40	19	31	4
'satisfied'	4	12	21	146	39
'very satisfied'	0	3	7	133	171
	$\chi^2 = 0.00$		$G = .78$		

Table 45

SATISFACTION BY NEIGHBOURHOOD BY MAINTENANCE/ATTRACTIVENESS  
(Question #29)  
(Number of Responses)

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #29)

<u>SATISFACTION</u>	Very Unattractive				Very Attractive
	1	2	3	4	5
3 = 'low/mixed'					
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'					
<hr/>					
<u>NEIGHBOURHOOD NAME</u>					
West End	5.0.0	9.1.0	2.2.0	2.2.1	-
St. Boniface	-	1.2.0	1.3.0	5.8.3	0.5.2
Brooklands	12.0.0	9.2.0	1.2.0	3.4.2	-
Elmwood	2.0.0	6.2.0	8.4.0	4.8.3	0.0.1
Transcona	0.1.0	-	2.4.0	3.16.4	0.6.5
Wolseley	5.0.0	7.0.1	1.1.0	9.9.0	2.5.2
Westwood	1.0.0	1.0.0	0.1.0	0.21.12	1.1.13
Elm Park	-	0.3.0	1.0.0	1.18.5	0.7.16
Tuxedo	-	-	-	1.4.0	1.4.46
Norwood	-	-	0.1.0	0.12.7	1.6.32
Windsor Park	-	-	2.3.2	3.20.8	0.6.19
Woodhaven	-	-	-	1.3.4	1.9.55
Wildwood	-	-	-	0.3.1	2.12.70
<hr/>					
$\chi^2$	0.00	.05	.53	0.00	0.00
G	.52	.27	.22	.26	.26

Table 45 (continued)

## SATISFACTION BY NEIGHBOURHOOD BY MAINTENANCE/ATTRACTIVENESS

(Question #32)

(Number of Responses)

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #32)

<u>SATISFACTION</u>	Very Unattractive				Very Attractive
	1	2	3	4	5
3 = 'low/mixed'					
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'					
<hr/>					
<u>NEIGHBOURHOOD NAME</u>					
West End	4.0.0	9.1.0	2.3.1	3.1.0	-
St. Boniface	1.0.0	2.2.1	1.2.0	3.14.3	0.0.1
Brooklands	14.3.0	5.1.0	3.2.0	3.2.2	-
Elmwood	2.0.0	8.3.0	6.1.0	4.11.3	0.0.1
Transcona	0.1.0	2.1.0	1.2.2	2.22.6	0.1.1
Wolseley	2.0.0	14.0.0	5.5.0	4.10.3	-
Westwood	-	-	0.1.0	2.11.11	1.11.14
Elm Park	-	0.3.1	0.3.0	2.20.12	0.2.8
Tuxedo	-	-	-	0.4.4	2.4.42
Norwood	-	-	-	1.15.24	0.4.15
Windsor Park	-	-	0.1.0	5.22.12	0.6.17
Woodhaven	-	-	0.1.0	1.10.22	1.1.37
Wildwood	-	0.1.1	1.0.4	1.4.31	0.10.35
<hr/>					
$\chi^2$	.19	0.00	.01	0.00	.08
G	.44	.27	.33	.46	.20



Table 46

SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Qu. #29) BY INCOME  
 SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Qu. #32) BY INCOME  
 (Number of Responses)

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #29)

	Very Unattractive 1	2	3	4	Very Attractive 5		
<u>SATISFACTION</u>							
3 = 'low/mixed'							
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5	$\chi^2$	G
5 = 'very satisfied'							
<u>INCOME</u>							
\$5000 - 6999	5.0.0.	9.2.0	1.2.0	5.11.2	0.3.6	0.00	.90
\$7000 - 10999	6.0.0	5.2.0	2.2.0	7.7.4	0.5.16	0.00	.88
\$11000 - 14999	6.0.0.	6.3.0	3.4.0	6.27.7	2.15.11	0.00	.73
\$15000 and up	8.1.0	11.3.1	12.12.2	14.76.37	5.37.220	0.00	.86

PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #32)

	Very Unattractive 1	2	3	4	Very Attractive 5		
<u>SATISFACTION</u>							
3 = 'low/mixed'							
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5	$\chi^2$	G
5 = 'very satisfied'							
<u>INCOME</u>							
\$5000 - 6999	4.0.0	7.2.0	5.3.0	4.14.6	0.0.2	0.00	.88
\$7000 - 10999	5.2.0	7.0.0	3.2.2	5.9.9	0.3.9	0.00	.75
\$11000 - 14999	7.1.0	8.4.1	3.4.1	5.34.9	1.6.7	0.00	.70
\$15000 and up	6.1.0	17.6.2	8.11.4	16.82.106	3.29.148	0.00	.73

Table 47

SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Qu. #29) BY STREET LAYOUT  
 SATISFACTION BY MAINTENANCE/ATTRACTIVENESS (Qu. #32) BY STREET LAYOUT  
 (Number of Responses)

		PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #29)						
		Very Unattractive 1	2	3	4	Very Attractive 5		
<u>SATISFACTION</u>							x <sup>2</sup>	G
3 = 'low/mixed'								
4 = 'satisfied'		3.4.5	3.4.5	3.4.5	3.4.5	3.4.5		
5 = 'very satisfied'								
<u>STREET LAYOUT</u>								
Bay		1.0.0	1.0.0	2.4.2	3.44.21	3.19.102	0.00	.78
Grid		24.1.0	32.10.1	16.17.0	29.84.29	5.42.159	0.00	.88
		PERCEIVED NEIGHBOURHOOD ATTRACTIVENESS (Qu. #32)						
		Very Unattractive 1	2	3	4	Very Attractive 5		
<u>SATISFACTION</u>							x <sup>2</sup>	G
3 = 'low/mixed'								
4 = 'satisfied'		3.4.5	3.4.5	3.4.5	3.4.5	3.4.5		
5 = 'very satisfied'								
<u>STREET LAYOUT</u>								
Bay		-	0.1.1	1.2.4	8.37.54	1.27.66	.15	.32
Grid		23.4.0	40.11.2	18.19.3	23.109.79	3.12.105	0.00	.86

likely be attributed to the distribution of responses within this cross-tabulation, which leaves many empty or near empty cells while most responses are concentrated in only a few cells representing an approximately even split between two of the categories. A similar effect is observed when this particular crosstabulation is controlled for layout and income, and also for layout and neighbourhood location. This effect is not produced when controlling for anything other than layout, nor is it produced when using the other measure of neighbourhood maintenance. Since these two measures were so highly related in the  $P^2$  test (see section 4.1.10), it is assumed that this reduction in significance and strength is the result of the mechanics of calculating the statistics when such a data distribution is present, rather than due to any 'real' condition.

When both crosstabulations are controlled for street layout and for income, each income group in each street pattern showed a strongly positive correlation between neighbourhood maintenance and neighbourhood satisfaction (except in the one case described in the previous paragraph). The same holds true where both street layout and neighbourhood location (characterized as either 'inner city' or 'suburban') are held constant. In addition, in every case where separate observations are made for 'bay' and 'grid' areas, the 'bay' areas consistently show a higher percentage of responses in the uppermost category of both neighbourhood maintenance and of satisfaction.

The testing of the hypothesis led to the following conclusions:

- both measures of neighbourhood maintenance are strongly associated with neighbourhood satisfaction, although more people felt that their neighbourhood's streets provided a

'very pleasant' environment to walk in than felt that the streets and houses of that neighbourhood were 'very attractive'. (Table 44)

- for both measures of neighbourhood maintenance, the responses of the majority of the tested neighbourhoods clearly showed the relationship between a higher level of maintenance and a higher level of satisfaction with that neighbourhood. (Table 45)
- both measures, when controlled for family income, showed that each income level was characterized by a strong positive correlation between the independent and the dependent variables. (Table 46)
- both measures, when controlled for street layout pattern, continue to show a high positive correlation between the independent and dependent variables. Also for both measures, 'bay' layouts show higher percentages of respondents in the highest categories of both 'Satisfaction with Neighbourhood' and 'Neighbourhood Maintenance' than 'grid' areas. (Table 47)
- when street layout and income were held constant, both measures showed a strong positive correlation between neighbourhood satisfaction and neighbourhood maintenance for every income level in both types of street patterns. Again, all 'bay' areas showed a consistently higher

number of responses in the highest categories of satisfaction and maintenance than the 'grid' areas.

- when the crosstabulations were controlled for both street layout and neighbourhood location within the city, the association remained strong, and 'bays' showed more responses in the highest categories than 'grids'. At the same time, and for both measures of maintenance, the 'suburban grids' showed more responses in the highest categories than the 'inner city grids'.

On the basis of these responses showing the consistently strong and positive association between neighbourhood maintenance and satisfaction with neighbourhood regardless of socio-economic or physical conditions, this hypothesis should be considered as accepted.

#### 4.3.6 Hypothesis Six

Hypothesis Six     As the degree of perceived 'friendliness' of one's neighbours increases, the feelings of satisfaction that a person holds towards their neighbourhood will increase as well.

One item stood out as the 'best' measure of the independent variable in this hypothesis, with that being question #16: "On the whole, do you like or dislike the people in your neighbourhood?". The results of the simple crosstabulation of this item with the one measuring 'Satisfaction with Neighbourhood' are shown in Table 48, which indicates that there is a high degree of correlation between the two variables ( $X^2 = 0.00$ ,  $G = .77$ ). Similarly, the results among each of the thirteen neighbourhoods (Table 49) show that a feeling of friendliness toward one's

Table 48

SATISFACTION BY PERCEIVED 'FRIENDLINESS' OF NEIGHBOURHOOD  
(Number of Responses)

	<u>PERCEIVED 'FRIENDLINESS' OF NEIGHBOURHOOD</u>				
	Very 'Unfriendly' 1	2	3	4	Very 'Friendly' 5
<u>SATISFACTION</u>					
'low/mixed'	3	3	70	35	8
'satisfied'	1	1	41	128	51
'very satisfied'	0	0	11	96	205
	$\chi^2 = 0.00$		G = .77		

Table 49

SATISFACTION BY NEIGHBOURHOOD BY 'FRIENDLINESS'  
(Number of Responses)

PERCEIVED 'FRIENDLINESS' OF NEIGHBOURHOOD

<u>SATISFACTION</u>	Very 'Unfriendly' 1	2	3	4	Very 'Friendly' 5
3 = 'low/mixed'					
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'					
<hr/>					
<u>NEIGHBOURHOOD NAME</u>					
West End	1.0.0	1.0.0	11.0.0	4.4.1	1.1.0
St. Boniface	-	-	7.2.0	0.11.2	1.5.3
Brooklands	0.1.0	-	14.3.0	10.3.0	3.1.2
Elmwood	-	-	11.6.0	8.6.2	0.3.2
Transcona	-	-	2.4.1	2.20.3	1.3.5
Wolseley	2.0.0	1.0.0	16.7.0	6.7.3	0.1.0
Westwood	-	-	1.3.0	1.15.6	1.15.8
Elm Park	-	-	1.4.0	1.18.9	0.6.12
Tuxedo	-	0.1.0	2.3.3	0.3.17	0.1.26
Norwood	-	-	1.2.1	0.8.16	0.9.22
Windsor Park	-	-	2.4.1	3.14.10	0.11.18
Woodhaven	-	-	1.1.3	0.10.15	1.1.40
Wildwood	-	1.0.0	1.2.2	0.9.12	0.4.57
<hr/>					
$\chi^2$	.14	.26	0.00	0.00	0.00
G	-.33	.33	.61	.50	.50

fellow residents is associated with a higher level of satisfaction with one's neighbourhood.

This assumption is supported by the distribution of responses in Table 50 which shows the results of this correlation while controlling for the variation in income among the respondents. This table shows that most responses, regardless of income, occur in the upper three categories of the independent variable, and that the strength of the positive correlation between the two variables is very high (minimum  $G = .76$ ).

The strength of the correlation remains correspondingly high in both of the cases produced by holding street layout pattern constant (see Table 51). In addition, the responses in the 'bay' areas are higher in terms of being 'very satisfied' with one's neighbourhood by some 15%, and higher in terms of liking the people in the neighbourhood 'very much' by close to 30%, when compared with the responses found in the 'grid' areas.

When both street layout and income are held constant, the association between liking the people in one's neighbourhood and being satisfied with that neighbourhood continues to be clearly supported, with the minimum Gamma value being .71. As in the last correlation, for each income category the percentage of respondents in the uppermost categories of both satisfaction and of liking the people in the neighbourhood was significantly higher in 'bay' areas than in 'grids'.

Examining the association between satisfaction and liking one's neighbours in 'bay' and 'grid' neighbourhoods in the 'inner city' and the 'suburbs' shows that the effect of the location of the neighbour-



Table 50

SATISFACTION BY 'FRIENDLINESS' BY INCOME  
(Number of Responses)

PERCEIVED 'FRIENDLINESS' OF NEIGHBOURHOOD

	Very 'Unfriendly' 1	2	3	4	Very 'Friendly' 5		
<u>SATISFACTION</u>							
3 = 'low/mixed'							
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5	$\chi^2$	G
5 = 'very satisfied'							
<u>INCOME</u>							
\$5000 - 6999	-	-	12.3.0	7.9.1	2.7.7	0.00	.80
\$7000 - 10999	-	-	12.2.0	8.8.7	1.6.13	0.00	.81
\$11000 - 14999	1.1.0	-	16.11.0	4.30.3	3.7.15	0.00	.77
\$15000 and up	2.0.0	3.0.0	27.24.11	15.76.83	2.29.164	0.00	.76

Table 51

SATISFACTION BY 'FRIENDLINESS' BY STREET LAYOUT  
(Number of Responses)

		<u>PERCEIVED 'FRIENDLINESS' OF NEIGHBOURHOOD</u>						
		Very 'Unfriendly' 1	2	3	4	Very 'Friendly' 5		
<u>SATISFACTION</u>								
3 = 'low/mixed'								
4 = 'satisfied'		3.4.5	3.4.5	3.4.5	3.4.5	3.4.5	$\chi^2$	G
5 = 'very satisfied'								
<u>STREET LAYOUT</u>								
Bay	-	1.0.0	4.9.3	4.38.28	1.20.93	0.00	.75	
Grid		3.1.0	2.1.0	66.32.8	31.90.68	7.31.112	0.00	.75

hoods on the correlation is not significant. It also shows that 'bay' areas continue to have the larger proportion of responses in the uppermost categories of each variable, although the responses for the 'suburban grids' are somewhat higher than those of the 'inner city grids'.

The results of testing this hypothesis can be summarized as follows:

- there is a high degree of correlation ( $G = .77$ ) between liking the people in one's neighbourhood and being satisfied with that neighbourhood. (Table 48)
- the above correlation remains strong in the responses for each individual neighbourhood as well as for the sample as a whole. (Table 49)
- the correlation of the dependent and independent variables remains strong in each income category. (Table 50)
- the correlation remains very strong in areas of each type of street layout pattern, with 'bay' areas having higher levels of both satisfaction and of liking one's neighbours.
- when both street pattern and income are held constant, the correlation remains very strong in each income category for each type of street layout. In addition, 'bay' areas again show higher satisfaction and a greater liking of the other people in the neighbourhood than

'grid' areas show.

- finally, when holding constant street pattern and each neighbourhood's location within the city, the correlation still remains strong, and 'bay' areas have more responses (in terms of percentages) in higher categories than do 'grids'.

In conclusion, then, it seems that we are justified in assuming that as the perceived 'friendliness' of one's neighbours increases, one's satisfaction with neighbourhood increases correspondingly. The question remains, then, as to what factors tend to produce or encourage the liking of one's neighbours. This question will be addressed in the final section of this chapter following the discussion of the hypotheses.

#### 4.3.7 Hypothesis Seven

Hypothesis Seven The more homogeneous a neighbourhood's population is (in terms of its socio-economic status), the higher the level of satisfaction felt by those people will be.

In section 4.1.8, Tuxedo and Westwood were identified as the most homogeneous neighbourhoods of the thirteen, while Norwood and Wildwood were ranked as 'somewhat' homogeneous. At the same time, two areas were 'somewhat' heterogeneous (Brooklands and Transcona), while two were 'predominantly' heterogeneous (Elmwood and Wolseley) according to the criteria used in this study. To test this hypothesis, two avenues must be explored. Firstly, 'Satisfaction with Neighbourhood' among these neighbourhoods must be compared, to see if satisfaction is indeed higher among more homogeneous areas than among those which are comparatively

heterogeneous.

Table 52 shows the simple distribution of 'Satisfaction with Neighbourhood' among the eight neighbourhoods (grouped in pairs ranging from 'predominantly heterogeneous' to 'predominantly homogeneous'). From this, we can see that there is a high degree of correlation between homogeneity and higher levels of satisfaction, and between heterogeneity and lower levels of satisfaction ( $\chi^2 = 0.00$ ,  $G = -0.57$ ). However, further examination indicates that the four homogeneous neighbourhoods are all of 'higher' socio-economic status, while the heterogeneous areas are all characterized by relatively 'lower' scores on the items measuring socio-economic status.

Therefore, a second avenue must be explored, in which the satisfaction levels among the eight neighbourhoods are tabulated while controlling for family income, in order to account for any bias introduced by the existing variations in economic status.

In order to do this, the economic component of socio-economic status (one of the three measures of homogeneity and heterogeneity, along with life cycle stage and ethnic diversity) must be eliminated in order to maintain statistical accuracy and relevance when controlling the correlation for that same factor. When the neighbourhoods are re-evaluated to account for this, however, no change was found to result in their initial characterization as being homogeneous or heterogeneous. Therefore the correlation was performed as intended, as shown in Table 53.

From this, we can see that homogeneity and higher levels of neighbourhood satisfaction remain highly associated in each of the income

Table 52

SATISFACTION BY NEIGHBOURHOOD HOMO/HETEROGENEITY  
(in Percent)

Neighbourhood Name	<u>CHARACTERIZATION</u>	'Low/ Mixed'	<u>SATISFACTION</u>		Totals
			'Satisfied'	'Very Satisfied'	
Tuxedo	'Predominantly	3.6	14.3	82.1	100% (56)
Westwood	Homogeneous'	5.9	45.1	49.0	100% (51)
Norwood	'Somewhat	1.7	32.2	66.1	100% (59)
Wildwood	Homogeneous'	2.3	17.0	80.7	100% (88)
Brooklands	'Somewhat	73.0	21.6	5.4	100% (37)
Transcona	Heterogeneous'	12.2	65.9	22.0	100% (41)
Elmwood	'Predominantly	51.3	38.5	10.3	100% (39)
Molseley	Heterogeneous'	58.1	34.9	7.0	100% (43)

$\chi^2 = 0.00$        $G = -.57$

Table 53

## SATISFACTION BY NEIGHBOURHOOD HOMO/HETEROGENEITY BY INCOME

(Number of Responses)

SATISFACTION	INCOME			
	\$5000- \$6999	\$7000- 10999	\$11000- 14999	\$15000 and up
3 = 'low/mixed'				
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'				

NEIGHBOURHOOD NAME	CHARACTERIZATION				
Tuxedo	'Predominantly	-	0.0.1	0.0.1	2.6.41
Westwood	Homogeneous'	-	1.1.0	0.2.0	2.20.25
Norwood	'Somewhat	0.2.1	0.3.2	0.3.3	0.9.32
Wildwood	Homogeneous'	0.0.1	0.0.4	0.3.5	2.11.60
Brooklands	'Somewhat	9.2.2	4.2.0	6.2.0	6.2.0
Transcona	Heterogeneous'	0.2.1	2.1.1	2.9.2	1.14.5
Elmwood	'Predominantly	3.4.1	5.1.1	1.6.0	11.3.2
Wolseley	Heterogeneous'	3.3.0	4.2.1	6.4.0	12.6.2
	$\chi^2$	.14	.05	0.00	0.00
	G	-.15	-.41	-.51	-.49

categories except the lowest one (\$5000 - \$6999 per year), where the low strength of the association can be largely attributed to the very low number of respondents in this category among the homogeneous neighbourhoods. Among the three remaining income categories, the lowest Gamma value is -0.41 (which is still quite strong), with the higher satisfaction levels again occurring among the homogeneous areas and the lower satisfaction levels among the heterogeneous areas.

A brief examination of the effect of physical factors on the relationship between heterogeneity and satisfaction indicates that neither street layout pattern nor neighbourhood location significantly affects the positive correlation between the two variables. It should be noted that this was not an unexpected result.

However, even though both tests of the correlation support the hypothesis, other factors may be intervening in this relationship which have not yet been identified. For example, Westwood, which was characterized as a 'predominantly' homogeneous neighbourhood, shows a lower satisfaction level than either of the 'somewhat' homogeneous areas. Similarly, Brooklands (a 'somewhat' heterogeneous neighbourhood) has a satisfaction level lower than either of the 'predominantly' heterogeneous areas. A limited amount of further testing failed to turn up a variable (or variables) to account for these results.

So, even though the data indicates a general support for this hypothesis, enough questions remain to preclude its outright acceptance without a better understanding of the other factors which may have an influence upon it. Some discussion of this will be made in the final section of this chapter.



#### 4.3.8 Hypothesis Eight

Hypothesis Eight The higher the degree of perceived privacy available to a neighbourhood's residents, the higher their satisfaction levels will be.

The most basic test of this hypothesis is the correlation between the responses to the dependent variable (satisfaction) and those of item #34: "To what extent would you agree with the statement: "The layout of streets and housing in my neighbourhood provides me with enough privacy."". Tables 54 and 55 show the results of this correlation for the sample as a whole and when broken down by neighbourhood of residence. From this data, we can see that the perception of a higher degree of privacy is associated with higher levels of satisfaction with neighbourhood for both aggregates and grouped responses.

To test this result further, we will examine the correlation again while controlling for socio-economic and then physical layout variables (see Tables 56 and 57). In the former case, we can see that the correlation between higher levels of perceived privacy and higher levels of satisfaction remains strong (minimum Gamma value of .76) regardless of the family income of the respondent. In the latter correlation the Gamma value for the 'bay' neighbourhoods, while still high, is considerably lower than that of the 'grid' neighbourhoods. At the same time, however, some 52% of the 'bay' residents strongly agree that their neighbourhoods provide them with enough privacy and 62% are very satisfied with their neighbourhood, while the same figure for the 'grid' areas are 36% and 42% respectively.

Of course, all of the 'bay' areas are located in suburban areas, and some of the 'grids' are in the inner city, which might lower the

Table 54

SATISFACTION BY PRIVACY  
(Number of Responses)

	<u>PERCEIVED PRIVACY</u>				
	No Privacy 1	2	3	4	Very Private 5
<u>SATISFACTION</u>					
'low/mixed'	27	35	9	37	10
'satisfied'	4	19	22	131	45
'very satisfied'	1	4	0	96	213

$$\chi^2 = 0.00 \quad G = .79$$

Table 55

SATISFACTION BY NEIGHBOURHOOD BY PRIVACY  
(Number of Responses)

<u>SATISFACTION</u>	<u>PERCEIVED PRIVACY</u>				
	No Privacy 1	2	3	4	Very Private 5
3 = 'low/mixed'					
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5
5 = 'very satisfied'					
<hr/>					
<u>NEIGHBOURHOOD NAME</u>					
West End	6.0.0	8.1.0	0.1.0	4.3.0	0.0.1
St. Boniface	0.2.1	3.3.0	1.2.0	4.10.2	0.1.2
Brooklands	4.0.0	7.1.0	1.1.0	11.6.1	2.0.1
Elmwood	7.0.0	5.2.0	2.0.0	5.13.1	1.0.3
Transcona	-	0.2.0	1.3.0	4.18.4	0.3.5
Wolseley	9.1.0	10.4.1	2.2.0	4.8.2	-
Westwood	-	1.0.0	1.4.0	1.14.10	0.5.15
Elm Park	-	1.4.0	0.2.0	1.16.7	0.6.14
Tuxedo	-	-	0.2.0	0.2.6	2.4.40
Norwood	-	-	0.2.0	0.10.20	1.7.19
Windsor Park	1.0.0	0.0.3	1.3.0	1.19.11	2.7.15
Woodhaven	0.1.0	0.2.0	-	1.6.13	1.3.46
Wildwood	-	-	-	1.6.19	1.9.52
<hr/>					
$\chi^2$	0.00	0.00	.04	0.00	0.00
G	-.03	.53	.36	.57	.20

Table 56

SATISFACTION BY PRIVACY BY INCOME  
(Number of Responses)

	<u>PERCEIVED PRIVACY</u>					$\chi^2$	G
	No Privacy 1	2	3	4	Very Private 5		
<u>SATISFACTION</u>							
3 = 'low/mixed'							
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5		
5 = 'very satisfied'							
<u>INCOME</u>							
\$5000 - 6999	4.0.0	5.2.0	2.1.0	9.14.2	0.2.6	0.00	.86
\$7000 - 10999	5.1.0	4.2.0	2.3.0	7.6.4	2.4.16	0.00	.76
\$11000 - 14999	4.0.1	12.5.0	2.4.0	6.33.8	0.7.9	0.00	.80
\$15000 and up	14.3.0	13.10.4	3.13.0	14.72.80	6.30.176	0.00	.76

Table 57

SATISFACTION BY PRIVACY BY STREET LAYOUT  
(Number of Responses)

	<u>PERCEIVED PRIVACY</u>						
	No Privacy 1	2	3	4	Very Private 5		
<u>SATISFACTION</u>							
3 = 'low/mixed'							
4 = 'satisfied'	3.4.5	3.4.5	3.4.5	3.4.5	3.4.5	$\chi^2$	G
5 = 'very satisfied'							
<u>STREET LAYOUT</u>							
Bay	1.0.0	1.0.3	2.7.0	3.39.40	3.21.82	0.0	.58
Grid	26.4.1	34.19.1	7.15.0	34.92.56	7.24.131	0.0	.82

overall level of perceived privacy for the 'grid' areas. When this is accounted for we find that the 'suburban grids' still show a high correlation between higher privacy and higher satisfaction (as do the 'inner city grids'), and a lower level of perceived privacy and satisfaction than the 'bay' areas.

As a final test, we will look at the basic correlation while controlling for street layout and income. Again, this shows that the relationship between 'perceived privacy' and 'satisfaction with neighbourhood' is essentially independent of income in both 'bay' and 'grid' layouts, and that both perceived privacy and satisfaction levels are higher in 'bay' areas regardless of income. Also recurring in this particular test are the clear differences in the pattern of the responses of those who 'agree strongly', those who 'agree', and those in all of the lower categories combined.

The findings connected with the testing of this hypothesis can be summarized as follows:

- the level of perceived privacy and the level of satisfaction with neighbourhood show a strong positive correlation ( $G = .79$ ). (Table 54)
- within almost all of the thirteen neighbourhoods tested, a higher degree of perceived privacy was clearly associated with higher levels of neighbourhood satisfaction. (Table 55)
- within each income category, a higher degree of privacy was strongly associated with higher levels of neighbour-

hood satisfaction. (Table 56)

- for both types of street patterns, higher levels of perceived privacy were associated with higher levels of neighbourhood satisfaction, with 'bay' street layouts showing slightly higher levels of both perceived privacy and satisfaction. (Table 57)
- when both street pattern and neighbourhood location ('inner city' or 'suburban') were held constant, both layout types in each location showed a high, positive correlation between privacy and satisfaction, with 'bay' street patterns showing slightly higher levels of perceived privacy and neighbourhood satisfaction.
- when both income and street pattern were held constant in the correlation, each income category in both layouts showed a strong, positive association between privacy and satisfaction, with 'bay' street patterns showing slightly higher levels of both privacy and satisfaction.

On the basis of these findings, it would seem safe to accept the hypothesis that higher levels of perceived privacy are indeed associated with higher levels of neighbourhood satisfaction.

In the final section of this chapter, those additional relationships uncovered by the testing of the hypotheses will be discussed, as will several others which were found while examining the data in preparation for its analysis. In the interest of brevity, these will not be

exhaustive examinations, but will be presented as 'supported hypotheses', to await final confirmation or refutation in future studies.

#### 4.4 Additional Results

Only four of the eleven sub-sections contained within the hypotheses earned outright acceptance from the analysis of the residents' responses. We saw that satisfaction with one's neighbourhood could be predicted well by a person's feelings of perceived privacy, by their feelings of their neighbourhood's 'friendliness', and by the perceived level of neighbourhood maintenance. We also saw that socio-economic and physical design variables did appear to have some influence on a person's feelings of satisfaction with neighbourhood, although this influence was apparently not strong enough to produce even approximately equal satisfaction levels among 'similar' groups of people living in 'similar' physical surroundings. This led to the question of whether a person's satisfaction can be predicted by observable characteristics at all, or whether their perceptions were the real key to this relationship.

The results of the testing procedures often ended by raising additional questions such as the one above. In addition, many other relationships were put forward in the literature review which could be tested through the analysis of the available data. However, this would be a lengthy procedure which would most likely raise other equally interesting questions. For this reason, only a few of the additional questions raised will be addressed, and their analyses will be brief.



#### 4.4.1 Additional Findings - Satisfaction

The procedures used in testing the hypotheses yielded a considerable amount of information related to neighbourhood satisfaction. In addition to these findings, several other relationships were discovered or suggested which were not immediately relevant to the testing, but which did deserve some discussion.

Firstly, we saw from the preliminary analysis of the data that the responses to question 37.: "On the whole, how satisfied are you with your neighbourhood?" had to be recombined into three categories from the original five, with the lower three responses ('very dissatisfied', 'dissatisfied', and 'mixed feelings') being collapsed into a single category, and the upper two ('satisfied' and 'very satisfied') remaining unchanged. The distribution of responses within the original five categories (refer to Table 3) was not, however, the only reason for this recombination.

One of the other findings of the initial analyses was that the responses within the lowest three of the five categories of 'Satisfaction with Neighbourhood', when crosstabulated with other variables, showed a high degree of similarity among themselves, especially among those items which showed a high degree of association with satisfaction. For example, the perception of one's neighbourhood as 'friendly', the degree of neighbourhood maintenance, and the degree of privacy were all found to correlate well with satisfaction, and the results of their cross-tabulations with the dependent variable (see Table 58) show that the 'breakpoints' among the five responses to the question concerning one's level of satisfaction come after the third and fourth categories ('very

Table 58

NEIGHBOURHOOD SATISFACTION BY PERCEIVED NEIGHBOURHOOD  
'FRIENDLINESS', MAINTENANCE/ATTRACTIVENESS, AND PRIVACY  
(in Percent)

		<u>NEIGHBOURHOOD 'FRIENDLINESS'</u>					
		Very 'Unfriendly'				Very 'Friendly'	
		1	2	3	4	5	
<u>SATISFACTION</u>	'very dissatisfied'	1	22.2	0.0	3.0	1.3	0.0
		2	33.3	18.2	7.5	0.8	0.0
		3	11.1	27.3	33.6	10.5	1.6
		4	11.1	27.3	44.0	39.4	10.1
	'very satisfied'	5	22.2	27.3	11.9	48.0	88.4
			100% (9)	100% (11)	100% (134)	100% (371)	100% (129)
		<u>NEIGHBOURHOOD MAINTENANCE/ATTRACTIVENESS</u>					
		Very Unattractive				Very Attractive	
		1	2	3	4	5	
<u>SATISFACTION</u>	'very dissatisfied'	1	33.3	1.8	0.0	0.3	0.0
		2	22.2	9.1	2.1	1.6	0.0
		3	29.6	61.8	38.3	8.1	1.9
		4	14.8	21.8	44.7	47.1	18.2
	'very satisfied'	5	0.0	5.5	14.9	42.9	79.9
			100% (27)	100% (55)	100% (47)	100% (310)	100% (214)
		<u>PRIVACY</u>					
		No Privacy				Very Private	
		1	2	3	4	5	
<u>SATISFACTION</u>	'very dissatisfied'	1	21.9	0.0	3.2	1.1	0.0
		2	15.6	13.8	3.2	0.8	0.4
		3	46.9	46.6	22.6	12.1	3.4
		4	12.5	32.8	71.0	49.6	16.8
	'very satisfied'	5	3.1	6.9	0.0	36.4	79.5
			100% (32)	100% (58)	100% (31)	100% (264)	100% (268)

dissatisfied', 'dissatisfied', 'mixed feelings'/'satisfied'/'very satisfied'), and not after the second and third ('very dissatisfied', 'dissatisfied'/'mixed feelings'/'satisfied', 'very satisfied') as might have been expected. This is especially evident when looking at the highest category in each of the three independent variables (see Table 58), where in each case the percentage of responses in the lowest three categories of satisfaction are very similar and show a considerable difference from either of the two higher satisfaction category responses.

This relationship also holds among a majority of the other items showing a high correlation with satisfaction. Therefore, this would imply that there is a significant difference between those people who are 'satisfied' with their neighbourhood and those who are 'very satisfied' - a difference which may often be covered up in other studies through the combining of all responses indicating 'satisfaction'.

The next major question related to satisfaction appeared when the results of the testing of Hypothesis Two indicated that neighbourhoods with similar socio-economic and physical characteristics did not necessarily have similar levels of satisfaction, and that dissimilar areas did not necessarily have dissimilar satisfaction levels. The obvious question, then, is why the deviations from the expected response occurred, and what factor or factors caused them.

In the first subsection of Hypothesis Two, it was found that two of the three pairs of neighbourhoods tested, although similar in socio-economic and physical characteristics, had widely varying satisfaction levels (refer to Table 35). Only one pair, consisting of 'lower status

inner city grid' areas (the West End and Wolseley), showed relatively similar levels of satisfaction with neighbourhood. In attempting to explain these results, the data was examined for factors which the West End and Wolseley shared, but in which the other two pairs of neighbourhoods differed.

It was immediately noticeable that while all three pairs of neighbourhoods examined in Table 35 were similar in socio-economic and physical design characteristics, there was considerable variation in their responses to other items. A few of these items showed patterns of responses among each of the neighbourhood pairs which were similar to the patterns shown by satisfaction; not surprisingly, these similarities occurred among the items which had been found to have a strong and consistent positive association with satisfaction during the testing of the hypotheses. For the items dealing with the overall appearance and maintenance level of the neighbourhood, the perception of one's neighbourhood as 'friendly', and the residents' sense of privacy (as well as the feeling that one's neighbourhood is 'identifiable' from other areas and the feeling that one's neighbourhood is a good place for children to grow up in), the West End and Wolseley showed very similar results, while the other two pairs showed differing response patterns in the clear majority of cases. For both pairs showing differing response patterns, the neighbourhood with the lower satisfaction level also had the lower level of perceived neighbourhood appearance and maintenance, 'friendliness', privacy, and so on (see Table 59).

When the next two sub-sections of Hypothesis Two are examined (in which the pairs of neighbourhoods are similar in one characteristic

Table 59

PERCEIVED NEIGHBOURHOOD 'FRIENDLINESS', MAINTENANCE/  
ATTRACTIVENESS, AND PRIVACY BETWEEN PAIRS OF NEIGHBOURHOODS  
WITH SIMILAR SOCIO-ECONOMIC AND PHYSICAL CHARACTERISTICS,  
AND WITH SIMILAR (WEST END - WOLSELEY) AND DISSIMILAR  
(WILDWOOD - WESTWOOD) LEVELS OF NEIGHBOURHOOD SATISFACTION.  
(in Percent)

		<u>SIMILAR</u> <u>SATISFACTION LEVELS</u>		<u>DISSIMILAR</u> <u>SATISFACTION LEVELS</u>		
		West End	Wolseley	Higher	Lower	
				Satisfaction	Satisfaction	
				Wildwood	Westwood	
<u>ATTRACTIVENESS</u>	'very unattractive'	1	16.7	4.7	0.0	0.0
		2	41.7	32.6	2.3	0.0
		3	25.0	23.3	5.7	2.0
		4	16.7	39.5	40.9	47.1
	'very attractive'	5	0.0	0.0	51.1	51.0
<u>'FRIENDLINESS'</u>	'very 'unfriendly''	1	4.2	4.7	0.0	2.0
		2	0.0	0.0	1.1	3.9
		3	37.5	55.8	3.4	27.5
		4	58.3	37.2	41.6	52.9
	'very 'friendly''	5	0.0	2.3	53.9	13.7
<u>PRIVACY</u>	'no privacy'	1	25.0	23.3	0.0	0.0
		2	37.5	34.9	0.0	2.0
		3	4.2	9.3	0.0	9.8
		4	29.2	32.6	29.5	49.0
	'very private'	5	0.2	0.0	70.5	39.2
Totals		100%	100%	100%	100%	
		(24)	(43)	(88)	(51)	

but different in the other; see Tables 36 and 37), we find that two pairs of neighbourhoods (Elm Park - Windsor Park and Westwood - Windsor Park) have similar satisfaction levels despite their differences. For both of these pairs, their responses to the five items listed previously agree fairly closely, especially among the three most important ones - perceived neighbourhood 'friendliness', maintenance, and privacy. In contrast, the neighbourhoods in the two cases that support the hypothesis (by having differing levels of satisfaction) do show significant differences among the three variables mentioned above; however, it is again found that in each case, the neighbourhood with the higher satisfaction level has scored more highly in terms of those three variables.

In terms of street pattern, it was found that while individual 'bay' neighbourhoods did show some inconsistency in their relationship to satisfaction and to the three variables listed above, it was also found that when the data was grouped simply by street layout ('bay' or 'grid'), the responses from 'bay' neighbourhoods were consistently more closely related to each of the items which had been found to be strongly related to satisfaction than those from 'grid' areas. The crosstabulations of street layout with perceived neighbourhood 'friendliness' produced a Gamma value of  $-.36$  and a  $\chi^2$  of  $0.00$  (the negative sign indicating that the 'bay' layout has a higher proportion of responses in the upper categories of the other variable than the 'grids'); with neighbourhood attractiveness and maintenance,  $G = -.49$ ,  $\chi^2 = 0.00$ ; with privacy,  $G = -.37$ ,  $\chi^2 = 0.00$ ; with the neighbourhood as a place for children to grow up in,  $G = -.40$ ,  $\chi^2 = 0.00$ ; and for neighbourhood 'identifiability',  $G = -.36$ ,  $\chi^2 = 0.00$ . The data therefore seems to

indicate that in an overall sense, 'bay' areas have a higher likelihood of inducing those perceptions in their residents which lead to feelings of neighbourhood satisfaction.

No one of the three main variables referred to above had a consistently more powerful effect on a neighbourhood's satisfaction level than the other two; however, it did appear from the data that either the strength of the effect of each of these variables upon satisfaction varies from neighbourhood to neighbourhood, or that other variables are acting in concert with them to produce the changing level of impact. No relationship was found between the importance of 'the type of people' or of 'the neighbourhood appearance' in determining satisfaction (item #41 in the questionnaire) and those items which were most strongly or weakly related to each neighbourhood's satisfaction ranking. In other words, even though Tuxedo did relatively poorly in terms of its 'friendliness' ranking, the results of item #41 did not indicate that the residents of Tuxedo found neighbourhood 'friendliness' to be less important in determining satisfaction than the residents of other neighbourhoods found it to be. In any event, it can only be concluded that perceived neighbourhood 'friendliness', maintenance, and privacy do have a significant effect on satisfaction.

This conclusion leads to another question - what factors contribute to the above perceptions? As we have seen earlier (refer to section 4.2.3), actual social contact with one's neighbours does not appear to be a necessary precondition for a feeling of general neighbourhood 'friendliness' to develop. Unfortunately, there is nothing else in the data which could be used to answer the above question. Other studies

have also suggested that the five items which have been identified in this study are strongly associated with neighbourhood satisfaction (particularly 39, 138, and 275), but none have attempted to explain what conditions lead to these perceptions. Obviously, an investigation into this matter should be a priority in any future research dealing with neighbourhood satisfaction.

An additional question pertaining to the relationship between satisfaction with neighbourhood and perceived neighbourhood 'friendliness', appearance and maintenance, and privacy asks whether these three variables are preconditions to the development of satisfaction or feelings produced by satisfaction. In other words, is a person satisfied with their neighbourhood because they find the area to be attractive, or do they find the area attractive because they are satisfied with the neighbourhood?

This is not entirely an academic 'chicken or egg' question; Campbell, Converse, and Rodgers' study of the quality of American life and the factors contributing to satisfaction found that:

"Almost without exception, there are positive correlations between all of the domain satisfaction measures. People who say they are satisfied with one aspect of life are likely to report relatively high satisfaction where other domains are concerned." (39:68)

If this is true, a person's general satisfaction with life may lead to feelings of 'friendliness', neighbourhood attractiveness, and privacy, which may in turn generate feelings of satisfaction with one's neighbourhood. If this is the case, it would make far more sense to investigate factors related to 'life satisfaction' rather than those related to neighbourhood satisfaction.



'Life satisfaction' undoubtedly does have some influence on neighbourhood satisfaction; however, Campbell, Converse, and Rodgers also concluded from the results of their study that:

"...objective characteristics of neighbourhoods have an important influence on resident satisfaction. This influence, furthermore, can be explained by the apparent accuracy with which people perceive the objective attributes and judge them against their personalized standards of comparison to form assessments of the suitability of their environment." (39:248)

This conclusion can only be substantiated indirectly by the data obtained through the questionnaire. For example, people living in a neighbourhood for less than one year have a slightly lower level of satisfaction than those who have lived there for a longer period (interestingly enough, there is practically no difference between the satisfaction levels of those who have lived in an area for just over a year and those who have lived there for seven years and more). At the same time, those who have lived in a neighbourhood for less than one year have perceptions of neighbourhood 'friendliness' and attractiveness which are practically no different than those who have lived there for a longer period. From this, one might infer that satisfaction levels will eventually 'catch up' with the perceptions of the neighbourhood; or in other words, that one's satisfaction level is shaped by one's perceptions.

Another interesting finding which was made during the course of the analysis was that the level of satisfaction in any given neighbourhood tends to be consistent throughout each of the four income categories (ranging from \$5000 - \$6999 to \$15000 and up). In other words, if the satisfaction level of a given neighbourhood is low, then a resident earning \$20000 per year is as likely to be dissatisfied or have mixed

feelings as a person earning \$5000. Conversely, a person earning a low income in a 'satisfied' neighbourhood is just as likely to be 'very satisfied' or 'satisfied' as a person earning much more. Therefore, we must ask what attributes or perceptions are shared by people with varying incomes in a neighbourhood such that similar satisfaction levels are produced.

As expected, the factors which have a consistent effect on satisfaction regardless of income are the five which were previously discussed: the perception of neighbourhood 'friendliness', maintenance, privacy, identifiability, and quality of childrens' environment. For example, a person who has a low income but who also feels that their neighbourhood is well maintained and attractive is more likely to be satisfied than a person with a high income but who feels that their neighbourhood is poorly maintained and unattractive (see Table 60). This same relationship also holds true for the other four variables.

To conclude the examination of satisfaction related items, the results of question #41 ("How important do you consider each of the following factors to be when you try to decide how satisfied you are with your present neighbourhood? the type of housing units/ the street pattern/ the type of people/ the way the neighbourhood looks/ the 'status' of the area/ nearness to your job/ nearness to food stores/ nearness to department stores/ nearness to friends and relatives/ a wide variety of local activities." (1 = 'very unimportant', 5 = 'very important')) will be examined.

The factor that most people identified as being the most important in determining their satisfaction with their neighbourhoods was the

Table 60

SATISFACTION WITH NEIGHBOURHOOD BY PERCEIVED  
NEIGHBOURHOOD MAINTENANCE/ATTRACTIVENESS BY INCOME  
(Highest and Lowest Categories)  
(in Percent)

		<u>LOWEST INCOME (\$5000 - 6999)</u>				
		<u>ATTRACTIVENESS</u>				
		Very Unattractive 1	2	3	4	Very Attractive 5
<u>SATISFACTION</u>						
'low/mixed'		100.0	77.8	62.5	16.7	0.0
'satisfied'		0.0	22.2	37.5	58.3	0.0
'very satisfied'		0.0	0.0	0.0	25.0	100.0
		<u>100.0%</u> (4)	<u>100.0%</u> (9)	<u>100.0%</u> (8)	<u>100.0%</u> (24)	<u>100.0%</u> (2)
		$\chi^2 = 0.00$		$G = .88$		
		<u>HIGHEST INCOME (\$15000 and up)</u>				
		<u>ATTRACTIVENESS</u>				
		Very Unattractive 1	2	3	4	Very Attractive 5
<u>SATISFACTION</u>						
'low/mixed'		85.7	68.0	34.8	7.8	1.7
'satisfied'		14.3	24.0	47.8	40.2	16.1
'very satisfied'		0.0	8.0	17.4	52.0	82.0
		<u>100%</u> (7)	<u>100%</u> (25)	<u>100%</u> (23)	<u>100%</u> (204)	<u>100%</u> (180)
		$\chi^2 = 0.00$		$G = .73$		

way the neighbourhood looks ('very important' = 40.4%). The next most important factors were the type of housing ('very important' = 35.3%) and the type of people in the neighbourhood ('very important' = 33.9%). The fourth most important factor was the street pattern, which 26.3% of the respondents found to be 'very important' in determining their satisfaction. The rest of the factors had much lower levels of importance, with the exception of the nearness to food stores ('very important' = 17.6%).

Interestingly enough, the relative importance of each factor appeared to be approximately the same in each of the thirteen neighbourhoods as it was for the entire group of respondents. In each case, there were one or two neighbourhoods which varied widely from the overall response pattern, but on the whole the majority of neighbourhoods showed close agreement with the responses shown in the aggregate data.

In looking at the four most important factors (the appearance of the neighbourhood, the type of people living there, the housing type, and the street pattern) it became apparent that the relative importance of the neighbourhood's appearance, the type of people, and the type of housing were all relatively unaffected by the respondent's socio-economic status, by his or her perceptions regarding the neighbourhood, or by the physical characteristics of the neighbourhood. In other words, all of the population sub-groups in all types of physical environments attributed almost the same degree of importance to these three factors when determining their satisfaction with neighbourhood.

In the case of street layout it was discovered that the residents of 'bay' areas found this factor to be much more important in determining

satisfaction ( $\chi^2 = 0.00$ ,  $G = -.51$ ) than those in 'grid' areas found it to be. It was also found that the importance of street pattern in determining satisfaction showed a correlation with perceived privacy ( $\chi^2 = 0.00$ ,  $G = .32$ ) and to perceived neighbourhood attractiveness ( $\chi^2 = 0.00$ ,  $G = .31$ ), which can probably be attributed to the fact that the residents of 'bay' areas found their neighbourhoods to be more private ( $\chi^2 = 0.00$ ,  $G = -.37$ ) and more attractive ( $\chi^2 = 0.00$ ,  $G = -.36$ ) than the residents of 'grid' areas found theirs to be.

These additional findings reinforce the earlier conclusion that 'Satisfaction with Neighbourhood' is a complex phenomenon produced by the interaction of a number of factors. Despite this, it is possible to make a number of observations about neighbourhood satisfaction from the testing that has been done and the relationships which have become evident. These observations will form part of the fifth and final chapter, as will the possible directions that future studies might take to identify methods of fostering feelings of satisfaction among urban neighbourhoods.

The next section of this chapter will present those additional findings of the study which were not related to satisfaction but which are of general interest or are related to the findings of the literature review.

#### 4.4.2 Additional Findings

The first question to be addressed in this section is whether the street layout of a neighbourhood has a stronger effect on the satis-

faction held by any particular group of people as compared to another. In the previous section, it was seen that in some neighbourhoods, the street layout was a very important consideration for people trying to determine how satisfied they were with their particular area. In addition, when testing Hypothesis Four, the results suggested that as socio-economic status increased, the physical layout of one's neighbourhood became less related to satisfaction (refer to Tables 40, 41, and 42). To test this further, the item measuring the importance of street layout in determining satisfaction (item #41) was crosstabulated with income, male occupation, and male education. In none of these three cases was the relationship stronger among the lower status categories; in fact, all of the lower categories in each of the correlations showed a marked similarity, while the uppermost category showed a significantly stronger relationship with the importance of street layout in determining satisfaction. The data does, however, show a strong correlation between the importance of street layout and the actual street layout itself ( $G = -.51$ ,  $\chi^2 = 0.00$ ), suggesting that those people who are familiar with the 'bay' situation are more aware of the contributions that physical organization characteristics can make towards one's sense of satisfaction with neighbourhood, while those living in grid areas (perhaps because they have never been exposed to any other arrangement) see no advantage in their type of street pattern. However, it was impossible to identify any factors contributing to either of these feelings from the available data, and the literature on the subject offered no information pertaining to the question of whether street layout is more important to any particular group of people; therefore, no

definite conclusions can be reached in this regard.

Next, we will attempt to determine the reasons behind the variations from the expected results in the crosstabulation between neighbourhood homogeneity and satisfaction. As was noted in Tables 52 and 53, there was a considerable difference between the satisfaction levels of homogeneous and heterogeneous neighbourhoods. At the same time, however, there was also considerable variation among each of the two types of neighbourhood groups; both 'somewhat homogeneous' areas had higher satisfaction levels than one of the 'predominantly homogeneous' areas, and one of the 'somewhat heterogeneous' neighbourhoods was much less satisfied than either of the 'predominantly heterogeneous' areas.

There are several explanations for these unexpected results. It may be that the measures of neighbourhood homogeneity and heterogeneity used in this study were not those which are most relevant to neighbourhood satisfaction; secondly, (as Gans noted), the degree of homogeneity required to produce satisfaction has not been defined, and some other measures of this factor may have to be included; and finally, it may be that homogeneity does not have as powerful an effect on satisfaction as some other factors.

The first two possibilities described above require the consideration of additional factors in the definition of homogeneity and heterogeneity; one such factor might be what Gans called the 'ways of life' of the people in a neighbourhood. Unfortunately, these were not part of the data obtained, and no conclusions can be reached in this respect. The remaining avenue of investigation was to examine the data from the neighbourhoods which produced the unexpectedly high or low

levels of satisfaction in Table 52, in order to see if any factor or factors were associated with these deviations. It was found that no factor investigated in this study could account for these variations, thus reinforcing the idea that it is the neighbourhood's homogeneity in terms of its residents' 'ways of life' or some other unidentified characteristic which is causing the unexpected results.

The testing of another assumption led to a few additional findings about neighbourhood awareness. When it was found that higher levels of satisfaction were associated with both greater feelings of neighbourhood 'identifiability' and with the characterization of the residents' local area as being larger than that initially identified by this study, the question arose as to whether higher levels of perceived neighbourhood 'identifiability' were associated with the feeling that the neighbourhood was 'larger'. This relationship was found to exist ( $G = -.54$ ,  $\chi^2 = 0.00$ ). Also, it was found in a previous section that when each neighbourhoods' perceived size was tabulated (refer to Table 28), it appeared that the residents of the seven areas with higher average incomes all identified their localities as occupying a larger area than the study's own limits, while the six areas of lower income averages showed a significant number of responses in both the 'larger' and the 'smaller' categories. This led to the question of how income was related to neighbourhood awareness in general.

It was found that income did have a significant positive correlation with the feeling that one's neighbourhood was an 'identifiable' area ( $G = .41$ ,  $\chi^2 = 0.00$ ). Income also showed a high correlation with other items measuring neighbourhood awareness, such as the ability



to estimate the extent of the neighbourhood's physical area ( $G = -.73$ ,  $\chi^2 = 0.00$ ) and the feeling that the neighbourhood has definite 'edges' ( $G = .49$ ,  $\chi^2 = 0.00$ ). At the same time, however, there is a poor correlation between income and the ability to actually name those 'edges' ( $G = .17$ ,  $\chi^2 = .43$ ).

Since income had a lesser impact on satisfaction than the three variables identified earlier had (perceived neighbourhood 'friendliness', attractiveness and maintenance, and privacy), it was decided to test if the same relationship held true for neighbourhood awareness. It was found that the perception of one's neighbourhood as an 'identifiable' area was in each case more strongly related to the three variables listed above ( $G = .44$ ,  $.67$ , and  $.56$ , respectively) than to income ( $G = .41$ ). In all of these relationships, a higher level of 'identifiability' is associated with higher levels of the other variables. As a final test, the relationship between perceived neighbourhood 'identifiability' and income was controlled for the results of each of the three variables. While the percentage of responses in the highest category of neighbourhood 'identifiability' is 40.1% when it is crosstabulated with income, it varies from 19.4% to 64.3% when compared with the lowest and highest categories of privacy; 22.2% to 69.8% when compared with the lowest and highest categories of perceived neighbourhood 'friendliness'; and from 23.1% to 66.7% when compared with the lowest and highest categories of neighbourhood maintenance and attractiveness. Therefore, it seems more likely that the perception of neighbourhood 'identifiability' as well depends to a greater extent on other perceptions about the neighbourhood than on socio-economic or physical characteristics.

#### 4.4.3 Comparison with the Literature

Some of the assumptions to be tested to compare the results of this study with the findings of the literature include the following:

- residents of suburban neighbourhoods perceive their neighbourhoods to be larger than those in inner city areas.
- older residents are more satisfied with their neighbourhoods than younger residents.
- the higher the level of educational attainment, the less satisfaction with neighbourhood is felt.
- actual social contact with one's neighbours is not as important a determinant of satisfaction with neighbourhood as is the perception of one's neighbours and neighbourhood as 'friendly'.

Table 61 summarizes the data pertaining to the perception of neighbourhood size as compared with neighbourhood location (inner city or suburban). This crosstabulation indicates that residents of suburban areas do indeed have a slight inclination to perceive their neighbourhood as occupying a larger physical area than residents of inner city areas. At the same time, however, it was found that income had a much stronger association with the perception of neighbourhood size ( $G = -.73$ ,  $\chi^2 = 0.00$ ), with higher income levels being associated with the perception of a larger neighbourhood size. Since most suburban neighbourhoods are more affluent than inner city areas, it may be that income has a signi-

Table 61

PREDICTION OF NEIGHBOURHOOD SIZE BY  
 LOCATION OF NEIGHBOURHOOD  
 (in Percent)

		<u>NEIGHBOURHOOD LOCATION</u>	
		Suburban	Inner City
<u>PREDICTED NEIGHBOURHOOD SIZE</u>	Larger	91.2	82.7
	Smaller	8.8	17.3

$\chi^2 = .05$                        $G = .37$

ficant impact in this regard, as well as neighbourhood location. When each neighbourhood's response to neighbourhood size is examined (refer to Table 28), all the upper income areas, regardless of location, found their neighbourhood's size to be larger than that defined by the study, thus indicating that some other factor is also at work. In addition, very little difference could be found between the perceptions of neighbourhood and their importance in determining the satisfaction of either suburban or inner city areas.

When the relationship between age and satisfaction is examined (see Table 62), it is found that there is very little difference between all those age groups from the age of 25 to 64; those younger than 25 are the least satisfied group, while those from 65 to 69 are slightly less satisfied than the majority, and those 70 years and over are just as satisfied as the majority. The dip in satisfaction from age 65 to 69 might be attributed to the stress of retirement. Otherwise it does appear that there is a relationship between age and satisfaction - but only when the age of 25 is used as the 'break point'. Satisfaction does not appear to increase significantly beyond this point.

The relationship between male educational attainment and satisfaction was shown in Table 33. It is obvious that higher education is associated with higher levels of satisfaction ( $G = .44$ ,  $\chi^2 = 0.00$ ), which directly contradicts the findings of earlier research into satisfaction (39:140, 138:126, 155:313).

The  $P^2$  testing of the variables concerned with the 'Level of Neighbouring Activities' (refer to sections 4.1.6 and 4.2.3) suggested that actual social contact with one's neighbours is not a prerequisite to the feeling that one's neighbourhood is a friendly one, and that at

Table 62

NEIGHBOURHOOD SATISFACTION BY  
MALE AGE, FEMALE AGE  
(in Percent)

	<u>MALE AGE</u>						
	Under 25	25-34	35-44	45-54	55-64	65-69	70+
<u>SATISFACTION</u>							
'low/mixed'	40.9	20.7	10.0	9.3	14.3	22.9	22.9
'satisfied'	40.9	29.8	36.4	39.3	27.6	37.1	28.6
'very satisfied'	18.2	49.6	53.6	51.4	58.1	40.0	48.6
	<u>100%</u> (22)	<u>100%</u> (121)	<u>100%</u> (110)	<u>100%</u> (140)	<u>100%</u> (105)	<u>100%</u> (35)	<u>100%</u> (35)
	$\chi^2 = 0.00$			$G = .07$			

	<u>FEMALE AGE</u>						
	Under 25	25-34	35-44	45-54	55-64	65-69	70+
<u>SATISFACTION</u>							
'low/mixed'	39.4	22.5	9.9	15.3	17.2	19.4	25.0
'satisfied'	54.5	25.6	38.7	35.9	27.3	45.2	16.7
'very satisfied'	6.1	51.9	51.4	48.9	55.6	35.5	58.3
	<u>100%</u> (33)	<u>100%</u> (129)	<u>100%</u> (111)	<u>100%</u> (131)	<u>100%</u> (99)	<u>100%</u> (31)	<u>100%</u> (24)
	$\chi^2 = 0.00$			$G = .10$			

long as one perceives their neighbourhood to be 'friendly', they are likely to be satisfied with their neighbourhood, regardless of whether they interact with their neighbours or not. As a further test, Table 63 shows the relationship between satisfaction and the amount of casual social contact one has with one's neighbours (Table 48 has already shown the crosstabulation of satisfaction with the perception of one's neighbourhood as 'friendly'). When the latter correlation was examined among each of the categories describing the frequency of social interaction with one's neighbours, it was found that while the strength of the relationship between satisfaction and perceived neighbourhood 'friendliness' is slightly lower when there is minimal social contact with one's neighbours, the relationship is still positive and relatively strong ( $G = .54$ ). Therefore, it would seem that social interaction does have some effect on the perception of one's neighbourhood as a 'friendly' place, but not a determining one.

The last section of this chapter will deal with the role of the quality of the neighbourhood as an environment for children, and the effects of this factor on overall neighbourhood satisfaction. The measure of this variable which has the strongest association with satisfaction is item #17: "Do you feel that your neighbourhood is a good place or a poor place for children to grow up in?" ( $\chi^2 = 0.00$ ,  $G = .85$ ). When broken down by neighbourhood (refer to Table 29), it was found that the lower status neighbourhoods were rated by their residents as low quality environments for children, while the residents of higher status areas felt that their areas were very good for children. Variations in this pattern did occur, however; Tuxedo, which ranked first in terms of satis-

Table 63

NEIGHBOURHOOD SATISFACTION BY  
FREQUENCY OF INFORMAL SOCIAL CONTACT WITH NEIGHBOURS  
(in Percent)

<u>SATISFACTION</u>	<u>FREQUENCY OF SOCIAL CONTACT</u>				
	Never 1	2	Sometimes 3	4	Very Often 5
'low/mixed'	36.9	18.9	14.9	12.4	13.8
'satisfied'	41.7	35.4	32.6	25.7	41.4
'very satisfied'	21.4	45.7	52.5	61.9	44.8
	<u>100%</u> (84)	<u>100%</u> (175)	<u>100%</u> (261)	<u>100%</u> (105)	<u>100%</u> (29)
	$\chi^2 = 0.00$		G = .26		

faction with neighbourhood ranked fourth in terms of the quality of children's environment, and the West End, St. Boniface, and Elmwood (all lower status areas) had no responses in the lowest category.

The perception of one's neighbourhood as a good place for children to grow up in showed good correlation with income ( $G = .53$ ,  $\chi^2 = 0.00$ ), the feeling that one's neighbourhood is 'identifiable' ( $G = .59$ ,  $\chi^2 = 0.00$ ), with feelings of privacy ( $G = .57$ ,  $\chi^2 = 0.00$ ), with the perception of one's neighbourhood as 'friendly' ( $G = .71$ ,  $\chi^2 = 0.00$ ), with the perception of one's neighbourhood as being attractive and well maintained ( $G = .74$ ,  $\chi^2 = 0.00$ ), with the perception of one's neighbourhood as 'safe' for people and property ( $G = .71$ ,  $\chi^2 = 0.00$ ), and with 'bay' street layouts ( $G = -.40$ ,  $\chi^2 = 0.00$ ). From these results and from those discussed at the beginning of this section, it would seem that this variable does play a very important role in determining neighbourhood satisfaction.

This concludes the analysis of the data. In the final chapter, a summary of the findings will be presented, and these will be compared to the findings reached in the earlier literature on the subject. Finally, the findings themselves will be analyzed to assess their possible impact on the assumptions and methods presently used in the practice of neighbourhood planning, and some recommendations will be made.



## Chapter V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### 5.1 Summary - Satisfaction with Neighbourhood

This chapter will begin with a summary of those findings related to satisfaction with neighbourhood that were revealed through the testing of the hypotheses and the additional investigations done to elaborate on their conclusions. Both this summary and the summary of the general findings will be presented in point form, with each point being followed by a comparison to the findings of the previous literature on the subject in order to identify areas of agreement, contradiction, and amplification.

1. In all of the tested areas, regardless of the average level of socio-economic status or the relative quality of the physical environment, satisfaction with neighbourhood tended to be ranked at the upper end of this item's scale; that is to say, a large majority of the responses fell into the upper two categories ('very satisfied' and 'satisfied').

This finding of the present study is in full agreement with those reported by Campbell, Converse, and Rodgers' report (39), as well as those of Zehner and Chapin (277), Marans and Rodgers (155), Lansing, Marans, and Zehner (138), and Virirakis (244), who also found that the majority of residents in a neighbourhood, regardless of the quality of its physical environment, tended to report that they were satisfied with their area. No reports produced contradictory results.

2. The major differences among the responses of most individuals in terms of their response to the item dealing with satisfaction with neighbourhood become most evident when the lowest three of the five

categories are combined into a single one (including 'very dissatisfied', 'dissatisfied', and 'mixed feelings'), and the upper two categories remain as is, thus forming three categories in all.

This conclusion of the present study is difficult to compare to the results of the previous literature. Although satisfaction studies do appear to have used a similar multiple response coding of each individual's level of satisfaction with their neighbourhood, most appear to have concentrated on those responses which fell into the highest category of satisfaction when examining the relationship between this variable and other neighbourhood perceptions and characteristics. However, when examining the simple distribution of satisfaction scores among those areas tested in previous studies, it does seem that the responses do follow the general pattern described in the above point (275:381, 138:104) although some exceptions are evident in that a few of these neighbourhoods had more responses in the category equivalent to 'mixed feelings' in the present study.

3. Despite the previous point, the thirteen areas which were tested in the present study showed considerable variation in terms of their residents' level of perceived satisfaction with neighbourhood.

Zehner's 1971 article (275) and Lansing, Marans, and Zehners' study of 1970 (138) also observed that although the majority of neighbourhoods examined were highly rated by their residents, some variation was immediately apparent.

4. Neighbourhoods which exhibit similar levels of socio-economic status and physical characteristics do not necessarily show similar levels of satisfaction with neighbourhood; nor do dissimilar areas always show varying levels of satisfaction.

No previous studies have produced findings which can test or amplify this conclusion of the present study. However, as demonstrated in the testing of the second hypothesis and in the additional work done in section 4.4.1, even those neighbourhoods exhibiting close similarity in socio-economic and physical characteristics show widely varying levels of neighbourhood satisfaction, which suggests that there are other factors which also have a determining effect. Many of the factors linked with satisfaction in the previous literature are not of a demographic or a physical nature, thus providing indirect support for the above conclusion.

5. In terms of each individual's responses, satisfaction with neighbourhood can be consistently associated with socio-economic and physical design characteristics.

As we saw in the testing of Hypothesis One, socio-economic status had a definite determining effect on an individual's satisfaction with neighbourhood. The physical design of the neighbourhood also appeared to have an effect on satisfaction, but one that was less powerful than that of socio-economic status.

These findings are in agreement with the results of several studies which have stated that socio-economic characteristics play a definite role in determining satisfaction (less education produces higher satisfaction with neighbourhood (39); higher income produces higher satisfaction levels (39, 244)). Other studies have also attributed a significant impact to physical design factors (the presence of nearby services and facilities increases satisfaction (39); 'bay' areas are more highly satisfied than 'grid' areas (138, 277)).

No studies contradict this finding of the present study, although several (most notably those which were authored or jointly authored by Zehner) have produced results indicating that certain neighbourhood perceptions are more powerful determinants of satisfaction than socio-economic or physical design characteristics (274:174).

6. Within the large majority of the tested neighbourhoods (eleven out of thirteen), the level of satisfaction with neighbourhood shows little variation among those groups of residents with varying socio-economic status; instead, a similar pattern of satisfaction was found among each income group in these neighbourhoods.

As pointed out in the previous discussion, this finding directly contradicts that of Virirakis (244). Little mention is made of the connection between income and satisfaction in the studies written after Virirakis' was published in 1968, perhaps because it was accepted as an 'obvious' truth. As shown in the present study, however, some lower income neighbourhoods exhibit characteristics and perceptions - including that of neighbourhood satisfaction - which are closer in character to those of neighbourhoods with much higher average incomes. At the same time, it was also observed that in most neighbourhoods, people with very low incomes tended to share the same feelings of satisfaction with that area as fellow residents with considerably higher salaries. This seems to imply that people with low incomes can be housed in a variety of neighbourhood environments in such a way that they will be satisfied with their neighbourhood, if planners, sociologists, and architects will only take the time to learn how.

7. The relative impact that various perceptions of the neighbourhood have in determining an individual's satisfaction with their area tends to remain relatively constant among varying population groups

in varying physical environments.

This conclusion was drawn from the close association between such neighbourhood perceptions as 'friendliness', maintenance and attractiveness, privacy, the quality of children's environment, and the 'identifiability' of an area and one's satisfaction with neighbourhood. All of these appear to be significant determinants of satisfaction in all thirteen neighbourhoods and among all population sub-groups. The responses to item #41, which tested the importance of various factors in determining satisfaction, also showed relatively little variation due to place of residence or demographic characteristics. One physical feature, however, did appear to have a different effect on satisfaction in differing areas; the satisfaction attributed to the type of street layout pattern was higher among 'bay' areas. For most of the other variables, people can show varying responses but may still feel that that variable has a similar effect on satisfaction. In other words, one person may feel that their neighbourhood is 'friendly' and another may feel that the neighbourhood is 'unfriendly', but both may feel that a neighbourhood's 'friendliness' is an important determinant of their overall satisfaction with the area. It should be noted, however, that as all respondents occupied single detached dwellings, a similar result is not surprising. If other housing and neighbourhood types had been incorporated in the study, more variation might have been apparent. Michelson's study seems to agree with this assumption (168:278). The literature dealing directly with satisfaction does not appear to have assessed the impact of perceptions on the satisfaction of varying populations in varying areas; rather, they appear to have concentrated on finding the

most significant factors in this regard in an overall sense. Therefore, it is difficult to conclude whether the literature supports or contradicts the conclusion arrived at by the present study.

8. Both those individuals that are 'very satisfied' and those that are 'very dissatisfied' appear to consider the same set of factors when determining how satisfied they are with their neighbourhood.

The data from the present study appears to support the above conclusion. As with the previous point, the literature does not focus on this aspect of satisfaction, and therefore cannot directly support or contradict the point in question. Indirectly, though, most of the previous studies agree that certain neighbourhood perceptions account for a significant amount of a person's satisfaction with their neighbourhood. Since the most important of these perceptions were almost all characterized as opposing aspects of a single item (i.e., 'poorly kept up - well kept up'; 'unfriendly - friendly', etc. (138:131), it could be assumed that these studies had found that these items had served to influence people who represented themselves as being either 'satisfied' or 'dissatisfied', thus supporting the conclusion of the present study.

9. A person's perceptions of their neighbourhood appear to have a significant determining effect on their level of satisfaction with their neighbourhood.

The previous literature appears to lend support to this point in that most studies agree that perceptions such as neighbourhood maintenance and attractiveness, the 'friendliness' of the area, privacy, and so on have a very significant effect on one's feeling of satisfaction with neighbourhood (275:383, 138:131).

10. The results of this study have suggested that the most important perceptions of the neighbourhood in terms of determining one's satisfaction appear to be those which involve the area's 'friendliness', its maintenance and attractiveness, and the level of privacy it offers. Other important perceptions include the quality of the neighbourhood as a place for children to grow up in and the 'identifiability' of the area as a place separate from surrounding areas.

As noted in the previous discussion, the literature also found the above perceptions to be strongly related to feelings of satisfaction with neighbourhood. One other item found to be closely related to satisfaction in the previous literature was the perceived homogeneity ('similar - dissimilar' neighbours (138:131)) of the area.

11. 'Bay' areas appear to have a slightly higher association with the perceptions listed in the previous point than 'grid' areas do.

Several of the studies examined in the course of the literature review suggested that 'bay' areas showed higher levels of satisfaction than 'grid' areas (with some individual neighbourhoods providing exceptions (138:45)), but none addressed the question of whether the residents of areas with different street patterns showed more or less positive perceptions of their neighbourhoods. Therefore, the literature cannot be used to support or contradict the above conclusion.

## 5.2 Summary - Additional Findings

1. There is no significant relationship between a person's age and their level of satisfaction with neighbourhood except in the case of those under twenty-five years of age, who are less satisfied than those who are older.

This finding of the present study partially contradicts the results of Marans and Rodgers' report of 1975 (155:314) which indicated that satisfaction increased steadily with age, rather than levelling off after a particular age. Another aspect of this correlation was also outlined in the same report when it was suggested that the supposed connection between old age and higher levels of satisfaction was connected with the lower levels of educational attainment found among the elderly (155:313), as another of the literature's findings suggested that people with less education had higher satisfaction with their neighbourhood (39:142, 138:128). However, the present study's sample showed that people over twenty-five had roughly similar levels of education, which were quite high; higher, in fact, than those under twenty-five. Therefore, although the data from the present study agrees that there is a correlation between age and satisfaction with neighbourhood (in the sense that those over twenty-five years of age are more satisfied than those who are younger), it contradicts all other findings and assumptions of the previous literature in respect to this correlation.

2. Higher levels of educational attainment are associated with higher levels of satisfaction with neighbourhood.

This finding contradicts some of the conclusions of the previous literature, which had found that "...respondents with at least a college education tend to evaluate their micro-neighbourhoods more critically." (138:126). Virirakis also found that within individual communities, higher educational attainment was associated with lower satisfaction levels because the more educated had "...stricter judgement of community conditions." (244:2). At the same time, however, Virirakis also found



"... communities with higher satisfaction indexes are on average inhabited by better educated people." (244:73).

3. Actual social contact with one's neighbours is not necessary for the development of the perception that one's neighbourhood is a 'friendly' one, although such contact will generally reinforce this perception.

This conclusion was consistent with Lansing and Hendricks' report of 1967 which suggested that the evaluation of one's neighbours as 'friendly' was "...a better predictor of neighbourhood satisfaction than the frequency of the respondent's interaction with those neighbours." (136:183). At the same time, however, some of the findings of the previous literature had indicated that frequent social contact led to more positive feelings towards one's residential area (40, 68). However, these latter reports were both based on responses from high-density apartment style developments with a highly homogeneous population. In a later study (129:106, 149), Keller suggested that perceptions of one's neighbours were important determinants of neighbourhood satisfaction, particularly among those whose socio-economic level permitted a measure of independence from neighbours - such as in the single family detached housing examined in the present study.

4. Residents of 'suburban' areas perceive their neighbourhoods to be larger in physical area than the residents of 'inner city' neighbourhoods perceive theirs to be.

This finding is consistent with Haney and Knowles' study of 1978 (103). This result may also be connected to the following finding.

5. People with higher incomes perceive their neighbourhoods to be larger in physical area than those with lower incomes perceive theirs to be.

None of the findings of the previous literature address this particular point. However, this conclusion would appear to support the previous point in that there is also a good correlation between 'suburban' locations and higher average incomes.

6. Persons with higher average incomes find their neighbourhoods to be more 'identifiable' than those with lower incomes find theirs to be.

Again, there is no mention of this aspect of neighbourhood perceptions in the previous literature. However, inasmuch as there is a good positive correlation in the simple distribution of satisfaction among income categories, and another good positive correlation between neighbourhood 'identifiability' and satisfaction, it might be expected that income and 'identifiability' should also be related.

### 5.3. Conclusions and Recommendations

The results of the present study have indicated that socio-economic factors, physical design factors, and perceptions of neighbourhood all appear to have some determining effect on a person's satisfaction with neighbourhood. Now, what use can planners make of this information in attempting to design more satisfactory residential environments in today's cities?

The physical factors which appeared to be most clearly associated with higher levels of satisfaction are 'bay' street patterns and suburban locations. This is not much help to planners, as most neighbourhood planning already takes place in the suburbs, and one can hardly design an entire city of 'bays'. However, the increasing need for upgrading of

inner city neighbourhoods should make planners take a better look at the suburbs in order to find out why satisfaction is higher there. Of course, it may be that it is simply produced by higher socio-economic status, but there may be other factors operating there that planners are not currently aware of.

Turning to socio-economic factors, we find that all of the variables examined in the present study are completely beyond the planner's control. However, it should be noted that some of the study's findings have suggested that the importance of various factors in determining an individual's satisfaction does not change with socio-economic status; in other words, it appears that a person with low status will look at the same criteria and attach the same importance to each when trying to determine his or her satisfaction as a person of high status would. Therefore, it would seem that planning neighbourhoods for low status individuals should not be approached much differently than the planning of one for high status persons.

Finally, one of the most interesting findings of the present study is that the effect of a person's perceptions of neighbourhood on their satisfaction with neighbourhood appears to be a strong and consistent one. And, as with the factors contributing to satisfaction, these perceptions appear to be of equal importance to all status groups and to have similar effects on a person's satisfaction. Therefore, it would seem that if future research could identify the factors which produce positive perceptions of neighbourhood in residents, then planners could find ways to incorporate these factors into the design of future neighbourhoods.

It should be noted at this point that any future research in this direction might also find it profitable to re-test the conclusions of the present study while using a much larger data base. Although most correlations in this research were checked in several ways, and many showed strong and consistent results, the reliability of several findings remain in question due to the relatively low number of responses occurring in some of the cells of certain crosstabulations. Again, however, the results of the present study are for the most part consistent with the findings of the previous literature, and it is felt that its additional findings also present a fairly accurate picture of the present situation within the tested neighbourhoods.

Many other aspects of satisfaction and perceptions remain to be studied; but can any guidelines or hypotheses for planning actions be extracted from the results of the present study? Returning to the perceptions of neighbourhood, it was found that several of those which were identified as being the most closely correlated with satisfaction (neighbourhood maintenance and attractiveness, 'friendliness', privacy, the quality of the children's environment, and the area's 'identifiability') can be influenced in one way or another by planning activities. Only one of the five ('friendliness') appears to be beyond the planner's direct influence.

Another noticeable result (from a physical planner's point of view) was that 'bay' street layouts appeared to be more highly associated with positive perceptions of neighbourhood than 'grid' areas were. From this, one might speculate that the layout of this type of neighbourhood has a certain 'softness' as compared to the rigid geometry of 'grid'

areas. The curving streets present a closed vista and may thus encourage the feeling of shared space with one's immediate neighbours. From this, a feeling of 'friendliness' may develop. Less traffic passes through this type of street pattern, which appears to promote feelings of privacy and safety, both of which are strongly associated with satisfaction. It is also hypothesized that the higher level of 'visual complexity' in this type of residential environment may be associated with more positive perceptions of neighbourhood and higher neighbourhood satisfaction. It is also important for planners to recognize that these characteristics need not be limited to 'bay' neighbourhoods.

It may well be that the presence of the above characteristics helped to create the positive perceptions which placed three 'grid' areas among the four most satisfied. Of these, the part of Tuxedo which was examined was made up of large, well-treed lots occupied by large, well-built and well maintained homes, which may have provided a degree of the 'softness' and 'visual complexity' referred to earlier. In addition, its location between two major traffic collectors meant that there was a minimum of non-resident traffic on its streets. Woodhaven did not have large lots throughout its area, but it was well treed and surrounded by the river, a creek, and a golf course which made it visually interesting and isolated it from nearby residential areas, thus making it easily 'identifiable' to its residents. Norwood was also isolated, had a low level of through traffic, and possessed a number of physical features which relieved the 'rigidity' of its 'grid' layout. It was more difficult to find such characteristics among the nine less satisfied neighbourhoods, especially among those in the inner city and those with lower average

incomes.

To sum up, it is suggested that future neighbourhoods be planned in such a way to reinforce those characteristics which seem to produce positive perceptions among residents living in contact with them. Such neighbourhoods should be more isolated from neighbouring areas. This could be achieved by taking advantage of natural physical barriers such as rivers, creeks, slopes, and other unbuildable sites in order to provide the neighbourhood with 'edges'. All neighbourhoods should have at least one 'edge' consisting of an open, unbuilt area.

In situations where neighbourhoods must be adjacent, the use of different detailing such as street lighting, tree species, building material, or some other unique feature might be used, even if only along the 'boundary line'. Neighbourhoods should be provided with some sort of focus, and such a feature should be located at its centre rather than at the periphery, so that the area is focussed inward rather than outward. The physical size of such a neighbourhood does not appear to be critical as long as visual monotony is avoided and a sense of 'identifiability' can be maintained.

Through traffic should be minimized by the proper use of a hierarchy of streets organized around activity centres and arterial routes. Street layout could also be used in conjunction with housing orientation to provide each unit with a private area and to encourage the development of 'micro-neighbourhoods' which are easily accessible to one another. The residents of such neighbourhoods should be encouraged to take an active interest in their area through the provision of adequate meeting spaces and through the development of the skills necessary to organize

neighbourhood activities. Zoning could be made less restrictive in the sense that non-conforming uses could be approved on merit by a consensus of the residents. Through this method, small cottage industries might provide jobs and increased pride and interest in the area. A pool of useful skills, books, and small equipment could be established so that everyone could develop the ability to maintain their property. The maintenance of some public properties might eventually be turned over to the residents by the City to encourage the development of local pride.

Some suggestions have been offered, but still more questions remain to be asked. For example, what factors - physical or otherwise - actually produce positive perceptions of neighbourhood? Are perceptions and satisfaction the same among various other housing types, or do different perceptions and characteristics become more powerful determinants of satisfaction? What physical planning guidelines can be suggested for neighbourhoods made up of these other housing types? And of course, there is still that basic question - can neighbourhood planning affect a person's perceptions, and thus their satisfaction? From the data and from logical analysis, it seems reasonable to expect that it can. Cities are an expression of culture; just as language shapes how we can think, urban form shapes how we can live. This can be perceived as either a limitation, or as a challenge to our ability to create better social and physical environments within our cities. The goal should be a better general understanding of these environments, not just on the part of the professionals, but on the part of every citizen. If planning decisions can be based on factors that actually make a difference in the quality of peoples' lives, and based on actual needs and wants rather than precon-

ceptions and political expediencies; when planning is truly interactive and when decisions are based on merit as well as legal codes - then we may hope to create more humane and 'liveable' environments in our cities, that everyone may enjoy.



Appendix A  
QUESTIONNAIRE

NEIGHBOURHOOD STUDY GROUP

A STUDY OF RESIDENTS' ATTITUDES TOWARDS "NEIGHBOURHOODS"

- PLEASE COMPLETE ALL QUESTIONS FULLY.
- IN CASE OF ANY DIFFICULTY OR IF YOU HAVE A QUESTION,  
PLEASE CONTACT PAUL SMITH AT \_\_\_\_\_ OR \_\_\_\_\_
- THANKS AGAIN FOR YOUR COOPERATION.

1. What is the name of your neighbourhood? \_\_\_\_\_

2. Do you own or rent your home?      Own
- Rent

3. Please indicate the age group to which the household head(s) belong.

(To do this, take your age as of your last birthday, and place a check mark in the space opposite the age group into which it falls. If you are not the only household head, please do the same thing for your spouse in the other column.)

AGE	Male	Female
under 25 years		
25 - 34 years		
35 - 44 years		
45 - 54 years		
55 - 64 years		
65 - 69 years		
70 years and up		

4. How many children do you have? \_\_\_\_\_

5. If you have children, what are their ages?

Eldest \_\_\_\_\_ years                      Fourth \_\_\_\_\_ years  
 Second \_\_\_\_\_ years                      Fifth \_\_\_\_\_ years  
 Third \_\_\_\_\_ years                      Sixth \_\_\_\_\_ years

6. What is the present occupation of the household head(s)?  
 (Please check one category for each household head, if applicable.  
 If the categories shown are not specific enough, please fill out  
 the last space, marked 'Other'.)

OCCUPATION	Male	Female
Managerial/Professional		
Clerical/Sales		
Manufacturing/Trades		
Primary/Labour		
Education/Social Services		
Unemployed		
Other (Please state)		

7. Into which of the following categories does the  
 total family income of your household fall?

(Please check the correct box)

\$5000 - \$6999                       \$13000 - \$14999   
 \$7000 - \$8999                       \$15000 - \$19999   
 \$9000 - \$10999                       \$20000 - \$24999   
 \$11000 - \$12999                       \$25000 and up

8. How long have you been a resident in your  
 present neighbourhood?

(Please check the correct box.)

Less than one year   
 1 - 2 years   
 3 - 4 years   
 5 - 6 years   
 7 years and more

9. What is the maximum educational level completed by the household head(s)?

(Please check the correct box for each household head.)

LEVEL	Male	Female
None		
Elementary		
High School		
Some University		
Technical College		
University Degree		
Post Graduate		

10. Please indicate the ethnic group to which the household head(s) belong.

(Please check the correct box for each household head.)

ETHNIC GROUP	Male	Female
Asian		
British Isles		
French		
German		
Italian		
Jewish		
Native Indian		
Netherlands		
Polish		
Scandinavian		
Ukranian		
Other (Please state)		

11. About how many close friends do you (the household heads) have in your neighbourhood?

none                       about 8 -12   
 about 1 - 3                       13 or more   
 about 4 - 7

12. How often would you say that you get together informally with neighbours? (for coffee or drinks, for example.)

(For this type of question, please circle the response you feel to be most correct.)

1	2	3	4	5
never	very infrequently	sometimes	often	very often

13. How often do your household members borrow or lend items to neighbours?

1	2	3	4	5
never	very infrequently	sometimes	often	very often

14. On the whole, do you have good or bad relations with your neighbours?

1	2	3	4	5
very bad	bad	mixed	good	very good

15. Would you say that your neighbourhood is a 'friendly' or an 'unfriendly' one?

1	2	3	4	5
very unfriendly	unfriendly	mixed	friendly	very friendly

16. On the whole, do you like or dislike the people in your neighbourhood?

1	2	3	4	5
dislike very much	dislike somewhat	mixed feelings	like somewhat	like very much

\* NOTE : Questions 17 through 20 should only be answered by parents of children of school age.

\* 17. Do you feel that your neighbourhood is a good place or a poor place for children to grow up in?

1	2	3	4	5
very poor	poor	average	good	very good

\* 18. What is your opinion of the quality of education provided at your neighbourhood's schools?

1	2	3	4	5
very poor	poor	average	good	very good

\* 19. To what extent would you agree with the statement :  
"Children in my neighbourhood have enough places to go when they want to meet friends or play games."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

\* 20. To what extent would you agree with the statement :  
"In my neighbourhood, children of pre-school age have no difficulty in finding children of a similar age to play with."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

21. To what extent would you agree with the statement :  
"My neighbourhood is adequately served by a variety of local shops and services."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

22. Please indicate by circling the appropriate response whether you find your neighbourhood well located or poorly located in respect to the following places :

	very poor	poor	mixed	good	very good
- your place of work	1	2	3	4	5
- food stores	1	2	3	4	5
- department stores	1	2	3	4	5
- entertainment	1	2	3	4	5
- recreation	1	2	3	4	5
- parks	1	2	3	4	5
- friends and relations	1	2	3	4	5

23. Please indicate your most common means of getting to the following destinations :

(Please check only one for each destination.)

DESTINATION	on foot	by car	by bus	Other (Please state)
your place of work				
food stores				
department stores				
entertainment				
recreation				
parks				
friends and relations				

24. How many cars does your household currently operate?

none  1  2  3  more

25. On the average, how often do your household members get out of the city for a holiday or recreation?

- |                          |                          |                             |                          |
|--------------------------|--------------------------|-----------------------------|--------------------------|
| less than<br>once a year | <input type="checkbox"/> | 2 - 3 times<br>a year       | <input type="checkbox"/> |
| once<br>a year           | <input type="checkbox"/> | more than 3<br>times a year | <input type="checkbox"/> |

26. To what extent would you agree with the statement :  
"My neighbourhood is an 'identifiable' area - that is,  
one distinct in layout and appearance from nearby areas."

- |                      |                      |           |                   |                   |
|----------------------|----------------------|-----------|-------------------|-------------------|
| 1                    | 2                    | 3         | 4                 | 5                 |
| disagree<br>strongly | disagree<br>somewhat | undecided | agree<br>somewhat | agree<br>strongly |

27. To what extent would you agree with the statement :  
"My neighbourhood has definite 'edges' or boundaries."  
(For example, major roads, a river, a railway line.)

- |                      |                      |           |                   |                   |
|----------------------|----------------------|-----------|-------------------|-------------------|
| 1                    | 2                    | 3         | 4                 | 5                 |
| disagree<br>strongly | disagree<br>somewhat | undecided | agree<br>somewhat | agree<br>strongly |

28. In your opinion, what features form the boundaries of your neighbourhood?

- Major Roads  (Please name) \_\_\_\_\_
- A River
- Railroads
- Other  (Please name) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



29. To what extent would you agree with the statement :  
 "Walking through my neighbourhood is a pleasant experience."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

30. To what extent would you agree with the statement :  
 "My neighbourhood is a 'safe' one for people and property."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

31. Do you think your neighbourhood is a quiet ~~one~~ one?

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

32. To what extent would you agree with the statement :  
 "My neighbourhood's streets and houses are attractive."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

33. To what extent would you agree with the statement :  
 "My neighbourhood has enough trees and green spaces."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

34. To what extent would you agree with the statement :  
 "The layout of streets and housing in my neighbourhood  
 provides me with enough privacy."

1	2	3	4	5
disagree strongly	disagree somewhat	undecided	agree somewhat	agree strongly

35. Do your neighbours' activities ever interfere with your activities in any way?

1	2	3	4	5
very often	often	sometimes	very infrequently	never

36. Do you ever hear your neighbours while you are :

	very often	often	some-times	very seldom	never
- indoors	1	2	3	4	5
- outdoors	1	2	3	4	5

37. On the whole, how satisfied are you with your neighbourhood?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Mixed Feelings	Satisfied	Very Satisfied

38. Do you consider your neighbourhood to be a good place or a poor place to own a home as an investment?

1	2	3	4	5
very poor	poor	average	good	very good

39. Do you think that your neighbourhood will improve or decline in 'quality' over the next ten years?

1	2	3	4	5
decline greatly	decline somewhat	no change	improve somewhat	improve greatly

40. To what extent would you agree with the statement :

"I would like to move to another neighbourhood right now."

1	2	3	4	5
agree strongly	agree somewhat	undecided	disagree somewhat	disagree strongly

41. How important do you consider each of the following factors to be when you try to decide how satisfied you are with your present neighbourhood?

FACTORS	Very Unimportant	Unimportant	No Difference	Important	Very Important
- the type of housing units.					
- the street pattern.					
- the type of people.					
- the way the neighbourhood looks.					
- the 'status' of the area.					
- nearness to your job.					
- nearness to food stores.					
- nearness to department stores.					
- nearness to friends and relatives					
- a wide variety of local activities.					

THIS CONCLUDES OUR QUESTIONNAIRE. YOUR RESPONSES WILL BE OF GREAT HELP TO THIS STUDY; PLEASE RETURN THEM AS SOON AS POSSIBLE IN THE STAMPED ENVELOPE PROVIDED. YOUR COOPERATION IS GREATLY APPRECIATED.

Appendix B  
COMPUTER PROGRAM (SPSS)  
AND DATA SET

SNARK

```

//SNARK JOB ' ' , , ,T=30,L=6','PAUL SMITH'
/*TSO
/*ROUTE PRINT SELF
// EXEC SPSS
//SYSIN DD *
RUN NAME      NEIGHBOURHOOD STUDY GROUP
FILE NAME     SATISFACTION
VARIABLE LIST SMPLNUM,NBHOOD,RESPONSE,TENURE,MALEAGE,FMLAGE,
              MARITAL,FAMSIZE,LIFESTGE,MJOBTYPE,FJOBTYPE,
              FINCOME,LNTHRES,MEDCN,FEDCN,METHNIC,FETHNIC,
              NUMFRNDS,MEETNBS,LNDTONBS,FRNWNBS,FRNLNHD,
              LKPOLKS,GDFRKIDS,KIDGDED,PLAKIDGO,MOREKIDS,
              SUPPSERV,GDACCWRK,GDACCPEAT,GDACCSTR,GDACCFUN,
              GDACCREC,GDACCPRK,GDACCEND,GOTOWRK,GOTOEAT,GOTOSTR,
              GOTOFUN,GOTOREC,GOTOPARK,GOTOFND,NUMCARS,
              TAKEOPPT,IDENTNB,BOUNDNB,NAMEEDGE,NICESPOT,
              SAPEPOT,SHHSPOT,BEAUTSPT,GREENSPT,PPIVACY,
              NBRANNOY,HEARNBIN,HRNBOUT,SATISFY,GDINVEST,
              HOWCHNGE,WANTMOVE,SATHOUSE,SATROADS,SATFOLKS,
              SATLOOKS,SATSTAT,SATNWRK,SATNREAT,SATNRSTR,
              SATNRPND,SATACTIV,SOCECON,LAYOUT,ACCESS,INOUT
INPUT MEDIUM  CARD
N OF CASES   659
INPUT FORMAT  FIXED(F4.0,F2.0,13F1.0,2A1,57F1.0)
RECODE       METHNIC,FETHNIC('A'=1)('B'=2)('F'=3)('G'=4)('I'=5)
              ('J'=6)('N'=7)('D'=8)('P'=9)('S'=10)('U'=11)('C'=12)
              ('E'=13)('O'=14)('M'=15)('X'=0)/SATISFY(1,2=3)/
              SATNRPND(1=2)(5=4)/MJOBTYPE,FJOBTYPE(6,7=0)(2=1)/
              FINCOME(2=3)(4=5)(6,8=7)/MEDCN,FEDCN(1=0)(5=3)
              (6,7=4)
VAR LABELS   SMPLNUM,SAMPLE NUMBER/
              NBHOOD,NAME OF NEIGHBOURHOOD/
              RESPONSE,AGREE W GIVEN NAME 1/
              TENURE,OWN VS RENT 2/
              MALEAGE,MALE AGE 3/FMLAGE,FEMALE AGE 3B/
              MARITAL,MARITAL STATUS 3C/
              FAMSIZE,NUMBER OF CHILDREN AT HOME 4/
              LIFESTGE,STAGE IN LIFE CYCLE 5/
              MJOBTYPE,OCCUPATION - MALE 6/
              FJOBTYPE,OCCUPATION - FEMALE 6B/
              FINCOME,FAMILY INCOME 7/
              LNTHRES,LENGTH OF RESIDENCE 8/
              MEDCN,MAX. EDUCATION - MALE 9/
              FEDCN,MAX. EDUCATION - FEMALE 9B/
              METHNIC,ETHNICITY - MALE 10/
              FETHNIC,ETHNICITY - FEMALE 10B/
              NUMFRNDS,# OF FRIENDS IN NEIGHBOURHOOD 11/
              MEETNBS,FREQUENCY OF INFORMAL GATHERINGS 12/
              LNDTONBS,FREQUENCY OF LENDING AND BORROWING 13/
              FRNWNBS,RELATIONSHIP WITH NEIGHBOURS 14/
              FRNLNHD,NEIGHBOURHOOD ATTITUDE 15/
              LKPOLKS,LIKE PEOPLE IN NEIGHBOURHOOD 16/
              GDFRKIDS,GOOD NEIGHBOURHOOD FOR CHILDREN 17/
              KIDGDED,QUALITY OF EDUCATION AT LOCAL SCHOOLS 18/
              PLAKIDGO,PLACES FOR CHILDREN TO GO 19/
              MOREKIDS,OTHER KIDS OF SIMILAR AGE 20/
              SUPPSERV,ENOUGH LOCAL SHOPS AND SERVICES 21/
              GDACCWRK,GOOD ACCESS TO WORK 22/
              GDACCPEAT,GOOD ACCESS TO FOOD STORES 22B/
              GDACCSTR,GOOD ACCESS TO DEPARTMENT STORES 22C/
              GDACCFUN,GOOD ACCESS TO ENTERTAINMENT 22D/
              GDACCREC,GOOD ACCESS TO RECREATION 22E/
              GDACCPRK,GOOD ACCESS TO PARKS 22F/

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SNARK

GDACCPND,GOOD ACCESS TO FRIFNDS AND RELATIVES 22G/  
 GOTOWRK,TRANSPOTATION TO WORK 23/  
 GOTOEAT,TRANSPORTATION TO FOOD STORES 23B/  
 GOTOSTR,TRANSPORTATION TO DEPT. STORES 23C/  
 GOTOFUN,TRANSPOTATION TO ENTERTAINMENT 23D/  
 GOTOREC,TRANSPOTATION TO RECREATION 23E/  
 GOTOPARK,TRANSPORTATION TO PARKS 23F/  
 GOTOPRND,TRANSPORTATION TO FRIENDS & RELATIVES 23G/  
 NUMCARS,NUMBER OF CARS 24/  
 TAKEOPFT,FREQUENCY OF OUT OF TOWN HOLIDAYS 25/  
 IDENTNB,NEIGHBOURHOOD IDENTIFIABLE 26/  
 BOUNDNB,NEIGHBOURHOOD HAS IDENTIFIABLE EDGES 27/  
 NAMEEDGE,RESPONDENT IDENTIFIES EDGES 28/  
 NICESPOT,NEIGHBOURHOOD PLEASANT TO WALK IN 29/  
 SAFESPOT,NEIGHBOURHOOD SAFE FOR PEOPLE & PROPERTY 30/  
 SHHSPOT,NEIGHBOURHOOD QUIET 31/  
 BEAUTSPT,NEIGHBOURHOOD LOOKS ATTRACTIVE 32/  
 GREENSPT,NEIGHBOURHOOD HAS ENOUGH GREEN SPACES 33/  
 PRIVACY,NEIGHBOURHOOD AFFORDS PRIVACY 34/  
 NBRANNOY,CONSCIOUS OF NEIGHBOURS 35/  
 HEARNBIN,HEAR NEIGHBOURS WHILE INDOORS 36/  
 HRNBOOT,HEAR NEIGHBOURS WHILE OUTDOORS 36B/  
 SATISFY,SATISFIED WITH NEIGHBOURHOOD 37/  
 GDINVEST,HOME IN NEIGHBOURHOOD GOOD INVESTMENT 38/  
 HOWCHNGE,NEIGHBOURHOOD IMPROVE OR DECLINE IN 10 YRS. 39/  
 WANTMOVE,WANT TO MOVE RIGHT NOW 40/  
 SATHOUSE,HOUSE CREATE NBHD. SATISFACTION 41/  
 SATROADS,STREET LAYOUT CREATE NBHD. SATISFACTION 41B/  
 SATPOLKS,PEOPLE IN NBHD. CREATE NBHD. SATISFACTION 41C/  
 SATLOOKS,NBHD. APPEARANCE CREATE NBHD. SATISFACTION 41D/  
 SATSTAT,STATUS OF AREA CREATE NBHD. SATISFACTION 41E/  
 SATNRWRK,NEARNESS TO WORK CREATE NBHD. SATISFACTION 41F/  
 SATNRSTR,NEARNESS TO FOOD STORES = NBHD. SATISFAC. 41G/  
 SATNRSTR,NEARNESS TO DEPT. STORES = NBHD. SAT. 41H/  
 SATNRFRND,NEARNESS TO FRNDS. & RELTVS. = NBHD. SAT. 41I/  
 SATACTIV,LOCAL ACTIVITIES = NBHD. SATISFACTION 41J/  
 NBHOOD (1)WEST END (2)ST. BONIFACE (3)BROOKLANDS  
 (4)ELMWOOD (5)TRANSCONA (6)WOLSELEY (7)WESTWOOD  
 (8)ELM PARK (9)TUXEDO (10)NORWOOD (11)WINDSOR PARK  
 (12)WOODHAVEN (13)WILDWOOD PARK/  
 RESPONSE (0)NONE - DON'T KNOW (1)AGREE WITH COMMONEST  
 (2)AGREE W 2ND COMMONEST (3)DISAGREED WITH BOTH  
 (4)GAVE STREET NAME/  
 TENURE (1)OWN (2)RENT/  
 MALEAGE,FMLAGE (0)NO RESPONSE (1)UNDER 25 (2)25 - 34  
 (3)35 - 44 (4)45 - 54 (5)55 - 64 (6)65 - 69 (7)70+/  
 MARITAL (1)SINGLE (2)MARRIED (3)SINGLE PARENT  
 (4)AGED SINGLE/  
 FANISIZE (9)NO RESPONSE/  
 LIFESTGE (1)YOUNG CHILDLESS (2)PRE-SCHOOLERS DOMINANT  
 (3)SCHOOL AGFD DOMINANT (4)YOUNG ADULTS DOMINANT  
 (5)OLDER, CHILDREN GONE/  
 MJOBTYPE,FJOBTYPE (0)NO RESPONSE (1)MANAGER-PROFESSIONAL  
 (2)MANUFACTURING-TRADES (3)CLERICAL-SALES  
 (4)EDUCATION-SOCIAL SERVICES (5)PRIMARY-LABOURER  
 (6)RETIRED (7)UNEMPLOYED/  
 FINCOME (0)NO RESPONSE (1)5000 - 6999 (2)7000 - 8999  
 (3)9000 - 10999 (4)11000 - 12999 (5)13000 - 14999  
 (6)15000 - 19999 (7)20000 - 24999 (8)25000 AND UP/  
 LNTHRES (0)NO RESPONSE (1)LESS THAN ONE YEAR  
 (2)ONE - TWO YEARS (3)THREE - FOUR YEARS  
 (4)FIVE - SIX YEARS (5)SEVEN YEARS AND UP/  
 MEDCN,FEDCN (0)NO RESPONSE (1)NONE (2)ELEMENTARY

VALUE LABELS

SNARK

(3) HIGH SCHOOL (4) SOME UNIVERSITY (5) TECH. COLLEGE  
 (6) UNIVERSITY DEGREE (7) POST-GRAD/  
 METHNIC, FETHNIC (0) NO RESPONSE (1) ASIAN  
 (2) BRITISH ISLES (3) FRENCH (4) GERMAN (5) ITALIAN  
 (6) JEWISH (7) NATIVE INDIAN (8) DUTCH (9) POLISH  
 (10) SCANDINAVIAN (11) UKRAINIAN (12) CANADIAN  
 (13) AMERICAN (14) OTHER EUROPEAN (15) MINORITY/  
 NUMPFNDS (0) NO RESPONSE (1) NONE (2) ONE - THREE  
 (3) FOUR - SEVEN (4) EIGHT - TWELVE (5) THIRTEEN AND UP/  
 MEETNBS, LNDTONBS (1) NEVER (2) VERY SELDOM  
 (3) SOMETIMES (4) OFTEN (5) VERY OFTEN/  
 FRNWNBS (1) VERY BAD (2) BAD (3) MIXED (4) GOOD (5) VERY GOOD/  
 PRNLYNHD (1) VERY UNFRIENDLY (2) UNFRIENDLY (3) MIXED  
 (4) FRIENDLY (5) VERY FRIENDLY/  
 LKPOLKS (1) DISLIKE VERY MUCH (2) DISLIKE (3) MIXED FEELINGS  
 (4) LIKE SOMEWHAT (5) LIKE VERY MUCH/  
 GDFRKIDS, KIDGDED (1) VERY POOR (2) POOR (3) AVERAGE  
 (4) GOOD (5) VERY GOOD/  
 PLAKIDGO TO SUPPSERV, IDENTNB, BOUNDNB, NICESPOT TO PRIVACY,  
 (1) DISAGREE STRONGLY (2) DISAGREE SOMEWHAT (3) UNDECIDED  
 (4) AGREE SOMEWHAT (5) AGREE STRONGLY/  
 GDACCWRK TO GDACCEND (1) VERY POOR (2) POOR (3) MIXED  
 (4) GOOD (5) VERY GOOD/  
 GOTOWRK TO GOTOPRND (1) ON FOOT (2) BY CAR (3) BY BUS/  
 NUMCARS (0) NONE (1) ONE (2) TWO (3) THREE (4) FOUR OR MORE  
 (9) NO RESPONSE/  
 TAKEOPFT (1) LESS THAN ONCE A YEAR (2) ONCE A YEAR  
 (3) TWO OR THREE TIMES YEARLY (4) THREE OR MORE TIMES/  
 NAMEEDGE (0) NO RESPONSE - INCORRECT (1) ONE MAJOR EDGE  
 (2) TWO OR MORE EDGES (3) NBHD. LARGER (4) NBHD. SMALLER/  
 NBRANNOY TO HRNBOUT (1) VERY OFTEN (2) OFTEN  
 (3) SOMETIMES (4) VERY SELDOM (5) NEVER/  
 SATISFY (1) VERY DISSATISFIED (2) DISSATISFIED  
 (3) MIXED FEELINGS (4) SATISFIED (5) VERY SATISFIED/  
 GDINVEST (1) VERY POOR (2) POOR (3) AVERAGE (4) GOOD  
 (5) VERY GOOD/  
 HOWCHNGE (1) DECLINE GREATLY (2) DECLINE SOMEWHAT  
 (3) NO CHANGE (4) IMPROVE SOMEWHAT (5) IMPROVE GREATLY/  
 WANTMOVE (1) AGREE STRONGLY (2) AGREE SOMEWHAT  
 (3) UNDECIDED (4) DISAGREE SOMEWHAT (5) DISAGREE STRONGLY/  
 SATHOUSE TO SACTACTIV (1) VERY UNIMPORTANT  
 (2) UNIMPORTANT (3) NO DIFFERENCE (4) IMPORTANT  
 (5) VERY IMPORTANT/  
 SOCECON (1) UPPER (2) LOWER/  
 LAYOUT (1) BAY (2) GRID/  
 ACCESS (1) LOW (2) HIGH/  
 INOUT (1) SUBURBS (2) INNER CITY/  
 IF (NAMEEDGE EQ 1) GIVEEDGE=1  
 IF (NAMEEDGE EQ 2) GIVEEDGE=2  
 IF (NAMEEDGE EQ 3) GIVESIZE=1  
 IF (NAMEEDGE EQ 4) GIVESIZE=2  
 IF (NBHOOD EQ 9) HOMHETNB=1  
 IF (NBHOOD EQ 7) HOMHETNB=2  
 IF (NBHOOD EQ 10) HOMHETNB=3  
 IF (NBHOOD EQ 13) HOMHETNB=4  
 IF (NBHOOD EQ 3) HOMHETNB=5  
 IF (NBHOOD EQ 5) HOMHETNB=6  
 IF (NBHOOD EQ 4) HOMHETNB=7  
 IF (NBHOOD EQ 6) HOMHETNB=8  
 IF (NBHOOD EQ 8) SIMSIMA=1  
 IF (NBHOOD EQ 12) SIMSIMA=2  
 IF (NBHOOD EQ 13) SIMSIMB=1  
 IF (NBHOOD EQ 7) SIMSIMB=2

## SNARK

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IF          (NBHOOD EQ 10) SIMSINC=1
IF          (NBHOOD EQ 8) SIMSINC=2
IF          (NBHOOD EQ 2) SIMSIND=1
IF          (NBHOOD EQ 6) SIMSIND=2
IF          (NBHOOD EQ 3) SIMSIME=1
IF          (NBHOOD EQ 1) SIMSIME=2
IF          (NBHOOD EQ 4) SIMSIMP=1
IF          (NBHOOD EQ 6) SIMSIMP=2
IF          (NBHOOD EQ 2) SIMSIMG=1
IF          (NBHOOD EQ 5) SIMSIMG=2
IF          (NBHOOD EQ 11) SIMDISA=1
IF          (NBHOOD EQ 10) SIMDISA=2
IF          (NBHOOD EQ 7) SIMDISB=1
IF          (NBHOOD EQ 9) SIMDISB=2
IF          (NBHOOD EQ 11) SIMDISC=1
IF          (NBHOOD EQ 8) SIMDISC=2
IF          (NBHOOD EQ 10) DISSIMA=1
IF          (NBHOOD EQ 6) DISSIMA=2
IF          (NBHOOD EQ 1) DISSIMB=1
IF          (NBHOOD EQ 10) DISSIMB=2
IF          (NBHOOD EQ 11) DISSIMC=1
IF          (NBHOOD EQ 7) DISSIMC=2
IF          (NBHOOD EQ 1) DISSIND=1
IF          (NBHOOD EQ 2) DISSIND=2
IF          (NBHOOD EQ 3) DISSIME=1
IF          (NBHOOD EQ 8) DISSIME=2
IF          (NBHOOD EQ 8) DISSIMP=1
IF          (NBHOOD EQ 4) DISSIMP=2
MISSING VALUES NBHOOD TO MARITAL (0)/ PAMSIZE,NUMCARS (9)/
LIFESTGE TO GOTOFRND (0)/TAKEOPFT TO SATACTIV (0)
GIVEEDGE (0)/
GIVESIZE (0)/ HOMHETNB (0)/ SIMSIMA TO SIMSIMG (0)/
SIMDISA TO SIMDISC (0)/ DISSIMA TO DISSIMP (0)
CROSSTABS      TABLES=
STATISTICS    1,2,3,4,5,6,7,8,11
READ INPUT DATA

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CARD DATA

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CAR CDATA

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Appendix C

DETAIL MAPS SHOWING SELECTED  
NEIGHBOURHOODS AND SUB-AREAS  
IN WHICH QUESTIONNAIRES WERE  
ADMINISTERED

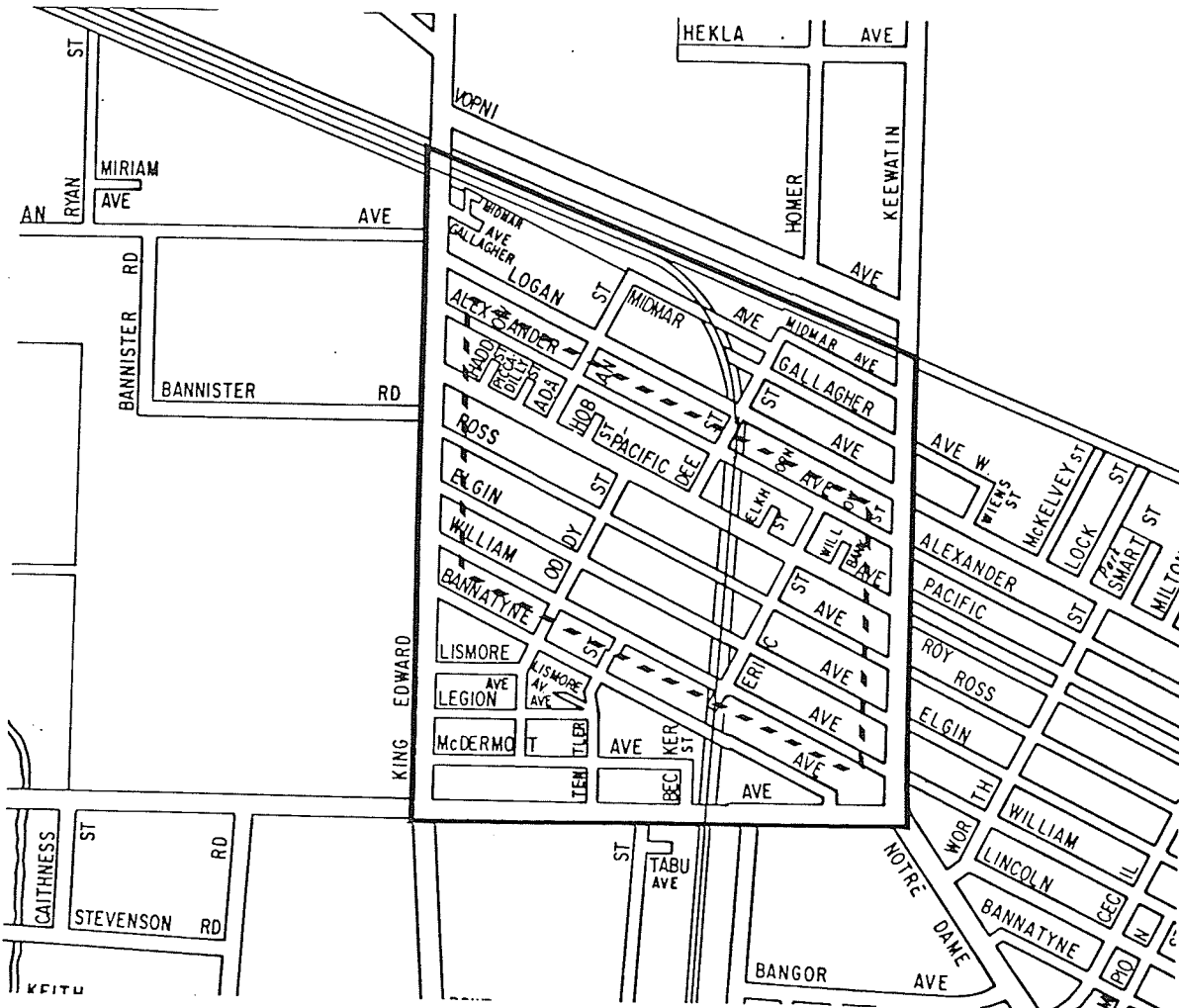


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- - - - - Tested Area

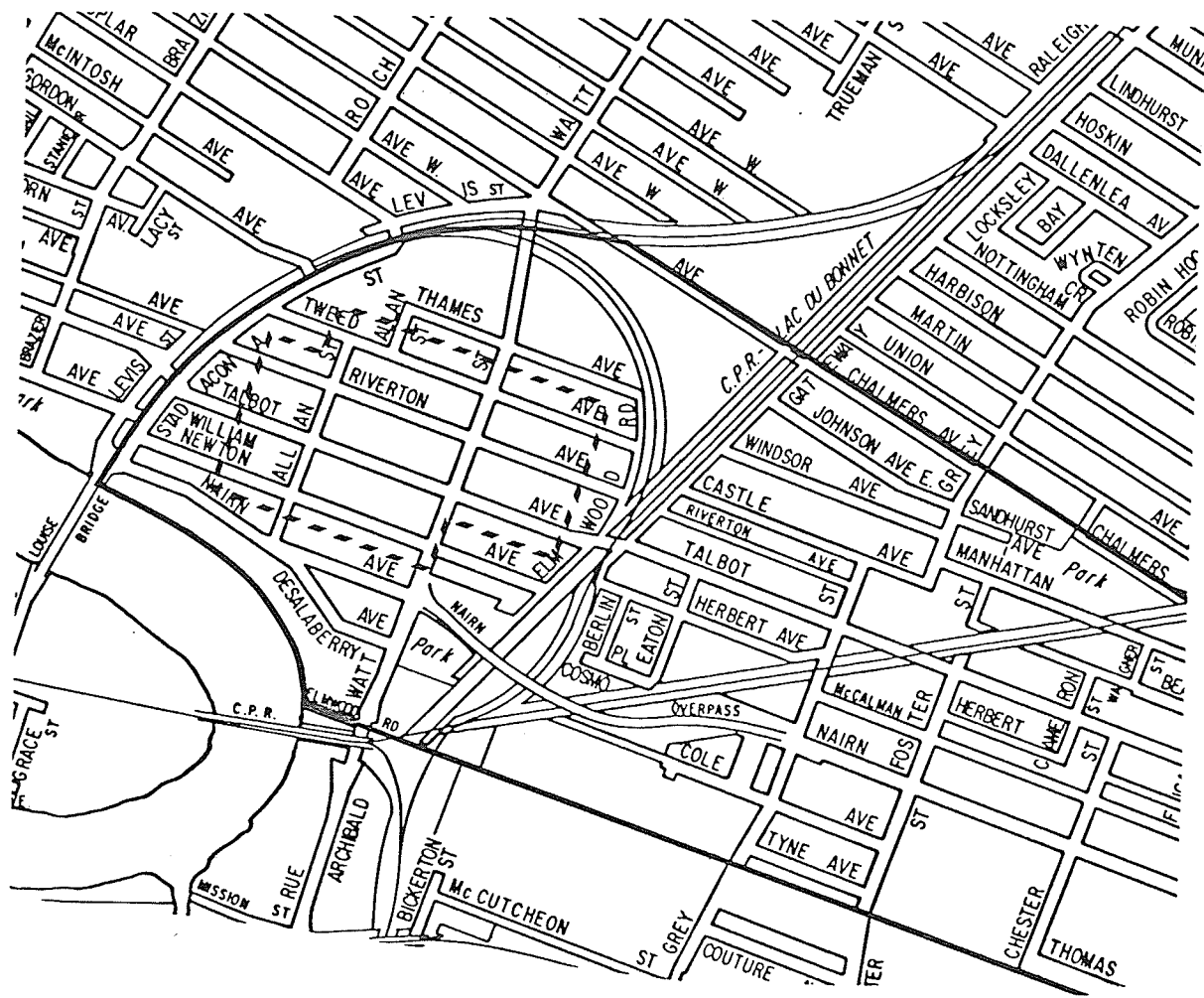
1. WEST END





———— - Neighbourhood Boundary  
----- - Tested Area

3. BROOKLANDS

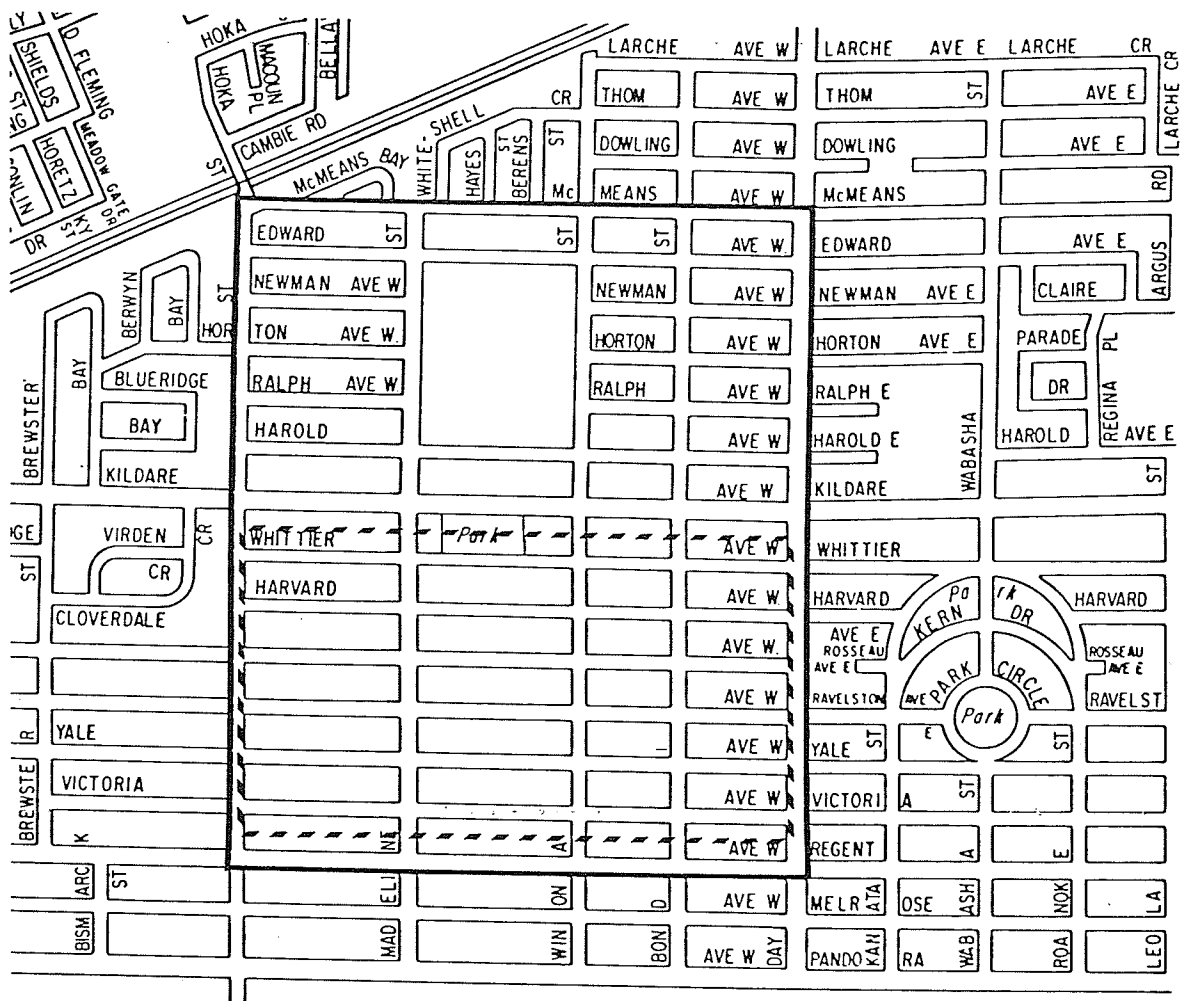


———— - Neighbourhood Boundary

- - - - - Tested Area

4. ELMWOOD





————— - Neighbourhood Boundary

----- - Tested Area

5. TRANSCONA



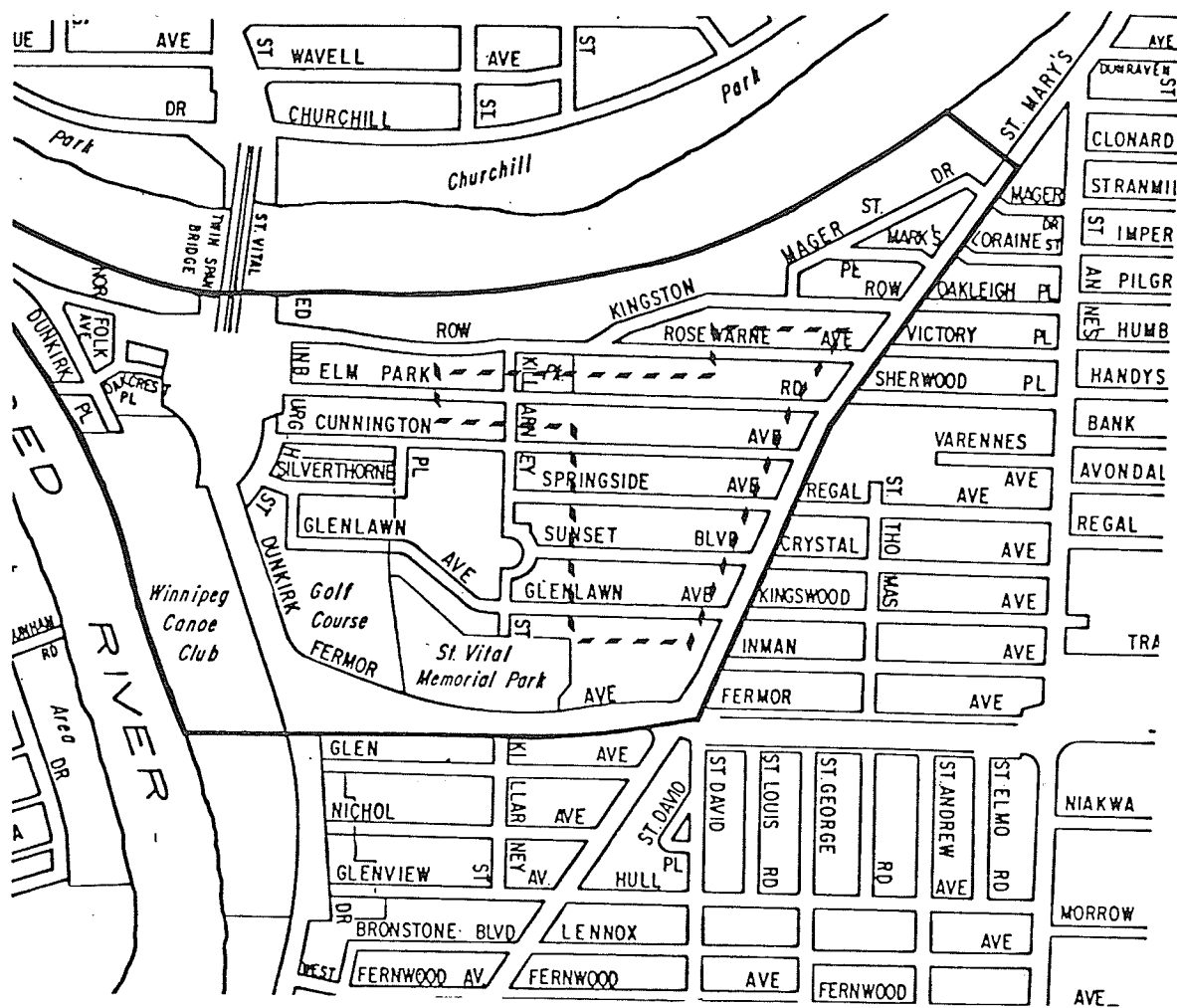
———— - Neighbourhood Boundary  
- - - - - Tested Area

6. WOLSELEY



- - Neighbourhood Boundary
- - - - - Tested Area

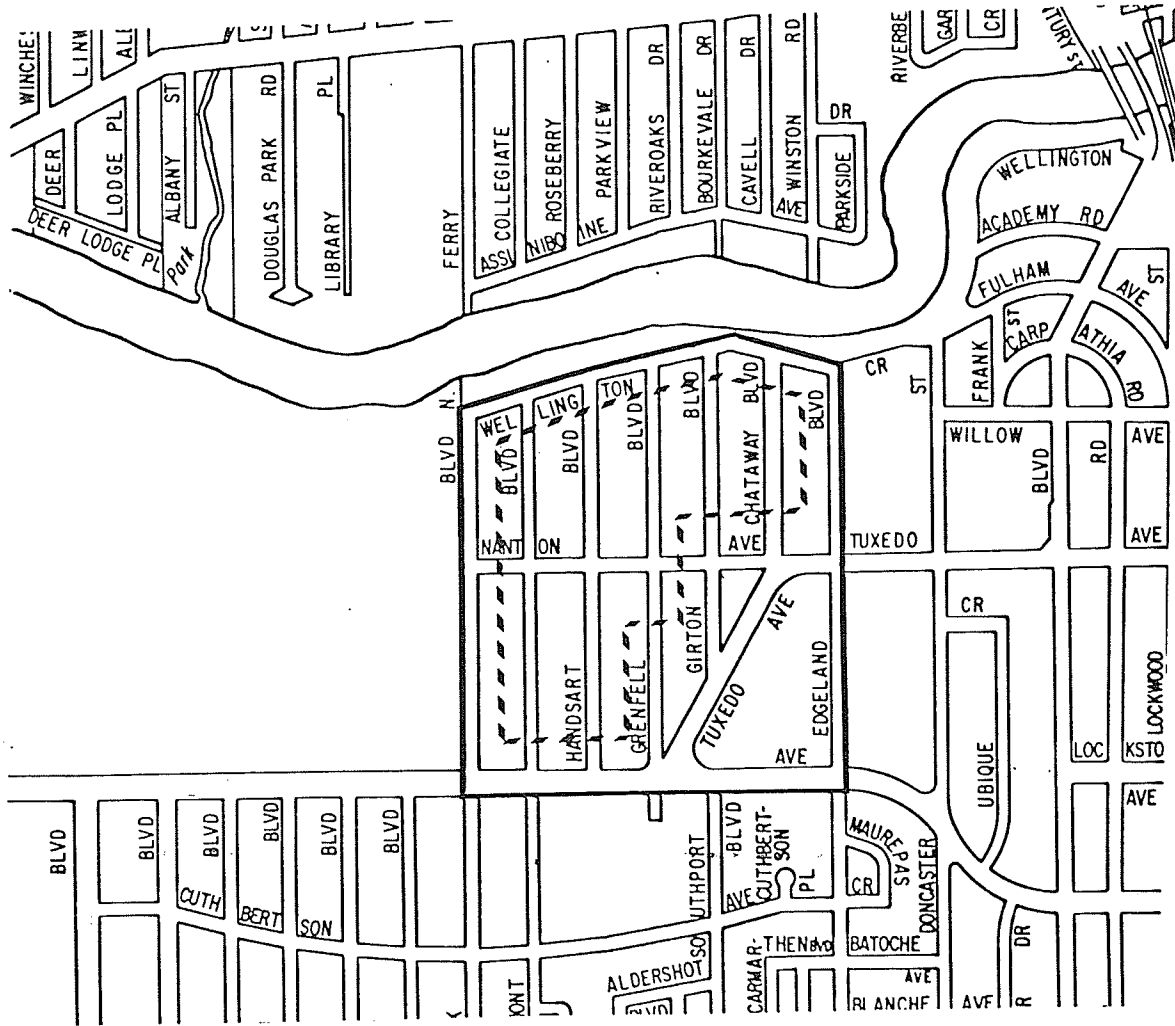
7. WESTWOOD



———— - Neighbourhood Boundary

----- - Tested Area

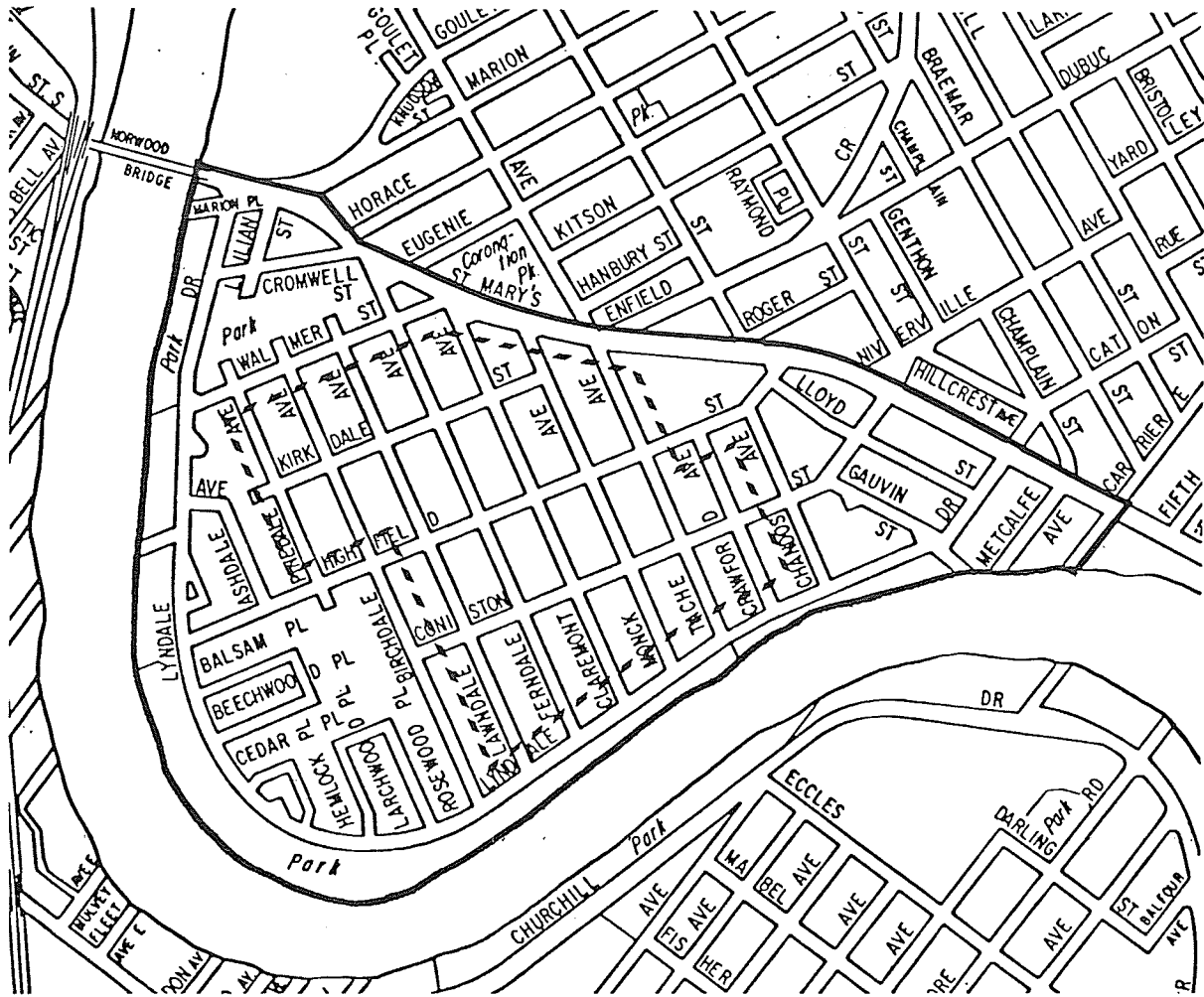
8. ELM PARK



———— - Neighbourhood Boundary

- - - - - Tested Area

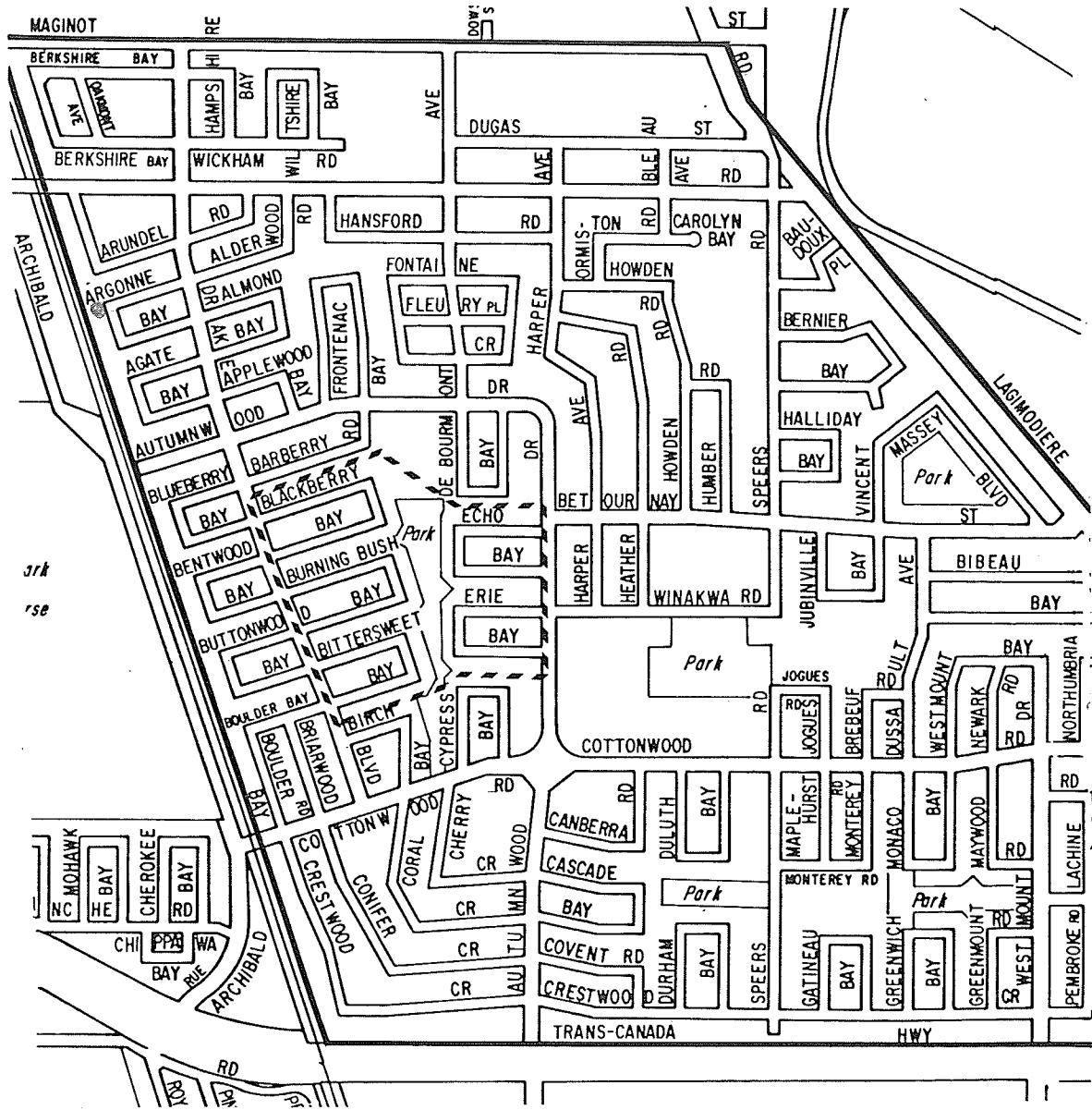
9. TUXEDO



————— - Neighbourhood Boundary

----- - Tested Area

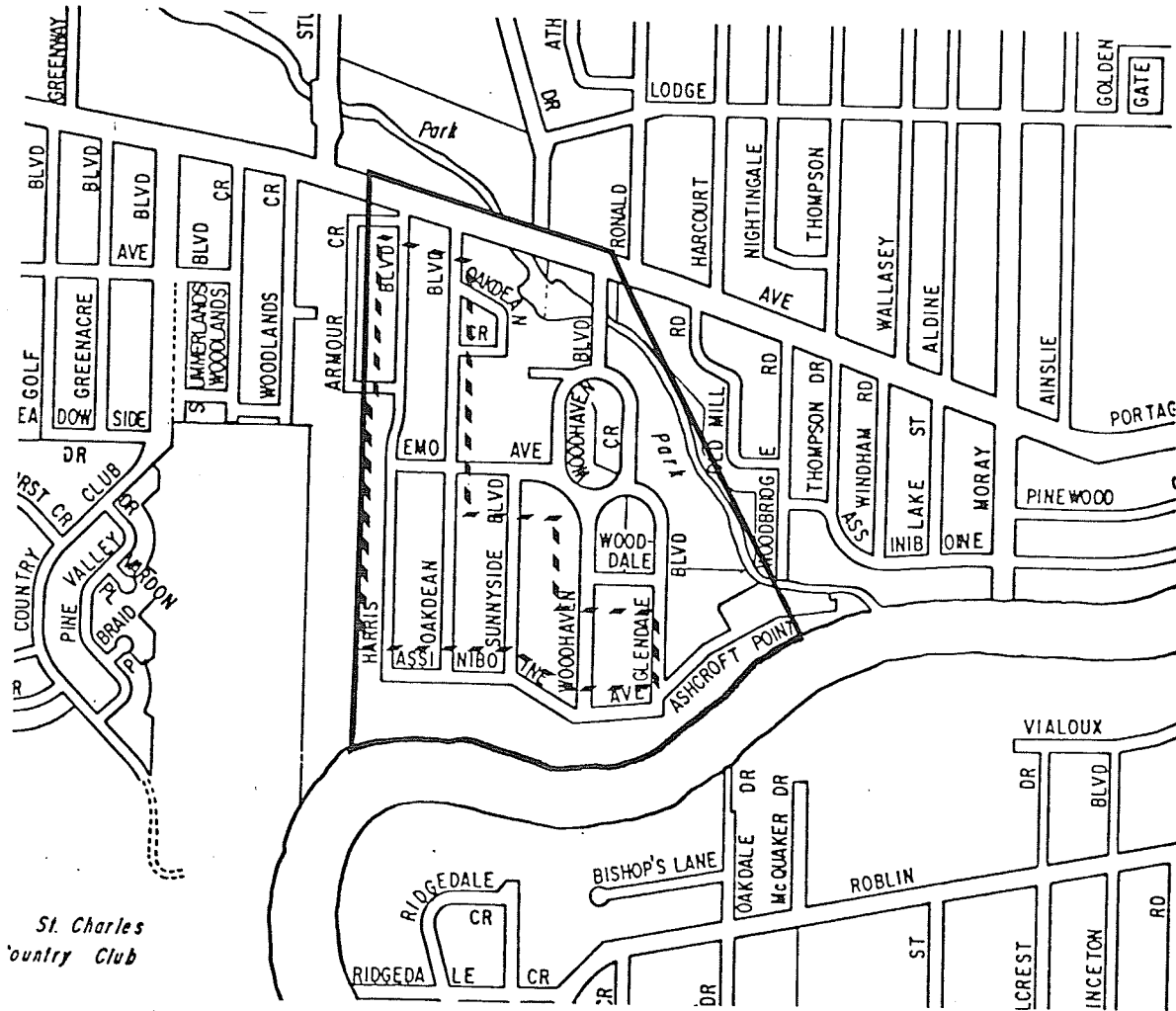
10. NORWOOD



————— - Neighbourhood Boundary

----- - Tested Area

11. WINDSOR PARK

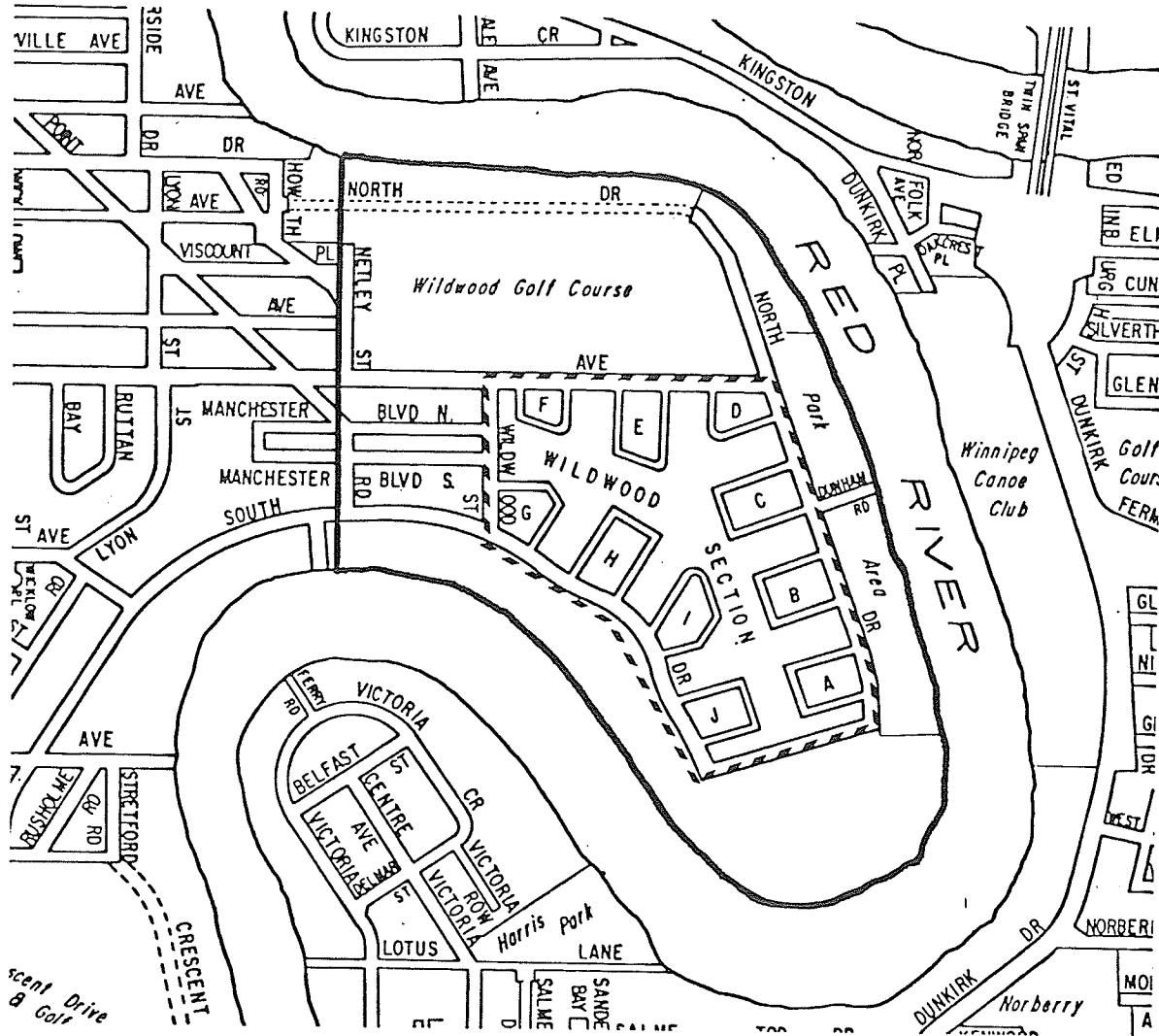


St. Charles Country Club

- - Neighbourhood Boundary
- //// - Tested Area

12. WOODHAVEN



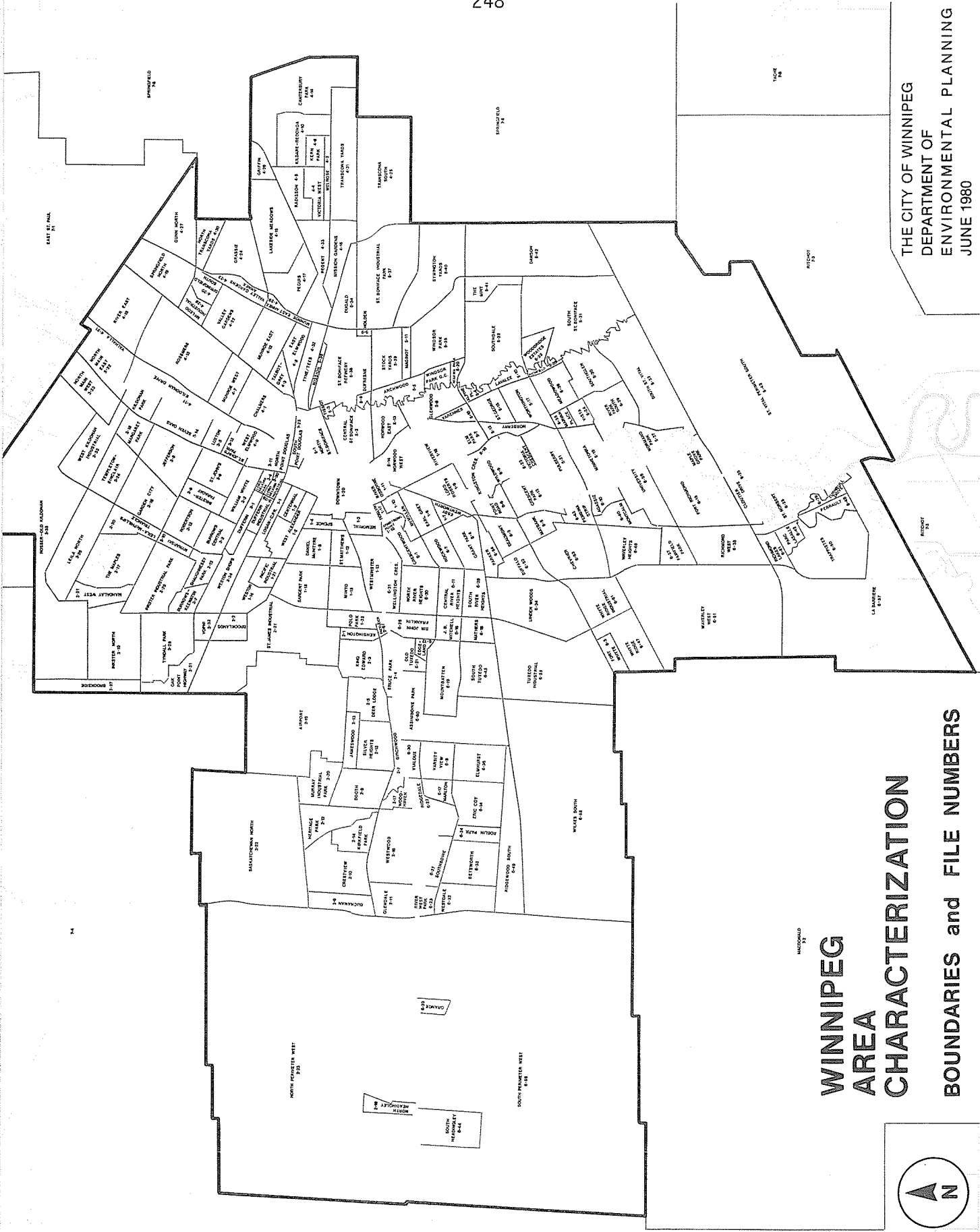


————— - Neighbourhood Boundary  
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13. WILDWOOD

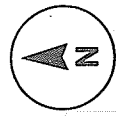
Appendix D

NEIGHBOURHOOD BOUNDARIES  
AS IDENTIFIED BY THE CITY  
OF WINNIPEG PLANNING  
DEPARTMENT



THE CITY OF WINNIPEG  
 DEPARTMENT OF  
 ENVIRONMENTAL PLANNING  
 JUNE 1980

**WINNIPEG  
 AREA  
 CHARACTERIZATION  
 BOUNDARIES and FILE NUMBERS**



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