

SOCIAL SPACE IN THE RURAL-URBAN
FRINGE: A STUDY OF FLEETWOOD, B.C.

by

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ABSTRACT

The concept of social space integrates an objective element of the observable spatial framework in which people live and a subjective element of their spatial perception. The rural-urban fringe provides an environment in which differences in the social space of at least two groups can be measured, those who have long been resident in the area before the pressures of city expansion began to be felt, and those who have recently moved from the city to live in the fringe.

This research examines the social space of two groups in the Fleetwood area of Surrey, B.C., which forms part of the rural-urban fringe of Vancouver.

The procedures of Chombart de Lauwe for establishing the social space of groups in Paris has been considered, but for the purpose of this study, the objective and subjective social spaces have been measured separately.

The procedures of Chapin for measuring household activity systems were adopted to establish the objective social space. A total of 116 households were interviewed and the location of household activities were identified. The procedures of Lynch and de Jonge were used for establishing the subjective

social space of Fleetwood held by the two groups. A total of twenty-six persons were interviewed of whom twenty were part of the two groups and six were a control group familiar with Fleetwood.

The study has established that the objective social space of both groups in the rural-urban fringe is extensive and covers the entire Metropolitan area of Vancouver. The established group tend to have a closer association with Fleetwood and their image of the area is a much stronger one. The subjective social space of those who have recently moved into the area is relatively weak in comparison.

In concluding, suggestions have been put forward for a more rigorous definition of social space together with a refinement of the testing procedures.

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CHAPTER I

INTRODUCTION

"There exists a socialized space, as it were, which is shared by everyone, and then there is our own particular space which probably derives from childhood sentiments, from the fact that we were brought up in the country, or in the city...."

G. Matoré¹

Many of the students of contemporary industrial societies have assumed the existence of a basic dichotomy between types of human behaviour, that of "rural" on the one hand, and "urban" on the other. Some have also turned to consider the behaviour which becomes manifest as a result of the interplay of forces existing at the zone of contact between rural and urban. Such studies are of special concern in North America and Europe where the rapid expansion of urban areas in recent years has resulted in serious problems in the rural areas immediately adjacent to them.

Geographers who have studied the rural-urban fringe have tended to concentrate on land use and economic changes which have resulted from urban expansion. A recent example is the study by Sinclair, "Von Thünen and Urban Sprawl".² Sinclair's concern was to introduce a stochastic element

1. G. Matoré, "Proxemics," Landscape, Vol. 13.1, (1963) pp. 20.

2. R. Sinclair, "Von Thünen and Urban Sprawl," Annals, Association of American Geographers, Vol. 57, (1967)

into Von Thünen's model to account for the expansion of the town and the effect of such expansion on the surrounding "rings". He considered three variables;

1. Urban and rural land price differences
2. Flexibility offered by the automobile
3. The whims and judgements of human beings.

Sinclair's study adds a valuable dimension to a model which has been at the centre of geographical studies for many years. However, the third variable Sinclair considered has become, to many cultural geographers, one of the most significant fields of study to explain man's spatial behaviour, subsumed within the concept of "environmental perception".

In studying man's perception of the environment, geographers have been joined by social anthropologists and social psychologists and a growing body of theory is developing, together with procedures for testing, which may bring some order out of the chaos of describing the subjective elements of man's behaviour. Geographers need no longer dismiss those spatial behaviour patterns which appear irrational as "whims" but rather can attempt to understand those "terrae incognitae....that lie within the minds and hearts of men."³

3. D. Lowenthal, "Geography, Experience and Imagination: Towards a Geographic Epistemology," Annals, Association of American Geographers, Vol. 51, (1961), pp. 241.

Applying the dimension of spatial perception to a rural-urban fringe area would appear to be particularly significant for here one would presumably find representatives of both urban and rural types of behaviour within the same environment. It would seem appropriate to establish whether there are any significant differences in the perception of the environment between such groups.

It is the purpose of this research to establish whether different groups living in the rural-urban fringe vary in the way in which they organize their environment. With specific reference to the Fleetwood area of Surrey, B. C., the intent is to establish not only the way in which the different groups perceive their environment, but also the space within which their regular activities are organized. From such a study, a picture of the "social space" of the respective groups will emerge.

To clarify any confusion which may arise over the term "social space", the definition of Chombart de Lauwe, as interpreted by Buttner,⁴ will be followed. The term "social space" is taken to mean both the physical and social environments in which a group lives and works. Within such a concept, two types of space can be identified. An objective social space, which is the spatial framework in which groups live, and subjective social space, which is that space perceived by members of a particular group.

4. Buttner, Anne "Social Space in Interdisciplinary Perspective," Geographical Review, Vol. LIX (1969), pp.417-426.

CHAPTER II

REVIEW OF THE LITERATURE

To study the social space of groups residing in the rural-urban fringe, it is necessary to consider the literature concerning rural-urban fringe studies by both geographers and sociologists. The subjective element inherent within the concept of social space requires also the consideration of the growing body of literature relating to the role of perception in geographical studies of man's response to the environment.

Rural-Urban Fringe Studies.

There has been much debate on the definition of a rural-urban fringe. Among social scientists, the sociologists have shown the greatest concern for making a clear distinction between rural and urban. One of the most notable statements is to be found in the volumes of Sorokin et alia, "A Systematic Source Book in Rural Sociology."⁵ More recently, in 1964, Taylor and Jones sought to emphasize the distinction by characterizing the differences in terms of the following:⁶

5. P. Sorokin et alia, A Systematic Source Book in Rural Sociology, (University of Minnesota Press, 1926)

6. L. Taylor and A. Jones, Rural Life and Urbanized Society (Oxford University Press, 1964), pp. 50-52.

| | <u>Rural World</u> | <u>Urban World</u> |
|--------------------------------|---|--|
| Occupation | Totality of cultivators and their families | Totality of people engaged in manuf., trade, commerce, professions, and other non-agricultural occupations. |
| (Population) size of community | Agrarianism and size of community are negatively correlated. | Urbanization and size are positively correlated. |
| System of Interaction | Less numerous contacts per man. Narrower area of the interaction system of its members and the aggregate. More prominent part is occupied by primary contacts. Predominance of personal and relatively durable relations. 'Man is interacted with as a human person.' | More numerous contacts. Predominance of impersonal, casual, and short-lived relations. Man is interacted with as a 'number' and 'address'. |

Taylor and Jones also characterized the differences in terms of environment, heterogeneity and homogeneity of the population, population density, social differentiation, stratification, and mobility.

Such studies have been criticized by other sociologists for establishing "ideal-type constructs" without sufficiently rigorous inquiry.⁷

7. See for example P. M. Hauser, "Observations on the Urban-Folk and Urban-Rural Dichotomies as Forms of Western Ethnocentrism," part B. of "The Folk-Urban Ideal types," in P. M. Hauser and L. F. Schnore (eds.), The Study of Urbanization (New York, John Wiley & Sons, 1965), pp. 503-514.

Studies of rural-urban differences within North America have found that, with respect to such variables as opinion poll attitudes, personality adjustments, sexual outlets, the difference is minimal. In his analysis of opinion polls, Beers found no major differences between farmers and urban residents on national and international political issues. In general there was a conformance with the views of Americans at large and there were few indications of "unanimous farmer's opinions."⁸

One reason for the persistence of such a differentiation in social science research lies in the nature of the primary source material. Invariably this material is taken from Census Reports in which a distinction between rural and urban is clearly made. Before 1951, the Census of Canada made use of a legal definition which often made little sense in terms of the actual number of people in any settlement. Thus, urban was defined as including all incorporated cities, towns, and villages regardless of size. The 1961 Census defined urban as all cities, towns, and villages of 1,000 or over, whether incorporated or not. It also included the urbanized fringes of centres in cases

8. H. W. Beers, "Rural-Urban Differences: Some Evidence from Public Opinion Polls," in P. K. Hatt and A. J. Reiss, Jr. (eds.), Cities and Society (Glencoe, Ill. The Free Press, 1962), pp. 698-710.

where the population of the city or town together with its urbanized fringe amounted to 10,000 or more.⁹

In contrast, the Bureau of Census of the United States of America, classified all persons living in incorporated places of 2,500 inhabitants or more as urban until 1940. In 1950, the definition of urban was changed to include the "densely settled urban fringe around cities of 50,000 inhabitants or more."¹⁰ The rural population was defined as those persons living outside the areas designated as urban.

A more important categorization made in the Census Reports for both countries in terms of its implication for rural-urban fringe studies is the distinction between rural farm population and rural non-farm. The Census of Canada for 1961 defined the rural farm population as living on an agricultural holding of one or more acres with agricultural sales of at least \$50.00 per annum. The United States Census used a similiar definition in its 1950 Census but without an income qualification.

9. Bulletin 1.1-11. Census of Canada (Ottawa: Dominion Bureau of Statistics, 1961), p. XI.

10. Bureau of the Census, Historical Statistics of the United States; Colonial Times to 1957, (Washington, D. C., U. S. Department of Commerce, 1961), p. 2.

In an attempt to compare the population characteristics of residents in a rural-urban fringe area with urban residents and farm residents, Beegle defined the fringe area as those townships with 50% or more of the population within the Census category of rural non-farm.¹¹

Attempts to conceptualize the rural-urban fringe outside of Census guidelines have been numerous. Axiomatic to fringe studies is a location on the periphery of the continuously built-up area, but such definitions do not describe the characteristics of the fringe area itself.

In terms of land use, the general picture of the area appears to be one of chaos. Wehrwein saw the fringe as both an institutional haven, particularly for the unwholesome activities associated with the city; slaughter houses, noxious industries, airports, cemeteries and as an institutional desert in that "wild-cat subdivision" has forced rural land into urban use prematurely and then "frozen" it, creating the phenomenon referred to as "idle land".¹²

11. J. A. Beegle, "Characteristics of Michigan's Fringe population," Rural Sociology, Vol. 12, (1947), pp. 254-263.

12. G. S. Wehrwein, "The Rural-Urban Fringe," Economic Geography, Vol. 18, (1942), pp. 217-228.

Such land use contrasts have been described further by Blizzard and Anderson as the area where,¹³

Rural and urban, agricultural, commercial, and residential land uses are intermixed. In any of these mixtures the uses may be of high intensity and area often found adjoining or in close proximity.

One may see contrasts in economic enterprises and in levels of living in the fringe. Family built houses and modern urban-type dwelling; jerry-built houses, trailers, squatters, and country estates; junk yards and clean modern farms - all these may be found in the urban oriented area around a central city....

Undeveloped plotted land is a dominant fringe phenomenon. Real estate speculators often guess wrong and leave land marked off but unoccupied. Often the mistakes are costly when streets, sidewalks, and sometimes even utility installations are abandoned because of the building boom which has collapsed.

Other studies have tried to characterize the fringe in terms of its residents. In its study of the rural-urban fringe of the Vancouver Metropolitan area, the Lower Mainland Regional Planning Board, although defining the fringe as the area of "city-type houses on city-size lots....mixed in with farms, small-holdings, and derelict land,"¹⁴ found that the residents were generally young, with average size families. The average age of the husband was 33 years and the family size was four persons. The husband tended to have a clerical, white-collar job in the urban core area.¹⁵

13. T.W. Blizzard and W. F. Anderson, in Taylor and Jones, op. cit., footnote 6, p. 99.

14. The Lower Mainland Regional Planning Board, The Urban Frontier, Part 1. Supplementary Study 1 to Land for Living, (New Westminster, B. C. The Board, 1963). p. 5.

15. Ibid. p. 9.

In general such studies have concentrated their attention on the attitudes of the fringe residents. Dewey, in his study of the Milwaukee fringe, was concerned with the motives underlying the reasons behind the movement of the people who transform the area into a fringe situation.¹⁶ He saw such movement as a continuation of the process from the central area to the suburbs, and found that most of the fringe residents came from the periphery of the city. He itemized the reasons for moving in the first instance and found that;

| | | |
|-----|---------------|---------------------------------|
| 32% | moved because | it was better for the children. |
| 18% | " " | " " less congested. |
| 17% | " " | " " cleaner. |
| 13% | " " | " " a larger lot. |
| 10% | " " | " " lower taxes. |
| | 5% | were forced to move. |
| | 5% | moved to cheaper land. |

None of these reasons were mutually exclusive and some were paradoxical. Cheapness was relative, for example, as the cost of getting to work increased. Further, the urban people still sought those services they were accustomed with in the urban area, and this eventually forced up taxes. Dewey concludes that;¹⁷

the dweller in this area is seeking a cleaner, less congested community in which he can live an urban way of life. Only in a very limited sense is it a manifestation of a return to rural life; if rural social characteristics arise, they will be incidental phenomena.

16. R. Dewey, "Peripheral Expansion in Milwaukee County," American Journal of Sociology, Vol. 53. (1948), pp. 417-422.

17. Ibid. p. 422.

The main assumption of Dewey was discounted by Rodehaver in his study of Madison, Wisconsin.¹⁸ He found that although 70% of the families had moved into the fringe area from urban places, of these, some 60% of the heads of families and their wives "had been reared in non-urban places and the move should be more accurately viewed as a 'return to native haunts'." He found also that the fringe area was the locale for people from rural areas moving towards the city for urban employment and educational opportunities. In his study, he found that nearly three quarters of the occupants of the fringe had moved from urban places, eighteen percent from rural places, and eight percent were established residents.

The Lower Mainland Regional Planning Board was particularly interested in establishing the attitudes of the fringe residents towards the areas in which they lived.¹⁹ Defining the fringe as that area within the Census Metropolitan area, but outside the legal entities of Vancouver, Burnaby, and New Westminster, (the "core" area), they concentrated upon the extent of satisfaction and dissatisfaction with the services provided in the

18. M. W. Rodehaver, "Fringe Settlement as Two-Directional Movement," Rural Sociology, Vol. 12, (1947), pp. 49-57.

19. The Lower Mainland Regional Planning Board, op. cit., footnote 14.

fringe. The results showed that although the residents sought open space, peace, and quiet, they expected services at the level and intensity found in urban areas, and they were dissatisfied with such factors as unpaved streets, lack of bus services, and open ditches.

The extent to which families adjust to life in the fringe and the problems or satisfactions which they gain thereby was studied by Martin in the Eugene-Springfield area of Oregon.²⁰ His first hypothesis took its theme from the concept of accessibility to the city centre. His second hypothesis took into account social and cultural factors, particularly those outlined by Firey, "that for any given type of residence location, those individuals expressing satisfaction with the location will be characterized by common antecedents and other attributes which differentiate them from those that are dissatisfied with the location."²¹

But such studies are concerned primarily with the people who have moved into the fringe area and they do not take into account the fact that such movement invariably occurred into an area in which a settlement and activity pattern was already established. When the original residents have been acknowledged, any differentiation

20. W. T. Martin, The Rural-Urban Fringe: A Study of Adjustment to Residence Location, (Eugene, Oregon: University of Oregon, 1953).

21. Ibid. p. 19.

in attitudes or activities has too often been dismissed as "the farmer is becoming citified and the suburbanite is becoming countrified."²²

There is considerable evidence that the "mutuality" implied in the above statement gives a misleading impression of harmony among the residents of the rural-urban fringe. Pahl, in his study of the Hertfordshire fringe of London found that such movements into the fringe resulted in the segregation of residential areas between the established people and the migrants.²³ The Andersons, in their study of a French village, Wissous, ten miles from Paris, found considerable conflict between the original villagers and the new suburbanites and that far from the suburbanites becoming "countrified" they retained their urban habits.²⁴

The emphasis of many of the North American studies of the rural-urban fringe has been to consider only those residents who have moved into the fringe from the city and its suburbs, but Rodehaver's study has shown that over a quarter of the fringe residents had not been part of such a movement.²⁵ Pahl has suggested that, rather

22. W. Firey, Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan, (East Lansing, Michigan: Michigan A.E.S.B. Paper 339, 1946)

23. R. E. Pahl, Urbs in Rure: The Metropolitan Fringe in Hertfordshire. (London: London School of Economics: Geographical Papers No. 2. 1965)

24. R. T. & B. G. Anderson, Bus Stop for Paris: The Transformation of a French Village. (New York: Doubleday & Co. 1965)

25. M. W. Rodehaver, op. cit., footnote 18.

than defining the fringe in relation to the city, it would be far more fruitful to view the area "in terms of itself and not solely in relation to the central city."²⁶

Pahl's main thesis is that;²⁷

the hierarchical organization of the former agricultural area has given way to a segregated structure of activities. As well as the remnant of agricultural activity, there is a largely working class, local commuting population interspersed with a predominantly middle-class, car-owning group of commuters to London. That these groups live in distinct areas and lead essentially separate existences is concluded from a social survey of three representative parishes.

In two of the parishes, segregation was manifest and the sector of the countryside occupied by the migrant group was beginning to have "essentially urban characteristics." Pahl's study concentrated solely on socio-economic criteria such as social class, occupation, education, patterns of social contacts, shopping habits, and he was able to show the varying patterns of objective social spaces of the respective groups.

Studies of Environmental Perception.

Man-land relationships have been a continuing theme in geographic studies. The perspectives which geographers

26. R. E. Pahl. op. cit., footnote 23, p. 14.

27. Ibid. p. 14.

have brought to bear on this problem have embraced the philosophies of environmental determinism on the one hand and possibilism on the other.²⁸ In recent years a greater degree of objectivity has been developed by cultural geographers with the acceptance of such concepts as behaviouralism as a possible point of departure in studies of man-land relationships. The adoption of such concepts has enabled the cultural geographer to postulate that "a person's conscious and purposive responses to his milieu are explicable only in terms of psychological events, identified by such words as perception, recognition, selection, reaction, mood, attitude, choice, decision etc."²⁹

One of the earliest studies of environmental perception was that of Saarinen who saw the need for geographers to study "the way in which people perceive the physical world, how this affects their behaviour."³⁰ Saarinen specifically referred to the fact that little was known of differences in environmental perception between rural and urban groups.

28. For a review of environmental concepts in Geography see H. & M. Sprout, The Ecological Perspective on Human Affairs, (Princeton University Press, 1965)

29. Ibid. p. 118.

30. T. F. Saarinen, Perception of the Drought Hazard On The Great Plains, (Chicago: Department of Geography Research Paper 106, 1966), p. 40.

Geographers have been obliged to turn to other disciplines, particularly psychology, to study the processes of perception, and the psychologists themselves have developed an interest in psychological space requirements.³¹ Geographers, themselves have endeavoured to place their studies of environmental perception within the frameworks of perception theory. A basic axiom contends that man consciously or unconsciously orientates himself in space. To quote Hall, "to be disoriented in space is to be psychotic."³²

One of the earliest attempts to analyze human behaviour and its relation with the environment within the context of psychological theory was outlined by Kirk in 1951 in which he used Gestalt theory to develop his concept of the "behavioural environment".³³ Kirk contended that any action by an individual in his environment will be a consequence of "stresses" in an internal

31. See, for example, R. Sommer, Personal Space; The Behavioural Basis of Design, (Englewood Cliffs, J. J.: Prentice-Hall, 1969), R. Beck, "Spatial Meaning and the Properties of the Environment," in D. Lowenthal (ed.), Environmental Perception and Behaviour, (Chicago: Department of Geopgraphy Research Paper 109, 1967), pp.18-41. A. E. Parr, "Environmental Design and Psychology," Landscape, 14.2 (1964), pp. 15-18.

32. E. T. Hall, The Hidden Dimension, (New York; Doubleday & Co., 1966), p. 99.

33. W. Kirk, "Historical Geography and the Concept of the Behavioural Environment," Indian Geographical Journal, Vol. 25. (1951).

environment or "psycho-milieu", which is the product not only of the observation of the physical environment, but also of the group culture to which the individual belongs. Man's action in space is a response not to the real world as such, but to his perception of the real world. Joyce has taken as a model Osgood's Stimulus-Response theory as the framework within which he has studied the varying perceptions of Vancouver, B. C., by two groups.³⁴

The behavioural environment is a personal environment and, as Lowenthal has suggested, this environment "differs for each of us according to his personal history; and for each of us it varies also with mood, with purpose, and with attentiveness."³⁵ Personal values, attitudes and beliefs will also condition one's perception of the environment. This perception may have some common ground, however, particularly within groups in which a set of common values have developed. Firey has shown that certain elements in the landscape of the Beacon Hill area of Boston have developed symbolic meaning for a particular group.³⁶

³⁴.. I. T. Joyce, Subcultural Variations in Responses To The Urban Environment, Master's Thesis, Simon Fraser University, Burnaby, B. C., 1969.

³⁵. D. Lowenthal, op. cit., footnote 31. p. 1.

³⁶. W. Firey, "Sentiment and Symbolism as Ecological Variables," American Sociological Review, Vol. 10, (1945), pp. 140-148.

There have been many studies of different environmental perception between cultures. Hall contrasts the "proxemics" of German, English, French, Japanese, Arabs, and Americans in a subjective way.³⁷ With greater rigour, Sonnefeld has compared the environmental perception of the Arctic between Eskimoes, scientists and technicians at Research Laboratories and Dew-Line Stations in the arctic, and College and High School students in Delaware.³⁸

Even within cultural groups, one can expect variations in spatial perception. Fried and Gleicher have studied the different uses of space by different class groups in the Anglo-American culture.³⁹ They found that the urban, middle class perceive sharp boundaries between the dwelling unit and the immediate environs emphasizing their concept of "privacy". Outside the home, space is organized in a public way and oriented to other features which have meaning to them, for example, friend's houses, relatives, which can be dispersed over a wide area. This is the antithesis to the space perception Fried and Gleicher found among slum residents to whom the street is as much a part of the home as the dwelling itself, but whose other significant spaces are localized rather than dispersed.

37. E. T. Hall, op. cit., footnote 32.

38. J. Sonnefeld, in D. Lowenthal (ed.) op. cit., footnote 31, pp. 42-53.

39. M. Fried & P. Gleicher, "Some Sources of Residential Satisfaction in an Urban Slum," Journal of the American Institute of Planners, Vol. 27, (1961), pp. 305-315.

A framework for placing the study of environmental perception within a precise spatial context is provided by Stea.⁴⁰ He distinguished a threefold hierarchy of spaces, the smallest being the "territorial unit", the immediate space of an individual centering on what he believes to be "his", whether an office desk, a library carrell, or whatever. The second unit of space is that of the "territorial cluster", which encloses not only the individual's unit, but also other units which he frequently visits together with the paths used to visit them. The total of the clusters Stea termed the "territorial complex". Within the context of contemporary industrial societies in which considerable interaction takes place, the dimensions of the territorial complexes and clusters becomes very complicated. However, an attempt has been made to establish the dimensions of the space used by particular groups in the study of Paris by Chombart de Lauwe and his colleagues.⁴¹

Chombart de Lauwe has developed the concept of "social space" put forward by Sorre.⁴² To Sorre, social

40. D. Stea, "Space, Territory and Human Movement," Landscape, Vol. 15.1 (1966), pp. 13-16.

41. P. - H. Chombart de Lauwe et-al., Paris et L'Agglomeration Parisienne, (Paris: Presses Universitaire de France, 1952), 2 Volumes.
P. - H. Chombart de Lauwe, Paris: Essais de Sociologie, (Paris: Les Editions Ouvrieres, 1965).

42. M. Sorre, "Rencontres de la Geographie et de la Sociologie", (Paris: Librairie Marcel Riviere et Cie., 1957) p. 87.

space had three distinct elements: "configuration" - the features which give meaning to a concept of space, "division" - how a particular space is divided and its limits defined, "localisation" - the position of points in space. The concept of social space also includes the image man has of his space. This led Sorre to distinguish between "objective social space" - "the spatial framework in which individuals, groups, or large human groups evolve, the structures of which are governed by ecological and cultural patterns," and "subjective social space" - "social space perceived by an individual and representatives of the same group."⁴³

Indices which could be used to define the social space of an individual or group include relations within family groups, with neighbours, with friends visited at more or less distant intervals, place of work, relations with all types of groups, sporting, religious, professional. From these, a network of relationships could be established with some "privileged points" to define the "social air" in which man operates, where the activity of a group is localized. A school, church, factory, theatre, sports field would serve as the privileged points.⁴⁴ Sorre also

43. Ibid. p. 110.

44. Ibid. p. 111.

indicated that the subjective space of any individual would reflect that individual's set of values, his ambitions, and his wishes.

Chombart de Lauwe and his colleagues have made extensive use of the concept of social space in their studies of Paris and its agglomeration. Of particular interest here is their case study of the "peripheral suburb" of Petit-Clamart.⁴⁵ Located eight kilometres east of Versailles, Petit Clamart is an hour's journey by bus and metro to Paris. Within this small community of 2,500 people, there were two distinct groups with their own, clearly delimited, concepts of social space. This was particularly evident in the services used in the town, such as stores and cafes. However, there were some unifying factors shared by both groups, including the church, the town hall, and the gendarmerie, which were single institutions visited by both groups.

There have been attempts to establish the image of American cities held by their inhabitants by identifying those elements which are recognizable symbols to people, but such studies have not attempted to relate the image to particular sets of social space. One such study is that by Lynch.⁴⁶

45. P. - H. Chombart de Lauwe et. al., op. cit., footnote 41, Vol. 1. Ch. XII, pp. 228-240 & p. 243.

46. K. Lynch, The Image of the City, (Cambridge: The M. I. T. Press, 1960).

For procedural purposes, Lynch broke down the city image into five elements: paths, edges, districts, nodes, landmarks, and these elements when identified by the interviewee, were mapped, providing a subjective social space dimension of that particular person. The sample size was small, thirty people in Boston, fifteen each in Jersey City and Newark, and those interviewed were from one particular sub-cultural background.

In an earlier study with Rivkin, Lynch analyzed the image of a city block in the minds of two groups, the "stranger" and the "native".⁴⁷ They found that the stranger "sees no overall uniformity in the buildings or the type of business; signs and street furniture break the block up into small, confused areas; heavy traffic isolates him from the other side of the street." To the native, however, "familiarity with the area enables him to see similarities, (often imaginary), between streets, blocks, buildings and open spaces."

Lynch has outlined the qualities an image should have for it to be of value to a person orientating himself to space.⁴⁸

47. K. Lynch, & M. Rivkin, "A Walk Around The Block," Landscape, Vol. 8.3, (1957). pp. 24-33.

48. K. Lynch, op. cit., footnote 46, p. 9.

(The image) must be sufficient, true in a pragmatic sense, allowing the individual to operate within his environment to the extent desired. The map, whether exact or not, must be good enough to get one home. It must be sufficiently clear and well integrated to be economical of mental effort: the map must be readable. It should be safe, with a surplus of clues so that alternative actions are possible and the risk of failure is not too high. If a blinking light is the only sign for a critical turn, a power failure may cause disaster. The image should preferably be open-ended, adaptable to change, allowing the individual to continue to investigate and organize reality: there should be blank spaces where he can extend the drawing for himself. Finally, it should in some measure be communicable to other individuals.

The questionnaire developed by Lynch for his study was shortened by De Jonge in his study of the images of Dutch cities and he found that the responses conformed to those of Lynch's study.⁴⁹

Introduction of the Hypotheses

From the review of the literature, the following hypotheses are advanced as it is felt that they are most pertinent to the problem to be considered in this research.

1. that there exists in a rural-urban fringe area at least two groups, one an established group

49. D. de Jonge, "Images of Urban Areas," Journal of the American Institute of Planners, Vol. 28, (1962), pp. 417-422.

which has been resident in the area for a period of time; the other a migrant group which has moved into the area. (For reasons outlined in the following chapter, the length of residence of ten years has been taken as the threshold between the two groups).

2. that the groups will have differing concepts of social space within the same physical environment, and that this difference will be manifest in their subjective and objective social spaces. Specifically, the established group will show a social space closely associated with the area in which they live, the migrant group will show less association.

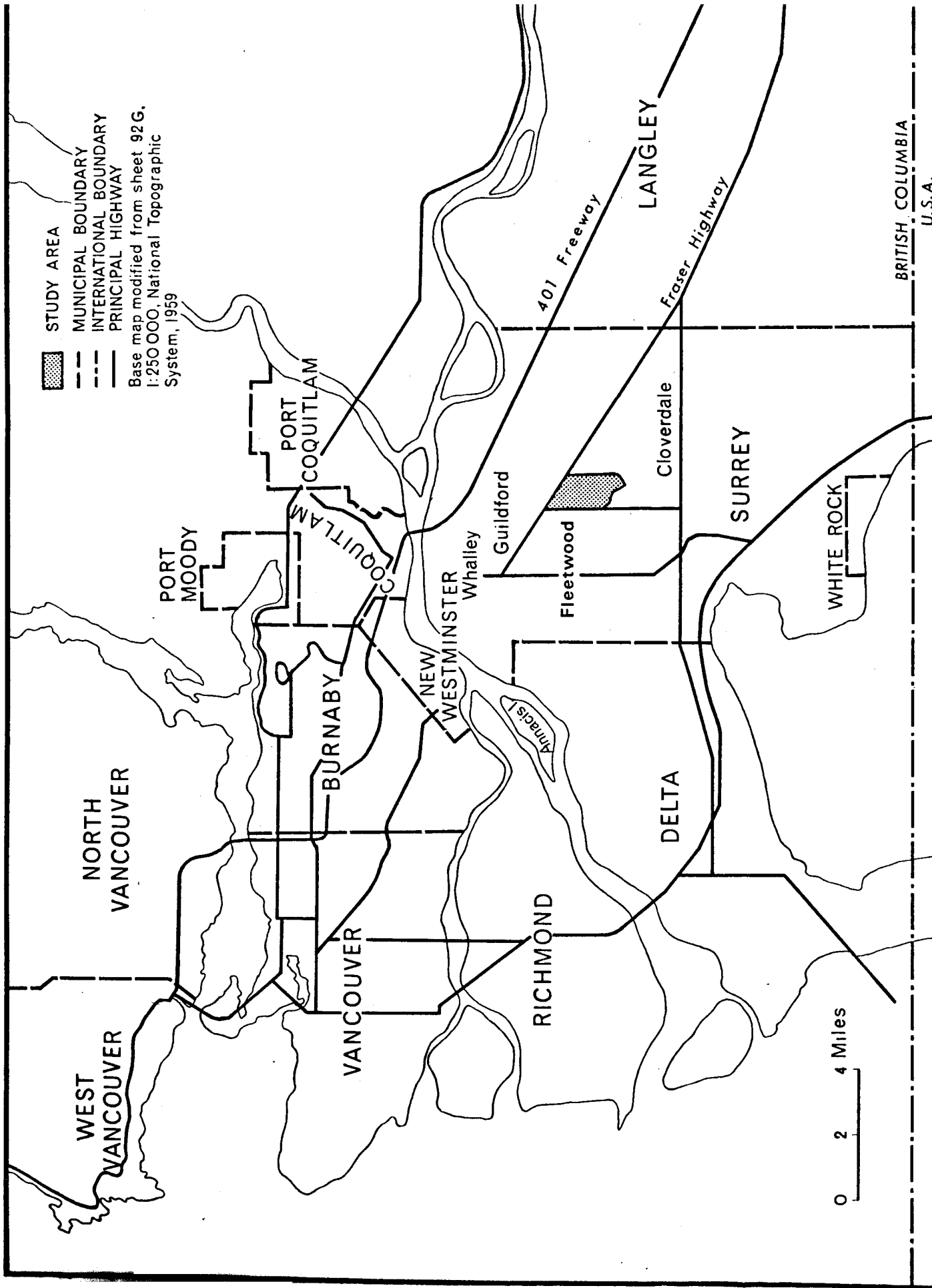
CHAPTER III

THE STUDY AREA

The Fleetwood area in which the hypotheses were tested is part of the District of Surrey. The District borders on the Fraser River, facing New Westminster, and this locational similarity with the City of Westminster and the county of Surrey in England gave rise to its name. To the south, the District abuts the U. S. border at the State of Washington. To the east, it reaches the District of Langley, and to the west, the District of Delta and the mud flats of Boundary Bay.

The size of the district, both in terms of area and population, (the District covers 132 square miles and in 1966 had a population in excess of 81,000 people), precluded a study of the whole District so that a more localized study area within Surrey was chosen.

The specific study area falls within the district known as Fleetwood and is delimited by 88th. Avenue and the Fraser Highway to the north, 152nd. Street to the west, 160th. Street to the east, and the flood plain of the Serpentine River, together with that of Bear Creek, to the south. With 274 households within this area, it is of a size manageable to an individual researcher.



The 1961 Census of Canada⁵⁰ included Surrey within the Census Metropolitan area of Vancouver and this was used by the Lower Mainland Regional Planning Board as a criterion of the "fringe" location of Surrey in their study "The Urban Frontier".⁵¹

A further criterion for a rural-urban fringe is that it is a more rapidly growing area of residence within a metropolitan area.⁵² Surrey meets the requirements of such a criterion in having a higher rate of population growth than the Vancouver Metropolitan area as a whole, (Figure 1). The decade 1951 - 1961 saw an increase of 90.4% in the population size of Surrey at the same time that the Metropolitan area saw an increase of 37.1%.

The Fleetwood area was chosen with much care after extensive travel by the researcher throughout Surrey and after conversations with Municipal and Lower Mainland Regional Planning Board officials.

It is apparent that Fleetwood has the appearance of an established community with services existing locally to provide for many of the needs of the residents.⁵³ The

50. Bulletin 1.1. Census of Canada, (Ottawa; Dominion Bureau of Statistics, 1961).

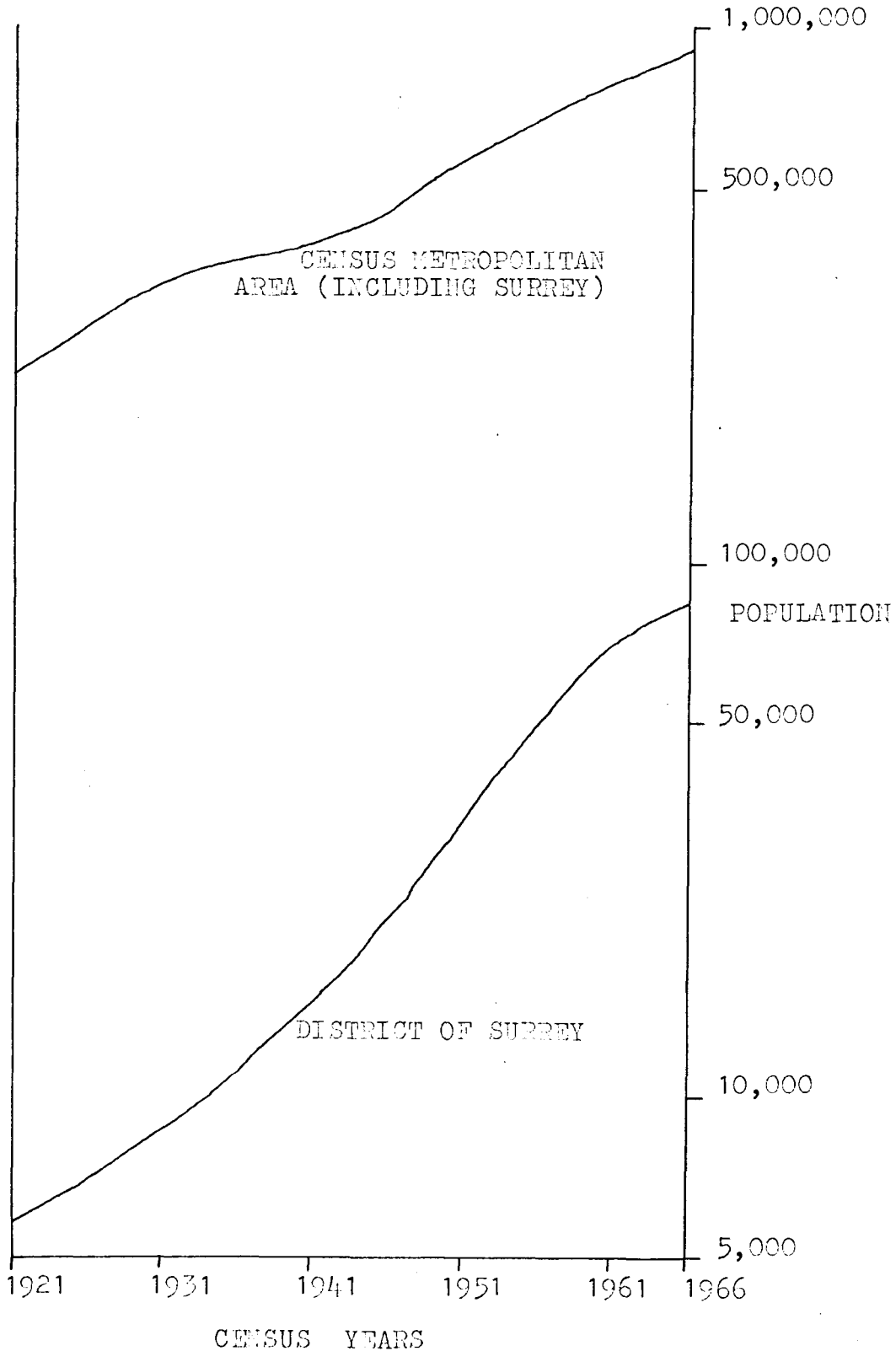
51. The Lower Mainland Regional Planning Board, op. cit., footnote 14.

52. See, for example, W. T. Martin, op. cit., footnote 20.

53. For a list of services in the study area, see Appendix A.

FIGURE 1. RATE OF POPULATION INCREASE IN THE CENSUS METROPOLITAN AREA AND THE DISTRICT OF SURREY. 1921 - 1966.

(Source: Census of Canada, Dominion Bureau of Statistics, Ottawa, 1961 & 1966).



commercial services are located along the Fraser Highway but few are oriented towards serving through highway traffic. An elementary school is located within the study area itself and two other schools, including a high school on 96th. Avenue, are located in close proximity to the study area. A United Church, a park, and the Fleetwood Community Hall provide further evidence of the existence of a viable community. Some of the land is given over to agricultural use, particularly in the form of small-holdings, but there also exists two small manufacturing plants on the Fraser Highway, one specializing in engineering, the other in the construction of camper units. Thus employment is available in the local area.

The area was surveyed in 1859 as part of the block and range survey of Surrey. Within Surrey itself, 160 acre blocks were pre-empted from 1860 onwards, preceding even the foundation of Vancouver.⁵⁴ It is not clear when the first pre-emptions were made in the study area itself. In 1875, however, the Yale Road was constructed as the major highway in the Fraser valley and this provided relatively easy access to the New Westminster ferry. This road is now known as the Fraser Highway.

⁵⁴. G. F. Treleaven, The Surrey Story, (Cloverdale, Surrey, B. C.: Surrey Museum and Historical Society, 1969), pp. 8-9.

Within Surrey itself, distinct agricultural communities had developed by 1900 supplying produce to New Westminster, the burgeoning city of Vancouver, and especially to the Klondike miners.⁵⁵

Conversations with the established residents, some of whom have lived in the study area for over forty years, revealed that a strong sense of community had existed in Fleetwood before the Second World War. Special emphasis was given to the construction by local volunteer labour of the Community Hall to the memory of a former resident who had been killed during the First World War. Reference was also made to the difficulty of access to New Westminster and Vancouver. In 1904, a combined road and rail bridge was constructed across the Fraser River to New Westminster. Thirty years later, a separate road bridge, the Patullo Bridge, was opened. Nevertheless, access still remained a problem and a journey into Vancouver meant negotiating New Westminster streets. One person interviewed felt that, in 1952, when he first settled in the study area, he was "an awful long way out of town."(sic.)

The construction of the 401 Highway and the Port Mann Bridge as part of the Trans-Canada Highway in the early 1960's considerably improved the access to Vancouver.

55. Ibid. p. 61.

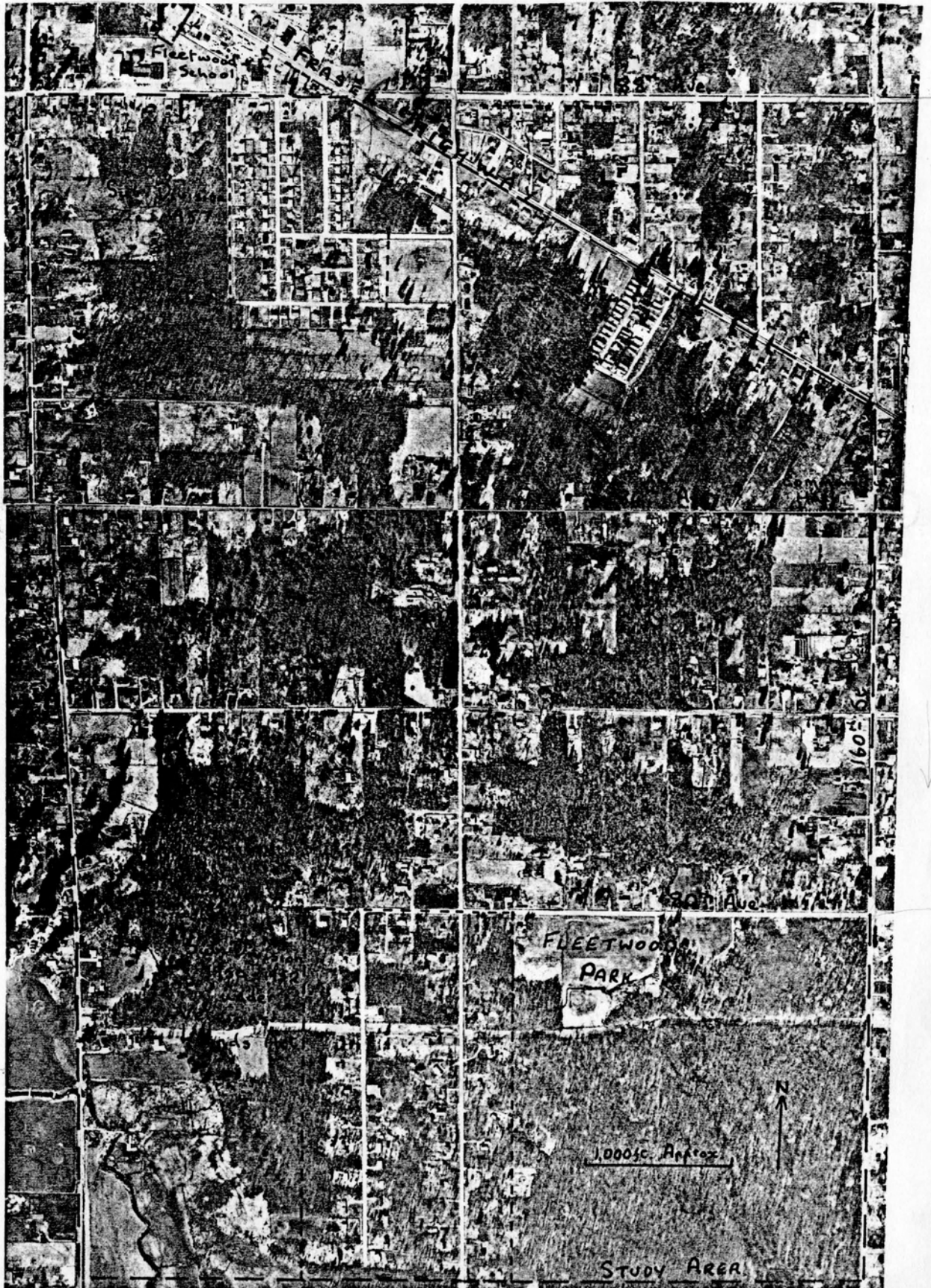
Access to the Highway exists within two miles of the study area on both 160th Street and 152nd. Street, and the journey to the Vancouver Central Business District can be made in little more than thirty minutes. The effect of the construction of the 401 Highway has not been measured fully, but it has undoubtedly increased the popularity of North Surrey, and Fleetwood, as a residential area for people working in Vancouver and has thus contributed to residential growth over the last decade. The Highway has also led to the development of a major shopping centre, known as Guildford, and extensive residential development some two miles north of the study area along 152nd. Street.

From air photographs, maps, and visual inspection, three residential areas become apparent within the study area. The first, South of 80th. Avenue, along 155th. and 156th. Streets, is an area of larger lots which marks a sub-division of 1950-1952 administered under the Veteran's Lands Act. (Figure 2). Most of the lots are of 2.4 acres in size. At the time of the survey for this study ⁵⁶ most of the lots were occupied. In the north, between 154th. and 155th. Streets and 86th. and 88th. Avenues, a more recent sub-division, with lots

56.. The survey was conducted in April and May, 1968.

THE STUDY AREA

From Air Photographs: B.C. 5319-185 & B.C. 5320-052. March 1969.



much smaller in size can be distinguished. The earliest house in this sub-division was constructed in 1957 and at the time of the survey, the sub-division was still being developed, with a total of 52 housing units occupied. The remainder of the study area contains scattered older homes on lots of irregular size, with the occasional new home constructed on piecemeal lots. Some of the lots were clearly farms and small holdings.

From the total of 274 households, a 50% sample was made. Of those interviewed, a quarter had resided in the area for ten years or more. Of those with less than ten years residence, 33 had moved to Fleetwood from other parts of Surrey. 27 had moved from the core of the Metropolitan area as defined by the Lower Mainland Regional Planning Board, (Vancouver, Burnaby, and New Westminster), fourteen moved from the Census Metropolitan area but from outside the core area, four from other parts of British Columbia, two from the U. S. A., one from Norway, and the remainder from other Canadian provinces.

The threshold of ten years residence was chosen as the break between the "established" residents and the "migrant" residents. This means that the migrant residents had moved into the area since 1958.

The study by the Lower Mainland Regional Planning Board in 1963 found that the fringe residents had moved into the area within the previous five years, and more than half had lived in their homes for two years or less.⁵⁷ The persons they studied, therefore, had moved into the fringe since 1958. Further, the Lower Mainland Regional Planning Board characterised the residential developments to which these persons had moved as "city-type houses on city size lots."⁵⁸ Such a development has been noted as the type of residential development which has taken place in the northern sub-division referred to above, in which the earliest house was built in 1957.

The Fleetwood area gives the appearance, therefore, of having an established group, with community services available to them, and a migrant group who have easy access to the Metropolitan Core area by means of the 401 Highway.

57. The Lower Mainland Regional Planning Board, op. cit., footnote, 14, Part 1, p. 9. Part 2, p. 8.

58. Ibid, Part 1, p. 4.

CHAPTER IV

THE SAMPLE

In Chapter 2, the hypotheses were advanced that two groups live in the rural-urban fringe, an established group, and a migrant group, and that these groups would differ in their concepts of objective and social space.

With these hypotheses in mind, two questionnaires were formulated, one to establish the objective social space, the other the subjective social space.

The first questionnaire included questions relating to the activity patterns of the households, (see below, Ch. 6), together with length of residence in the area. Other questions were included to establish the background variables of income, family size, occupation, and attitude. The questionnaire was formulated after reference to other questionnaires and to texts on survey procedures.⁵⁹ An initial survey of a dozen households with this questionnaire resulted in the omission of some questions, together with the rewording of others and a rearrangement of the sequence of questions to give a greater sense of continuity to the respondent. It was found, for example, that the question relating to the income of the household was better left to the end of the questionnaire as people were very reluctant to answer it.

59. See, for example, C. A. Moser, Survey Methods in Social Investigation, (London; Heinemann, 1958), pp. 185-244; and S. L. Payne, The Art of Asking Questions, (Princeton: University Press, 1951).

The second questionnaire attempted to establish the subjective social space of the groups and was based on the image questionnaire used by de Jonge.⁶⁰ (See below, Ch. 5.).

The total number of households in the study area at the time of the survey was 274, and a 50% sample of alternate households was made for the first questionnaire.

TABLE 1. FIRST QUESTIONNAIRE: INTERVIEWS ATTEMPTED, April, 1968.

| Total Households | Sample | Interviews Attempted | Refusals | No Contact |
|------------------|--------|----------------------|----------|------------|
| 274 | 137 | 116 | 13 | 8 |

Most of the interviews were conducted during the day with a follow up interview in the evening when necessary. Of the respondents, 84 were women, 24 the male heads of the household, and eight by other members of the household. The variations in which members of the household responded is an interference factor in the consistency of responses, but it should be remembered that the questionnaire was designed with the household as a basic unit, and the questions related to household activities, rather than

60. D. de Jonge, op. cit., footnote 49.

the activities of individual members. Eight households could not be contacted after a minimum of three visits, and thirteen persons refused outright.

It is important for the purposes of the study to establish what differences, besides those relating to spatial variables, may be demonstrated between the two groups. A Chi-Square Analysis was conducted on such background variables as age, income, attitudes to Fleetwood as a rural or an urban area, identity with Fleetwood rather than Surrey, and whether a significant difference existed in preference given to a local newspaper rather than metropolitan newspapers.

The null hypothesis that there would be no relation between the groups and the respective variables was rejected if the computed value of Chi-Square was significant at the 5% level, i.e. that the degree of relationship between the groups and the variables would occur by chance less than five times in one hundred.

The calculations were made on a Monroe Epic 3000 calculator which has a Chi-Square programme eliminating the need to calculate the expected frequency. However, inspection was made to make sure that the expected frequency of a cell was not less than five. This resulted in the cancellation of the test for the income variable.

Tests on the other variables were completed, however, and the results are shown in Tables 2 - 5. From these tables it can be seen that the only occasion when the null hypothesis can be rejected is with the age variable. That the differences in age between the groups is a significant one with the established group being older than the migrant group is compatible with the findings of the Lower Mainland Regional Planning Board of the youthful characteristics of the residents who have moved into the fringe area.⁶¹ The value of Chi-Square is such that, with two degrees of freedom, a chance relationship would only occur five times in a thousand.

The degree of significance is even greater. Testing the established group and the migrant group resulted in an expected frequency of less than five in a cell. As a result, the established group included those residents of less than ten years residence whose previous residence was in Surrey and the latter had an average age less than that of the defined established group.

61. Lower Mainland Regional Planning Board, op. cit., footnote 14, part 1. p. 5. ..

CHI-SQUARE ANALYSIS OF BACKGROUND VARIABLES.TABLE 2. AGE

| <u>B</u> | <u>20-40</u> | <u>40-60</u> | <u>Over 60</u> | <u>Total</u> |
|--------------|--------------|--------------|----------------|--------------|
| Established* | 19 | 33 | 10 | 62 |
| Migrant | <u>34</u> | <u>18</u> | <u>2</u> | <u>54</u> |
| | 53 | 51 | 12 | 116 |

Chi-Square: 13.5026.

Critical value of Chi-Square at 0.05 with 2 degrees of freedom: 5.9915.

Null hypothesis rejected.TABLE 3. RESPONSE TO LIVING IN RURAL OR URBAN ENVIRONMENT.

| <u>A</u> | <u>Rural</u> | <u>Urban</u> | <u>Total</u> |
|-------------|--------------|--------------|--------------|
| Established | 12 | 17 | 29 |
| Migrant | <u>23</u> | <u>60</u> | <u>83</u> |
| | 35 | 77 | 112 |

Chi-Square: 1.87

Critical value of Chi-Square at 0.05 with 1 degree of freedom: 3.8415.

Null hypothesis confirmed.

B

| | | | |
|--------------|-----------|-----------|-----------|
| Established* | 19 | 41 | 60 |
| Migrant | <u>16</u> | <u>36</u> | <u>52</u> |
| | 35 | 77 | 112 |

Chi-Square: 0.0103

Null hypothesis confirmed.

TABLE 4. RESPONSE TO FLEETWOOD/SURREY IDENTITY QUESTION.

| <u>A</u> | <u>Fleetwood</u> | <u>Surrey</u> | <u>Total</u> |
|-------------|------------------|---------------|--------------|
| Established | 8 | 18 | 26 |
| Migrant | <u>24</u> | <u>60</u> | <u>84</u> |
| | 32 | 78 | 110 |

Chi-Square: 0.0462.

Critical value of Chi-Square at 0.05 with 1 degree of freedom: 3.8445

Null hypothesis confirmed.

| <u>B</u> | <u>Fleetwood</u> | <u>Surrey</u> | <u>Total</u> |
|--------------|------------------|---------------|--------------|
| Established* | 18 | 41 | 59 |
| Migrant | <u>14</u> | <u>37</u> | <u>51</u> |
| | 32 | 78 | 110 |

Chi-Square: 0.1238
Null hypothesis confirmed.

TABLE 5. NEWSPAPERS.

| <u>A</u> | <u>Province</u> | <u>Sun</u> | <u>Columbian</u> | <u>Surrey Leader</u> | <u>Total</u> |
|-------------|-----------------|------------|------------------|--------------------------|--------------|
| Established | 5 | 23 | 11 | <u>14</u> | 53 |
| Migrant | <u>9</u> | <u>60</u> | <u>32</u> | <u>31</u> | <u>132</u> |
| | 14 | 83 | 43 | 45 | 185 |

Chi-Square: 0.71
Critical value of Chi-Square at 0.05 with 3 degrees of
freedom: 7.8147
Null hypothesis confirmed.

| <u>B</u> | | | | | |
|--------------|----------|-----------|-----------|-----------|-----------|
| Established* | 7 | 45 | 26 | 27 | 105 |
| Migrant | <u>7</u> | <u>38</u> | <u>17</u> | <u>18</u> | <u>80</u> |
| | 14 | 83 | 43 | 45 | 185 |

Chi-Square: 0.912
Null hypothesis confirmed.

* The established group includes those persons of less than 10 years residence in Fleetwood but whose previous residence was in Surrey.

The same tests were made on the other variables, with one test using the established group as defined, the other, the established group together with those persons who had moved to the study area from other parts of Surrey. However, there is little variation between the two sets of tests. Tables 3 - 5 show that there is no significant difference with the other variables between the two groups. There would appear to be a stronger sense of the rural nature of Fleetwood among the defined Established group. Over 40% of the group consider that Fleetwood is a rural area in contrast to 25% of the migrant group, but the value of the Chi-Square is not enough to reject the null hypothesis.

The test of significance may, however, conceal meaningful differences. (As the interviews developed, it became clear that the response to the question on whether Fleetwood is rural or urban evoked two separate sets of answers, particularly when the interviewee responded that Fleetwood is rural. One response one can call optimistic in that the interviewee responded, without encouragement, on the openness, the quiet, the trees in Fleetwood. The alternate response one can consider as pessimistic in that the response was in terms of lack of services within the fringe area itself and the distances necessary to travel to obtain services.

When the interviewee elaborated in this way, the responses were noted. However, the interviewee was not prompted to make such comments and the majority did not elaborate on their choice of rural or urban. As a result, such qualifying variable cannot be measured in the context of this research, but is certainly a point of departure for further studies.

CHAPTER V

THE SUBJECTIVE SOCIAL SPACE

The procedures developed by Chombart de Lauwe⁶² to establish the social space of groups living in Paris are very extensive. It is not readily apparent, however, how he established the subjective social space of the groups.

One question asked for a sketch map of the quartier in which the interviewee resided. He was asked to indicate its boundaries, mark his home, the shop used for daily requirements, the metro station or bus stop used, the homes of relatives and the places where leisure time was spent (e.g. cafes) in the quartiers. He was also asked to identify the focal point, or points of the quartier.⁶³

Attempts at establishing the attitudes of residents were made by such open questions as "you seem at ease in your quartier, why?",⁶⁴ and desires by a set of closed questions inquiring in which part of Paris he would prefer to live.⁶⁵

62. P. - H. Chombart de Lauwe, op. cit., footnote 41.

63. Ibid. Vol. 2. p. 78.

64. Ibid. Vol. 2. p. 80.

65. Ibid. Vol. 2. p. 80-81.

Lynch's study,⁶⁶ although not intended as an exercise in delimiting the social space but rather the image residents had of the downtown area of the city, required procedures which the author himself described as "elephantine" in terms of the time and effort expended to obtain results.⁶⁷

Two sets of procedures were adopted. The first involved a reconnaissance of the area by a trained observer who mapped the various elements and assessed their relative strengths and weaknesses as images. The second involved interviews with city residents to evoke their images. The interview was taped and included requests for descriptions and locations of elements the interviewee mentioned, together with imaginary trip descriptions and a sketch map. A follow-up interview asked for the classification of photographs of the various elements and an actual walk with an observer along the route of an earlier imaginary trip.

In his concern that the generalization of the responses be a "true" public image of the city, particularly as his sample was small and taken exclusively from a

66. K. Lynch, op. cit., footnote 46.

67. Ibid. p. 152. >

middle class, professional and managerial group, Lynch conceived of an elementary external check. This consisted of actual requests for directions from a particular origin to a particular destination together with a description of the destination, made to passers-by chosen at random. This retest "tended in general to confirm the longer interviews".⁶⁸

One drawback to the method is the inability to use quantitative procedures effectively, largely due to the small sample size, but Lynch considered that the most appropriate way of analyzing the image and its correspondence to a "common physical reality" was through the perception and evaluation of a few trained observers.⁶⁹

De Jonge⁷⁰ used the procedures developed by Lynch, although in a modified form, in his study of the images held by professional architects and then selected a random sample of housewives for each city. The size of the sample varied between 20 and 40 persons. The shortened questionnaire was found to produce equivalent results to those of Lynch and this questionnaire was adopted as the basis for the image questionnaire for the present study. (See Appendix C.).

68. Ibid. p. 153.

69. Ibid. p. 153.

70. D. de Jonge, op. cit., footnote 49.

No distinction is drawn in the present study between the image an individual has of an area as tested by Lynch and that individual's subjective social space. The subjective social space studied here is that which the residents held for Fleetwood. It is readily apparent that the subjective social space the respondents have would extend beyond the Fleetwood area.

In order to compare the varying images between the groups, however, it is necessary to restrict the analysis to the "common physical reality" of Fleetwood, in the same way that Chombart de Lauwe asked his respondents to limit their sketch maps to the quartier in which they lived.

The image questionnaire itself was restricted to the male heads of households of the original sample. It was intended to make this a random interview and at the conclusion of the first interview, the respondent was asked whether a second interview would be permitted which would involve the use of a recording apparatus. Assurance was given that the recording would be kept confidential and would be erased after transcription. Many of those interviewed were extremely reluctant to permit the second interview expressing considerable concern on being taped. The general impression was that the first questionnaire was acceptable but that

to be taped was an unwarrantable intrusion into their affairs. A total of twenty-one persons were finally persuaded to take the second questionnaire. Of these, eleven had been resident for more than ten years, but on transcription, one of these was rejected as inadequate. The shortest interview took some twenty minutes, the longest exceeded one and a half hours.

Before each interview, time was taken to explain the purpose of the study, but during the actual interview no prompting was made, nor were any of the questions rephrased. The third question, which asked for the drawing of a quick map of Fleetwood, was repeated at the end of the questionnaire when the interviewee had not responded the first time.

It became clear at an early stage that an impeding factor was the extreme variation in articulation by the respondents. This appeared to be a function of personality differences rather than any relations to levels of education. Those persons who needed little or no persuasion to be interviewed responded well; those who were more reluctant tended to be less able, or willing, to describe Fleetwood. f

For the purpose of analysis, the transcripts of the interview, together with the sketch maps, were considered in terms of the five elements which Lynch

identified as the content of an image. These elements are;⁷¹

1. Paths; the channels along which the observer customarily, occasionally, or potentially moves... For many people these are the predominant elements in their image.
2. Edges;*the linear elements not used or considered as paths by the observer...These elements are for many people important organizing features, particularly in the role of holding together generalized areas.
3. Districts; the medium-to-large sections of the city...which the observer mentally enters "inside of", and which are recognizable as having some common identifying character.
4. Nodes; the points...which are the intensive foci to and from which he is travelling.
5. Landmarks; external point references...Usually a rather simply defined physical object such as buildings.

A reference to any element was noted and described in terms of one of the above categories. When any element was mentioned by 50% or more of the respondents in each group, it was marked on a map. (Maps 2 - 5). An element referred to by four members of each group was also marked, but with a less prominent symbol. An element which was referred to by less than four respondents was not included as part of the group image. Table 5 gives a breakdown of the number of references to each element in each group. †

71. K. Lynch, op. cit., footnote 46, pp. 47-48.

* For this study, the term "boundary" is used rather than "edges".

An attempt was made to parallel Lynch's use of a field observer's image of a place by establishing the image of Fleetwood held by a control group. This group consisted of two Surrey Municipal officials, an alderman and a school trustee from North Surrey, a long-time resident of Fleetwood who was not included in the original sample but who was referred to by many of those interviewed, and the interviewer himself. The elements identified by half of the control group are presented in Map 2.

The Analysis.

The Control Group.

The general image of Fleetwood held by the control group is one of an area of unplanned residential growth aligned to the Fraser Highway. The Highway is mentioned by every member of the group as a diagonal cutting across Fleetwood from northwest to southeast. A node is indicated at the junction of 160th. Street and Fraser Highway associated with a small shopping centre including the "Shop-Easy" store and a bank. Two members of the group also referred to a flashing amber light at the junction. The east and west edges of Fleetwood are defined by streets crossing the Fraser Highway; 148th. to the west and 168th. to the east. The northerly boundary is also a street, 96th. Avenue. There is no conformity on a

southern boundary except a general indication that it "peters out" towards the flood plain of Bear Creek and the Serpentine River.

The most pronounced feature of the image is the orientation towards paths. Both the Fraser Highway and 152nd. Street are referred to by every member of the group. The absence of east-west paths is very evident and is possibly a consequence of the strength of Fraser Highway as an element. Within the study area, there are seven east-west paths: 80th., 82nd., 84th., 85th., 86th., 86B., 88th. Of these, 86th. and 86B are part of the new residential sub-division and are incomplete. 80th., although a link eastward, is not continuous through the study area. 82nd. is continuous through the study area but does not continue west of 152nd. Street and is, in part, gravel surfaced. Only 88th. Avenue provides a path through the study area both east and west.

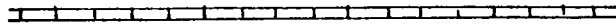
Other elements mentioned are Fleetwood Park, stores at the junction of 152nd. Street and the Fraser Highway, and a small manufacturing plant. Outside the boundaries, "Green Timbers", a Provincial Government Forest Reserve, and Guildford, a major shopping centre, are strong elements.

KEY TO MAPS 2 - 5, THE IMAGES OF ELETWOOD.

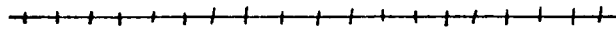
1. Paths.



2. Boundaries.

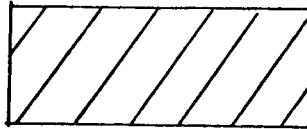


Elements held by 50% or more of the group.



Elements held by 40% of the group.

3. Districts.



4. Nodes.



5. Landmarks.

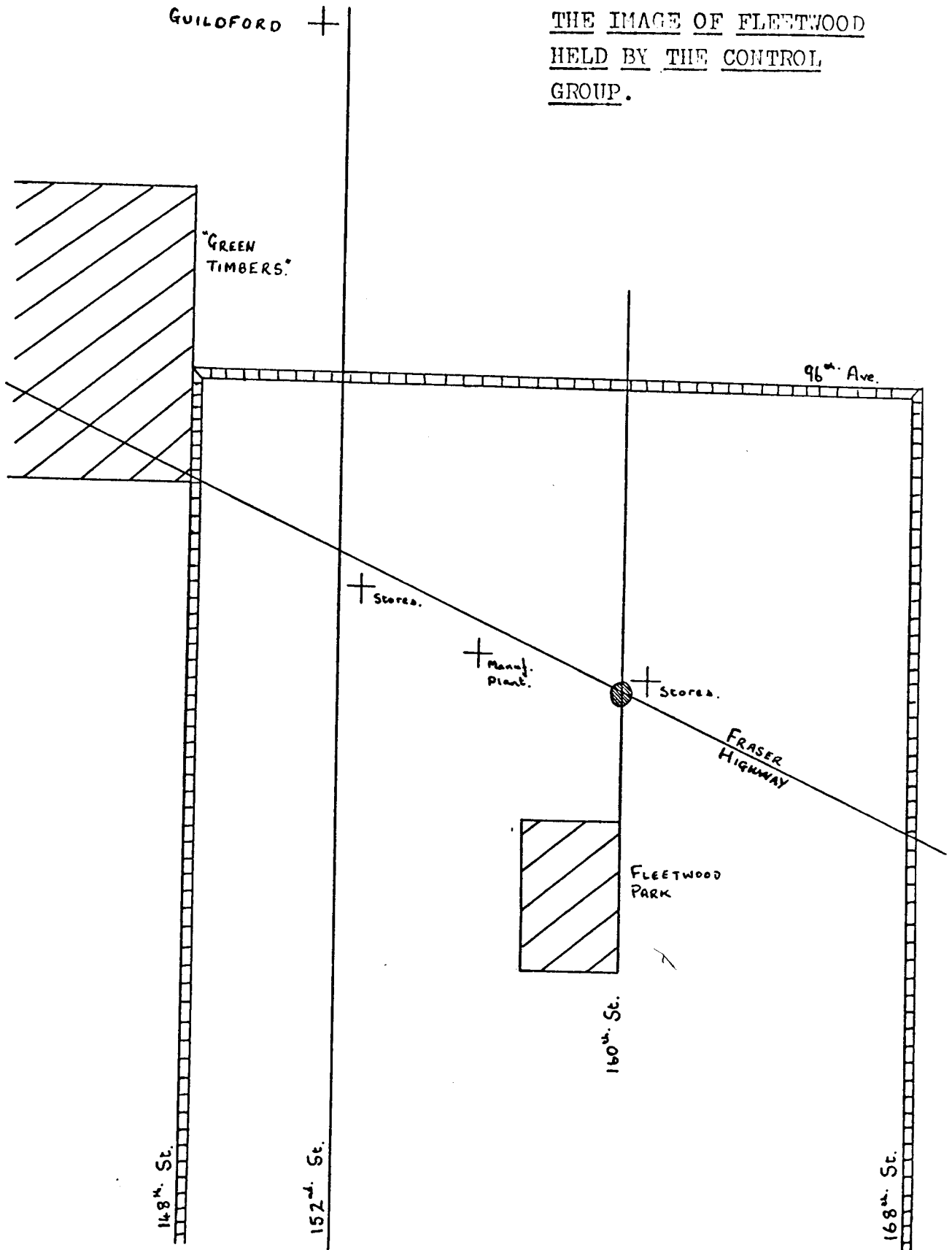


Elements held by 50% or more of the group.



Elements held by 40% of the group.

MAP 2
THE IMAGE OF FLEETWOOD
HELD BY THE CONTROL
GROUP.



SCALE: 2" TO 1 MILE. APPROX.

The Established Group

The image of Fleetwood held by the established group is shown in Map 3. There are differences between this and the image held by the control group, but in terms of the strength of Fraser Highway and 152nd. Street as elements, there is similarity. All but one respondent identified the Fraser Highway and every respondent identified 152nd. Street as paths. 156th. and 160th. Streets are identified as north-south paths, but there is a lack of east-west paths.

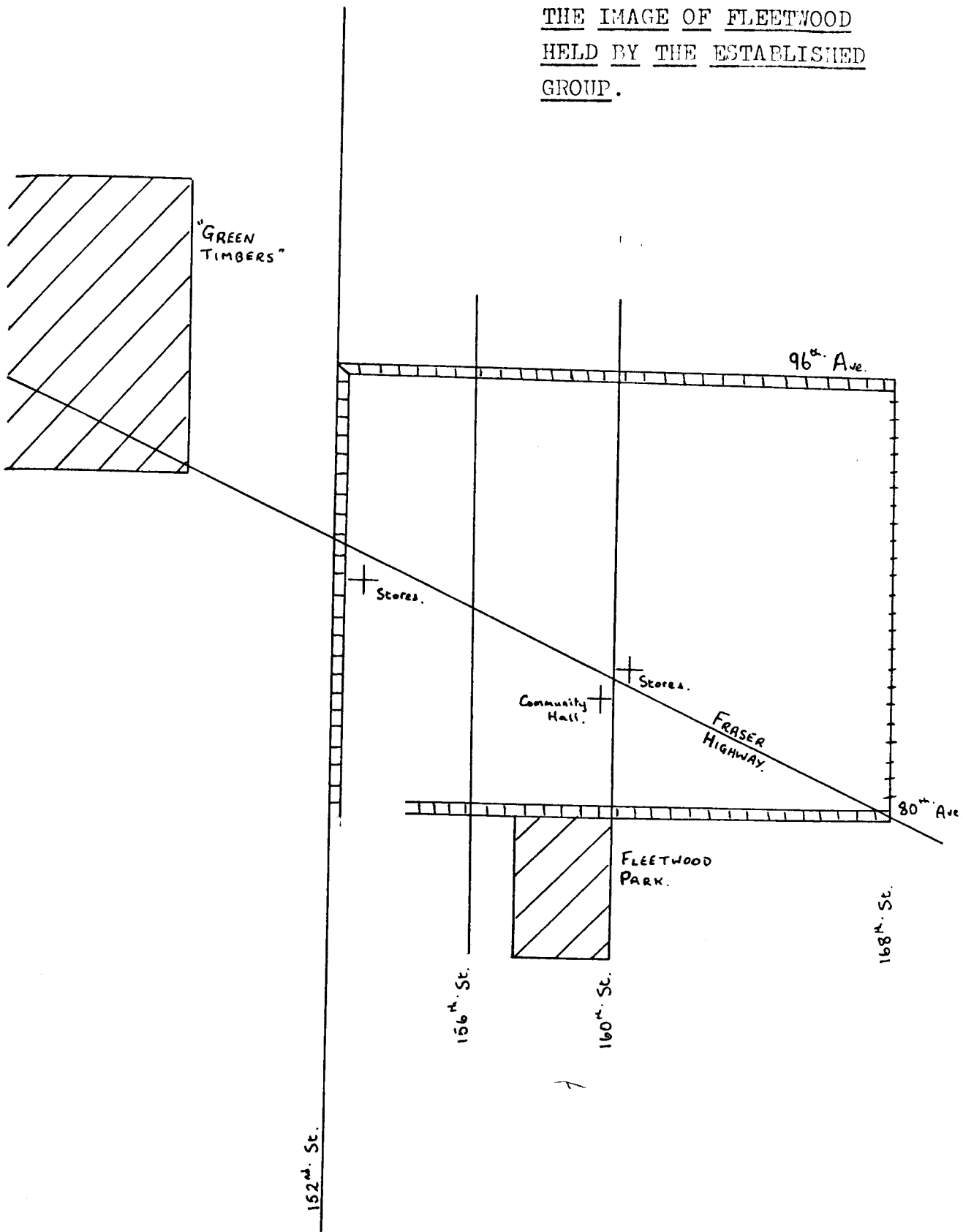
However, there are differences in the identification of the boundaries. The area defined as Fleetwood is considerably reduced by the choice of 152nd. Street as the western edge and 80th. Avenue as the southern edge. 96th Avenue is chosen as the northern boundary by 70% of the respondents but the eastern edge is not as clearly defined. Only four respondents indicate 168th. Street as the eastern edge.

Three landmarks are also identified; the small complexes of stores at the junction of 152nd. Street and 160th. Street with the Fraser Highway, and the Fleetwood Community Hall. Two districts are identified; the park and "Green Timbers".

A general image of Fleetwood which five of the respondents share is the relative height of the area compared to the rest of Surrey.

In the construction of the sketch maps, it was again noted that the streets were the main elements, with Fraser Highway serving as the main axis along which the other elements are orientated. Fraser Highway was invariably the first element to be drawn and was generally done so with a flourish from one side of the paper to the other.

THE IMAGE OF FLEETWOOD
HELD BY THE ESTABLISHED
GROUP.



SCALE: 2" TO 1 MILE. APPROX.

The Migrant Group.

The group image of Fleetwood is represented on Map 4. Again, the Fraser Highway is a strong path with every respondent, but 60% of the group also considered this as the northern edge of Fleetwood as well. The western edge is considered to be 152nd. Street which also showed strongly as a path. In contrast to both the control and the established groups, three east-west paths make up part of this group's image, 80th., 84th., and 88th. Avenues, together with 156th. and 160th. Streets as north-south paths.

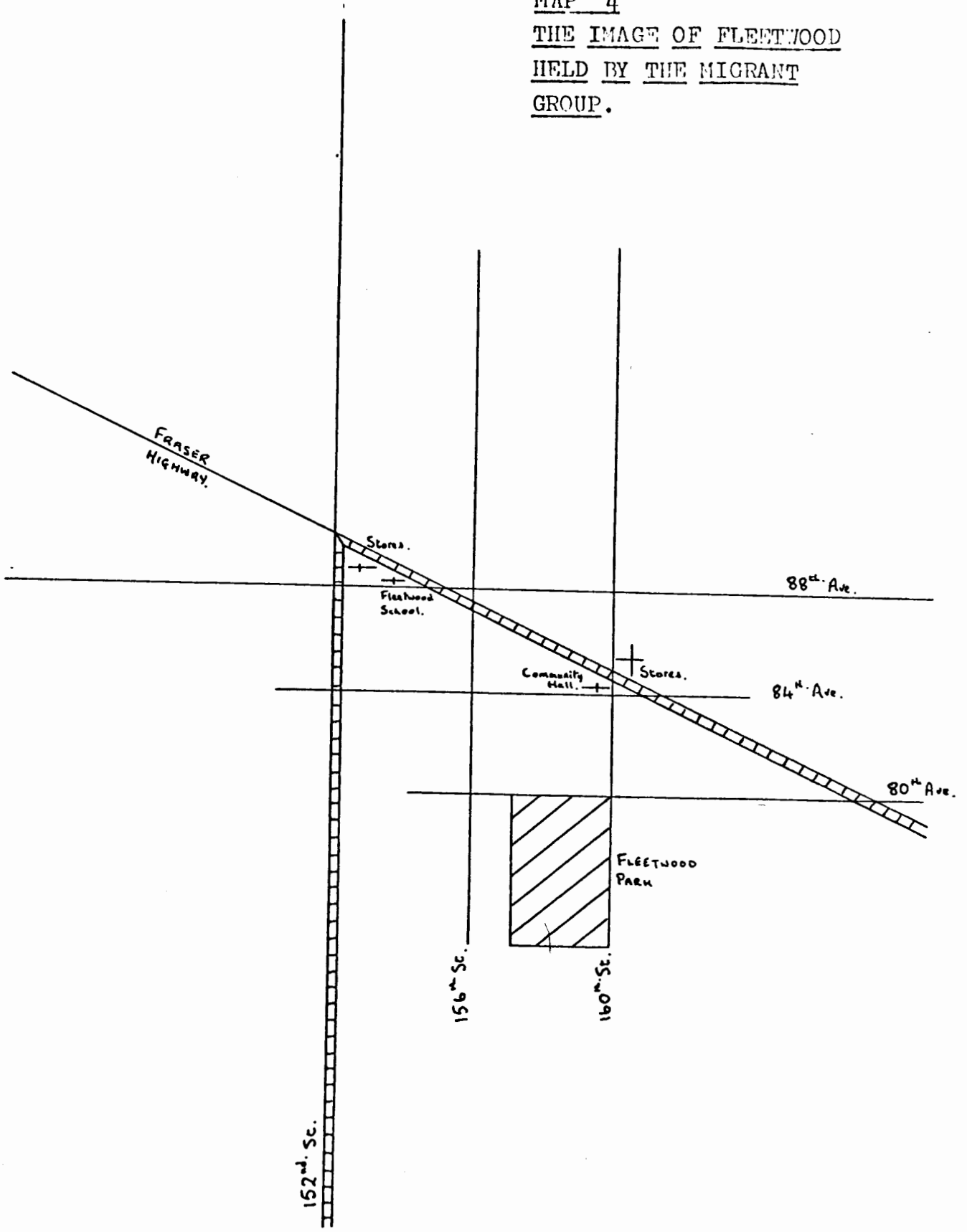
Only two landmarks are recognized by more than half the group; the Shop-Easy store at 160th. Street and Fraser Highway, and Fleetwood Park. Four persons recognize the shopping complex at 152nd. Street and Fraser Highway, the Community Hall, and Fleetwood School.

Perspectives on the Images of the Groups.

It is evident from comparing the maps, and Table 5 that there is some conformity of image for Fleetwood between the established and migrant groups. This conformity is shown on Map 5.

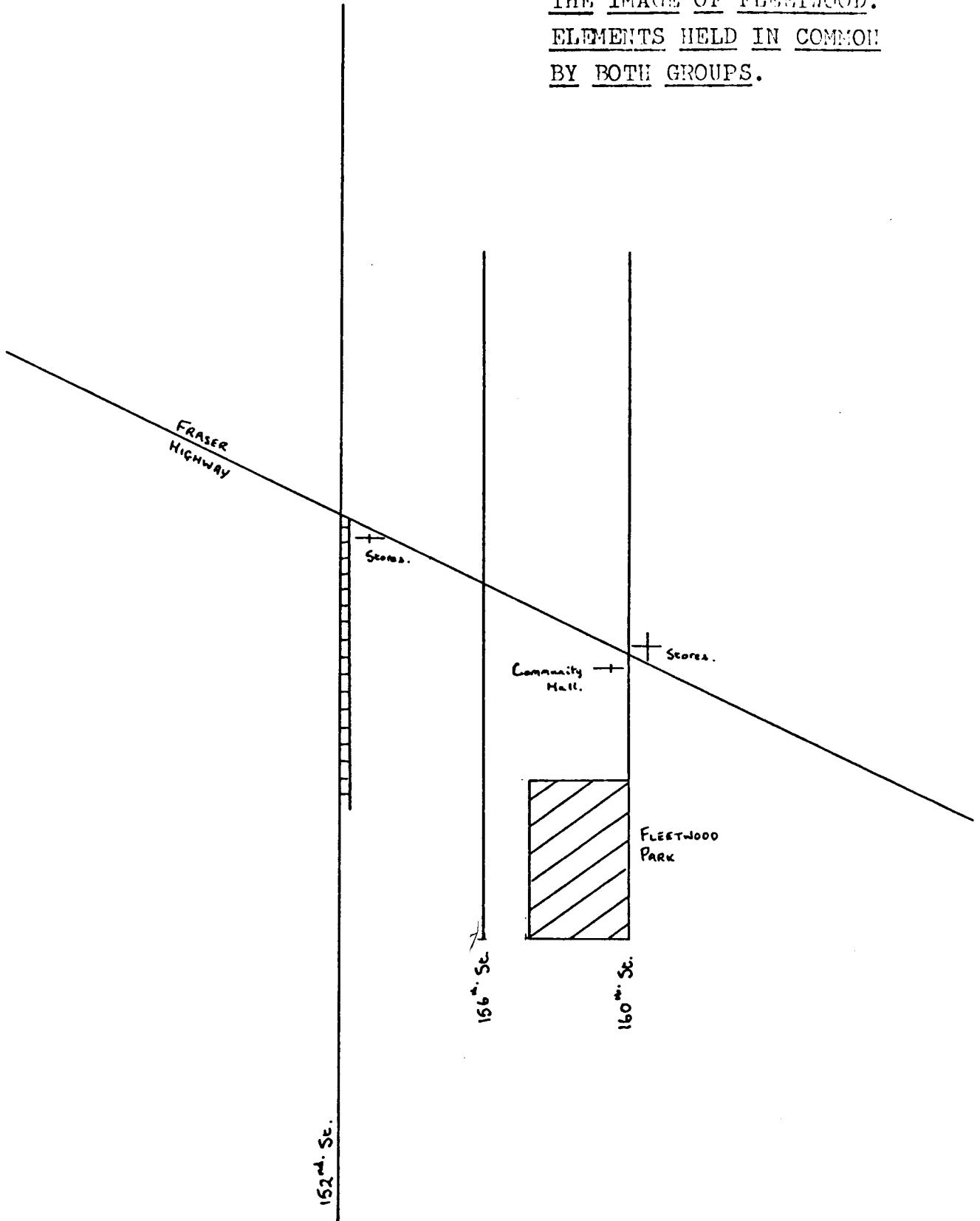
The conformity is especially noted in the strength of Fraser Highway and 152nd. Street as paths by the two groups. For both groups, this is borne out in the drawing

MAP 4
THE IMAGE OF FLEETWOOD
HELD BY THE MIGRANT
GROUP.



SCALE: 2" TO 1 MILE. APPROX

MAP 5
THE IMAGE OF FLEETWOOD.
ELEMENTS HELD IN COMMON
BY BOTH GROUPS.



SCALE: 2" TO 1 MILE. APPROX.

of the sketch maps as well. In the majority of cases, the Fraser Highway was the first line drawn. In one case, however, Fraser Highway was drawn as a straight line at right angles to the north-south axes but as the sketch map developed, the respondent mentioned his error. The Highway was first constructed in 1875 as the link between New Westminster, although the 401 Freeway now provides an alternate route directly to Vancouver.

In all cases, the paths are the strongest elements in their image and their strength is accentuated by the final question in the interview asking whether the respondent had difficulty in orientating himself. This was answered exclusively in terms of paths, although one interesting sidelight emerged. In 1957, the District of Surrey introduced a Number By-Law which replaced the old names of the roads by numbers.⁷² Streets run south/north; avenues west/east, and house numbers reflect the adjacent axes. Most people agreed that this change make things easier for travelling, but for Fleetwood, the paths are frequently referred to by their old names, especially Johnston Road, (152nd. Street), Coast Meridian Road, (168th. Street), Pike Road, (160th. Street), and Serpentine Road, (80th. Avenue). The use of names was made by members of both groups and it would appear that

72. G. F. Treleaven, op. cit., footnote 54, p. 23.

more meaning can be given to the road by using its former name than by referring to its number.⁷³ A finding which appears at variance with Lynch's view that the boundaries are "linear elements not used or considered as paths". This is particularly noted with the migrant group and their choice of Fraser Highway as the northern boundary. In his findings for Los Angeles, however, Lynch noted that with a basic grid/pattern layout, "(boundaries) are often paths as well."⁷⁴ In such cases, paths are the dominant parts of the image.

The strength of the paths makes even more pronounced the weakness of the other elements. No group had a nod, and although several individual landmarks were mentioned, there is little conformity within the groups on sets of common landmarks. The following comment, by a member of the migrant group, is typical of both;

Very few real landmarks, I mean, there's the park out here, just across the road here, but as to actual landmarks, I don't think there's any real landmarks, any particular places or building that stands out, not in Fleetwood.

One member of the control group, but not a resident of Fleetwood replied;

There's nothing very distinctive about Fleetwood. They claim they have some distinctive feature to distinguish Fleetwood but I haven't discovered it yet.

73. One member of the established group used the former names, but then qualified them by using present designations. Unfortunately, the designations did not coincide, with the result that the respondent's orientation is open to question! For analysis it was decided to use those streets he had named as the paths he intended.

76. K. Lynch, op. cit., footnote 46, p. 47.

The relative absence of landmarks reflects the type of development which has taken place in the rural-urban fringe. There is an absence of distinctive buildings which serve as symbols for the whole area. Those structures which are identified tend to be described in terms of their function rather than to the form of the structures. Thus, it is to the Shop-Easy store, or the Community Hall, or to the School which people refer. This may account for the number of different landmarks identified by each group, but to the paucity of landmarks common to a group.

One district is shared by the two groups, that of Fleetwood Park. It is doubtful, however, whether the park meets the criteria Lynch outlined for a district for once again, the respondents tended to associate a function with the park. Only a small part of the park has been developed as a ball park with an adjacent picnic area. The following response by a member of the established group is typical of both groups;

Fleetwood Park...quite a nice park until the swimming pool was neglected but now it's quite a picnic park and for ball games. My boy plays ball down there every night practically.

Some clear differences in the images of the two groups can be seen from comparing the maps. The most obvious is the delimitation of the boundaries of Fleetwood. The relative compactness of Fleetwood as seen by the established group is in marked contrast to the

incompleteness of that of the migrant group with its absence of boundaries to the east and south.

The difference between the groups in the frequency of reference for each element is shown in Table 5. It can be seen that there is a difference of six in the choice of Fraser Highway as the northern boundary, and of seven in the choice of 96th. Avenue. Two members of the migrant group considered the 401 Highway as the northern boundary, although this is not mentioned by any member of the established group. There is a difference of five between the two groups in the choice of 80th. Avenue as a southern boundary. The only major difference among the choice of paths is that of 96th. Avenue by the established group. However, the difference in the reference to 84th. and 88th. Avenues as east-west paths is also apparent.

A distinction is made also in the landmarks and districts recognized. The established group have three distinct landmarks, together with the Park and Green Timbers. The migrant group have only the shopping complex at Fraser Highway and 160th. Street as a common element, although three other elements are referred to by four persons in the group.

The image of Fleetwood held by the established group tends to be more organized and would conform more closely to an objective "map-like" reality than that

TABLE 6. ELEMENTS OF THE IMAGE OF FLEETWOOD OF THE ESTABLISHED (E) GROUP AND THE MIGRANT (M) GROUP.

| <u>ELEMENT</u> | <u>FREQUENCY OF REFERENCE:</u> | | |
|----------------------|--------------------------------|----------|--------------|
| | <u>E</u> | <u>M</u> | <u>E - M</u> |
| <u>1. Paths</u> | | | |
| Fraser Highway | 9 | 10 | -1 |
| 152nd. Street | 10 | 8 | 2 |
| 155th. | - | 3 | -3 |
| 156th. | 5 | 5 | - |
| 160th. | 7 | 7 | - |
| 164th. | 3 | 3 | - |
| 168th. | 4 | 3 | 1 |
| King George Highway | 2 | 1 | 1 |
| 80th. | 7 | 5 | 2 |
| 82nd. | 3 | 1 | -2 |
| 84th. | 2 | 5 | -3 |
| 88th. | 2 | 5 | -3 |
| 92nd. | - | 1 | -1 |
| 96th. | 7 | 1 | 6 |
| 104th. | 2 | 1 | 1 |
| 401 Freeway | - | 1 | -1 |
| 148th. | 2 | 1 | 1 |
| 86th. | 1 | - | 1 |
| 72nd. | - | 1 | -1 |
| 76th. | 1 | 1 | - |
| 162nd. | - | 1 | -1 |
| <u>2. Boundaries</u> | | | |
| <u>North.</u> | | | |
| Fraser Highway | - | 6 | -6 |
| 104th. | 2 | 1 | 1 |
| 96th. | 7 | - | 7 |
| 401 Freeway | - | 2 | -2 |
| <u>South.</u> | | | |
| 72nd. | - | 1 | -1 |
| 76th. | 1 | 1 | - |
| 80th. | 6 | 1 | 5 |
| 84th. | - | 1 | -1 |
| Serpentine River | 1 | 2 | -1 |
| Cloverdale | - | 1 | -1 |

| | <u>E</u> | <u>M</u> | <u>E - M</u> |
|-----------------------------------|----------|----------|--------------|
| East. | | | |
| Coast Meridian | 4 | 3 | 1 |
| 164th. | 1 | 3 | -2 |
| 160th. | 3 | 2 | 1 |
| West. | | | |
| 148th. | 2 | 1 | 1 |
| 152nd. | 5 | 7 | -2 |
| King George Highway | 1 | - | 1 |
| Green Timbers | 2 | 1 | 1 |
| <u>3. Landmarks and Districts</u> | | | |
| Fleetwood Park | 7 | 7 | - |
| Community Hall | 7 | 4 | 3 |
| Fleetwood School | 2 | 4 | -2 |
| W'm. Watson School | 2 | 1 | 1 |
| Johnston H'ts. School | 2 | 1 | 1 |
| N. Surrey S'nr. School | 3 | 1 | 2 |
| Shop-Easy Store | 7 | 6 | 1 |
| Stores. 152nd./Fraser | 5 | 4 | 1 |
| Guildford | 3 | 3 | - |
| Fire Hall | 1 | 2 | -1 |
| Store. 156th./Fraser | 3 | - | - |
| Flashing light. 160th/ Fraser | 2 | 1 | 1 |
| Eldorado Manuf. | 1 | 1 | - |
| United Church | 2 | 1 | 1 |
| Green Timbers | 6 | 2 | 4 |
| Bear Creek Park | 1 | 1 | - |
| Mean of landmarks recognized | 5.5 | 4.1 | |

of the migrant group. This is strengthened by comparing the number of landmarks identified by each group. On the average, the established group recognized 5.5 landmarks in contrast to 4.1 landmarks by the migrant group.

It can be suggested, therefore, that the differences in the image of Fleetwood by the respective groups is, notwithstanding the small sample, sufficient to indicate that that part of the hypothesis that the groups will have differing concepts of subjective social space is substantiated.

CHAPTER VI

THE OBJECTIVE SOCIAL SPACE.

The development of a system for analysing activity systems by Chapin to explain varying land uses in urban areas has provided a way of establishing "the spatial distribution of human activities."⁷⁵ Chapin not only studied the activity systems of firms and institutions but he also turned to establishing the complex activity pattern of households. One of his major contributions was the identification of a typology of activities;⁷⁶

- Income-producing activities
- Child-raising and family activities
- Education and Intellectual development activities
- Spiritual development activities
- Social activities
- Recreation and relaxation activities
- Club activities
- Community service and political activities
- Activities associated with food, shopping, health etc.

Time and space are components of the concept of an activity system. In a study of 121 households in Durham, North Carolina, Chapin and Hightower attempted to establish this dual pattern of household activities with particular emphasis in leisure activities.⁷⁷ A two

75. F. S. Chapin, Urban Land Use Planning, (Urbana: University of Illinois Press, 2nd. Ed.1965), p. 242.

76. Ibid. p. 226.

77. F. S. Chapin and H. C. Hightower, "Household Activity Patterns and Land Use," Journal of the American Institute of Planners, Vol. 31. (1965), pp. 222-231.

part interview schedule was formulated which excluded the sets of main income producing and food, shopping, and health care activities. Those interviewed were asked to give a complete account of their activities for the day preceding the interview, and the location of their activities was then mapped and visually inspected.

Chapin and Hightower were more concerned with the amount of time allocated to various leisure activities rather than with the spatial element. They were also concerned with establishing how the respondents would prefer to spend their leisure time. This resulted in the development of a "time-budget game" in which advantage was taken of the fad, current in the mid 1960s among American households, to collect trading stamps. Each person interviewed was given a number of stamps corresponding to the number of hours available to him in a week after accounting for all necessary household activities. The interviewee placed the appropriate number of stamps on a card next to the activity he selected as the most desirable allocation of his spare time.

The method appears to be an extremely cumbersome one and has the drawback that no indication of the location of preferred leisure time activities was given.

Chombart de Lauwe relied on standard questionnaires to establish the actual spatial patterns of leisure time

(loisirs) activity.⁷⁸ But he also included questions on the whole range of activity patterns including work and shopping activities. In his schema for studying the service functions of a quartier a large array of service functions is mentioned. This reflects a cultural difference in the fragmentation of services into individual units in Paris in contrast to the comprehensive supermarkets and drug stores of North America.

The methods used by Chapin and Chombart de Lauwe are thorough and require extensive contact with the person interviewed. The scale of the present study makes it impossible to attempt work of comparable detail. Instead a set of questions were included within the first questionnaire to establish: the place of work, educational facilities used by members of the household, the spiritual, social, and recreational activities, and the location of those functions used for food, shopping, and health care activities.⁷⁹ The emphasis is placed on the locational characteristics of the activity systems as of the date of the questionnaire. Changes of activity patterns over time obviously take place but fall outside the scope of this research.

78. P. - H. Chombart de Lauwe, et. al., op. cit., footnote 41, Vol. 2., pp. 83-88.

79. A sample of the questionnaire used is to be found in Appendix B.

Further, no attempt was made to establish the total spatial activity patterns of individuals in Fleetwood. Instead, the household was considered the unit of study and selected activity patterns were established sufficient to reveal the spatial dimensions of activities.

A time element is introduced into the questionnaire for such questions as shopping habits, spiritual activities, and visits to relatives, but only to distinguish whether such visits are regular weekly occurrences or more infrequent. By and large, however, it is recognized that there is an inherent weakness in trying to establish the time spent by people on any particular activity with any degree of accuracy. Chapin and Hightower found that "it is not realistic to expect people to recall their activities in detail adequate for more than the past day or two."⁸⁰

The Analysis

The places which form part of the activity pattern for each group are found in Tables 6 - 13. The frequency of each place for each activity pattern is given together with the percentage within each group. The fifth column gives the percentage difference for each group when that difference exceeds 5%. A Chi-Square analysis was applied to the data, following the same procedures outlined in Chapter 4. Reference is made to the results of the

80. F. S. Chapin, and H. C. Hightower, op. cit., footnote 77, p. 226.

analysis only when significant differences were found.

Place of work.

As is to be expected with a significant age difference between the two groups, the proportion of retired people is much higher among the established group. Nearly a quarter of the established group answered that they were retired. Only one person in each group is on welfare. A small percentage of each group finds employment within Fleetwood, but a difference emerges between the groups in terms of work in the District of Surrey. Nearly a quarter of the migrant group has employment within Surrey compared with 10% of the established group. On the other hand, more than a quarter of the established group finds work in Vancouver, which is 7% higher than the migrant group.

It is clear that there is a greater range of places of work in the migrant group. Indeed, twice as many places are mentioned by the migrant group as work places than by the established group.

The answers given by the respondents refer to the place of work at the time of the questionnaire. It is necessary, however, to make the qualification that the location of work changes frequently. Two examples will suffice to indicate the problem. The four persons, one

from the established group, the others from the migrant group, who gave their place of work as North Vancouver are all carpenters working on building projects and their spatial activity pattern as far as their work place is concerned should more properly be viewed as the whole of the Metropolitan area. Similarly, the figure for Vancouver for both groups conceals respondents who gave their occupation as commercial travellers but whose bases were located in Vancouver. To allow for such changes, however, would unnecessarily complicate the analysis.

TABLE 7. PLACES OF WORK OF THE ESTABLISHED GROUP (E)
AND THE MIGRANT GROUP (M)

| <u>Place.</u> | <u>E. No. %</u> | | <u>M. No. %</u> | | <u>% Difference</u> <u>E-M (less than 5%)</u> |
|-----------------|-----------------|-------|-----------------|------|--|
| Fleetwood | 3 | 10.3% | 5 | 5.7% | (4.6%) |
| Surrey | 3 | 10.3 | 21 | 24.1 | -13.8 |
| New Westminster | 2 | 6.9 | 6 | 6.9 | |
| Vancouver | 8 | 27.6 | 18 | 20.6 | 7.0 |
| Burnaby | 3 | 10.3 | 9 | 10.3 | |
| Annacis Island | 1 | 3.4 | 2 | 2.3 | |
| North Vancouver | 1 | 3.4 | 3 | 3.4 | |
| Haney | - | | 1 | 1.2 | |
| Langley | - | | 2 | 2.3 | |
| Fraser Mills | - | | 2 | 2.3 | |
| Delta | - | | 2 | 2.3 | |
| Port Moody | - | | 2 | 2.3 | |
| White Rock | - | | 1 | 1.2 | |
| Maillardville | - | | 1 | 1.2 | |
| Welfare | 1 | 3.4 | 1 | 1.2 | |
| Retired | 7 | 24.1 | 11 | 12.6 | 11.5 |

TABLE 8. SHOPPING PATTERNS

A. Daily

| | | | | | |
|-----------|---|-------|----|-------|--------|
| Fleetwood | 9 | 32.1% | 36 | 41.3% | - 9.2% |
| Guildford | 8 | 28.6 | 16 | 18.4 | 10.2 |
| Whalley | 9 | 32.1 | 32 | 36.8 | |
| Newton | 1 | 3.4 | 1 | 1.2 | |
| Riverside | 1 | 3.4 | 2 | 2.3 | |

B. Weekly

| | | | | | |
|-----------------|----|------|----|------|--------|
| Vancouver | - | | 3 | 1.9 | |
| New Westminster | 2 | 4.2 | 10 | 6.5 | |
| Guildford | 17 | 35.4 | 55 | 35.5 | |
| Whalley | 18 | 37.5 | 51 | 32.9 | (4.6%) |
| Cloverdale | 3 | 6.25 | 14 | 9.0 | |
| Riverside | 7 | 14.6 | 22 | 14.2 | |
| Langley | 1 | 2.1 | - | | |

C. Monthly

| | | | | | |
|-----------------|----|------|----|------|------|
| Vancouver | 2 | 6.5 | 5 | 6.0 | |
| New Westminster | 12 | 38.7 | 29 | 34.9 | |
| Guildford | 7 | 22.6 | 12 | 14.4 | 8.2% |
| Whalley | 2 | 6.5 | 8 | 9.6 | |
| Cloverdale | 3 | 9.7 | 10 | 12.0 | |
| Riverside | 5 | 16.1 | 19 | 22.9 | 6.8 |

Shopping Patterns

The spatial patterns for shopping have been analyzed in three ways. The shopping for daily requirements, for weekly, and for monthly patterns.

The pattern for daily requirements shows that the migrant group make greater use of the local stores within Fleetwood. Whalley is also seen as a major source of daily needs although in terms of location and access, Guildford is used by a greater proportion of the established group.

The weekly shopping patterns show both the Guildford shopping centre and Whalley to be the most popular. Whalley is slightly more popular among the established group. The attraction of Whalley appears to be in the presence of a low cost, bulk volume supermarket there and many respondents referred to this establishment rather than to Whalley itself. The third most popular place for weekly shopping is Riverside, located less than a mile north of Guildford. Thus the popularity of Guildford serves as an intervening opportunity to the residents of Fleetwood. Both Vancouver and New Westminster are relatively insignificant as places for weekly shopping.

The monthly shopping patterns show the popularity of New Westminster for both groups. Vancouver is still insignificant and the respondents invariably referred to

it only in terms of specialty shopping, particularly at Christmas. Guildford is more popular among the established group for monthly shopping, and Riverside for the migrant group with percentage differences of eight and seven percent respectively.

Health Services

The choices of doctors and drug stores (Tables 9 and 10), begin to show a greater difference between the groups. Two medical centres and a drug store are located within Fleetwood and a clear preference is given to these local services by the established group. The percentage difference between the established group and the migrant group in the use of the local drug store is more than 20%, and for the use of local doctors 13%. Whalley

proportionately more popular among the migrant group for both doctors and drug store. A percentage difference of 5% and 7% respectively is to be seen in the preference given to doctors in New Westminster and Burnaby by members of the migrant group. This reflects the fact that some of the migrant group prefer to remain registered with the doctor they had before moving to Fleetwood.

Spiritual Activity Patterns

Chapin's category of Spiritual Activities refers purely to attendance at religious ceremonies. It is

TABLE 9. DOCTOR

| <u>Place</u> | <u>E. No. %</u> | | <u>M. No. %</u> | | <u>%Difference</u> <u>E-M (less than 5%)</u> |
|-----------------|-----------------|-------|-----------------|-------|---|
| Fleetwood | 13 | 44.8% | 27 | 31.0% | 14.8% |
| Whalley* | 9 | 27.5 | 37 | 42.4 | -14.9 |
| Cloverdale | 2 | 6.9 | 4 | 4.6 | |
| Riverside | - | | 2 | 2.3 | |
| Coquitlam | 1 | 3.4 | - | | |
| Langley | 2 | 6.9 | 2 | 2.3 | (4.6) |
| Vancouver | 1 | 3.4 | 1 | 1.2 | |
| New Westminster | 1 | 3.4 | 7 | 8.0 | (-4.6) |
| Burnaby | - | | 6 | 6.9 | -6.9 |
| White Rock | - | | 1 | 1.2 | |
| Not known | 1 | 3.4 | - | | |

TABLE 10. DRUG STORE

| | | | | | |
|--------------|----|-------|----|-------|-------|
| Fleetwood | 11 | 37.9% | 15 | 17.2% | 20.7% |
| Riverside | 11 | 37.9 | 26 | 29.9 | 8.0 |
| Guildford | 4 | 13.8 | 17 | 19.5 | -5.7 |
| Whalley | 1 | 3.4 | 23 | 26.4 | -23.0 |
| Cloverdale | 2 | 6.9 | 3 | 3.4 | |
| New Westmint | - | | 2 | 2.3 | |
| Langley | - | | 1 | 1.2 | |

* The Surrey Medical Centre on the King George Highway is included with Whalley.

generally acknowledged that the danger of an interviewee giving an answer which he feels is a socially acceptable one is acute when enquiring into spiritual activities. In the case of Fleetwood, over half of the migrant group stated that they never attend church services whereas a quarter of established group answered the same way. However, 27.6% of the established group indicate that they attend church irregularly, (i.e., less often than weekly), compared with 12.6% of the migrant group.

A higher proportion of the established group attend church services in Fleetwood, Whalley, and Cloverdale, the last by people attending the Catholic church. The spatial patterns of those members of the migrant group who regularly attend church services is much wider than that of the established group and reflects the maintenance of ties which existed before moving to Fleetwood.

Visits to Relatives

The tabulation of places for visits to relatives (Table 12) has only been made when the visits are made weekly. More than a quarter of the migrant group claim that they never visit relatives. 31% of the established group, and 25% of the migrant group visit relatives at intervals of less than a week. Of the weekly visits made, nearly a half of the established group visit relatives in the District of Surrey, of which 20% are

TABLE 11. SPIRITUAL ACTIVITIES.

| <u>Place</u> | | <u>E. No. %</u> | | <u>M. No. %</u> | | <u>% Difference</u> <u>E-M (less than 5%)</u> |
|---------------------------------|------------------|-----------------|-------|-----------------|-------|--|
| Within District of Surrey | Fleetwood | 5 | 17.2% | 10 | 11.5% | 5.7% |
| | Newton | 1 | 3.4 | - | | |
| | Sullivan Station | 1 | 3.4 | - | | |
| | Whalley | 3 | 10.3 | 3 | 3.4 | 6.9 |
| | Port Kells | 1 | 3.4 | 2 | 2.3 | |
| | 140th. Street | 1 | 3.4 | - | | |
| | Cloverdale | 2 | 6.9 | 1 | 1.2 | 5.7 |
| | Hjorth Road | - | | 4 | 4.6 | |
| | Kennedy Heights | - | | 1 | 1.2 | |
| | Johnston Heights | - | | 1 | 1.2 | |
| | Riverside | - | | 2 | 2.3 | |
| | New Westminster | - | | 1 | 1.2 | |
| | Vancouver | - | | 1 | 1.2 | |
| | Aldergrove | - | | 1 | 1.2 | |
| | Langley | - | | 2 | 2.3 | |
| | Burnaby | - | | 1 | 1.2 | |
| | None | 7 | 24.1 | 46 | 52.9 | -28.8 |
| Irregular | 8 | 27.6 | 11 | 12.6 | 15 | |

TABLE 12. VISITS TO RELATIVES (AT LEAST WEEKLY.)

| | | | | | |
|-------------------|---|-------|----|------|-------|
| Fleetwood | 6 | 20.7% | 8 | 9.2% | 11.5% |
| Surrey | 8 | 27.6 | 16 | 18.4 | 9.2 |
| Vancouver | 2 | 6.9 | 3 | 3.4 | |
| Burnaby | 1 | 3.4 | 3 | 3.4 | |
| New Westminster | 1 | 3.4 | 3 | 3.4 | |
| White Rock | 1 | 3.4 | 4 | 4.6 | |
| Langley | - | | 4 | 4.6 | |
| Delta | - | | 1 | 1.2 | |
| None | 1 | 3.4 | 23 | 26.4 | -23.0 |
| Infrequent visits | 9 | 31.0 | 22 | 25.3 | 5.7 |

within the Fleetwood area. Of the migrant group, 27% visit relatives in Surrey, of whom, 9% are in Fleetwood.

Recreation Activity Patterns

62% of the migrant group and 38% of the established group claim not to take part in any recreational activities. Of the remainder, recreation activities take place outside of Fleetwood. A higher proportion of the established group visit Whalley, mainly for bowling. A percentage difference of eight exists between the two groups in visits to Vancouver.

Activity Patterns Associated with Membership in Organizations.

More than half of each group do not belong to any organizations. Of those that do, however, there is a considerable difference between the two groups. Nearly a quarter of the established group regularly attend meetings in Fleetwood in contrast to less than 5% of the migrant group. The migrant group, on the other hand, have a higher proportion attending organizations in New Westminster and Vancouver. Again, it can be seen that the migrant group have a tendency to move further away from Fleetwood than the established group.

The Spatial Activity Patterns.

In the application of Chi-Square analysis, significant differences are found in the recreation activity pattern, and in the choices of drug stores. (Tables 15 and 16). The frequency of visits to relatives was also found to be

TABLE 13. RECREATION ACTIVITY PATTERNS.

| <u>Place</u> | <u>E. No. %</u> | | <u>M. No. %</u> | | <u>% Differences</u> <u>E-M (less than 5%)</u> |
|-----------------|-----------------|------|-----------------|------|---|
| Fleetwood | 2 | 6.9% | 3 | 3.4% | |
| Guildford | 3 | 10.3 | 4 | 4.6 | 5.7% |
| Whalley | 7 | 24.1 | 8 | 9.5 | 14.6 |
| Cloverdale | 1 | 3.4 | 3 | 3.4 | |
| New Westminster | 1 | 3.4 | 4 | 4.6 | |
| Burnaby | 1 | 3.4 | 1 | 1.2 | |
| Vancouver | 3 | 10.3 | 2 | 2.3 | 8.0 |
| Langley | - | | 5 | 5.7 | -5.7 |
| Newton | - | | 1 | 1.2 | |
| Bear Creek | - | | 1 | 1.2 | |
| Haney | - | | 1 | 1.2 | |
| None | 11 | 37.9 | 54 | 62.1 | -24.2 |

TABLE 14. ORGANIZATIONS

| | | | | | |
|-----------------|----|-------|----|------|--------|
| Fleetwood | 7 | 24.1% | 4 | 4.6% | 19.5% |
| Whalley | 2 | 6.9 | 3 | 3.4 | |
| Cloverdale | 2 | 6.9 | 4 | 4.6 | |
| Newton | 1 | 3.4 | - | | |
| New Westminster | 1 | 3.4 | 10 | 11.5 | - 8.1 |
| Vancouver | - | | 4 | 4.6 | (-4.6) |
| Riverside | - | | 1 | 1.2 | |
| Richmond | - | | 1 | 1.2 | |
| Burnaby | - | | 1 | 1.2 | |
| None | 16 | 55.1 | 59 | 67.8 | -12.7 |

significantly different between the two groups. (Table 17).

Although no significant difference exists among the other patterns, certain trends can be seen. Firstly, there appears to be a much greater range of places which form part of the objective social space of the migrant group. This is especially noticeable in the place of employment, visits to churches and relatives, and recreation and organization activity patterns. Secondly, greater use is made of the services available in Fleetwood by the established group, with the sole exception of daily shopping requirements. The greater proportion of the established group attending the local church, using the local medical services, and taking part in local organizations reflects a greater sense of community for Fleetwood among the group than is shown by the migrant group.

The greater sense of community by the established group is borne out further in the analysis of places referred to at least once by each respondent as the locale for weekly activities. (Table 18). Every member of the Fleetwood group refers to Fleetwood as a locale, but nearly 20% of the migrant group make no reference to Fleetwood. Percentage differences also exist for other places. A slightly higher proportion of the migrant group refer to Whalley, Guildford and Riverside as locales for

CHI-SQUARE ANALYSIS

TABLE 15. RECREATION ACTIVITY

| | <u>No Visits</u> | <u>Surrey</u> | <u>Other</u> | <u>Total</u> |
|-------------|------------------|---------------|--------------|--------------|
| Established | <u>11</u> | 13 | 5 | 29 |
| Migrant | <u>54</u> | <u>20</u> | <u>13</u> | <u>87</u> |
| | 65 | 33 | 18 | 116 |

Chi-Square: 5.9918
 Critical value of Chi-Square at 0.05 with 2 degrees of freedom: 5.9915
 Null hypothesis rejected.

TABLE 16. DRUG STORES

| | <u>Fleetwood</u> | <u>Riverside</u> | <u>Guildford</u> | <u>Whalley</u> | <u>Total</u> |
|-------------|------------------|------------------|------------------|----------------|--------------|
| Established | 11 | 11 | 4 | 1 | 27 |
| Migrant | <u>15</u> | <u>26</u> | <u>17</u> | <u>18</u> | <u>76</u> |
| | 26 | 37 | 21 | 19 | 103 |

Chi-Square: 9.7438
 Critical value of Chi-Square at 0.05 with 3 degrees of freedom: 7.8.47
 Null hypothesis rejected

TABLE 17. FREQUENCY OF VISITS TO RELATIVES

| | <u>No visit</u> | <u>Weekly</u> | <u>Less than weekly</u> | <u>Total</u> |
|-------------|-----------------|---------------|-------------------------|--------------|
| Established | 1 | 19 | 9 | 29 |
| Migrant | <u>23</u> | <u>42</u> | <u>22</u> | <u>87</u> |
| | 24 | 61 | 31 | 116 |

Chi-Square: 7.0536
 Critical value of Chi-Square at 0.05 with 2 degrees of freedom: 5.9915
 Null hypothesis rejected.

weekly activities. A higher proportion of the established group visit Vancouver and Cloverdale. There are more places mentioned by the migrant group as locales for weekly activities, but the number of references is not larger than two for each place.

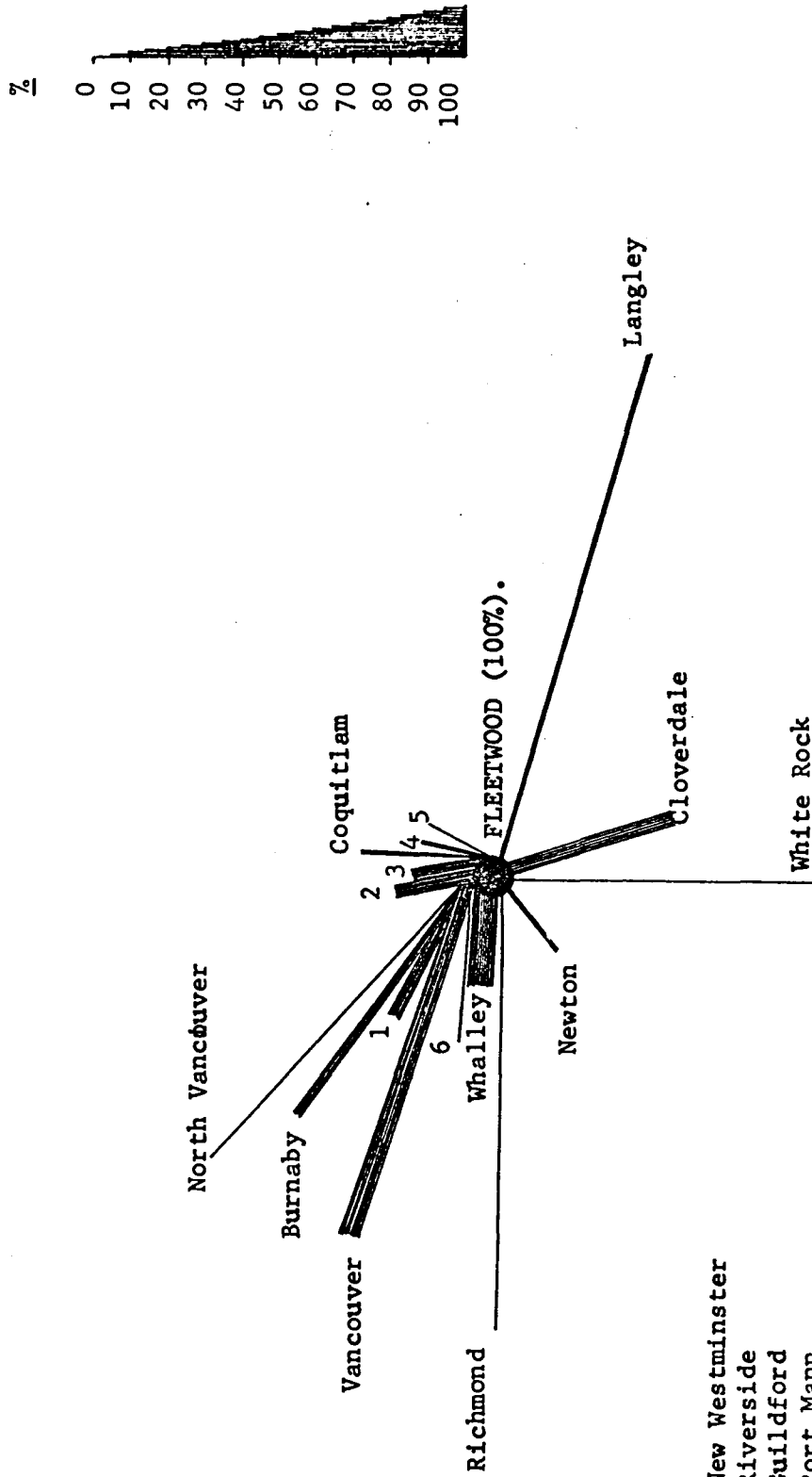
There are, therefore, differences in the patterns of objective social space for the two groups, two of which, the recreation activities and the locale of drug stores, are statistically significant. To state categorically that the hypothesis proposing that variations will exist in the objective social space of the groups is substantiated is to be incautious. A comparison of Maps 6 and 7, showing the places referred to in Table 18, shows the considerable conformity that exists in the objective social space patterns of the two groups. However, the differences which do emerge indicate that the hypothesis may be confirmed with a refinement of the techniques used to establish objective social space patterns.

TABLE 18. PLACES REFERRED TO AT LEAST ONCE BY EACH
RESPONDENT AS THE LOCALE OF WEEKLY ACTIVITIES.

| <u>Place</u> | <u>E. No. %</u> <u>(Total 29)</u> | | <u>M. No. %</u> <u>(Total 87)</u> | | <u>% Difference</u> <u>E-M (less than 5%)</u> |
|-----------------|--------------------------------------|------|--------------------------------------|-------|--|
| Fleetwood | 29 | 100% | 71 | 82.4% | 17.6% |
| Whalley | 20 | 67 | 64 | 73.6 | -6.6 |
| Guildford | 18 | 60 | 57 | 64.6 | (-4.6) |
| Riverside | 10 | 33 | 34 | 39.1 | -6.1 |
| Vancouver | 12 | 40 | 27 | 30.9 | 9.1 |
| Burnaby | 6 | 20 | 18 | 20.6 | |
| New Westminster | 9 | 30 | 30 | 34.0 | |
| Cloverdale | 9 | 30 | 21 | 24.1 | 5.9 |
| Port Mann | 2 | 6.9 | 2 | 2.3 | |
| Langley | 2 | 6.9 | 9 | 10.3 | |
| Newton | 3 | 10 | 8 | 9.2 | |
| Coquitlam | 3 | 10 | - | | |
| Port Kells | 1 | 3.4 | 2 | 2.3 | |
| Annacis Island | 1 | 3.4 | 1 | 1.2 | |
| North Vancouver | 1 | 3.4 | 3 | 3.4 | |
| Richmond | 1 | 3.4 | 1 | 1.2 | |
| White Rock | 1 | 3.4 | 6 | 6.9 | |
| Other | - | | 12 | 13.9 | -13.9 |

MAP 6: PLACES REFERRED TO AT LEAST ONCE BY EACH RESPONDENT AS THE LOCALE OF WEEKLY ACTIVITIES.

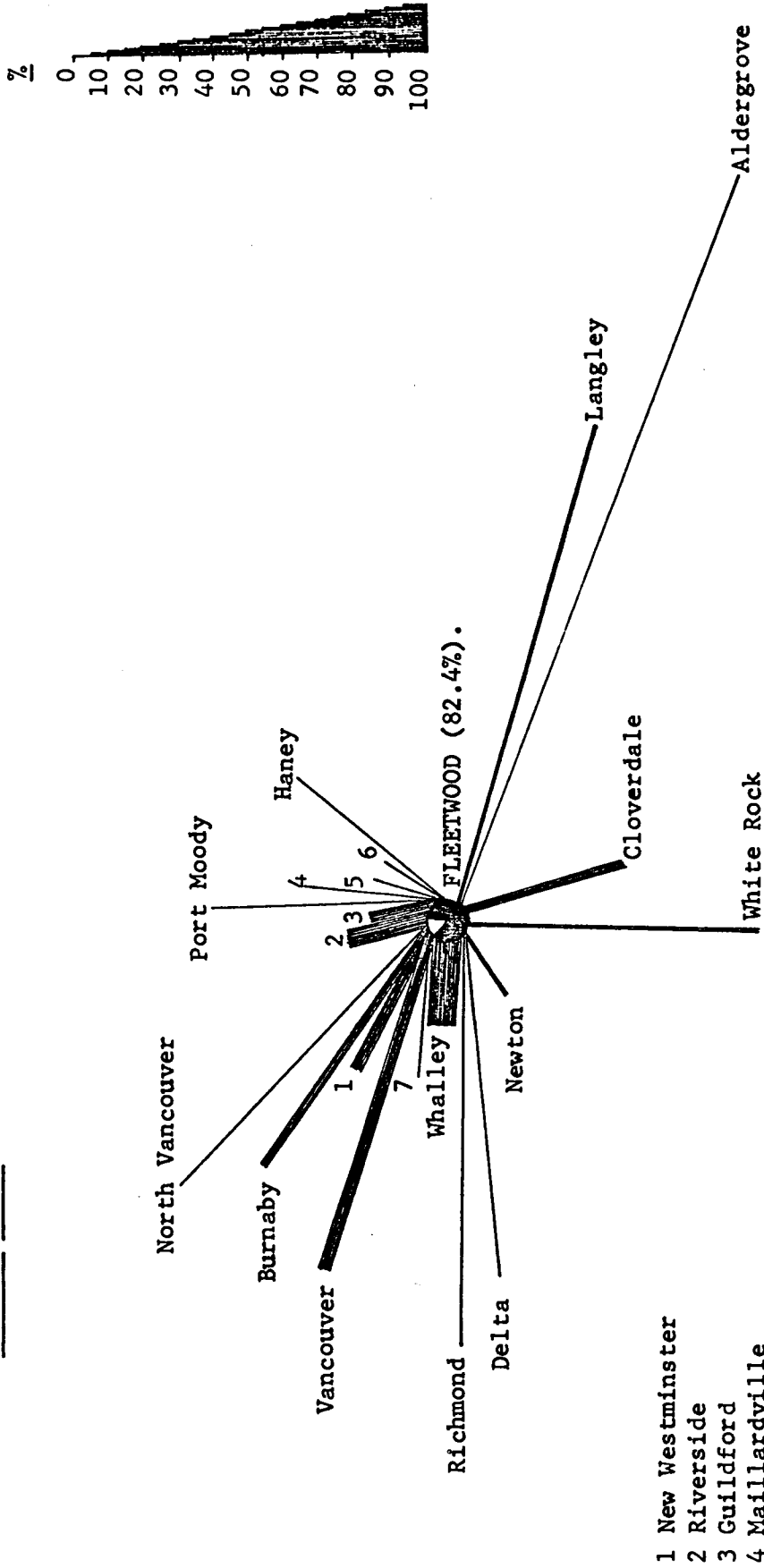
ESTABLISHED GROUP.



- 1 New Westminster
- 2 Riverside
- 3 Guildford
- 4 Port Mann
- 5 Port Kells
- 6 Annacia Island

MAP 7: PLACES REFERRED TO AT LEAST ONCE BY EACH RESPONDENT AS THE LOCALE OF WEEKLY ACTIVITIES.

MIGRANT GROUP.



CHAPTER VII

CONCLUSION

An attempt has been made in this study to distinguish the varying social space among groups residing in the rural-urban fringe. From a review of the literature, it is suggested that the fringe is occupied by an established group who have been residents of the area for a number of years, and by a migrant group who have recently moved into the fringe from the urban area.

It is hypothesized further that the established group would have a more localized social space, reflecting greater attachment to the local area. The migrant group, on the other hand, would have a social space of a much larger dimension covering much of the metropolitan area, rather than concentrating on the residential area.

The overriding concept throughout the study has been that of "social space". This is taken to mean both the physical and social environments in which a group lives and works, and includes an objective social space, the spatial framework which groups inhabit which can be directly observed, and a subjective social space, the space perceived by members of the group.

An extensive set of procedures for measuring social space has been developed by Chombart de Lauwe, but for the purpose of this study, the two parts of social space are considered separately.

In order to measure the subjective social space of the groups, the procedures of Lynch and de Jonge have been adopted, in which the responses to a set of questions were taped and a sketch map of the area was drawn by each respondent. In this way, the image of Fleetwood for each group was established.

The objective social space of the groups was measured by adopting the procedures developed by Chapin for his study of household activity systems. Such systems incorporate temporal and spatial elements and by considering the latter, the dimensions of the physical and social environments over which the groups conduct their activities can be established.

In the Fleetwood area of Surrey, B. C., the objective social space of both groups appears to be extensive. The places of work for example encompass the entire Metropolitan area of Vancouver. Differences between the groups are found, although not to the extent that had been hoped. The activity patterns of the established group tended, in general to be more oriented to the local area, while the migrant group looked beyond Fleetwood for many of their activities. This is reinforced by the differences in the subjective social space between the two groups in which the established group have a much clearer idea,

and a well-defined concept of Fleetwood, whereas the migrant group do not conform to any agreed concept.

Although it is not possible to accept the hypotheses without qualification, this does not mean that they must be rejected. Rather, it leads to the formulation of other hypotheses on the nature of the behaviour pattern of residents of the rural-urban fringe.

The results of this study confirm the general absence of awareness of the nature and organization of social space in the rural-urban fringe. The hypotheses for such studies should more rigorously define the groups to be found in the fringe both in terms of socio-economic criteria and in terms of attitudes. It would seem, for example, that there may exist a correlation between a positive attitude towards living in the fringe and a strong image of the area among the established group. The migrant group, on the other hand, appear to have a negative attitude, emphasizing the disadvantages of "fringe-living" and a weak image of the residential area.

Possibly more significant, a more rigorous definition of "social space" is necessary. One difficulty which arose in the study is to establish the subjective social space of a group over the same physical area as their objective social space. This particular problem is

considered in Chapter V. This may be overcome by postulating a hierarchy of social spaces. The study shows that the space for certain activity patterns varies from that of others. The location of work places appears to be the most extensive of the activity patterns among residents of the Fleetwood area, whereas their shopping habits are much more restricted within Surrey, and, over longer periods of time, New Westminster. The activity pattern related to education is confined almost entirely to the schools within or immediately outside the Fleetwood area and is thus a local activity. Buttimer noted that Chombart de Lauwe considered the hierarchical structure of social space in terms of personal, familial, neighbourhood, and regional spaces.⁸¹

The study also points to the need to refine the testing procedures for social space. Buttimer has hinted at the weakness in the study by Chombart de Lauwe in that he is "seemingly so anxious to arrive at quick solutions to urgent social problems, (that he) often appears to slide too rapidly through the analytical parts to arrive at readily applicable results."⁸²

More particularly, the measurement of the spatial attributes of activity systems needs further refinement.

81. A. Buttimer, *op. cit.*, footnote 4, p. 425.

82. *Ibid.* p. 426.

Chapin has dealt extensively with its temporal attributes, but the procedures he has used to delineate the physical space encompassed by a household in its day-to-day activities is by no means clear.⁸³

The need for a refinement of technique is especially evident in the questionnaire on subjective social space. To tape, and then to transcribe the recording is a most cumbersome interview procedure in itself. More important, however, is the effect of the procedure on the interviewee. It was found that in Fleetwood, the majority of those interviewed were very reluctant to be taped, and three quarters of the population refused outright to permit the interview, despite their willingness to answer the questions of the first interview. In consequence, the differences in size between the two interviews is such that no statistical correlation can be attempted. It would appear that for such a technique to be successful, extensive personal contact, and a concomitant sense of trust towards the interviewer, is a necessary pre-requisite. Without such contact, very few people appear to be willing to be taped, although it introduces a considerable bias into the sample.

83. See, for example, the maps of the location of household activity patterns by F. S. Chapin & H. C. Hightower, Household Activity Systems - A Pilot Investigation, (Chapel Hill, University of North Carolina: Centre for Urban and Regional Studies, 1966), pp. 38 & 40.

Notwithstanding the difficulties involved in establishing and measuring social space, the concept is a particularly useful one in cultural geography. Inherent within it is the concept of objective social space which includes the directly observable patterns of human behaviour over space. Studies of such patterns have long been a focal point in geographic research, but have often been on individual patterns such as "journey to work" and "shopping habits". The concept of social space is that of a composition of such individual patterns, which has the added dimension of considering the subjective social space as well. To consider the perception of the environment held by an individual provides for a greater understanding of his particular patterns of spatial behaviour.

Previous studies have established that differences exist in the perception of the environment between cultures. Studies of a particular culture have established differences in the perception of the environment between elite and working class groups, between occupational groups. The study of Fleetwood shows that the length of residence in an area is also a variable to be taken into account when considering perception differences.

The application of the concept of social space to the study of the spatial patterns of residents in the rural-urban fringe provides a valuable extension to previous

fringe studies. Such studies have tended to concentrate on the attitudes of the residents towards living in the fringe, and have invariably referred only to those persons who have moved into the fringe from the city, ignoring those who have long been resident of the area. The study of Fleetwood indicates the complexity of geographical patterns which have developed in the fringe, and the extent of the contact with the metropolitan area as a whole. It further points to variations of the patterns between two groups resident in the area. Such a study would be relevant in the planning process for the rural-urban fringe.

The practical^s relevance of the concept of social space within the process of town and regional planning has been clearly shown by Chombart de Lauwe in his study of Paris. Such practical application together with the value of the concept in connecting man's subjective realm with his observable spatial behaviour has led Buttimer to consider social space as "one of the dramatic and exciting challenges (which) confront geographers today."⁸⁴

84. A. Buttimer, op. cit., footnote 4, p. 417.

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APPENDIX A.

SERVICE FUNCTIONS IN FLEETWOOD.

| | |
|---------------------------------|---|
| Real Estate Agents | 2 |
| Physicians | 2 |
| Food Stores | 2 |
| Cafes | 2 |
| Beauty Salons | 2 |
| Variety Stores | 2 |
| Drug Store | |
| Hardware | |
| Barber | |
| Bank | |
| Carpets | |
| Bicycles | |
| Insurance Agent | |
| Motel | |
| Laundromat | |
| Service Stations | 6 |
| Nurseries, with roadside stalls | 2 |
| Dairy (Distribution Centre) | |

Source: Personal Survey; May 1968

APPENDIX B

SILVIA FRASER UNIVERSITY

DEPARTMENT OF GEOGRAPHY.

RURAL - URBAN FRINGE SURVEY OF FLEETWOOD, SURREY, B.C.

APRIL 1968.

By J. Cromwell.

| Interview No. | Person Interviewed. | | | |
|---|----------------------|------------------------------------|-------------------|--|
| 1). How long have you been living in this house? | 1 Less than 1 year | 4 3 - 5 Years. | | |
| | 2 1 - 2 Years | 5 5 - 10 Years. | | |
| | 3 2 - 3 Years | 6 More than 10 Years. | | |
| 2). Where did you live before moving here? | 1 Surrey | 4 New Westminster | | |
| | 2 Vancouver | 5 British Columbia..... | | |
| | 3 Burnaby | 6 Canada..... | | |
| | 7 Other..... | | | |
| 3). Were you living in a rural or an urban area before you moved here? | 1 Urban | 2 Rural | | |
| 4). Would you say that you are living in a rural or an urban area now? | 1 Urban | 2 Rural | | |
| Why? | | | | |
| 5). Does the wife have a car? | 1 Yes | 2 No | | |
| 6). Employment? | Occupation | Place of work | Method of travel. | |
| | Husband | | | |
| | wife | | | |
| | Other | | | |
| 7). Have you any children and what age groups do they belong to? | 1 0 - 18 months. | 3 Primary school age. Grades 1 - 4 | | |
| | 2 pre-school age | 4 Grades 4 - 10. | | |
| | 5 Grade 11 and over. | | | |
| 8). Which schools do they attend? | 1 Wm. Watson. | 4 North Surrey Senior Secondary. | | |
| | 2 Fleetwood | 5 Other..... | | |
| | 3 Johnston Rd. | 6 Other..... | | |
| 9). Where do you obtain your daily requirements, for example bread, milk, meat? | 1 Locally | 3 Cloverdale | | |
| | 2 Guildford | 4 Elsewhere..... | | |

- 3 -

19). Which organizations do you or your husband/wife belong to?

| Name | Location | Frequency of attendance | Length of membership. |
|------|----------|-------------------------|-----------------------|
|------|----------|-------------------------|-----------------------|

20). Which newspapers do you regularly purchase?

| | |
|--------------|-----------------|
| 1 Province | 3 Columbian |
| 2 Sun | 4 Surrey Leader |
| 5 Other..... | |

21). Do you own or rent this house?

| | |
|-------|--------|
| 1 Own | 2 Rent |
|-------|--------|

22). Did you have this house built?

| | |
|-------|------|
| 1 Yes | 2 No |
|-------|------|

23). On this sheet you will find a rough scale with several income levels marked on it. Could you please tell me where the approximate total family income for the past year would fall on the scale. I assure you that this will be kept entirely confidential.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

24). Do you feel that you identify yourself with either Fleetwood or Surrey rather than with, say, Vancouver?

| | | |
|-------------|----------|--------------|
| 1 Fleetwood | 2 Surrey | 3 Other..... |
|-------------|----------|--------------|

That concludes this interview and I should like to thank you very much indeed for the kind co-operation you have shown. There is a follow up interview to this one which unfortunately requires the use of a recording machine in order to record your verbal impressions of the area so that I may gain some idea as to the type of improvements which you feel should be made. I wonder whether you would allow me to conduct this interview at a time convenient to you.

| | | | |
|--------|-----------|---------|---------------|
| orning | Afternoon | Evening | Day of Week |
| | | | M T W T F S S |

Telephone Number

Name.