

RESIDENTIAL LAND USE PLANNING AND HOUSING IN  
WHITEHORSE, YUKON TERRITORY:  
PUBLIC INVOLVEMENT IN THE LAND DEVELOPMENT PROCESS

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### *Abstract*

The study is an urban history of Whitehorse, Yukon Territory, a permanent northern town situated on Canada's resource frontier. The interest and significance of the study lies in the fact that all developable land in the area is in public ownership and the state is the developer. Whitehorse therefore offers an exceptional window into public development on public land. The basic question is the right to extensive use of public land from the point of view of equity and economics.

Problems which have come to the fore are choices between alternative demands such as native claims, the demands of low-income citizens, and the costs of servicing urban land developed in various ways. Higher energy costs have brought into question the land use efficiency of the North American low density suburb.

Public ownership of land and substantial public input in the land development process do not insure positive planning. The potential for high-quality planning has not been fully realized. While private interest in land has been eliminated, the different levels of government involved in the land development process were not always capable of rising above their own vested interests in which control of more land means greater political power.



## Résumé

Cette étude porte sur l'histoire urbaine de Whitehorse, Territoire du Yukon, une ville nordique permanente située près des ressources frontalières du Canada. L'intérêt et l'importance de cette étude tient au fait que l'ensemble des terres dans cette région sont du domaine public et l'Etat est le développeur. Whitehorse est par conséquent, un cas exceptionnel de développement dans l'intérêt public de terres qui appartiennent à l'Etat. La question fondamentale qui se pose concerne le droit à l'utilisation extensive des terres publiques du point de l'équité et de l'économie.

Les problèmes qui passent au premier plan sont les choix entre demandes alternatives telles que les droits des Amérindiens, les revendications des citoyens pauvres, et les coûts d'entretien des sols urbains développés de différentes manières. L'augmentation des coûts d'énergie a remis en question l'efficacité de l'utilisation des sols en Amérique du Nord, et des banlieues à faible densité de population, en particulier.

La propriété publique des terres et la participation publique, dans le processus de développement, ne garantissent pas le succès d'une planification positive. Le potentiel pour une planification de haute qualité n'a jamais pu être complètement réalisé. Bien que la participation privée ait été éliminée, les différents niveaux de gouvernement impliqués dans le processus de développement des sols n'ont pas toujours été capables de s'élever au-dessus de leurs droits acquis selon lesquels un contrôle plus grand des sols implique un pouvoir politique plus important.

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## INTRODUCTION

The study is an urban history of a permanent northern town situated in Canada's resource frontier region. Among Canadian northern cities Whitehorse is distinguished by its age - the oldest, its size -- the largest, its relative permanence and stability, and the native component of its population. But what makes it so interesting in the town planning context is its unusual land development policy. The interest and significance of the study lie in the fact that all developable land in the Whitehorse area is in public ownership and the state is the developer. In this situation, due to the continuous availability of residential land, the land market plays an unusually limited role. The town's urban history will be approached from the point of view of its residential growth.

Raw land in the Yukon is free or very cheap and is still largely available. But while the supply of land seems abundant, there are claims on this land as well as other constraints which make it very important how this land is developed. For example, developed land is an important component of housing cost. Land in the Yukon is an important political issue for the territorial government and the native population. In the territories where most land is under the jurisdiction of the federal government, more land under territorial control means more power and autonomy for the territorial government.

Analyzing the history of urban growth I have emphasized socio-economic events and government policies which have led to population changes and to physical growth or change. Social history is less emphasized, with the

exception of the origins and present conditions of the Indian community. This is deliberate, since the native presence in the city and in the Yukon and the native relationship and claim to the Yukon land is underdocumented. The description of the development of transportation networks and basic industries along with the city's social history serves only as a background to the more detailed analysis of the history of the development of residential areas from a land use point of view. All other land uses, industrial, commercial, public and open space have been given less attention.

The City of Whitehorse since its founding in 1899 has undergone many changes in its physical form and socio-economic character. Whitehorse started off as a regional gold-mining support town dependent on the British Yukon Trading and Transportation Company. Following a short boom-and-bust episode, a longer stagnation was interrupted by the United States defence building activities, which placed Whitehorse in a central and important position during the Second World War. The town's present existence is based on the Canadian federal government's decision to develop the north and facilitate the exploitation of its natural resources.

The city kept its original territorial boundaries until 1957, while the federal government initiated and encouraged growth in the vicinity but outside Whitehorse. In 1957 a first piece of federal land was developed for residential use and attached to the city. Since then Whitehorse has undergone a steadier population growth and its housing needs have been met by development of more federal land. The study concentrates on the period since the early 1950's when the federal and territorial governments became more active in the Yukon. During this period government goals, objectives and policies have changed. Government involvement and responsibility for land has increased; the roles of the different levels of government have altered. Also,

public attitudes concerning issues such as land and native people have changed. The intention of the thesis is to capture the essence of this evolutionary change and to search for the principles which direct urban development in the absence of a land market.

### *Arguments and relevance of the study*

In the Yukon Territory all undeveloped land is under the jurisdiction and ownership of the federal and territorial governments, which historically have taken the responsibility for land development, short of building houses. I therefore use the term "land development" to refer to the process of surveying, planning, installation of water and sewers, power and residential road construction in a residential subdivision. The Yukon Territorial Government (YTG) acts as a land developer for its municipalities, primarily due to the large financial outlay required. The territorial government is potentially in a unique position to be able to plan urban growth and land use and to influence land and house prices. In the Whitehorse area, the territorial government has full control of the planners' basic resource -- land, as well as the financial resources necessary to carry out its development.

Public planning in North America has gradually become more pervasive, more visible, and concerned with larger geographic areas. Nevertheless in the face of the increasing number of activities competing for space and location, planning has remained peripheral. In Whitehorse there is a planning situation where, in the virtual absence of the land market, the classic separation between public and private planning does not exist.

Planning is a state function. To understand what is expected of it in contemporary times, and its limitations given the socio-economic-political

conditions within which it operates, we have to look at the role of the state with regard to planning. Recognizing that the state serves the economy's needs, the role of planning derives its justification and legitimacy in intervening to restore the balance which perpetuates the existing social order. By being committed to the ideology of social harmony, the planner is a defender of the public interest. The limits of this progressive stance are clearly set, however, by the fact that the public interest is defined according to the requirements for the reproduction of the social order (Berry 1975:224); Broadbent 1977; Harvey 1972;1979), and in most cases planners have a passive role, acting to accommodate the inevitable (Broadbent 1977)..

Land use planning incorporates two distinctive functions. The first is a technical function by which information is provided on present use, potential uses and alternative uses. The technical function also includes the evaluation of the consequences of the various alternatives. The second function is the formulation of goals, priorities and a policy. The land use plan as a document and land use planning as a process are products of both functions. While the technical function is performed by professional planners, the policy function is fulfilled by politicians, civil servants of relatively high "policy-making" level responsible to the politicians; and various policy committees representing different interests.

Text books are full of wishful thinking regarding planning. For example,

"Planning in the public sector....should be seen as a process that forces the explicit recognition of the full range of values held by different sectors of society and ensures a just resolution process subject to self-monitoring and responsive to changing conditions" (Rees, 1079:43).

One of the idealistic objectives of city planning is that plans be made and put in practice to anticipate and correct the movements of land uses in socially desirable directions (Ely 1964:447). The very notion of planning implies that some means of controlling development does exist and that it can be made to operate somehow in the interest of the whole community (Broadbent 1977). In reality, however, land use planning is conditioned by what planners are empowered to do.

Regardless of idealistic definitions, facts show that in North America planning is grafted upon a market allocation mechanism, which is in turn based on competition for space and location. Through this mechanism zones of specialized uses are created. The choice between types of development at key locations is an increasingly severe economic one (Ely 1964). It does not necessarily follow that economic competition will of itself direct the land into uses most beneficial from the standpoint of society (Ely 1964), hence the need for planning, zoning and social control over land uses. Channeling the forces of competition and coping with their effects has become the essence of the modern urban planning problem (Broadbent 1977). Areas dominated by a land market tend to have their direction of development defined by the yardstick of land value.

In Canada in the present mixed socio-economic system the planning situation is not determined by planners. It is conditioned by politics which in turns depends on economic life (Horowitz 1979:41). A large share of initiative is left to private entrepreneurs and the "hidden hand" - the governing set of stimuli and restraints on private development, land value and the market. In this context public policy in the form of urban planning generally intervenes to correct inefficiencies, inequalities and imbalances in the urban system. But problems are usually dealt with individually and



temporarily, with no attempt at a comprehensive approach. Planning in Canada reduces the anarchy of the local market, but imposes no overall limit on the amount of land allocated to specific uses (Harvey 1979:220). In a mixed economic system the most common task set for planners is to solve problems created by the urban land market. Planning is reactive and curative rather than comprehensive or innovative.

The private market dominates the city, and market forces largely determine the pattern of development including what gets built, when, where and for whom. In most cases urban planning helps to smooth the way for market forces to operate (Broadbent 1977). The operation of the forces of supply and demand in the land market is viewed as the prime determinant of the uses to which urban land is put. There exists a large literature of criticism and analysis of the operation of land markets. Bourne (1978:165) describes it as "myopic and inconsistent". According to Harvey (1975) supply does not automatically satisfy demand. Housing demand depends upon the proportion of income available for housing, as well as the total income available to a group. Market adjustment for demand will occur first as a response to changes in the demand of high income groups.

"Thus the demand of high income groups for ... housing (is) always responded to first" (Harvey 1972:21).

The market mechanism therefore perpetuates disequilibrium and inequity and even promotes it.

Government policies attempt to offset this tendency, intervening both in the land market and housing market, but in general their actions have also enhanced and promoted a tendency towards disparity (Harvey 1972:21). The problem lies in the quality and quantity of intervention. An involvement of a very positive nature could be useless if it is on a small scale not able to

affect the negative externalities of the market forces. The question remains how much involvement is optimal. An interesting debate and analysis of this problem is given by Broadbent in his book "Planning and profit in the urban economy". The Canadian context is well presented by Bettison (1975) and Simmons (1984).

In Canada in general the different types of land use regulations used by local governments are efforts to contain private initiative. The initiative for development comes from the individual landowner. The plan if it exists is not implemented by the local government. Municipal governments only attempt to channel the forces already operating in the land market in the demand for space and location in what it perceives to be desirable directions. There is a definite separation between planning and executive powers. In this context planning has a chronic lack of positive power to implement development and produce a genuinely "social city" (Broadbent 1977:212, Harvey 1979). The market requires that planners should have the understanding and technical expertise in the market to assure development sufficient to meet the demand. It is therefore the developments of the market economy itself which promote urban planning and make it more sophisticated (Broadbent 1977).

Contemporary urban planning in Canada functions in the framework of conventional economic theory. The state gets involved or intensifies its participation in different aspects of urban processes along the lines justified by Keynesian and conventional economics. Conventional economic theory recognizes that the market is the main resource-allocating mechanism in the economy. This theory justifies state intervention in strictly limited cases. Idealization of the individual consumer, together with the notion of "fairness" in competition, "balance" between supply and demand, and a dislike

of monopoly are often used by planners to justify a market economy (Broadbent 1977).

The market has many imperfections: inadequate or nonexistent information, the biasing of preferences through advertising, interdependent preferences, wage and price inflexibility, inability to adjust to technological changes and immobility of labour and capital (Beauregard 1979:245). Conventional micro-economic theory has proved its usefulness in analyzing partial (one product), short-term problems where prices and supplies are fixed and when the choice as to how to allocate sparse resources is paramount. The general philosophy of satisfying consumer demand is often implicitly or explicitly used as a justification for urban development when the private sector finds it convenient (Broadbent 1977:190). Many of the perfect market assumptions do not hold in the land market of cities. Most problems are not "partial"; there are very strong interlinkages throughout the land market. But public policy tends to concentrate on particular or marginal questions (e.g. housing for the poor or native people, urban renewal, rent control) rather than engaging in a comprehensive analysis which attempts to embrace all the interacting enterprises in the city (Broadbent 1977, Harvey 1972, Dennis and Fish 1972).

Conventional theory of land value can predict the pattern of residential location commonly observed in cities: socio-economic segregation (high and low-income areas), gentrification of the urban core, etc. It also shows how high-income, high-profit activities will force out less profitable activities from the city centre. While the theory is obsessed with satisfying consumer demand, it does not clarify who are the consumers or how their demand manifests itself. Nor does the fact that existing patterns can be predicted prove that the market is actually working (Broadbent 1977:202).

Recent research (Broadbent, 1977, Harvey 1972, 1979, Berry 1979, and Darin Drabkin 1977) points to the necessity for more powerful intervention in the workings of the urban marketplace in the form of state planning and public ownership of land to overcome the classic separation between planning and power. This has been accomplished in many western European countries, the leading example being Sweden.

The unique planning context in Whitehorse sets it apart from most Canadian cities. In most communities in North America the "guiding hand" of prices in a land market effectively sorts out the different uses to which the land is put. In Whitehorse, however, where all developable land is in public ownership, urban planning plays a more active role in shaping the form of the city. The opportunity exists there for urban planning to be future-oriented and comprehensive. While the impetus for overall growth does come from the marketplace (the economy at large and the private demand and supply of housing); the government decides when, where and under what form development should take place.

The relationship of land development and land value has an entirely different meaning in Whitehorse as compared to most southern Canadian cities. Unlike places where a land market is present, where land has use value and exchange value, in Whitehorse land has only use value. In the south the use of each land parcel is determined by the urban land market. All land is viewed as being in the market competing for the consumer's money, and decisions to buy or sell are prompted by the opportunities for maximizing return from a transaction in the market. Urban land is considered to have value because of its potential to produce income in the future. The market value of land varies according to the functional type of the area, its location in the overall pattern of land uses, its accessibility and many other factors. In

Whitehorse the territorial government sells residential land at the cost of development taking into consideration only use value not exchange value. The potential use value of land in a northern settlement is determined by the level of services provided. The price of land is not determined by what people are willing or able to pay. Only after the developed land is sold and built on will the land acquire some exchange value. At the development stage, when decisions are made concerning location, quantity of land and type of development, land value does not play the role it does in the south.

Public ownership of developable land in Whitehorse creates the conditions for comprehensive planning and development according to long range utility and continuity. The government has the power to disregard entirely the exchange value of land as the determining factor in land development. But what are those principles which direct development in the absence of a land market and an exchange value for land?

There is a lack of research into both the urban history of Whitehorse and public involvement in the land development process. The land use history of Whitehorse will help fill this gap. Such urban studies are still very few and were virtually nonexistent in Canada fifteen years ago (Spurr 1976:315). There is still a lack of knowledge of how to allocate land without the market mechanism (Darin Drabkin 1977:306). There are also unanswered questions concerning the quality and quantity of public involvement or intervention in the land market. Should the role of the public authorities be limited to regulation or should they be given the power to take the initiative in influencing future urban growth through direct intervention in the land market?

Authors dealing with the urban history of Whitehorse are: Ridge (1953), Denis (1955) Lotz (1961, 1965), Koroscil (1971, 1978), and Duerden (1978). Lotz

(1961) also provided the first detailed description and analysis of the city from a planner's point of view. His research and analysis provided base material for the first Whitehorse Metropolitan Plan in 1963 and his discussion of the squatter situation in the 1950's and 1960's is a valuable contribution to squatter literature. Lotz points to the interdependence of urban growth, urban planning, political decision making and housing.

While those studies contain much useful information, they were not designed with a land and housing focus. All of them concentrate on the 1950's and 1960's, leaving the significant growth of the 1970's undocumented. None of them deals with the borrowed town planning concepts and their adaptation to the local and northern environment. With the exception of Lotz none deals with the native component of the population. There is no urban literature focusing on the relationship between the apparent abundance of "cheap land" and native land rights.

Regarding public land development on public land the Canadian literature is even more scarce. None of the above literature directs us to the unique position of the territorial and federal government and their potential to manage growth and control the development process.

### *Lines of inquiry*

In the Whitehorse context, planning has teeth. The state's involvement in urban planning in the form of land ownership and public development gives it power to implement development for constructive, fundamental change. In most cities, it is the land market which sets the guidelines for private development. With all the shortcomings of that process and its results a better understanding is required of how public land development works and what are its guiding principles. There are needs to be

addressed, different socio-economic groups to serve and public resources to be used in the best way possible to balance conflicting claims on scarce resources. The availability of abundant, cheap land does away with the traditional scarcities imposed by the land market. But is it possible that planning and development have encountered other problems without the land market's limiting framework? There are essential considerations to keep in mind such as the relationship of land use to infrastructure and housing costs. And in spite of the vast amount of seemingly unused Yukon land the claims of the native people and of Canadian society in general must be taken into account before land and money are generously allocated to the small number of people who populate Whitehorse or the Yukon.

Let us restate the above in the form of questions which will focus the study and lead to its conclusions:

1. What factors determined the direction and form of residential growth? What are the principles which direct development in the absence of the land market? Is the availability of cheap land an obstacle to the principles of planning in a traditional sense?
2. Who are the actors ( e.g. different levels of government, institutions, native people, and public at large) who participated and made decisions regarding the direction of growth?
3. In formulating an urban growth policy, was there a conscious collective effort on the part of the three levels of government to foster urban growth in the spirit of the basic need for a city to be economically built and managed? Is energy efficiency seen as a problem of urban design? Was

there any concern with the question of who bears the costs of urban growth?

4. How were the changes which occurred as a consequence of economic development, availability of resources or native land claims dealt with? How did such changes affect housing ?

5. Were the housing needs of all socio-economic groups addressed?

Apart from searching for the principles which guide development in the absence of a land market, I also looked at the consequences of government involvement in the development of residential land. This was done in the light of the above questions, especially regarding housing affordability, energy efficiency and the economics of servicing land.

### *Methodology and sources*

The work is one of observation and historical documentation and analysis. It could permit a normative interpretation regarding evaluation of land and housing policy for northern cities and an appropriate land planning process for the north. The major objectives of the work have relevance for both northern and other small towns.

Data with direct relevance to the research topic was acquired from the Whitehorse city plans, regional plans, consultant reports (on water, sewage, and public transit), unpublished internal government documents and 30 years of local newspapers. During the three field periods (June 1980, March 1981, April 1983), while housed by local residents, I divided my time between archival research and meeting people who occupy or have in the past occupied



key positions. These meetings included informal interviews with politicians (city councillors, mayor, ministers), heads of government departments, planners, city engineers, people responsible for native welfare and social housing, contractors, builders, and many local residents. Most of the archival research was done in the Yukon Archives which is a depository for both city and territorial government records. The primary sources include census data, local government finance data, annual reports, minutes, city records, territorial government records, newspapers and oral interviews. They are listed at the end of each chapter. Inevitable shortcomings and inaccuracy of data are discussed also in the relevant chapter or in the Notes and References section.

The study used a large number of secondary sources, notably concerning economic development in the Yukon, quality of life in resource frontier settlements including Whitehorse, native land rights and native land claims.

Finally there is a large body of interdisciplinary literature which is not quoted anywhere in the thesis but which influenced my thinking. This literature refers to the concept of public land (e.g. Brody 1981, Clawson 1962, 1972, Lester 1982) and the acculturation and assimilation of North American Indians (Nagler 1967, Honigmann 1965, Cruikshank 1978, Hawthorn 1967, Graham 1979).

The study is not built on a premeditated theory or ideology. To fit the study into a certain ideological mold and interpret events from a certain point of view or to prove a certain theory is not the purpose of this work. However as facts and analysis warranted, references have been made to a number of theories including the influential work of Harvey (1972, 1979), Bettison (1975) and Broadbent (1977) who focused on the interface of town planning, economic theory and the role of the state.

The thesis is divided into five chapters. The first two provide the background and framework for chapters 3, 4 and 5. The discussion about land begins in chapter 1 "Public land and initiatives in urban development" with the presentation of two topics of background information. The first concerns the origin and meaning of public lands in North America, tracing the evolution of the public land concept, land ownership, administration and management and native rights and claims in the Yukon. This puts in perspective the further analysis of the responsibility of the state for managing public lands and the identification of actual and potential contemporary areas of conflict over land use in the Yukon. The second topic is the different forms of control in the land development process, from indicative planning to public land ownership and development. Public involvement on the Canadian resource frontier is discussed in detail since this is the whole of which Whitehorse is a part. The chapter ends with the presentation of the Whitehorse case, its specificity and the opportunities it offers for research, and it concludes by identifying contemporary land use issues in the Yukon and some obstacles in the way of their resolution.

Chapter 2 "The local framework for housing development" serves as a background and context for the chapters that follow. It places emphasis on the identification of local conditions and needs which may require special attention. The chapter concentrates on the physical environmental constraints, the pressures of cyclical regional economic growth, the range of demands of the population of Whitehorse and the local expression of housing demand. We then move to the core of the analysis, chapters 3, 4 and 5.

Chapter 3 "Residential planning and development", by describing and analyzing the stages of residential growth of the city, searches for the principles which have guided its development. The chapter has two parts. The

first is more general dealing with overall growth and the role of the different levels of government. The second part is a description of residential areas from a land use point of view. It looks at the principles of land development at work. It also looks at the origins of the residential areas, their reason for existence and the physical changes which have occurred within their boundaries as a response to socio-economic changes. Regarding the above the following questions are asked:

1. In what ways is urban growth dependent on land development policies of the federal and territorial governments? Who are the actors, the interest groups, the decision makers? Who plans? In what ways are demands and consumer preferences expressed? What are the social and economic divisions and forces that have resulted in present day Whitehorse? Why have so many planning recommendations been shelved?
2. To what extent have government planners exercised their power and potential to regulate development? What were their prime goals? What were their limitations? Since the public interest as represented by the different levels of government is not the same, and problems arise when local interests diverge from the interests of a broader public or another level of government, how were these problems of conflicting interest in land dealt with?

Chapter 4 "Instruments of planning and implications for municipal finance" has two parts as well. The first is an evaluation of planning policy. Its line of inquiry will encompass residential land development in Whitehorse from the viewpoint of planning theory and history. The second part is an

analysis of the relationship between municipal finance and land use. The questions raised are:

1. During the past 75 years, North American urban planning has dealt mainly with privately owned land. From the available planning practices in North America, what features were suitable, adaptable and acceptable in the quite different context of Whitehorse?
2. Given the distinctive local climate, topography and socio-economic conditions should we expect differences in residential subdivision planning and in housing type and design?
3. What planning concepts have emerged from local experience?
4. What is the relationship between municipal spending, land-related services and land use in Whitehorse?

Chapter 5 "The housing process and residential land use" deals with the Whitehorse housing market and its deficiencies, the history of government involvement in the housing market, and the implications of the land development process for the housing process. These questions will be considered:

1. Most housing in Whitehorse is privately built by individuals or small-scale contractors. How has the public control of land affected the types of housing supplied, house prices and spatial distribution of housing?

2. How does the transfer of partially developed land from public to private ownership affect the structure and form of the residential subdivision, the density of development and patterns of use ?
3. What are the contemporary housing problems and their causes in Whitehorse?

The conclusions are organized in three sections around the major arguments and lines of inquiry. The first deals in the light of certain expectations with the principles which have guided urban growth in Whitehorse. The second part concentrates on the consequences on housing and urban growth of government involvement in the land development process. The third part discusses the findings regarding the limitations of public involvement in land development, planning and housing.

## CHAPTER 1

### PUBLIC LAND AND INITIATIVES IN URBAN DEVELOPMENT

In the North the existence of a vast amount of federal and territorial land, apparently unused, suggests availability of land for urban expansion, but it will be shown that there are definite reasons why the city should not expand in an indiscriminate way. This apparent availability is controversial. While conventional, predominantly-white residential subdivisions and cottage lands in the wilderness get developed easily, native people of the area anxiously await their land claim settlement. Their frustration with the political-economic system grows with each piece of land developed, used or sold outside of native interest. The transition of land to urban use raises problems related to equity, municipal service efficiency and local and national politics. The existence of three levels of government, with multiple actors and different goals generates contradictions in policy.

The purpose of the first part of this chapter is to present the evolution of the public land concept in a historical context. To analyze the patterns of urban growth in a situation where all developable land is in public ownership it is necessary to develop an understanding of the origin of this land and of the state's responsibility for its use. By looking at the public lands policy in Canada, the administration of public lands in the Yukon, the native land claim settlement, land use management, land use planning, and the current status of settlement development in the Yukon, an

attempt was made to identify land use problems and conflict areas. While full of controversy, Whitehorse has been a unique constructive experience of government initiative over the last 35 years.

The second part of the chapter is an attempt to discuss the degrees and kinds of public initiatives in the development of urban land. This discussion will concentrate on some of the options experienced in Canada and focus on the case of Whitehorse as a representative of the Canadian north. In describing state involvement in local development we will not attempt to measure its success against some previously formulated standard. What is attempted here is an identification of goals, objectives and forms as they emerged. This background material is necessary for the understanding of the origins of public lands, their purposes the responsibility of the state for managing public lands, and areas of conflict -- political, administrative, physical and moral -- over land use in the Yukon.

There are two large categories of public lands in North America: the "public domain" and "crucial interest lands". (1) Before the massive transfer of most land to private ownership, the North American land resource belonged to the "Dominion Lands" in Canada and the "Public Domain" in the United States. These lands still constitute a vast supply of land. Lands under the administration of the federal government account for 40% of Canada's total area. Provincial crown lands comprise 50% and privately owned lands only 10% of the nation's area. The Yukon and Northwest Territories contain 97% of the federal lands. (2) Other public lands have been created in response to specific demands such as roads, schools, civic parks and public housing areas. These lands were purchased by the state in order to serve a needed public function not provided by a market-directed urban economy. This need, especially in and around urban centres, came along with the realization that

corrective measures in the public interest need public ownership of "crucial interest lands".

### The origin and meaning of public lands in North America

Land history in the United States and Canada is similar in many respects. European colonists took possession of the land, displacing the natives who had occupied it for some thousands of years, pushing them westward and assigning them to reserves (in Canada, reservations in United States) generally consisting of less valuable land (Clawson 1973: 452). The exception to this process was the Canadian north (Yukon Territory, Northwest Territories, Northern Quebec and Labrador) and Alaska. The Canadian north, as a peripheral zone, was an unofficial reserve area, and is the last major frontier of public land and native resistance.

Each country claimed ownership of the land its citizens or mercenaries discovered and explored. At one-time or another, all the land has belonged in the proprietary as well as the jurisdictional sense to government. These were the original public lands. Both in the United States and Canada much of the public land was then disposed of by the state to private owners, colonizers, farmers, lumbermen, miners, railroads, corporations and others. The process of establishing ownership of land whether for the sovereign or an individual rested on the English and European assumption that discovery or settlement gave possession. In the "empty" places of the world Spaniards, Frenchmen, Englishmen and later Americans performed the rites of land taking for king or



sovereign (Carlsteinsen 1968). Both the United States and Canada began with provinces upon the Atlantic seaboard with rapidly expanding frontiers reaching the Pacific.

In one respect the Canadian federation had the simpler task, for under the administration of the Hudson Bay's Company the whole vast territory west of the Hudson Bay to the Pacific has been British since 1610 when it was claimed for King James of England (Martin 1973). In the United States a series of purchases was supplemented by conquest and annexations. Common to both countries were many technical features of administration and settlement.

### *Public lands in the United States*

By 1867 through treaties (purchases or postwar settlements), all of the land area that was to become the "48 states" had been acquired from other nations such as Spain and France. At the time of the European discovery of the Americas virtually all of the land had belonged to several hundred tribes and bands of American Indians numbering about a million people. The land was not individually owned. Land belonged to bands or tribes with identifiable boundaries between them, but ownership was shared by all members of the group (Arnold 1976, Lester 1977). In the eyes of English settlers, accustomed to paper transactions and family or individual ownership, Indians did not "own" the land. However their use of land was acknowledged and lands ceded to colonists were almost invariably "purchased" from the tribes who used them. The concept of aboriginal or Indian title was developed to distinguish

between the land title of the English system and land ownership among American Indians. Aboriginal or Indian title is founded on use and occupancy since ancient times (Cumming 1973:87)

When Indian groups ceded and surrendered land to the government by treaty Indian title to it was said to be extinguished. Ownership was transferred to the government. It became part of the public domain, available for sale or other disposition under laws adopted by the United States Congress. In accordance with the colonists' strong belief in putting the land to "higher use", Indians were dispossessed of their lands. During the years from 1830 to 1890 acquisition of Indian land developed into formal policy. Indians were forced to cede part of their lands to the government in exchange for modest annual payments. That part of their land which they did not give up was reserved for their exclusive use and occupancy as a "reservation". This land they could not sell or otherwise dispose of; it was held "in trust" by the government, and any action relating to it was subject to government control. The end of the treaty making in 1871 did not halt alienation of Indian land. Various government actions forced Indian tribes to live upon smaller and smaller tracts of land reserved for their use (Arnold 1976: 55).

Once Indian title was extinguished (by means of treaties) the public domain was surveyed and partially disposed of. Land settlement between 1850 and 1900 reached vast proportions. The number of American farmers increased from 1,449,000 to 5,737,000 (Carstensen 1968). Huge land grants to railroad companies were allocated between 1850 and 1873, 150,000,000 acres in the form of railway land grants, about one-tenth of the nation's public domain. Both the land grant acts and the land settlement acts were directed towards economic development. Nearly all land physically suited and in economic demand for farming, manufacturing, trade and urban residential use passed to

private ownership and use. The wholesale land disposal had run its course by the end of the 19th century, marking the end of an era and the "closing of a geographical frontier".

The geographical frontier of North America expanded in response to waves of economic demand for land. Each wave concentrated on the extraction of raw materials such as fur, grain, minerals, oil and gas. These staples were and some of them still are important elements of foreign market demands. From the middle of the 17th century right up into the 20th century the fur trade was a major cause of the expansion of the frontier. In the second part of the 19th century agricultural use was more important. The 20th century, with its increasing demand for metals and fuels brought with it the expansion of the industrial frontier further north into areas still inhabited predominantly by native groups.

### *Public lands in Alaska*

Alaska has a lot in common with the Yukon Territory. Until the end of the nineteenth century there was little interference with traditional uses of the lands and waters. Therefore, until contemporary times, there had not been extinguishment of aboriginal or Indian title either in Alaska or the Yukon.

The discovery of Alaska by a Russian expedition in 1741 led in 1766 to claims of ownership by Russia. Then after a century of exploitation with only limited settlement, Russia sold what it called its possessions in America to the United States in 1867. With the cession of Alaska to the United States

all of its lands and waters became public domain, land held and controlled by the federal government. While there were no treaties and no extinguishment of aboriginal title, there was little in the laws to protect lands in native use and their resources.

The first land law for Alaska (Organic Act 1884) provided specific protection for lands claimed by miners and lands used by missionaries but gave only promises of continued use and occupancy of lands to holders of aboriginal rights. The law denied natives the opportunity to obtain title to their lands under the white man's system of title recognition. It provided the legal means for miners to deprive natives of their land and their resources.

From that first land law, encroachments upon the lives and lands of native people multiplied with the passage of time. While title was not extinguished, aboriginal land rights were ignored by American citizens and others. By 1900 the white population numbered 34,000 and the native population of 29,556 had become a minority. It is significant to note the impressive growth of the white population from 430 in 1880 to 250,461 in 1970, when the native population had grown only to 51,712 (Arnold 1976: 71).

Encroachments upon the lives and lands of the native population included the salmon industry and commercial hunting of sea mammals. The gold rush shared by Alaska and the Yukon at the end of the nineteenth century offered little to the native population but destroyed their food supplies, ~~altered~~ their environment and changed their standards and means of living. Apart from the fact that they could not take part in the bonanza because mining claims could lawfully be staked only by citizens (status natives did not have citizenship until 1960), for the natives the gold stampede meant a drastic reduction in moose, caribou and small game as prospectors hunted those animals for their food supply.

As more and more non-natives settled in Alaska, the preservation from other uses of the lands the natives were using from other uses became a major problem. Preservation of large areas for the use and occupancy of Alaska natives became possible in 1936 with the extension of the Indian Reorganization Act to Alaska, to curb the loss of Indian lands and to restore lands already lost. These reservations had a different meaning from those established in the United States during the treaty making. In the case of Alaska the reservation meant a true protection of an ancestral hunting, trapping and fishing ground against the large influx of white population building the defence system associated with the Second World War and the Cold War of the 1950's and 1960's. By the time Alaska was admitted as a state in 1959, Alaska natives made up only about one-fifth of the state's population. By 1960 the protest was mounting against the continuous transfer of native land to others. Native protest coincided with a growing recognition and a desire among political leaders in the state to solve the problem of native claims.

The 1960's brought with them new threats to land rights, among them atomic explosive experiments, limitations imposed upon hunting and state land selections. The Alaska Statehood Act (1959) authorized the new state government to select and obtain title to 103 million acres of land (about 25% of Alaska) from the public domain. In 1966, one of the principal recommendations of the Alaska Federation of Natives was realized. The Secretary of the Interior of the United States stopped the transfer of land claimed by natives until Congress could act upon the claims. What began in 1961 as an effort by natives to preserve their land rights was to be concluded with the Alaska Native Claims Settlement Act by the United States Congress in 1971. Through the Alaska land settlement native peoples received a

legislative settlement whereby they retained 40 million acres of land (about 10% of Alaska) and were to receive money as compensation for the taking of the remainder. The Alaska Native Claims Settlement Act (December 18, 1971) provides for selection of "national interest lands" and classification of others on behalf of the public. It provides a means for assuming rights of limited access for the public across native lands. It requires village corporations to convey some of their land to municipalities for growth and expansion. The passage of the act allowed the State of Alaska to resume the selection of land which had been halted by the land freeze. (Arnold 1976:272-275).

### *Public lands in Canada*

Canada achieved sovereignty in 1867. By the British North America Act, its constitutional document, four British colonies of North America, -- Nova Scotia, New Brunswick, and Lower and Upper Canada, presently named Quebec and Ontario -- united federally forming a new union. The act of confederation also provided for the entry into the union of the rest of British North America. At that time, the vast territory named Rupert's Land until 1870 and the then North-Western Territory comprising the Hudson's Bay drainage basin and most of the Arctic drainage basin was unappropriated Crown land. For this vast amount of territory exclusive rights of trade had been granted to the Hudson's Bay Company in 1670. In 1868 through the Rupert's Land Act, two centuries of Hudson's Bay Company rule came to an end (Martin 1973). In 1870,

these lands were transferred to the newly formed Canadian Confederation called the Dominion of Canada, a subordinate and allied kingdom of the British Crown. Parts of Rupert's Land became the province of Manitoba, while the rest of the northwest was made a territory (North-West Territory), in which the federal government had full control.

British Columbia entered confederation in 1871 and Prince Edward Island joined in 1873. In 1880 the British government by Order-in-Council transferred to Canada jurisdiction over the Arctic Archipelago. With that the territorial expansion of the Dominion was complete until the entrance of Newfoundland in 1949 (Zaslow 1971; Nicholson 1979).

Between 1872 and 1930, the Dominion Lands Act was the statutory means by which public land in the present Yukon, Northwest Territories and the three prairie provinces was administered by the federal government. In 1930, Manitoba, Saskatchewan and Alberta assumed control and management of their own land and natural resources. The Yukon and the Northwest Territories remained a federal responsibility. Yukon Territory was created in 1898 in response to the special administrative and control needs of a gold mining region (Beauchamp 1976: 3-5). The present geographical boundaries of the Northwest Territories were assumed only in 1927, following the extension of the territorial boundaries of Manitoba, Ontario and Quebec northward to the shores of the Hudson Bay.

## *Dominion lands policy*

The two principal objectives of the Dominion of Canada in its land policy between 1870 and 1930 were the settlement of the land and the building of railways linking the Atlantic with the Pacific coast. Both served to prevent the United States from getting a foothold in western and northwestern Canada. During that period the Dominion disposed of the best agricultural lands of Western Canada. More than 88 % of the surveyed area of the Prairie provinces had passed from government administration into private ownership. The bulk of the federal lands were alienated under the railway land grant system (1872-1908) and the free-homestead system (1870-1919) (Martin 1973: 238). The transcontinental railway was built from the proceeds of the Crown lands. During this period the settlement of western Canada and its integration into Canada was the ultimate goal of federal land policy. The primary function of the Dominion Lands Act of 1872 was to provide a legal administrative mechanism for settling and developing the West's agricultural land (Martin 1973).

Dominion lands policy between 1870 and 1930 was not geared to the management of non-agricultural or marginal lands. That policy was not drafted with the Canadian north in mind. In fact, northern land use patterns changed little during the first two decades following the acquisition by Canada of Rupert's Land and the establishment of the North-West Territory. While human occupation in the north has a history of at least 25,000 years, land use activities outside of native interest were not introduced until the discovery of gold in 1896. Since then, however, the north has been the site of a wide range of new activities including mining, oil and gas production, railroads,



pipelines, agriculture and forestry. The first applications to purchase land in Canada north of 60° were associated with the influx of miners into the Yukon in the 1880's (Naysmith 1977: 47).

By the 1890's the needs of the miners, merchants and trading companies, the church through its missionaries, and the government as represented by the Northwest Mounted Police added to the demand for land for settlement and created conflicts. Miners' settlements displaced fishing camps, and the traditional hunting and fishing grounds of several Indian bands in the Yukon River valley were encroached upon.

Due to the gold mining, it became necessary to establish the Yukon District of the Northwest Territories on October 2, 1895. Regulations enacted for the administration and control of the Yukon District were directed toward encouraging mining. Forms of land use at that time included mining, settlement and railroad rights of way (The White Pass and Yukon Route and the Klondike Mines Railway) (Naysmith 1977: 56).

The twentieth century has been notable for a reversal of the direction of the public policy regarding land. Increasing recognition of the finiteness of the land resource and of the interrelatedness of land uses has led to increasing support for public land ownership or public control of land use.

### *Native land rights in the Yukon*

Various acts and treaties of colonial, provincial and national governments going back as far as the 1700's recognized that native people, as

the aboriginal residents of the land, had certain types of rights in relation to that land. In the years following Confederation, this recognition was reflected in the new Dominion government's policy of entering into agreements (with Indian people in the Hudson's Bay Company territories, Rupert's land and the North Western Territories. Between 1871 and 1921 eleven treaties were signed in what is now northern Ontario, Manitoba, Alberta, Saskatchewan, the northeastern part of British Columbia and parts of the the Northwest and Yukon Territories. These agreements transferred native title to land to the Crown (Federal government). After the signing of Treaty No. 11 in 1921 however, attention turned away from the question of dealing with the native interest in the land, as all the areas that had been needed for settlement or development had been secured. The lands that remained were not immediately needed. Treaty making stopped because all the agriculturally attractive land had been taken over by the federal government. Indians living in areas not suitable for agriculture such as northern Quebec, the Yukon, most of British Columbia and the Northwest Territories did not sign treaties with the federal government.

As mining, settlement, roads, railways, pipelines and prospecting advanced, native people in the areas not covered by treaties began to feel the pressure of non-native settlement and development on lands to which they previously had exclusive use in practice. The numerous mineral claims staked, the oil and gas leases given to the oil companies, and the leasing of large tracts of land for grazing during the 1960's disturbed the Indians of the Yukon, who felt that a land settlement had to be achieved immediately. The above activities on public land went on without meaningful planning. Events have controlled government decision-making (Cumming 1973: 219). With the federal government totally committed to development, development interests were

given unlimited access (Rees 1979). Over the years the differences between native people, industry and the government have grown.

Decisive factors in the contemporary land claim settlement process were the federal government's White Paper "Statement on Indian Policy" of 1969 and the Nishga Indians case of 1968-1973. In its White Paper the federal government in a dramatic departure from Canadian history and law, took the formal position that aboriginal rights, apart from treaty rights, would no longer be recognized. The Nishga tribe of British Columbia was instrumental in bringing the government of Canada to recognize aboriginal rights. The tribe sued the British Columbia government, demanding a recognition of aboriginal rights to certain lands. The Nishga lost the case, but only on a legal technicality. The positive result was the general opinion that the Nishga did still have some claim to the land [1]. This case opened the way toward actual negotiations to determine out what these claims are, and how they are to be settled. By the middle of 1973 the government agreed to negotiate a settlement of claims.

In February 1973, the Yukon Native Brotherhood presented its land claims position paper to the federal government [2]. The Yukon position paper entitled "Together today for our children tomorrow" contains the principles desired by the Brotherhood for a just settlement. The Brotherhood's pledge coincided with the federal readiness to start negotiations with native people who could historically and legally support their claim. The cornerstone of the settlement is land, but the position paper contains no suggestion about the quantity of land or the amount of money for compensation. The Indians of the Yukon want to own land, and to control and develop that land for the benefit of the people living on it. Their domestic economy, historical experience and sense of identity are focused on the land and its resources.

The position paper proposed that the land selected by the Indian people be held by the Queen in perpetuity for both present and future use. Lands were claimed for Indian burial grounds and cemeteries, historical and traditional village sites, location of centers of population and municipal services, economic development purposes, and sites for fish camps, trapping and hunting cabins. Indian representation was requested on all agencies for land development or control in the Yukon.

While in "pre-contact" times aboriginal hunters' and gatherers' conception of land and space came from the aboriginal's lifestyle -- their identification with land rather than ownership of land (Moore 1979:55), socio-economic change including economic development which by and large bypassed native people precipitated a change in the native perception of land. The more associational and symbolic meanings of space and land changed to a more concrete, personal, functional and physical meaning, meeting the European outlook on a common ground.

The negotiating process started almost immediately after the position paper was presented and is still going on. The comprehensive claims based on "aboriginal interest" or "native title" are being translated into concrete and specific lasting benefits.

Consensus was reached on a number of issues, such as eligibility for benefits and guidelines for establishing Indian corporate structures. The more fundamental issues of land quantities, tenure and Indian political structures have not yet been broached[3].

Measures to speed up and respect the negotiation process were not as spectacular as the land freeze instituted in Alaska before the native claims there were settled. In 1973, the Yukon Native Brotherhood position paper asked for a temporary land freeze on all unoccupied, unalienated Crown lands

to allow enough time for selection, survey and transfer of control. Some critics felt (Cumming 1973: 217) that there should have been a temporary freeze upon all exploration and development until comprehensive planning could be undertaken with respect to all facets of northern land use, not only native land rights but also ecological policy, game preserves and national parks. In March 1975, a partial land freeze was instituted; the federal government gave permission for alienation of certain lands on a temporary basis[4]. The beginning of the land claim negotiation process coincided with increased exploration and the revival of Canada's sovereignty issue over the north, both supporting northern development. All government effort was placed on primary extraction activities without social programs and economic infrastructure (Rees 1979). While the requirements for balanced growth including social development and protection of the natural environment have been clearly stated by the federal government, the record is one of promoting economic growth as rapidly as possible whenever the opportunity arises. (Rees 1979).

"The perceived value of northern lands in the view of the government is for exploration by way of resource extraction. Thus land use is seen by the government as exploration and development"

Wrote Cumming in 1973 (1973:217).

Although urban settlements were still few and small in the North by 1970, there was pressure for transferring land for urban development, and until the mid-1970's there was little respect for native title[cf. reference 3]. In 1970 the federal government introduced a policy of transferring federal lands in and around communities in the Yukon and Northwest Territories to the administration and control of the territorial governments (Beauchamp 1976: 9). The Block Land Transfer (BLT) program was designed in 1970 to

enable the territorial governments to plan and control the development and growth of their communities. While lands utilized by native peoples for hunting, trapping and fishing or those identified with other traditional values were excluded from the program, the BLT policy elicited strong Indian opposition to the program because of transfers taking place in advance of land selection under land claims agreements[5].

Due to Indian opposition, in 1975 the BLT program was suspended and in 1978 a new interim federal land transfer policy was instituted restricting transfers to built-up areas and to vacant lands required to meet immediate community expansion and development needs only[6]. The interim federal land transfer policy will remain in effect pending further developments in land claim settlements and constitutional evolution (Redpath 1979: 101).

However the Yukon Territorial Government (YTG) is firm in its demand for more federal block land transfers[7]. The Council of Yukon Indians (CYI), determined to coexist with the large non-native community, developed an understanding for the territorial government's land demand. The CYI accepts the principle of further federal land transfers subject to two qualifications: (1) the establishment and implementation of a planning process to plan these lands before they pass into private ownership, and (2) the immediate transfer to Indian people of all lands as they are selected and agreed to in the land-claim negotiations[8].

## *Administration of public lands in the Yukon*

Public lands in the territories are under the control and management of the Government of Canada by virtue of the Territorial Lands Act, 1950 as amended. Very little land is owned privately (approximately 0.03%). (This is also the case in the Northwest Territories, but contrasts dramatically with the provinces.) The federal government however has issued surface and subsurface leases for extensive areas, 21,496 ha or 53,117 acres (Redpath 1979: 18.) While the provinces have both proprietary and legislative rights over the land and resources ~~within their borders~~, these powers remained with the federal government in the Yukon and Northwest Territories.

Prior to the enactment of the Territorial Lands Act, the Dominion Lands Act of 1872 was the statutory vehicle by which federal lands were administered. The Dominion Lands Act was for 78 years the legislative base for a land policy which included homesteading, the purchase of agricultural land and railway grants. But by 1950 it was largely inappropriate for administering the residual "Dominion Lands" to the north. It was replaced by the Territorial Lands Act. The new act applied to all lands in the Northwest Territories and the Yukon Territories which were vested in the Crown and under the control, management and administration of the Minister of Resources and Development. The original Territorial Lands Act of 1950 was amended in 1970 authorizing the governor in council to protect the ecological balance or physical characteristics of any area and to set apart and appropriate any territorial lands as a land management zone. This amendment pointed to a marked change in government land use policy. Land was not only a commodity; land had to be protected.

In 1970 the Department of Indian Affairs and Northern Development (DIAND) has been given responsibility for control and management over vacant Crown land which is 95.7% of the land in the Yukon (Beauchamp 1976).

Federal Crown land is made available to individuals under lease; lease agreements (with option to purchase) or sale agreement. In the absence of comprehensive plans specifying the most appropriate land use, during the 1970's the trend was to make land available on a lease only basis [9]. The majority of applications for land in Yukon are for primary residential, recreational residential, commercial and agricultural (market gardening, crops, grazing) use. Under the Territorial Lands Act, land may also be set aside for purposes of the DIAND's Indian and Inuit Affairs program and for any purpose considered to be for the general good of the native people, such as for housing, cemeteries, schools, camping and fishing sites [10]. It is set aside in the form of a "map reservation".

The Yukon territorial government is responsible for the control, management and administration of an estimated 0.2% of Yukon land located primarily around established communities. Only since 1954 have the territorial governments been given administration of certain lands for limited purposes [11]. These were lands acquired with territorial funds after 1954, and public lands the administration of which has been transferred by the Governor-in-Council to the Commissioner, (Commissioner's land) and lands acquired by the Commissioner pursuant to tax sale proceedings. These lands were situated primarily in and around communities, and they include roads, streets, lanes and trails. The interest in lands given over to the control of the Commissioner is something less than a fee simple interest. The territorial government has the right to administer the surface uses only. Under



territorial ordinances, the local government may then sell, lease, or otherwise dispose of the surface rights in those lands.

Beside the federally and territorially administered land there is another category of land, known as Development Control Zones [12]. It is federal land to be transferred to territorial jurisdiction. In these areas the territorial government is given land management authority with the distinction that title must still issue from the federal government (Beauchamp 1976: 8). This land transfer scheme is an implementation of some of the recommendations of the Advisory Commission on the Development of Government in the Northwest Territories, which in 1966 suggested increasing the authority of the territorial government over local community development (Beauchamp 1976).

The land transfer policy was introduced on a continuing basis in 1970. While the program started with large Block Land Transfers and it is viewed by the territorial government as a vehicle to increase its autonomy and power, requests for transfers of vacant lands must be supported by a statement of requirement, community growth, projections and preliminary development plans for the parcels needed. Each transfer proposal is subject to the approval of the Claims Policy Committee and is to be put in effect by an Order-in-Council.

Speculation is strictly controlled. The parcel size is permitted for lots no larger than is reasonable for the stated purpose. The review process is very complex and is carefully designed to avoid conflicting uses and to channel acquisition and long term leases into designated areas. Title is not granted until improvements, as specified in the agreements, have been completed.

The territorial government develops residential lands in municipalities and communities in four categories: house lots, mobile home lots, multiple family dwelling lots and acreage residential lots (1-5 acres).

The transfer of residential land to private property inside organized communities is restricted to residential subdivisions which have been surveyed, planned and partially developed. Lots are sold at the cost of development, and agreements for sale are not transferable. Multiple family dwelling lots are sold on a bid basis (Redpath 1979: 70-75).

### *Land use management*

The only piece of legislation concerned with protecting the environment is the Territorial Land Use Regulations in effect since 1971. The regulations constitute a system of land use controls; they are not a management scheme which would involve a pre-selection and allocation of specific lands to appropriate uses. Such a management scheme does not exist to date (1983) for the north (Usher 1973; Beauchamp 1976; Naysmith 1977; Rees 1979; Joly 1982). While the protection of the environment via land use controls was new and commendable, the Territorial Regulations have not been fully effective. Usher (1973), who evaluated the regulations, made two major criticisms: (a) The regulations are limited in scope, were not devised as a controlling mechanism in advance of development, do not constrain the use of a given tract of land, and that decisions were made in favour of the developer and northern development; (b) The history of the regulations indicates refusal to involve particular native communities in even the minimal machinery of land use management. Beauchamp's findings (1976) were similar: that the land use policies of the 1960's and 1970's were dominated by the orientation to mineral exploration and development. In Dickinson's view (1979: 253) economic profit has been the only criterion by which proposals concerning resource use have been judged. While the territorial land use regulations were drafted with an admitted "reasonably aggressive policy of encouraging

development in the north", the people of the Yukon did not think it was aggressive enough.° They manifested concern that land use regulations could slow down development [13].

While the Land-Use Regulations are beneficial in regulating some operations in some parts of the territories they cannot form the basis for a planning or management scheme since they do not cover all types of lands and do not provide for allocation to various uses (Beauchamp 1976: 37). The Land-Use Regulations were revised in 1977 but are still limited in many respects (Redpath 1979: 80).

Territorial lands in and around communities are managed under the Commissioner's Land Ordinance and the Municipal Ordinance of the Yukon Territory. The Area Development Ordinance (1971, 1975, 1978) is a piece of legislation which gives the Commissioner some power over all of the land in the territory including federal lands. The Area Development Ordinance gives the Commissioner the power to designate as a development area any area in the territory which he considers should have some control over its development in the public interest with the condition that the designated area has begun development and that there is need for control. Setting aside or managing new development areas is not in the power of the territorial government.

### *Land use planning*

Utilization of northern land has been relatively limited but demand for its use and ownership is increasing. With the increasing demand, differences between potential users have surfaced. Competing uses for northern lands include community development; roads; airstrips, pipeline and communications facilities; hunting; fishing and trapping; private, commercial and public recreation; timber harvesting; agriculture and grazing; mineral,

oil and gas explorations and production; game preserves, bird sanctuaries and ecological reserves. Some of these activities need land for their exclusive use while others can be included in a multi-use category. However there are few and inadequate channels to deal with the emerging problems of competitive land uses. Elements of land use planning are built into the different ordinances and accompanying regulations but they do not add up to a policy or a plan. They are especially deficient as process.

The process which will lead the government to an overall land use plan is hampered by (1) the lack of scientific data regarding the inventory and capabilities of lands and resources (Naysmith 1977), (2) the unsettled native land claims, and (3) other jurisdictional problems such as the constitutional development of the territories. While an overall land use plan is not yet available, partial land use plans (community and regional plans) do exist in most settlements of the Yukon Territory. Federal government work on formulating a comprehensive northern land use policy started in the mid 1970's [14]. Studies of the existing land management process and proposals for a plan have been done by Naysmith (1973, 1977), Beauchamp (1976), and Rees (1979). Naysmith proposes that an effective land use policy should incorporate four principles. a) It should recognize all the inherent physical values and properties of the land base. b) It should take into account the social, cultural and economic values of the land. c) It should insure regional participation in the determination of land management criteria and structures, meaning local residents white and native. d) It should be confirmed by a federal legislative base, so that the regional plan will also recognize inter-regional factors and national interests (Naysmith 1973: 24).

For the present, lack of overall direction has resulted in the development of land use regulations and land management based on federal and

territorial land use programs. Since federal and territorial jurisdictions overlap, the need developed for cooperation between the federal and territorial land programs. The Federal-Territorial Land Advisory Committee (established in 1978) is such a cooperative body. The Committee reviews policy and regulatory proposals, provides a forum for coordination at the regional level of the interests and concerns of the native people, identifies and recommends areas for special management programs. The Committee is only an advisory body; it has no decision-making power. These measures are not considered adequate. A plan based on a comprehensive policy and processes including pre-selection and allocation of specific lands to appropriate uses is needed (Beauchamp 1976). It was also recommended by Beauchamp that because of the lack of experience in land use planning in northern Canada an interim period might be necessary for borrowing and modifying ideas from some of the better programs designed in other jurisdictions such as in the southern United States, Alaska (Alaska Joint Federal - State Land Use Planning Commission) or southern Canada.

The federal government felt that given the vastness of the northern territories, their sparse population and the relatively low level of industrial activity until the early 1970's, the traditional approach to land use management (e.g. regulations to minimize environmental degradation) was adequate. However, in 1981 it was recognized that during the 1970's when, mining and energy initiatives increased dramatically; causing many land use conflicts, the policies and traditions of the past had indeed become outmoded and increasingly inadequate[15]. A federal policy on land use, advance long term land use planning, the formulation of guiding principles and the working out of a land use planning process became one of the major preoccupations of the federal government in the early 1980's[16].

While work is underway on both fronts -- a federal land policy and a territorial land use planning process -- contradictions are being built in.

The Council of Yukon Indians strongly objects to the way in which the federal government is proceeding, since it implies centralized decision-making and Ottawa-dominated planning for the whole north [cf. reference 8]. The Council of Yukon Indians' (CYI) discussion paper on land use planning, environmental assessment and land ownership in the Yukon is closer to the territorial government's proposals, which ask for more local land ownership and more local autonomy. The CYI assumes that fair Indian participation in both the land ownership and autonomy issues will be attained. In the view of the CYI, land use planning and the land use plan should include a statement of purpose and a planning process. The purpose should be to protect the environment in the context of orderly development, and to resolve or minimize use conflicts. In the planning process the Yukon Indian people, together with other Yukoners, should have a meaningful and effective voice in determining their future, in preparation for a development strategy for the Yukon, in establishing planning priorities -- where, when and how to plan each area in the inventory of land, in the examination of land and resource uses. In their view, a land use plan should include a statement of goals and objectives for the area, a mechanism for implementing goals and objectives, an amendment process, and an appeal process. The planning structure recommended by the CYI to function as a part of government is shown in Table 1.1. A key feature is that the suggested "Yukon Land Use Planning Commission", responsible for both planning and implementation, have at least 25% Yukon Indian representation.

Inside Yukon communities, planning is relatively well organized, but immediately outside their boundaries Crown lands have until recently been alienated without guidelines for a variety of private uses. To prevent the

Table 1.1

Proposed planning structure for the Yukon,  
The Council of Yukon Indians, 1982.

RESPONSIBLE MINISTERS

Responsibilities:

- approve and implement a development strategy and final land use plans

Yukon Land Use Planning Commission

Composition:

- at least 25% Yukon Indian representation
- territorial and federal government representation

Responsibilities:

- formulate a development strategy for Yukon
- establish planning priorities within Yukon
- set goals and objectives for identified priority areas
- establish terms of reference for planning within priority areas
- co-ordinate and, where feasible, conduct planning on all rural land within Yukon
- make provision for public participation
- recommend land use plans to the responsible Ministers for each planning area
- monitor plan implementation
- recommend a development strategy to the responsible Ministers.

Source: "Land use planning, environmental assessment and land ownership in Yukon", a discussion paper, 1982, the Council of Yukon Indians, Whitehorse.

continuation of the formation of a dispersed settlement pattern, the federal government along with tightening control of Crown land disposition, has initiated regional planning (1977) in the form of Land Management Planning Projects, whose purpose is to recommend principles and a plan that will meet the anticipated land demands in the Whitehorse and other settled areas

(Redpath 1979). The preparation of the regional plans, a cooperative federal-territorial project, started in 1978 with areas under development pressure, specifically Whitehorse and areas along the Alaska highway. The land management planning projects are implemented under the Area Development Ordinance.

### *Public lands for urban growth in the Yukon Territory*

This section is an introduction to the present administrative and land planning structure which is, of course, the result of a historical process. The main feature is a gradual shift of control and decision making from the federal to the territorial level and to the municipal level. This evolution will be discussed in more detail in Chapters 2 and 3.

There is a lot of political maneuvering between the territorial and municipal governments in order to reach some consensus regarding urban growth. The municipality is mainly concerned with financial aspects which affect its own budget for services, while the territorial government focuses on economic development and political issues. Meanwhile the federal government and the public at large are made to pay for all the learning experience and the consequences of mistakes. We shall see that the Municipal Ordinance of 1980-1984 defining the power of Yukon municipalities gives the territory the upper hand over municipalities in decision making, but insures considerably greater municipal powers than the previous one, from a planning and operating point of view[17].



### *Current status*

The present settlement pattern of the Yukon Territory is the direct result of the construction of the Alaska Highway (1942) and related all-weather roads built in the 1950's and 1960's as part of the Diefenbaker government's program "Roads to Resources". The first modern pattern of settlement rooted in mining activities had followed the principal waterways of the region, the main arteries of transportation. By the early 1970's most of these settlements had been gradually abandoned. With the change in emphasis from mining to a more diversified economy and the centralization of administration, service and communication activities in Whitehorse, about 80% of the present population of the Yukon has now settled along the Alaska Highway in the vicinity of Whitehorse. Since the end of the 1950's the city has emerged as the "central place" of the region.

From an administrative point of view there are four categories of communities: (1) communities with no administrative status or unincorporated communities, (2) local improvement districts, (3) company towns and (4) municipalities. For most settlements of the Yukon, due to their small population (Table 1.2) and very weak tax base, the territorial government (Department of Local Government) handles most tasks handled by municipal councils in southern Canada.

Only three settlements presently have the status of municipalities in the Yukon, one town (Faro) and two cities (Whitehorse and Dawson). Municipalities have the power to levy a general property tax and school tax, and to acquire and dispose of land. They have independent control over many areas of administration including initiation of projects. Municipal services are provided by the municipality, with the territorial government providing financial assistance in the form of grants.

Table 1.2

Yukon communities and their population, 1981

Beaver Creek	90	Haines Junction	366
Carmacks	256	Old Crow	243
Pelly Crossing	182	Teslin	310
Stewart Crossing	20	Watson Lake	748
Dawson City	697	Upper Liard	130
Burwash Landing	73	Whitehorse	14,814
Elsa	336	Carcross	212
Keno Hill	88	Tagish	89
Mayo	398	Census unorganized areas	2,110
Faro	1,652	Destruction Bay	45
Ross River	294		
Total			23,153

Source: Yukon economic review, second quarter, 1982: Table 1.5. Census population (1981), by community.

### *Urban planning, land use and development*

The preparation of an official community plans in the Yukon is going to be a requirement for each municipality from 1986 [cf. reference 17]. All developable land within municipal limits is owned and developed by the territorial government. At present municipalities are consulted in the regulation of the subdivision of land. The land use planning and zoning function within the municipal boundaries theoretically is in the hands of the municipal council which must, however, consult with the territorial Department of Local Government. As the need arises, developable land is subdivided, planned, serviced and phased for sale.

Once the land is subdivided and serviced, the lots are sold to individual buyers, public institutions and small scale builders. Within organized communities and municipalities, the only land available for sale is land already subdivided, surveyed and partially developed. Lot sales to a

private individual are restricted to one lot or two contiguous lots for a single home site. A realtor, developer or building contractor may purchase up to five single-family residential lots. Leases are offered only for uses such as public recreation, public utilities, and summer residences, where improvements are not of a permanent nature.

### Trends in the urban land development process

Most urban land in North America is privately owned and privately developed. The present trend, however, is toward more public control in the land development process. The reasons for increased control and the forms that this control has taken will be discussed in this section, concluding with Whitehorse an exceptional example of public development on public land. By land development here we mean both phases of development: (1) the subdivision and servicing of raw land and the subsequent sale of the lots; and (2) the site development, building and marketing.

Only recently has the public realized that more land development initiative should come from a responsible institutional body representing the public interest. As Boulowe stated

"...unguided individual action often results in resource exploitation, social waste, and a shifting of costs to other members of society. They (the public) discover that social goals in land-resource use frequently involve extra market considerations that cannot be achieved without social action and that public action can often be used to attain a higher, or more nearly optimum level of resource development than would

be feasible with purely private developments"(1972:506).

A widespread trend toward increased public initiative in urban land development has been documented by several authors and research establishments (Bryant 1968; Strong 1975; Kehoe 1976; Healy 1976; and Darin-Drabkin 1977).

Public interventions have occurred to deal with housing shortages, the fragmentary development detrimental to the efficiency of municipal services; exclusion of certain classes of people from housing; and the necessity for "sorting" the urban environment. While the idea of some intervention is accepted, its forms and its extent are widely debated (Smith and Walker 1977). There are two basic forms of intervention: a) through indicative planning implemented by land policy measures and b) through public ownership of land implemented by public development.

### *Indicative planning*

Healy (1976) argues that regulations and a firm state policy are able to determine the direction and quality of land development. Central elements of any effective state land use policy are (1) mandatory local planning and land regulation and (2) state reviews of local land use decisions. In order to formulate a state policy and standards, the state has to work out its position on the most important policy questions such as environmental standards, housing, agriculture, and energy efficiency. Once the state has a policy, it can work on improving its tools to implement change. The common tools are zoning, taxation, long-term capital budgeting, land banking and transferable development rights (Healy 1976).

While in the 1950's city planning was institutionalized and legitimized in Canada, it has not emerged as a truly innovative force in the

area of public policy formulation (Gerecke 1979). Town planning as defined by early legislation was designed to prevent development from falling below certain specified standards, and to incorporate parks, open space, attractive landscaping and community centres in the public interest. However it was unable to determine where or when development would occur (Smith 1979: 211). Canadian city planning became institutionalized around principles of utility and efficiency, a trend very much in the fore of planning theory of the 1970's and 1980's (Smith 1979; Berry 1979: 231). The large volume of critical writing has demonstrated during the last 15 years both in Britain and North America that the principle of utility alone is deficient because it does not incorporate the principle of re-distributive justice (Harvey 1973; Gerecke 1976; Smith 1979; Berry 1979).

Today in the majority of Canadian towns and cities all three levels of government - federal, provincial (or territorial) and municipal - exert a certain influence, financial or regulatory, on the urban development process. They employ a wide variety of means. For instance, public policies regarding the provision of infrastructure have an enormous influence on the shape of the cities. Urban form is intimately related to the scale and scheduling of its infrastructure.

In the opinion of Perks (1973: 284), the regulations in force and the planning acts in Canada are not adequate. Municipalities have no real powers (or they are not willing to use their power) of land prescription for public purposes, nor do they have real powers to hold development pressures in check. So the argument goes on for more regulations, more planning and more public land ownership.

## *Public land ownership and development as a policy tool*

Land banking refers to public acquisition of land in advance of development. It was common practice in the growth of many American cities in the eighteenth and nineteenth centuries (Reps 1980). In Canada land banking has been employed on two levels: federal land assembly programs and local acquisition for present or future urban renewal or expansion. The Federal-Provincial Land Assembly Program, initiated in 1947 by the National Housing Act, was intended to provide federal financial assistance to municipalities and provinces wishing to assemble and develop land for residential purposes or to establish land banks of a predominantly residential nature for future development. Program objectives include stabilization of residential land prices by increasing supply, and making the residential land development process less financially onerous to municipalities. More generally the federal agency sought good planning; municipal, regional and/or growth policies; more efficient land use and servicing; centres of new regional growth and balanced development of new resource-based communities.

The federal land assembly provisions were very little used during the 1950's and 1960's probably because of the provincial and municipal governments' unwillingness to take a controversial stand in intervening in the natural course of the land market (Dennis and Fish 1972: 315-344). However, by the end of the 1960's concern emerged over rapidly rising costs of raw land resulting from the limited supply and demand stimulated by highway construction and the private automobile. This made intensive public involvement in the acquisition of land more acceptable.

The notion of using ownership instead of more regulations is a concept which managed to develop from the definitional to the operational stage in Canada in the 1960's (Kehoe 1976: 106). Proposals for more public land banking in Canada are contained in the following works: Bryant (1968); Federal Task Force on Housing and Urban Development (1969); Lithwick (1970); Dennis and Fish (1972); Derkovski (1975); Spurr (1976); Lorimer (1978); Strong (1979) and Gunton\* (1983). The Hellyer Report (Federal Task Force on Housing and Urban Development 1969:40-1) states:

"municipalities and regional governments as a matter of continuing policies, should acquire, service and sell all or a substantial portion of the land required for urban growth within their boundaries".

It has been argued on grounds of both efficiency and equity that substantial public land ownership and development is desirable as a corrective service against exclusionary development practices, environmental deterioration and rising land prices. Public ownership enables municipalities to time development with the provision of public services and to exercise control over the mix of land uses.

Objectives of public land ownership and development include easier access to land, better distribution of private wealth, reduction of privilege and power, security of tenure, increased efficiency of land management, control of land values, and better planning of land use. Grouped in three categories the aims are to (1) increase equity, (2) improve land use planning (3) and restrain and stabilize land prices.

While land banking in principle is widely accepted as a desirable means of implementing land use plans based on efficiency and equity, the success of the practice remains highly controversial. Among the issues are the high acquisition costs and the question of a financial return.

land development can, as in Red Deer, Alberta or Saskatoon, Saskatchewan, lead to comprehensive integrated urban planning.

In Red Deer city-owned land on the outskirts is sold to builders according to a phased and organized program, in accordance with a general plan, and with public services properly arranged. House builders can plan their operations in the knowledge that serviced land will be available at a reasonable cost, as and when required (Bryan 1968; Dennis, and Fish 1972; McFadyen 1977).

Saskatoon, the owner of the most extensive land bank, acquired title to large quantities of undeveloped peripheral land during the 1930's and 1940's when owners failed to pay taxes. In 1954 a deliberate decision was made to continue the policy of public ownership in the form of advance land acquisition. The city being the largest supplier of residential land managed to stabilize the cost of serviced land and have control over orderly growth (Ravis 1972). Saskatoon also has extraordinarily strong planning powers to control private development, and the entry to this power is land ownership (Dennis and Fish 1972: 323).

### *Public involvement on the resource frontier*

Land on the Canadian resource frontier is usually in public ownership and is transferred to the resource company or local municipality for a nominal fee or free, hence the land component of the development from a cost point of view is negligible. Compared to the United States, or the Soviet Union and



the Scandinavian countries, Canada had limited experience until World War II with the planning and development of single-industry new towns on the resource frontier of which many are located in the north (Lloyd 1976, Judd 1970). However a considerable expertise has accumulated since the mid-1940's when both the federal and provincial governments got involved in physical townsite planning, financing and policy-making structures, featuring citizen participation in the operation of the community (Linn and Stebler 1978). Generally, until the mid-1950's resource towns in Canada were built and developed by or for a private industrial company to house and service its employees and their families. Today most resource communities are developed with direct government participation. The creation of attractive physical conditions involving "good planning" was viewed as essential in improving the basic problems of single-industry frontier towns. Problems included shack-town conditions, high labour turnover, demographic imbalance and isolation. Government got involved in an attempt to provide infrastructure, to exercise control over the growth and location of settlement, to create a suitable attractive urban environment and encourage permanence.

Government involvement included community planning regulations, provincial new town legislations, planning and outright development. For example, Fermont, Quebec and Mackenzie, Ontario were planned and developed by private corporations, Leaf Rapids, Manitoba and Manitouwadge, Ontario by a Crown corporation; and Lanigan, Saskatchewan and Lynn Lake, Manitoba by a mixed corporation.

Fermont was developed by Quebec Cartier Mining Company in accordance with the Quebec Mining Towns Act which permits the mining company to provide the mining town. The province of Quebec generally invests only in services.

such as education, social affairs, etc. Once a mining town is established, it is managed as a local government in accordance with the Cities and Towns Act.

Lynn Lake was built by Sheritt Gordon Mines in 1951. In 1970 according to a new provincial policy the company transferred all municipal structures and services to the Local Government District and had its lands and buildings exempted from assessment and taxation. In lieu of taxes, a grant per employee was exacted. Under the new agreement the company has certain obligations and rights but does not directly control the town. The change of strategy is shown by the shift in the next venture of the same company in the same province.

Leaf Rapids was built by the government of Manitoba in accordance with an agreement of early 1972 with Sheritt Gordon Mines Limited. Leaf Rapids is a unique town, being the first community established by a crown corporation, the Leaf Rapids Development Corporation. The Manitoba government took an active role as developer of the town, the objective being to meet the social and environmental requirements of residents as well as the economic needs of the company and the region.

Town planning in Canada's resource frontier follows the pattern of evolution of "new towns" in the United States and southern Canada. The later generations have made some concessions to climate and to the isolation of the north (McCann 1978; Schoenauer 1977; Linn and Stabler 1978).

Planning and development trends included suburban development modeled on the south, adoption of the shopping centre concept, land use segregation, promotion of home ownership, greenbelts, and separation of vehicle and pedestrian traffic. The neighbourhood unit concept and overall design stressed centralization of services. These trends were all based upon practices developed in more moderate climates of the United States and Great Britain.

Only Fermont is based on planning and design concepts which foster energy conservation and adaptation to the local climate (Schoenauer 1977).

While most of the frontier towns were incongruent with the reality of the northern environment, they were successful in creating an illusion of an average North American suburb. The design of dwellings reflects little or no effort to create structures especially suited to northern climatic conditions. Most dwellings do not have sheltered or protected entryways, sufficient closet space for storing winter clothing, sufficient insulation to lower fuel costs, garages or sheds for summer storage of snowmobiles and other recreational equipment. The exceptions again are Fermont and parts of Leaf Rapids (Linn and Stabler 1977).

Some of the basic problems facing resource towns remained unsolved. The physical improvements to new communities did not alleviate the economic instability and population turnover, social problems and physical and personal isolation (Bradbury 1980; Stelter and Artibise 1982). According to Bradbury (1980), government involvement in British Columbia resource town development succeeded in transferring the cost of running a township from the company to the workers. By home ownership many families became locked into such communities by mortgages, and have boxed themselves in, subject to high taxes and a high cost of living.

Studies of northern resource towns concerning their political economy, quality of life, social and physical planning, design and architecture abound [19]. However the building experience including design, urban planning and financing development involving the government is not adequately documented.

Alternative approaches to the planning and development of Canadian resource communities were studied by Maksymec and Associates Limited (Fletcher 1977), commissioned by the Canadian Ministry of State for Urban Affairs. The

study concludes that each of the three approaches- public, private and mixed - can be effective for resource town development. The capital cost of the town for local infrastructure, community buildings, housing and regional infrastructure, while it varied widely among communities did not show any correlation with the method of approach used in building the town. Residents were found better accommodated in the later generation of resource towns, whatever the source of development initiative. All demonstrated improved technologies for building and servicing, extensive regional infrastructure supplied by different levels of government, and concerted efforts by resource companies, governments and local citizens to identify needs and provide regulations and services.

However the public and mixed approaches were found to lead to greater spending by the federal government. These approaches also led toward reduced sharing of the resource wealth by the senior government under 1977 taxation laws and royalty practices. The study suggested that the public investment in a resource town should vary in relation to the degree of risk involved, with a greater share taken by the private sectors for the greater risks. Greater risks refer to the uncertain potential of the resource base, the market for the resource and the life expectancy of the resource town. The practice until now has been for the government to assume the burden of the greater risks.

The consequences of economic changes in the resource industry, human deficiencies and general inefficiency for both the individual community and the region as a whole are inextricably bound up with regional and economic planning, and are not viewed by private enterprise as their responsibility. The Maksymec Study (Fletcher 1977) concluded that along with the successful government involvement of recent decades at the level of design, a more

comprehensive approach to planning in the area of resource management is needed.

Settlement planning needs a framework of regional economic planning and policy and a firm agreement on development between the federal and provincial or territorial governments and the resource industry.

While private enterprise has also advanced in the area of good town planning, the origin and concept which conditions the establishment of resource based communities has not changed. The first consideration is economic exploitation, not the creation of a good environment for living or the future well-being of a region.

### *The Whitehorse case*

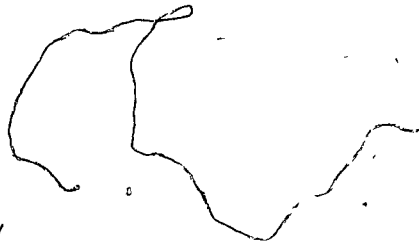
Few studies of northern towns explicitly address the question of land use, basically because of the easy availability of cheap land. In a sense, Whitehorse has a "land bank" in the public domain, which is transferred free of charge to the territorial government to be used as they think fit.

The publicly-owned land is partially developed by the territorial government and residential land is sold for building piece by piece, at the cost of development. The physical structure of the city is determined by a combination of the actions of a multitude of individual home builders and by government regulations in the framework of integrated planning. It is a situation where due to the continuous availability of residential land a land "market" plays a very limited role. The impetus for the development of one

area over another comes from government decisions related to public demand and existing and planned infrastructure.

Unlike most northern towns, however, Whitehorse is not a single-industry town and it is not new. As we shall see in Chapter 3 urban growth and land development in the last 35 years has been a long process of corrective service of a city denied compactness because of its site, topography and early developmental history. Over the years Whitehorse has acquired stringent land use control by all levels of government in the form of regulations, zoning and community planning.

Whitehorse offers an exceptional window into public development on public land. This historical study of the land development process, planning, and housing offers the opportunity to look at the mistakes, the different approaches to problem solving, and the conflict areas in the public development process.



### Summary

With the transfer of most land to private ownership in the more habitable (for Europeans) areas of North America, both the public and the state realized that crucial interest lands in the hands of private enterprise were not being used for the achievement of wider social, economic and environmental objectives. In both the United States and Canada rapid urbanization and increased federal involvement in improvement of the urban and non-urban environment prompted a reappraisal of the use of publicly-owned,

land. Public land ownership was recognized as a key mechanism in the achievement of several federal goals in the fields of improvement of the environment, regional development, metropolitan decentralization and urban development. With the expansion of the economic frontier in the north, governments are more careful not to sell off in haste lands which in Canada are still in public hands.

There has been criticism of the Canadian federal government for its failure to show leadership in land issues. The loss of agricultural land in the provinces, the rising costs of land and housing, and the destruction of ecologically-sensitive areas are important public issues in many parts of Canada [20]. The formation of the Federal Government Task Force on Land-Use Policy to assess the federal rôle in land-use processes and problems in 1980 and the 1982 Statement on Federal Policy on Land-Use were a response to this general concern.

Land use problems in the Yukon associated with the administration and management of land for urban growth are caused by the lack of regional planning, the inadequacy of baseline information, the lack of meaningful coordination among the three levels of government, and by jurisdictional disputes between federal, territorial and municipal interests. To all the above is added the unsettled native land claims, more precisely the Council of Yukon Indians' opposition to land transfers taking place in advance of land selection under the land claim agreements. The native interest in the land, its management and resources, of vital importance to them from the historical, cultural, legal and moral points of view, was underestimated. These moral, political and financial problems constitute serious conflict areas which have to be dealt with during the urban planning process.

In addition to the concerns of equity, settlement in the north has to take into account the problem of economic efficiency. Settlements in the north require far greater expenditure on fuels for heating than do communities in more favourable climates. Due to higher transportation costs, scarcity of specialized labour and the short building season, the costs of construction and municipal servicing are also very high.

Unfortunately, both the efficiency and equity issues are muddled by the divergent municipal, territorial and federal views on land. The "Old World" notion of an "empty continent" and the state objectives of giving away land to stimulate settlement and economic development are as prevalent today as 100 years ago. The federal land transfer policy is a generalized statement of intent to facilitate the future needs of community planning. Being the only current legal way for the territorial government to obtain more land from the federal government, community planning is used as a tool for more land transfers. This territorial land strategy alters urban growth policy and creates a contradiction in the interpretation of efficiency and equity issues among the different levels of government.

This chapter has outlined the general subject of regional land use. In Chapters 3, 4, and 5 we will look specifically at the Whitehorse experience concerning the amount of land used for urban growth, the intensity of development, housing types, the size of lots, and the implications for municipal services and budgets.



## Notes and references

Legislations (acts and ordinances) quoted in this chapter are listed at the end of the thesis in the Primary Sources section.

1. J. Chretien, 1969; Cumming, 1973; "Council of Yukon Indians, A short history, structure and philosophy", Information Kit, 1977, Department of Indian Affairs and Northern Development, Program Reference Centre, Ottawa-Hull.
2. "Together today for our children tomorrow: a statement of grievances and an approach to settlement by the Yukon Indian people", Yukon Native Brotherhood, Whitehorse, 1973.
3. "Council of Yukon Indians to Honourable John Munro", Minister, Indian Affairs and Northern Development, 29 March 1980, in *Land claims brief v 1*, Department of Indian Affairs and Northern Development, Program Reference Centre, Ottawa-Hull; "Presentation by the Council of Yukon Indians to the special joint committee on the Constitution of Canada, 3 December 1980, Department of Indian Affairs and Northern Development, Program reference Centre; Indian and Northern Affairs, Canada", Annual report, 1982-1983, Minister of Supply and Services, Canada, 1983; "Outstanding business: native claim policy" Indian and Northern Affairs Canada, 1982.
4. "Yukon native claim", federal government working paper, 3 March 1975, Indian and Northern Affairs, Canada.
5. "Criteria for Block Land Transfers to the administration of the governments of the Yukon and Northwest Territories, YGR, Land policy, 1974-1976, file 635-6-2-2, v.11, YA, Whitehorse.
6. "Revised northern land transfer policy announced", Minister of Indian Affairs and Northern Affairs, 3 March 1978, Department of Indian Affairs and Northern Development, Program Reference Centre, Ottawa-Hull. Council of Yukon Indians, Land claims brief, v.2 to J. Munro, Minister of Indian and Northern Affairs, October 1979.
7. "Land, its development and disbursement". A discussion paper, Yukon Territorial Government, Department of Local Government, 1977; Land disposition policy in Yukon, telex to Minister, Department of Indian Affairs and Northern Development from Minister of Local Government, Yukon, 1 January 1979, YGR, Land policy, Municipal and Community Affairs, 1979-80, file 2840-0 v.2, YA, Whitehorse.
8. "Land use planning; environmental assessment and land ownership in Yukon", a discussion paper, 1982, The Council for Yukon Indians, Whitehorse.
9. Territorial Lands Regulations, section 10, accompanies the Territorial Lands Act of 1970.
10. In addition to 5 km<sup>2</sup> set aside as Indian reserves, as defined in the Indian Act, there are other lands that have been withdrawn from disposal or set aside for Indian use. As of 1974, 74 areas of land had been identified for Indian use and set aside or reserved. These lands comprise over 1036 km<sup>2</sup>. Since 1974, a number of small parcels of land have been added to this total. See also Redpath, 1979 and Statistics Canada, *Canada Year Book 1976-77* Special Edition, p.43.

11. Yukon Act, 1970-79, section 46.
12. Minister, Department of Indian and Northern Development, Yukon Territory, 21 May 1970, YGR, Land policy, file 2840-2, v.8, YA, Whitehorse.
13. Special Committee on resource, environmental control and land use legislation, Minutes, 12 February, 1971, YGR, file 2970-2, YA, Whitehorse.
14. Land policy 1974-1976, YGR, file 635-6-2-2, v.11, YA, Whitehorse.
15. "Discussion paper on northern land use planning", December 1981, Department of Indian Affairs and Northern Development, Ottawa, 1981.
16. "Interdepartmental Task Force on land use policy", Lands Directorate, Environment Canada, 1980; "Land use planning in Northern Canada, Draft, October 1982, Department of Indian Affairs and Northern Development, Canada; W. Simpson-Lewis, R. McKechnie and V. Neimánis, eds., *Stress on land in Canada*, 1983, Policy Research and Development Branch, Lands Directorate, Environment Canada, Minister of Supply and Services, Canada.
17. Municipal Ordinance, assented to 13 November, 1980, Ordinances of the Yukon Territory, Part II: Municipal volume, passed by the Yukon Council in 1980. It was prepared through a consultative process with the Association of Yukon Communities and the Yukon Minister of Municipal and Community Affairs. Due to disagreement concerning decision making the Ordinance did not become legislation until 1984. Personal communication about the new Municipal Ordinance and Municipal Act was conducted with J. Pierce, President, Association of Yukon Communities, April 1983, A.J. Carrel, Executive Director, Association of Yukon Communities. January 1984, Ottawa, T. Penniket, National Democratic Party Leader, Yukon (former City Councillor).
18. For a debate on this point of view see *Down to Earth*, v.1 and v.2., Federal/Provincial Task Force on the supply and price of serviced land, 1978.
19. Political economic (Bradbury 1979, 1980), quality of life (Matthiasson 1970, Riffel 1975, Nickels, Saxton and Bayer 1976, Nickels, Dexter, Harvey and Ledger 1976), social planning (Lucas 1971, Pressman 1975, 1976), and comprehensive reviews (Ridge 1955, Lash 1958, Robinson 1962, Koroscil 1975, Siemens 1976, Novak 1976, Linn and Stabler 1978, McCann 1978, Gilbert, Stelter, Artibise 1982). Valuable expertise has been accumulated on the experience of planning, design, architecture and building the new northern communities (Erskine-1968; Lawrence 1977; Schoenaeur 1976, 1977; Van Ginkel Associates Ltd. 1975, 1976, 1977; Vinson 1981).
20. *Land use in Canada*, Interdepartmental Task Force on land use, Lands Directorate, Environment Canada, 1980.

## CHAPTER 2

### THE LOCAL FRAMEWORK FOR HOUSING DEVELOPMENT

The material in this chapter serves as background and context for the following chapters, which will analyze the changes in residential land use planning and housing as a response to the local environment and political constraints and to the needs and wants of the people of Whitehorse.

The chapter is organized around four major themes which affect the local demand for housing: (1) local environmental constraints of topography and climate; (2) the pressures of a cyclical regional economy; (3) population changes; and (4) changes in governmental structure and political responsibility. Its purpose is to introduce the inhabitants of Whitehorse, their origins, their motives in settling or leaving and thus explain the special environmental, socio-economic and political context of the city.

A direct way to study activity patterns in the urban space is through survey research. This study employed an indirect method, combining information from secondary sources (Lotz 1961, 1965; Koroscil 1970, 1978; Ridge 1953; Denis 1955), census data and relevant surveys previously done in Whitehorse for various purposes such as migration, recreation, ethnic integration and quality of life.

While the present work concentrates on the period since 1950, it is necessary to point out certain earlier historical, economic and political

facts. These are the events which determined the city's location, form and direction of development.

### Local environment constraints: topography and climate

Data on the local topography and climate of Whitehorse is available in various planning, engineering and geological reports [1], and in the work of Koroscil (1972), Ridge (1952) and Lotz (1961). However, a proper evaluation for land use capability for the area was never done. Development proceeded in the most obvious and easily serviceable areas. A short description of the topography will follow, while more detail is presented in the analysis of individual residential areas in Chapter 3.

#### *Topography*

The Whitehorse area lies on the upper reaches of the Yukon River in a major physiographic division known as the Yukon Klondike Plateau. This undulating upland lies at an average elevation of 1,520m with valleys of 460m to 1,220m deep and a general drainage to the northwest.

The City of Whitehorse has its origin in the pre-glacial valley of the Yukon River (Fig. 2.1). At the core of the present townsite of Whitehorse

(latitude 60°48' N, longitude 155°04' W) the valley is 6.4 kilometers wide from the foot of the enclosing hills. This core, today's downtown, is located on the west bank above the Whitehorse rapids approximately 640m above sea level, from 3m to 6m above the river level.

The townsite on the narrow river terrace was not advantageous from a growth point of view. Local topography has shaped the city and restricted its growth. The present strung-out city developed in the valley of the Yukon River and along the Alaska Highway built on a plateau above an escarpment (Fig. 2.2). The 60m escarpment west of the townsite forms a barrier which restricts development. A large part of the river terrace is susceptible to flooding in periods of high water. The combination of flooding during the break-up period and the very slight natural slope have made sewage and drainage conditions very difficult. Due to the confinement of the terrace between the river and the escarpment, expansion in a compact form was impossible.

Additional areas of development are scattered on the high plateau (650-800m elevation) and on the east bank of the river. Urban development within the Yukon River Valley is located on three benches. The first tier is the old flood plain downstream of the Whitehorse Rapids Dam at elevations between 633m and 648m. The second tier of urban development has been built on the escarpment at elevations between 696m and 732m. A third tier of development occurs at an elevation of 793m.

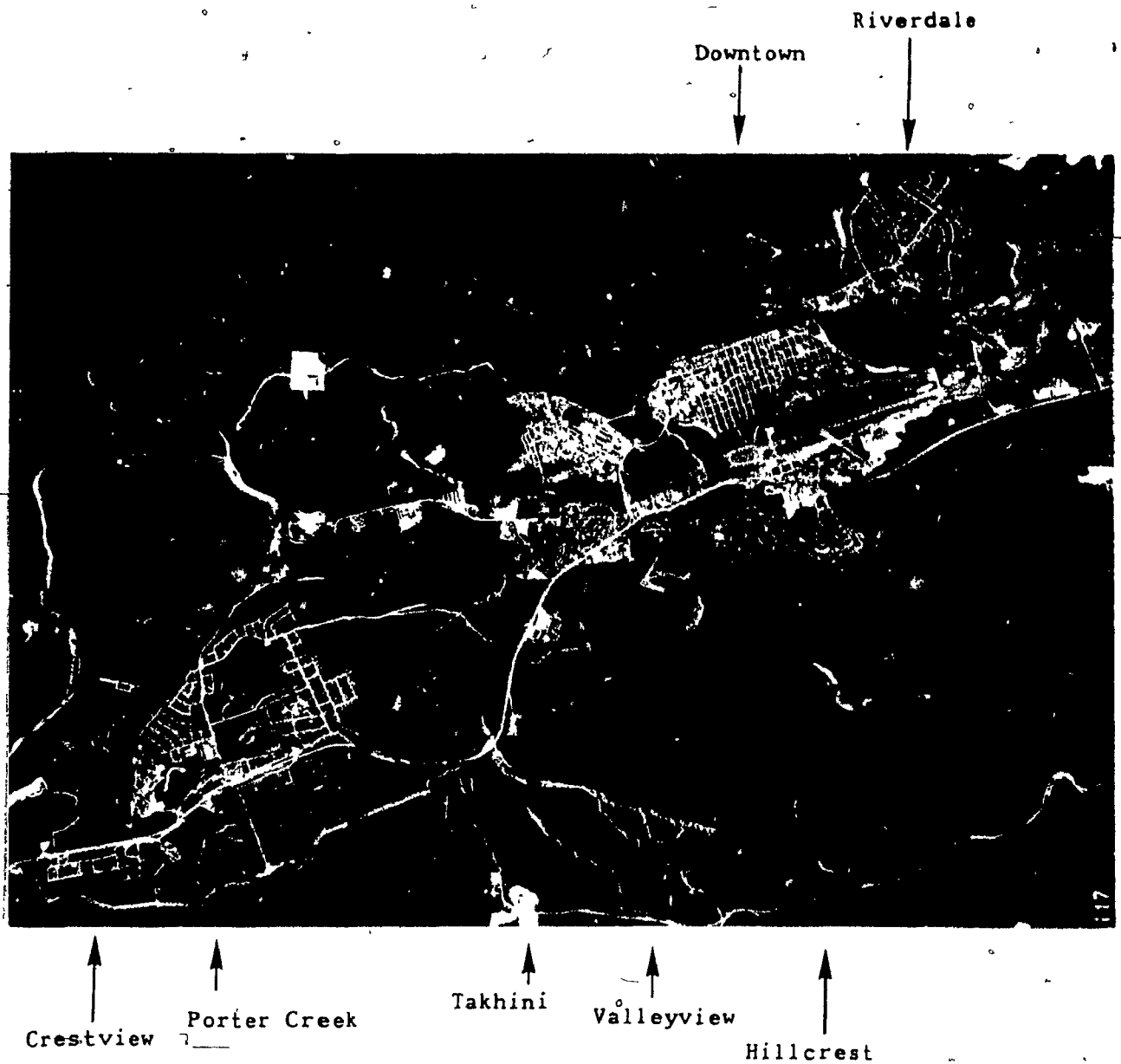
The city boundaries today enclose 420 km<sup>2</sup> of land, and the built ribbon extends for about 35km (Fig. 2.3). Development on the plateau is also restricted and fragmented by the physical complexity of the landscape which includes numerous lakes, rivers, hills and mountains within a vast coniferous forest.



Top: Note the swampy forested area in the foreground, the Indian Village and Industrial Area in the centre, Downtown in the background, and the Airport above the downtown escarpment. June 1981

Bottom: Note Downtown on the river flat, the Airport above the escarpment and the bridge across the Yukon River leading to Riverdale. April 1982

Figure 2.1 The city of Whithorse and its surroundings



Source: Canada Department of Energy, Mines and Resources, A25047-117;  
August 1978, 1:50,000

Figure 2.2 Contemporary Whitehorse - the urbanized area

# Residential areas of Whitehorse

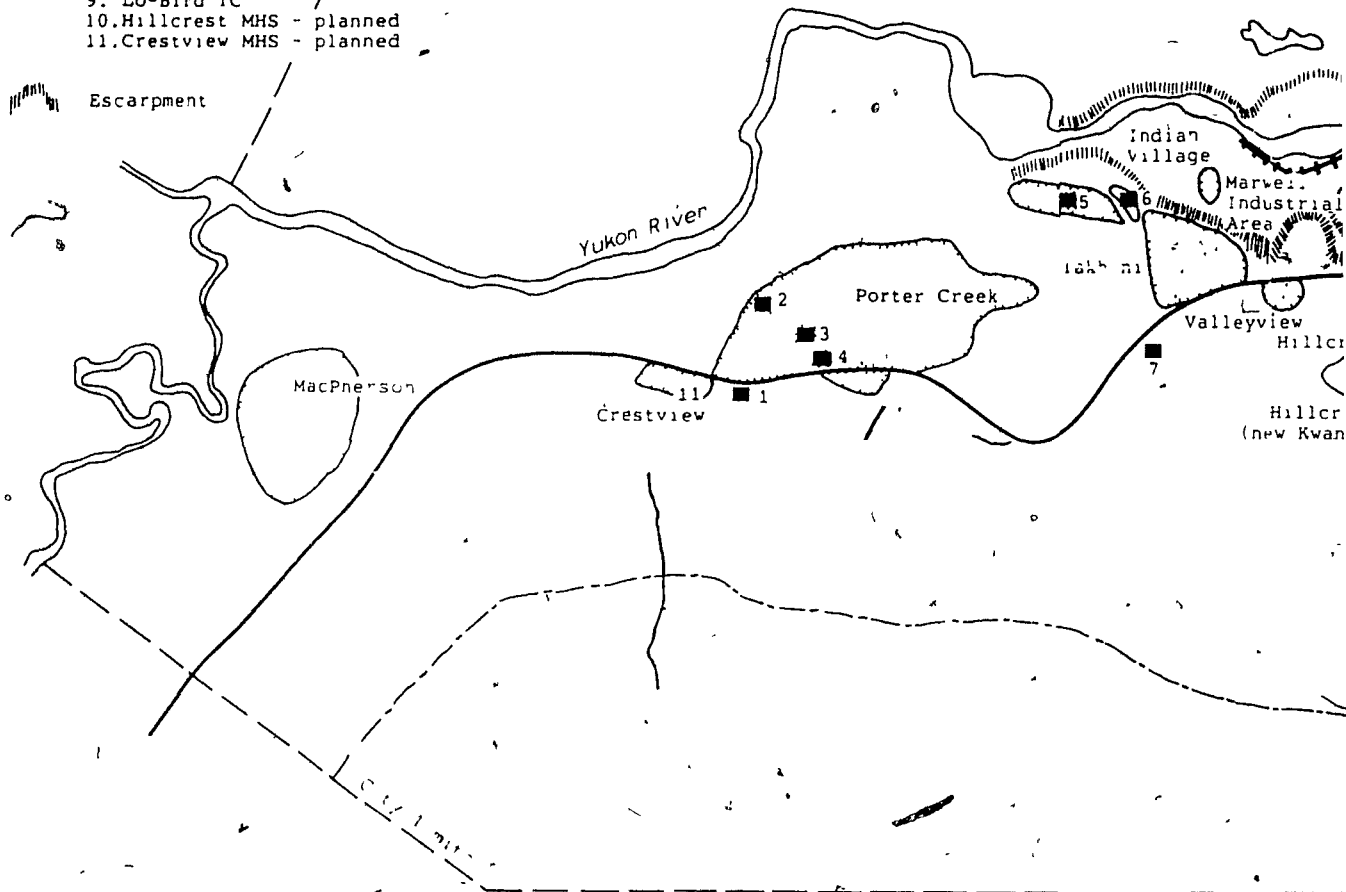
1983

■ Trailer courts (TC), mobile home parks (MHP) and subdivisions (MHS)

1. Mackenzie TC
2. Porter Creek MHP
3. Ventures North TP
4. Casa Loma TC
5. Northland MHP
6. Takhini TC
7. Kopper King MHP
8. Northway TC
9. Lo-Bird TC
10. Hillcrest MHS - planned
11. Crestview MHS - planned



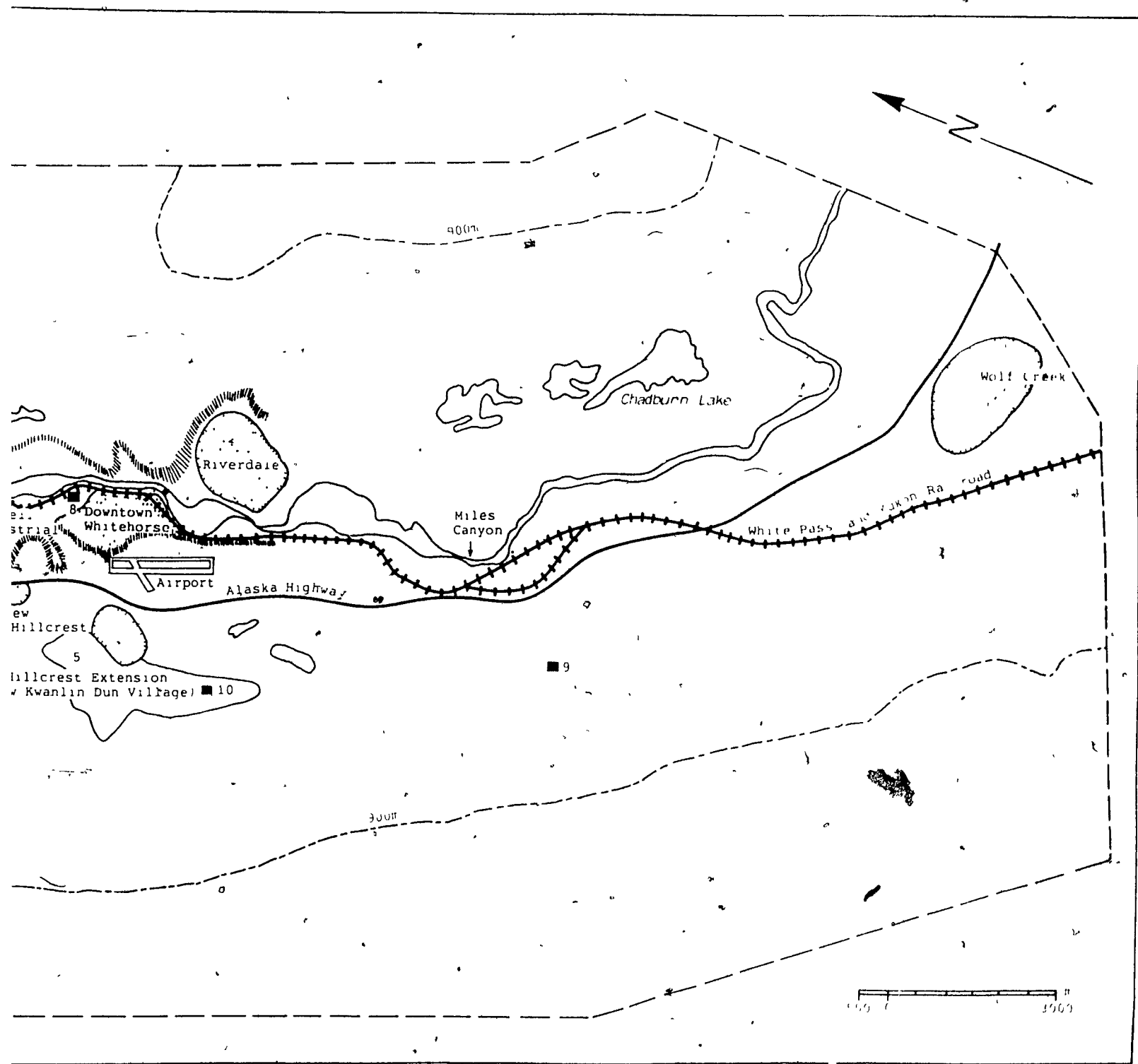
Escarpment



Sources: City of Whitehorse, General Plan, 1976, City of Whitehorse, BC, Map, 2004

Figure 2.3 City of Whitehorse, orientation map



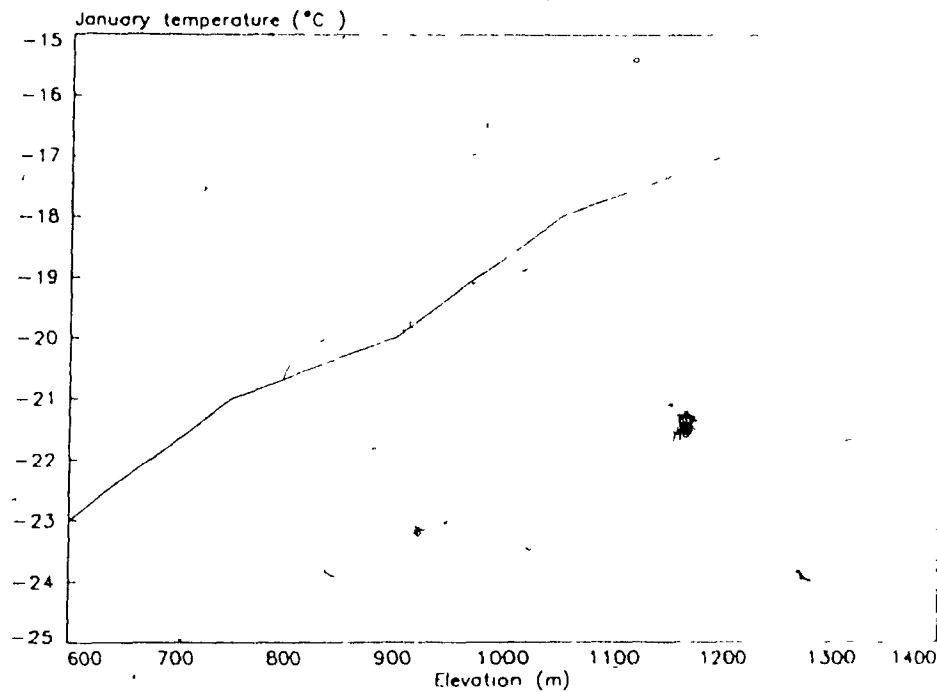


## *Climate*

The Yukon Plateau has a continental climate with relatively low precipitation and a wide range of temperatures. For town planning, environmental design and housing purposes the most important climatological data concern temperature, precipitation and wind. In the case of Whitehorse the climatic elements which create specific conditions different from southern Canadian towns are solar radiation and temperature. Precipitation and wind, both moderate, are not critical elements[2].

Winds are prevailing from the south to southeast approximately 50% of the time. Wind speeds average 14.5kmph over the year rising to a maximum of 17.2 kmph in October. Nevertheless in Downtown Whitehorse where the grid street pattern has a north south orientation there is little protection from the prevailing winds which are funnelled up the river. The majority of the annual mean snowfall of 145cm falls between October and April of each year. This is one-half of the annual average in Montreal. The mean annual average rainfall of 144mm occurs between the month of May and September.

The duration of winter is given by the number of months with mean daily temperature less than  $0^{\circ}\text{C}$ . In Whitehorse for seven months the average monthly temperature is at or below freezing (Fig. 2.4). Large variability in temperature is a remarkable feature with the greatest range occurring during the winter month[3]. Freezing temperatures may be expected until early June and the first autumn frost usually occurs before the end of August. At the Whitehorse airport the average frost-free period is 82 days. In the Riverdale subdivision located in a basin it is only 61 days[4].



Elev. (m)	Mean monthly temperature °C												Year
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec.	
600	-23	-13	-8	0	6	12	14	12	8	1	-10	-17	-1.5
750	-21	-12	-8	0	6	12	14	12	7	0	-10	-16	-1.4
900	-20	-11	-8	1	6	11	13	12	7	0	-10	-15	-1.4
1050	-18	-11	-8	-2	5	10	12	11	6	-1	-11	-15	-1.7
1200	-17	-11	-9	-3	4	9	11	10	5	-1	-11	-14	-2.3
1350	-17	-11	-10	-4	2	8	10	9	4	-2	-11	-14	-2.9

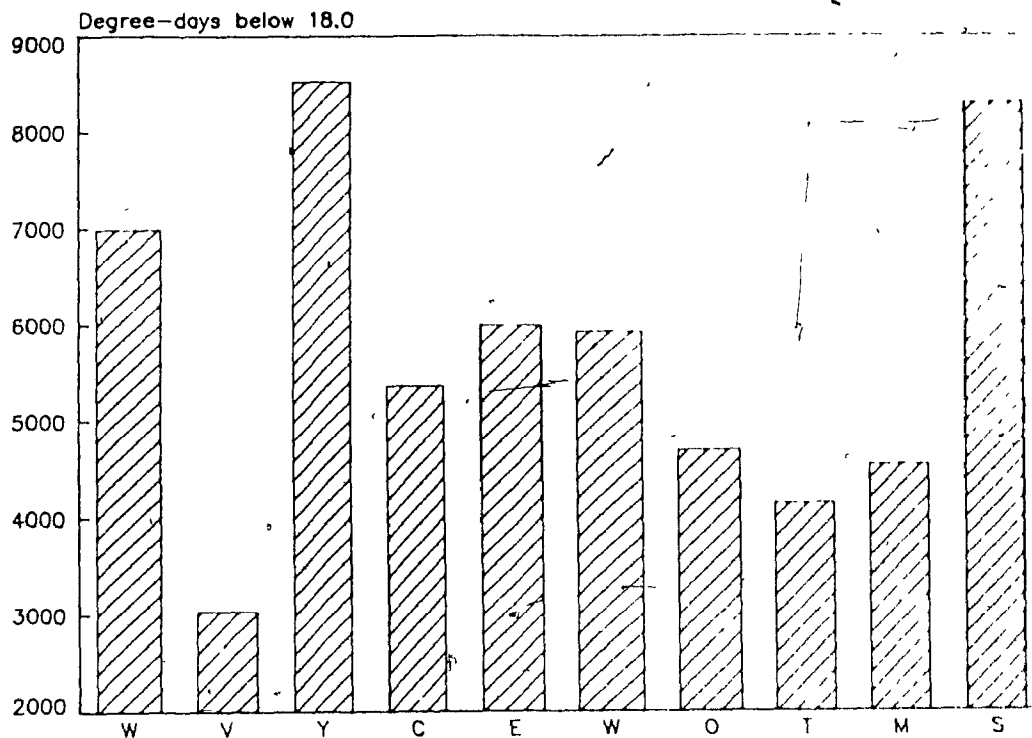
Source: Stanley Associates Engineering Ltd., City of Whitehorse -  
Survey and Analysis, 1976, p.8

Figure 2.4 Whitehorse, vertical annual and January temperature profile

The consumption of fuel in most homes and buildings is reasonably well correlated with mean outside air temperature below 18°C [5]. A degree day is a unit measuring the extent to which the outdoor mean daily dry-bulb temperature falls below or rises above an assumed base. For residential space heating, the reference temperatures used are negative departures from 18°C. Degree-days below 18°C for Whitehorse and selected urban stations for comparative purposes are shown in Fig. 2.5. The difference between degree-days in Whitehorse, Vancouver, Toronto, Ottawa and Montreal is remarkable.

The new Climate Severity Index for Canada developed by Environment Canada, Canadian Climate Program shows that Whitehorse does not have an excessively severe climate (Table 2.1). The Climate Severity Index (Phillips and Crowe 1984) takes into consideration the major factors that define the climate stress of a place, and those climate elements that serve to define these factors. The climate severity index value of Whitehorse is pushed upwards by the continuous darkness of the winter (psychological factor) and the length of the winter (winter discomfort factor).

The Whitehorse area has only two real seasons. Spring and fall are very short - between two and four weeks. The dry and pleasant summers are about three months long (June July, August). While frost is recorded every month, the days are warm or hot and the nights cool. Due to the long sunlight hours and pleasant weather conditions, summer days and nights are intensely used. Whitehorse averages twenty hours of daylight in June and eighteen in July. People work long hours and spend half the night in outdoor recreation often cramming two days' activity into one. Winters are long (seven months) and dry and vary in their harshness. Cold snaps are few and last only a few



Selected stations	Degree-days below 18.0
Whitehorse A	6988.4
Whitehorse-Riverdale	6894.3
Vancouver Int. A.	3030.7
Yellowknife A	8529.6
Calgary A.	5365.0
Edmonton Int. A.	5990.6
Winnipeg Int. A.	5923.1
Ottawa Int. A.	4690.9
Toronto Int. A.	4143.8
Montreal Int. A.	4537.5
Schefferville A.	8294.0

Source: Environment Canada, Atmospheric Environment Service, "Canadian climate normals, Degree-days, 1951-1980, Canadian Government Publishing Centre, Supply and Services, Ottawa, 1982.

Figure 2.5 Degree-days below 18°C, Whitehorse and selected stations

Table 2.1

Climate severity index  
(selected stations)  
(f.=factor)

Station (Maximum points)	Discomfort factor			Psych. f. (100)	Hazard f. (100)	Outdoor mobil. f. (100)	Severity index
	Winter (70)	Summer (30)	Total (100)				
Whithorse A.	44	8	52	19	13	18	46
Vancouver Int. A.	1	7	8	31	5	31	19
Yellowknife A.	57	9	66	20	15	30	57
Calgary A.	30	5	35	6	25	22	35
Edmonton Int. A.	37	11	48	8	20	27	43
Winnipeg Int. A.	44	12	56	9	29	26	51
Toronto Int. A.	18	13	31	20	19	40	36
Montreal Int. A.	23	12	35	25	27	47	43
Schefferville A.	49	13	62	37	38	76	71

Source: D.W. Phillips and R.B. Crowe, 1984, p.41-43.

days or short weeks. Winds are generally stronger during the early winter months. Daylight varies from five to eight hours.

Direct effects on town planning are the high number (9,988) of heating degree days; long, dark and cold winters; short warm summers with long daylight hours; and frozen ground for seven to eight months a year. The different climatic variables have both physical and social effects on urban planning, urban form and housing. While social effects influence everyday life, working conditions, mobility and recreation, physical effects have a potential influence on urban form and structure.

The annual temperature and wind profiles suggest that the most suitable land for human habitation is situated between 750m and 900m above sea level. Land below 750m in the flood plains is colder, and carbon monoxide accumulates in the downtown areas during periods of winter inversion conditions [6].

In northern latitudes the air is generally cool and there is a great need for the sun's heat. Consequently, buildings should be oriented to receive the maximum amount of radiation through the year.

The long cold winters and extended periods of ground frost make the construction season very short. On the other hand, the short cold snaps and low precipitation make mobility and outdoor recreation relatively easy.

During the snow-free period in all unpaved and deforested areas but especially downtown, dust is a major problem as there is no soil on the gravel flat. For lawns and gardens soil has to be brought in from other areas.

### Pressures of cyclical regional economic growth

The growth of Whitehorse has been strongly influenced by three periods of external impact, which have shaped its form and the attitudes of its population. These are the Klondike Gold Rush (1898-1910) which was a short lived boom of little lasting economic benefit; the defence construction during the Second World War which provided the Yukon with a highway system and a communication system; and the exploration and development of mineral resources of the last three decades.

The economy of the region, dependent on the international market for mineral resources, has a boom-and-bust character, which has contributed to the creation of overblown expectations as to what the Yukon can offer. However, the state which has played a major role in both the economy and urban

development, has been a major factor in growth and appears also to have exerted a stabilizing influence.

While initial interest in the Yukon was generated by the fur trade, by the end of the 19th century gold and mineral exploration and extraction had become the major industry of the Yukon Territory. By 1898 there were 28,018 people in the Yukon Territory (including 3,000 Indians), most of them associated with the gold rush. The biggest problem of reaching the gold fields was accessibility. Several routes existed, all of them extremely hazardous. A permanent and safe transportation system was needed in order to approach the gold fields, to accommodate the influx of people and equipment. To facilitate the Klondike mining activities the White-Pass narrow-gauge railway was built by the British Yukon Mining, Trading and Transportation Company between 1899 and 1901. It ran from Skagway in Alaska to Whitehorse, the head of navigation on the Yukon River. The construction of the railway was financed by an English company established by the Close brothers, the White Pass and Yukon Railroad Co. Ltd. whose name was changed in 1900 to the British Yukon Railway Company (Koroscil 1971:57).

The original settlement, Closeight, was on the east bank of the Yukon River, but the railway was built on the west bank, and during the construction of the railway in October 1899 the Company surveyed a new townsite on the west bank of the Yukon River and established a new subsidiary company, the British Yukon Land Company (Koroscil 1978) (See Chapter 3, Fig. 3.5 for the history of early Whitehorse). Thus Whitehorse had a commercial origin as a resting spot for travellers to Dawson after they had come through Miles Canyon and Whitehorse Rapids. The settlement was established at a location where overland routes met the water route, a typical point of origin for a city. Whitehorse became a supply and transportation centre and its



the United States continental defence strategy of the Second World War. The Alaska Highway was built to supply the airfields on the Northwest Staging Route, providing the first overland link between the North American road network, the Yukon Territory and Alaska. While the idea of the construction of a road in the Northwest and its planning as a joint Canadian-United States effort originated in 1928, the final decision as to the date of the construction and its route was determined by the United States in March 1942 (Koroscil 1970). The highway was built and paid for by the United States with complete Canadian cooperation. The Canol project also had a great influence on Whitehorse. It entailed the construction of a pipeline and a parallel service road between Whitehorse and Norman Wells, a refinery at Whitehorse and a product pipeline to Skagway. The construction of the road and pipeline was completed in the spring of 1944 and abandoned shortly after the war.

During 1942-44 Whitehorse was used as a military base camp and headquarters for construction projects. It was the main distribution centre of manpower and materials. The city was taken over by the United States military in every sense. The immense workload placed on the railway during this period resulted in its control passing to the United States army until July 1946. The construction projects were estimated to employ about 30,000 or 40,000 people, military and civilian, of which the great majority were based in Whitehorse (Lotz 1961). The large labour force utilized and overwhelmed existing transportation facilities and community services. While the United States army supplied the investment in physical facilities and some of the supplies for its military personnel, private investment supplied a great many services for the expanding population.

The wartime construction projects however temporary brought employment and jobs to a depressed city. The continental defence strategy

left Whitehorse with the Alaska Highway, an improved airport, a pipeline and an improved railway and communications system, all of subsequent long-term economic value. At the same time this short-term wartime activity had a disastrous effect on the physical development of the city, though this was of concern to no one during the boom. The war period was marked by the hasty building of substandard dwellings, the beginnings of squatter settlement and the pre-empting of large portions of land in the town for military buildings. The indiscriminate use of land in the town and its vicinity created serious difficulties for urban development for a long time to come [7].

The economic boom associated with war construction ended with the war. Then, as a result of circumstances created by the Depression and the War, the federal government adopted a new approach to northern development. First, the Canadian government showed an increasing readiness to support private productive activities in the Territory, second, it began to assume direct responsibility for welfare and especially for native welfare in the area. This change in the role of the state in relation to the local economy of the north replaced the traditional laissez-faire policy and government activities became the most important local economic stimulus in the area (Rea 1968:352). The principal structural change in the economy has been the rise of the public service sector in the form of defence, health, education and welfare services.

The market regulation of the economy of the territories was abandoned in favour of public intervention well beyond routine administration, scientific exploration and policing. Regarding the mining industry the change was not radical. The market mechanism of supply and demand was relied upon as in the past, but state support was made available in a variety of ways such as by adding public enterprises to the already available private enterprises (Rea 1968:353).

From the 1960's, the federal government has also helped the mining industry with strong financial backing. The federal government invested in industrial facilities such as power systems and transportation systems to overcome the high operating costs of the mining industry. These investments were dictated by long-range economics in order to create a climate in which private industry could operate and be ready for mining exploration when market conditions would be favourable (Rea 1968:135). In the 1950's and early 1960's the mining industry was still in the prospecting and development stage.

In the immediate postwar period Whitehorse, after losing its wartime population and activities, slumped back into a short economic stagnation. Nevertheless its role as a transportation, tourist and service centre increased. In this period two important administrative events played key roles in the economic future of the town. In 1950 the Commissioner of the Yukon Territory declared Whitehorse a city, making it eligible for government grants, and in 1953 federal government operations were moved from Dawson to Whitehorse making Whitehorse the capital of the Yukon Territory. These actions represented a growth in confidence in Whitehorse's future, and brought many construction projects both residential and institutional, aiding the economy of the city and providing employment.

The only considerable mining developments in the Yukon in this period were the Elsa-Mayo-Keno area where a rich silver-lead-zinc-cadmium deposit was worked, and the Cassiar Mountains asbestos mine. The output from both these mines was trucked to Whitehorse and then railed to Skagway. In 1955 the White Pass and Yukon Route Corp., by now a Canadian company, introduced containers, a technique which revolutionized the whole system of transportation in the Yukon.

In spite of the changes produced by the two administrative decisions which gave Whitehorse city and then capital status, and the development of the transshipment activity, the economic base of the city was still dominated by military activity consisting mainly of road construction and maintenance. The Department of National Defence moved into Whitehorse to take over the Alaska Highway operations and became the city's largest employer. In the early 1960's the Department of National Defence was replaced by non-military government offices (Department of Northern Affairs and National Resources and Department of Public Works) involved in the same type of work as well as extensive new construction projects. The growth of the activities of both the federal and territorial governments during the 1950's and 1960's made them the two largest employers of the city by 1969.

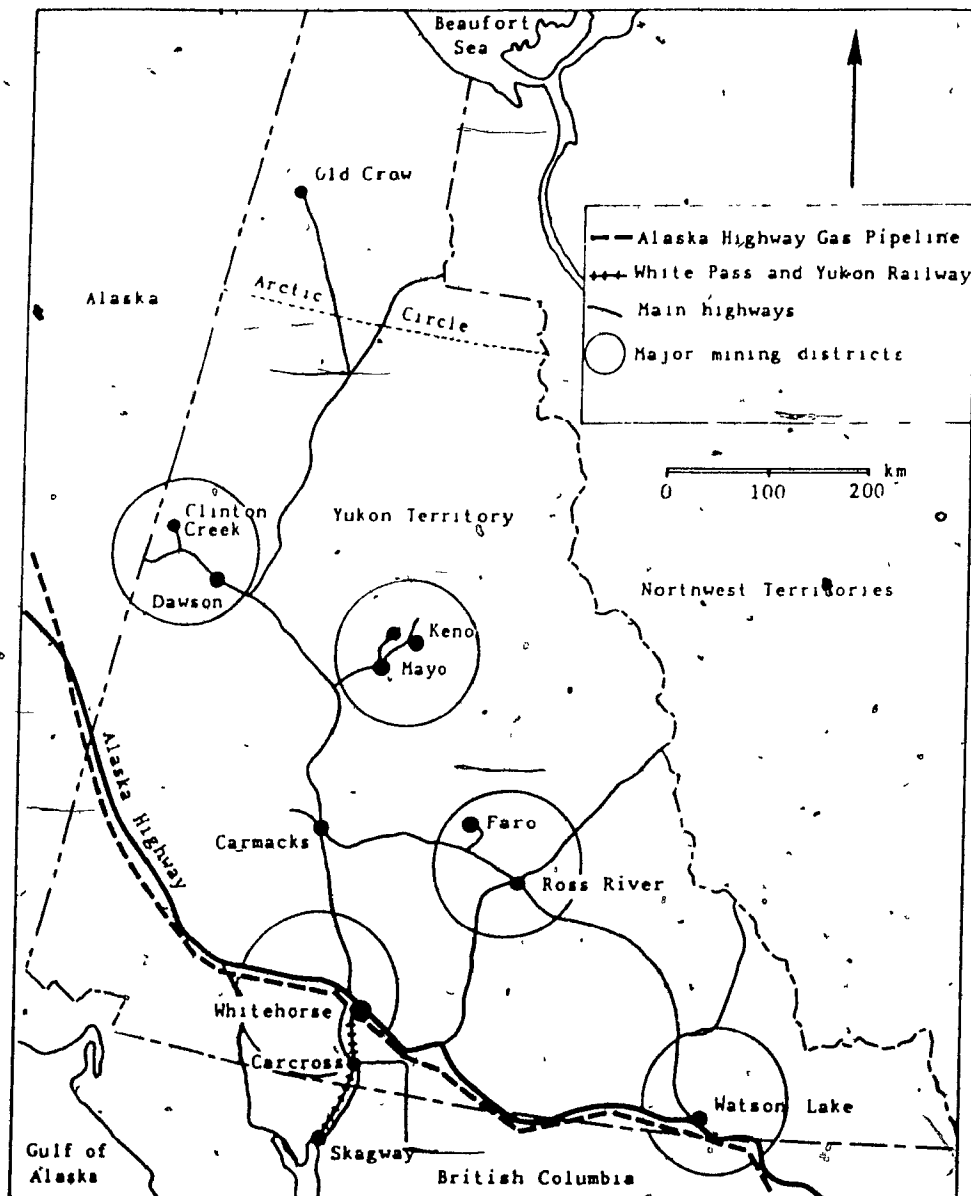
While Whitehorse is not an important mining centre, it benefitted from the growth of the region's mining industry in a variety of ways. Apart from being the transshipment centre for all the minerals leaving the Yukon Territory it developed into the main support centre for exploration. It also became the major administrative, cultural and service centre for the territory as a whole. Whitehorse's linkages with the territory are dominated by retail flows and service linkages (Duerden 1981:90). Whitehorse draws population from the surrounding region to purchase a variety of goods and services. About half of all products and services purchased by people in the 11 major communities of the Yukon Territory are obtained in Whitehorse. However, the volume of sales is not representative of the impact, since for most purchases, Whitehorse is only an intermediary, and the money flows out of the territory.

During the 1970's there were five important mining districts in the Yukon Territory, the Mayo District with silver, lead and zinc mines; the Whitehorse mining district for copper concentrate, gold and silver; the

Vangorda Creek district of central Yukon for lead and zinc; the Dawson district for asbestos, and the Watson Lake district for lead and zinc (Fig. 2.6).

One of the largest recent mining developments providing a stable base for the territory's economy for the 1970's was the Anvil-Dynasty lead-zinc project at Vangorda Creek. In 1965 Dynasty Explorations Limited and Cyprus Mines Corporation entered into a joint venture agreement to form Anvil Mining Corporation, 60% United States and 40% Canadian owned, to conduct exploration involving about 120 people in the field. The mine was brought into production in 1969 with federal government assistance and an agreement which stated the benefits the mine would provide for the region. Concentrates produced by Anvil were transported some 370km from the mine site at Faro to Whitehorse by truck using a container system. At Whitehorse the containers were placed on railway cars for the 177km trip to the port of Skagway, where the containers were transferred to deep-sea vessels for delivery to smelters located in Canada, Japan, West Germany and later to France, Italy, Austria and Yugoslavia.

Government assistance consisted in providing power and communication facilities, a townsite (including planning, standard municipal services, a school, fire and police stations and health services) and improvement of local roads and bridges. Government assistance through the provision of infrastructure represented approximately one-quarter of the capitalization of the project (Macpherson 1978:116). The company was exempted from income taxes for the first three years of production. While this is not the place to evaluate the decision-making process leading to the development of Cyprus-Anvil or its true value for the Canadian or Yukon economy, the example shows the kind of economic development policy the government got involved in.



Source: 'The Yukon', special issue, *Trade and Commerce*, March, 1978:30,33.

Figure 2.6 Mining districts and transportation routes, Yukon Territory, the 1970's

and Whitehorse's share in the operation. For a partial evaluation of this project the reader is directed to Macpherson (1978) and Rae (1976).

All the transportation systems serving the Yukon Territory are centered in Whitehorse (cf. Fig. 2.6). The White Pass and Yukon route includes ship service between Vancouver and Skagway, railway and pipeline transportation from Skagway to Whitehorse and truck transport from Whitehorse to other parts of the Yukon and northern British Columbia. The Yukon River was extensively used in the past for transportation purposes employing hundreds of people, but since the extension of highways to reach major centres, the slower and more expensive seasonal river boat transport has disappeared.

The highway system consists of the Northwest Highway System, development roads and initial access roads. They are built and maintained by the Department of Public Works, Department of Indian Affairs and Northern Development and the territorial government. Highway transportation services are provided by several public and private trucking companies handling the movement of most inbound commodities past the rail terminus at Whitehorse to all accessible points in the territory and along the Alaska Highway into northern British Columbia. The expanding transportation system plays an important role in the tourist industry of the Yukon Territory.

The largest single industrial initiative which has dominated the Whitehorse urban scene since 1977 is the Alaska Highway gas pipeline project (cf. Fig. 2.6). As of January 1983 construction on the Yukon part of the pipeline had not started but its anticipation had influenced every facet of urban development including the real estate market, the activities of the construction industry and the land development policy of the territorial government.

From a five-year perspective (1977-82), it seems that both the government and individual citizens prematurely overreacted to the expected boom. Due to unforeseen regulatory delays in the United States, problems with financing, and the state of the economy, the boom has not yet materialized. The Alaska Highway gas pipeline was planned to transport natural gas from Prudhoe Bay, Alaska across Canada to the United States[8]. The Alaska Highway route was proposed by Foothills Pipeline (Yukon) Ltd. as an alternative to the Mackenzie Valley Pipeline which was not approved for environmental reasons. Of the total length of the system (7,710 km) 830km were planned to cross the southern Yukon, with Whitehorse serving as centre of operations. In its original application Foothills proposed to start construction in 1979 and end in 1981. At the time of the Lysyk inquiry (1978) it was believed construction would start in 1980. In September 1977 the signing of the Canada - United States Pipeline Agreement established January 1983 as a target date for completion of the project. Due to the many delays, the "planning phase" lasted for three years. The company and the Yukon government worked out several programs concerning manpower planning, the control of in-migration, community growth and housing needs and requirements etc., taking into consideration the needs of the company during the different phases of construction including the size of the peak labour force (See Chapter 3 for references).

In spite of the excitement generated by the publicity accorded to the project during the initial phases of its planning, the government of the Yukon Territory was aware that economic benefits to the Yukon would not be large or of long duration. The major problem was how to prevent the disruptive effects normally associated with such large construction projects[9]. They were concerned primarily with the construction phase[10]. The government's plan



and actions were based on preliminary estimates based on 1977 statistics and expectations. It was pressured into early development by the local business community anxious to take part in the boom[11].

While mining exploration has been very active in the past decade and has uncovered a number of prospective new mines, investment in the Yukon is dependant upon government policies and the private non-renewable resource sector. Markets for most Yukon products are determined externally, either in southern Canada or, as in the case of minerals, internationally, and this fact makes mining and exploration dependent on international market fluctuations. No new mines have commenced operation since 1969, and by 1983 all mines had ceased operation.

While the Yukon economy as a whole and especially its mining communities are exposed to the instability of the mining industry, Whitehorse during the last 10-15 years has enjoyed a more stable existence. This is due to the presence there of offices of the federal and territorial governments and the alternate industries located in Whitehorse. Most of the initiatives which are currently under consideration are located in the southern half of the territory. The construction of the Alaska Highway gas pipeline, future expenditures on the upgrading of the highway system, potential growth in the forestry and tourism industries, and future power development are expected to provide more permanent jobs and a more stable future for all of the communities along the Alaska Highway but especially for Whitehorse[12]. Nevertheless Whitehorse is influenced by the general economic slowdown of the Yukon economy of the early 1980's. There is no growth in the government sector and the service and retail sectors are gradually shrinking. With no mining activities the transportation sector based in Whitehorse is

disastrously affected. Consequently there is a decline in residential construction:

### Changes in governmental structure and responsibility

The urban development of Whitehorse and its vicinity was greatly influenced by the three levels of government which have played various roles at different times with different effects. In examining the changes in responsibility of the federal, territorial and municipal governments their roles as they affect residential land use, urban growth and housing will be focused on.

Due to its economic and developmental history, until the mid-1970's the municipality did not have a significant role in land-use planning. The federal government, accountable for settlement development until the late 1960's, transferred this right to the territorial government. By the early 1980's land use control and growth became a shared responsibility between municipal and territorial governments with the real power still resting with the latter, a situation very similar to the rest of urban Canada (Feldman and Graham 1981). The territorial government which owns undeveloped land in the city and its surroundings develops its own urban growth and land development policy.

Until the early 1950's the Yukon Territory did not have the administrative, legal or technical tools for the specific task of land use planning in general and for urban planning in particular. There were no plans

for the development of existing or emerging settlements nor were any agencies entrusted with planning for these settlements. There was no legislation permitting or making mandatory the planning of settlements or laws controlling the use of urban land (Ridge 1953).

Prior to 1950 Whitehorse did not have any formal municipal government. The Yukon Territory including its largest town Whitehorse was left largely to private enterprise. Public services were limited to maintaining law and order. The only political group concerned with the problems the city faced immediately after the war was the Board of Trade and its predecessor the Men's Council. Their immediate problems included the elimination of dust from the streets, the cleaning of lanes, the establishment of systems for garbage collection, water and sewage. While these local community organizations partially fulfilled the functions of a municipality and acted as a political pressure group to voice local concerns, Whitehorse was still seen as a military base with defence importance. The community as represented by the Board of Trade felt that substantial grants were needed from the federal and territorial governments to alleviate the unsanitary conditions and the acute housing shortage.

Although these problems were apparent and needed urgent attention, nothing substantial happened until 1949. Discussions as to how to deal with these problems ranged from expected direct federal assistance to the possibility of empowering Whitehorse with its own city government which would give the city the power to impose taxation on its residents. The power to tax themselves for collective services was adopted in order to accept grants and borrow. While the incorporation idea was initially rejected by both the Commissioner and the residents of Whitehorse the issue was raised again by the Territorial Council in 1949 when the borrowing powers of an incorporated city

were outlined as a solution to some of the problems of the city. At the same session a Municipal Tax Ordinance provided local government for Whitehorse. Incorporation, because of the borrowing powers attached to it, meant a more elaborate and more expensive form of city government and was subject to a plebiscite. Although the property owners of Whitehorse voted against it, Whitehorse became a city in June 1950 at the insistence of the Commissioner and the Territorial Council, on the advice of the Federal Minister of Northern Affairs (see more about the incorporation issue in Chapter 3). A mayor - city clerk - council municipal government system was adopted. At the end of the 1960's this system was changed to a city council - manager - mayor system in which the manager had more power than the mayor and again in the early 1980's to a city council - mayor - manager system. The council appoints a city manager to administer the policies it sets out. From 1950 on, local affairs of Whitehorse were governed by a municipal body which stayed weak and inexperienced due to its high turnover [13]. Final decisions affecting the direction of development of the city were made by the territorial council and the Commissioner.

The necessity for the Municipal Taxation Ordinance stems from an action with a larger scope. Starting from 1947 the federal government as part of its new northern development policy expressed its intention to extend to its northern territories certain new benefits relating to public health, welfare and housing. In exchange for the right to collect income and succession duties within the territory, the federal government offered an annual grant of \$2,000,000. The Taxation Ordinance was part of the scheme creating the legislative machinery to carry out the grant procedure.

The first municipal government started work on local improvements reacting to the immediate urgent needs of the long neglected community. The

responsibility of the municipality was limited strictly to street construction and maintenance, street lighting, fire fighting, operation of water and sewage systems, refuse collection and disposal. Administrative responsibilities included building inspection inside city limits and the licencing and operation of the dog pound. Decisions regarding land subdivision and development were a territorial responsibility, with the municipality playing only a superficial role.

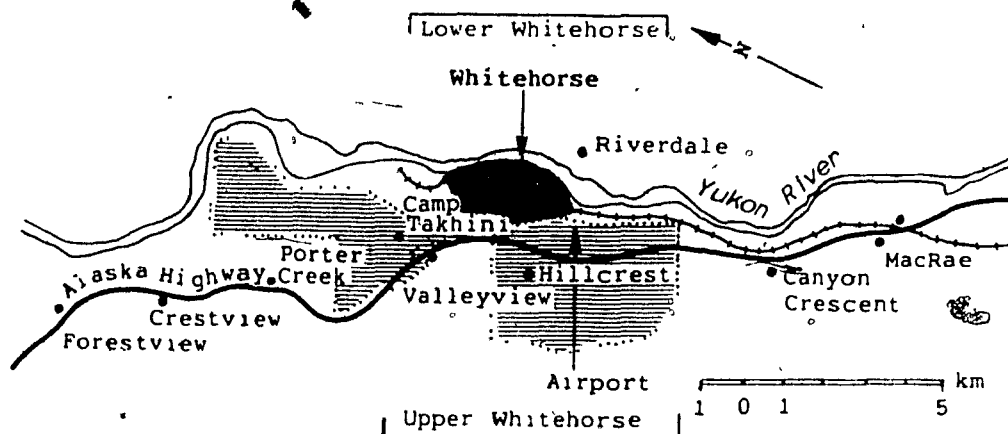
The town's biggest problem during the post war period and into the mid-1950's was an acute need for housing stemming from a shortage of available land to build on. During the war space was liberally allocated for United States military barracks, housing, and equipment storage by both the government and the major land owner, White Pass and Yukon Route Ltd. After all easily usable land on the townsite had been occupied, the government opened up a large area in the immediate vicinity of Whitehorse, the Military Reserve. After the war government employees including civilians and army personnel were well housed in accommodation provided by the federal government on the military and federal reserve, an area of 2,740 hectares immediately outside city limits, not subject to municipal taxation. These residential and service areas including Camp Takhini, Valley View and Hillcrest took up large areas without any thought for Whitehorse's future land needs (Fig. 2.7).

During this period there was no concerted approach to land use and residential land need in the Whitehorse area. It seems that each level of government had different ideas and solutions. The territorial and municipal levels were weak and limited in their experience and jurisdiction. Responding to the acute need for land and housing in the wake of northern development, between 1954 and 1961 the federal government opened one planned and serviced subdivision (Riverdale) and six unserviced areas along the Alaska Highway. The



Note the elongated military buildings in the enframed areas.

Source: Canada, Department of Energy, Mines and Resources, A10557-113, August 1946, 1:25,000



Source: 'Whitehorse Metropolitan Plan Report', CMHC, 1963

Figure 2.7 Whitehorse federal military reserve, 1961.

federal government chose the line of least resistance and opened up land for development in the proximity of Whitehorse without looking at the specific problems faced by the town or the consequences this spread of settlement created. The opening up of the unserviced subdivisions involved subdivision of the the land and surveying the lots in advance of purchase. Lots were sold primarily to individual house builders. Initially no roads or services were provided or promised (see more about this period in Chapter 3, Residential growth history).

In accordance with recommendations made by the Interdepartmental Committee on Federal-Territorial Financial Relations all lots in the new serviced addition to the City of Whitehorse (Riverdale) were transferred to the government of the Yukon Territory without charge. During 1957-58 subdivisions at miles 923 and 925 of the Alaskâ Highway were also transferred to the territory by the federal government for subsequent disposal, as were all subsequent residential-type subdivisions.

During the post-war period and into the 1960's the territorial administration was dependent upon the federal government for practically all financial, administrative and technical assistance (Ridge 1953:531). However during that time even the federal government was a novice in community and town planning in the north, and its concern for Whitehorse was minimal. The rapid pace of northern development at the end of the 1950's was reflected in the reorganization of the Northern Administration Branch of the federal Department of Indian Affairs and National Resources. Its new Industrial Division covered matters related to community and area planning[14].

The development of government in the Yukon Territory at that stage progressed extremely slowly. From 1918 to 1951, a period which included an economic slump and wartime defense priorities, political development regressed

and there was a reduction in the degree of self government (Evans 1979; Gairns 1978). The first wholly elected Executive Council styled after the provincial cabinets was created in October 1979[15]. At the same time the Commissioner's powers as a representative of the federal government were also reduced while the position of the Yukon government leader was strengthened. Legislation today comes from elected representatives. Department administrators (e.g. Department of Local Government) are deputy ministers whose duty is to ensure that government policy enacted by the politicians is carried out. They ensure that the departments enact and deliver programs requested or demanded by the electorate[16].

Constitutionally the territorial government is a creature of the federal government. While the elected territorial council today has nearly all of the legislative authority of a provincial assembly, there is a basic difference in the constitutional status of the territory. The commission-in-council has no authority over mineral rights and only limited authority over certain restricted areas of land, also known as Commissioner's Lands (lands under territorial jurisdiction). Authority over mineral rights and most public land is reserved for the federal government, while elsewhere in Canada it is the exclusive domain of the provinces (Redpath 1979). For most matters affecting Yukon land the territorial government plays a merely consultative role. Consistent with this restriction in decision making with regard to the use of land and resources is the reduced capacity of the territorial government to raise revenue. All income tax in the territory is levied by the federal government. The territorial government relies for its funding largely upon annual federal subsidies. Only since 1954 has the territorial government been given the administration of certain lands for certain limited purposes. These lands were concentrated in and around



established communities. Since then minor transfers of lands near settlements from federal to territorial administration have occurred, and provisions exist for other transfers. Included in these transfers were the new residential subdivisions in the Whitehorse area.

The early transfers included only administration and management and that only of surveyed land. Decisions regarding policy and regulations were made by the federal government until the end of the 1960's. By 1970 the administration and control of all Crown land in the greater Whitehorse area was transferred from the Department of Indian Affairs and Northern Development to the Commissioner of the Yukon Territory whether such land had been surveyed or not (Redpath 1979). Land development became the full responsibility of the territorial government and included the administration of rules and regulations, planning, zoning and availability of land; servicing of property; pricing of property including all services provided and inspection of property outside city limits. During the 1960's and 1970's new territorial offices (departments and branches) in charge of land administration, housing, land development and municipal engineering were opened [cf. reference 15]. Control of the land in the vicinity of the established settlements was made possible by the federal government Block Land Transfer Program which started in 1970. Under the transfer program, in 1971 the Whitehorse metropolitan area received an additional 621 km<sup>2</sup> of land. The territorial government hopes that sometime in the future the federal government will transfer control over all surface rights to land, but at the moment the federal government has no intention of doing this [17]. In the short term the territory's goal is to expand their control to more and more land in a piecemeal fashion under the existing land transfer provisions. While in certain cases there is a definite need for Block Land Transfers [18], these are being used by the territorial government

in its long-range plan [cf. reference 10] to wrest control of more and more land in the Yukon from the federal government.

The municipality and its surrounding area got its first town planning advice in 1960 from the Queen's University report and its first metropolitan area plan in 1963 at the request of the federal government Department of Northern Affairs and Natural Resources [cf. reference 1]. For the first time the inhabited Whitehorse area was looked at as a whole with an eye to the future. In 1970 the territorial government decided that the whole Whitehorse metropolitan area (160 square miles or 414 km<sup>2</sup>) should be governed by a single responsible municipal government, and it made the city boundaries of Whitehorse identical to those of the metropolitan area. The city became responsible for urban planning within its boundaries but still subject to the active guidance of the territorial government. Until 1980 there were no professional urban planners employed at either the territorial or municipal level. The territorial government continued to act as land developer, with development plans being prepared in cooperation with the city's planning board and the territorial government. Community development plans and subdivision plans were prepared with the help of outside consultants on a contract basis. The terms of reference were prepared by the City while the territorial government reserved its right of approval. With the boundary extension of 1971 the balance of responsibility and control changed, but the territorial government retained the lion's share of the decision making for the next ten years.

The present responsibilities and decision-making powers of the municipality and the territorial government concerning urban development are clearly spelled out in the new 1980-1984 Municipal Ordinance and in the Yukon Planning Act. The Municipal Ordinance and the Planning Act drawn up by the

territorial government with the cooperation of the Association of Yukon Communities gives lots of flexibility and room for decision making to the municipality. Issues open for questioning and dispute are debated by the also new Yukon Municipal Planning Board established by the Commissioner.

Responsibility for the use of land, for urban growth and the provision of housing in Whitehorse and its vicinity during the period studied was greatly influenced by the evolution of self-government in the Yukon Territory. In the post-war period because of the youth and inexperience of the municipality and because of the lack of responsibility of the territorial government the limited institutional initiatives and aid for the city and its problems came from the federal government. Gradually the municipal and territorial governments gained more responsibility and decision making power for two basic reasons: northern development and its accompanied population growth necessitated a certain degree of decentralization; local levels of government grew more and more experienced and capable of more responsibility for their own affairs.

What exactly these changes in responsibility and decision making power meant for the city of Whitehorse at different times during the period studied, how dependent the process of residential land use planning and housing were on these changes and what this dependence meant will be examined in Chapters 3, 4 and 5 in the framework of the planning and housing history of Whitehorse.

Acquiring land or transferring land from federal to territorial jurisdiction is clearly a political process. Requests for additional land have gone beyond the needs of urban growth. Under the guise of an arguable need, the territorial government wants to gain control over more and more land as part of its fight for more power. But before land transfers take place

some basic questions should be answered: Public interest does not coincide for the federal and territorial governments. Which one is more valid? National and local land policies are still ill-defined. Who should ultimately control land? What land? How much of it? What kind of control should they have? These conflicts influence the direction and form of urban development of northern communities in general and of Whitehorse in particular.

### The range of demands of the Whitehorse population

#### *Population change*

Impressive changes in the number of people living in Whitehorse have occurred over time (Fig. 2.8 and Table 2.2). The two exceptional short-lived boom periods were the consequence of the gold rush and World War II defence activities. The first boom period was followed by decline and stagnation, the second by rapid decline, slow growth until 1966, more rapid growth up to 1971 and a more modest one up to 1981. The more rapid growth began when the government's efforts to build the infrastructure and promote exploration were realized through the opening up of several mines in the territory. The territory's growth pattern closely parallels that of Whitehorse, although Whitehorse displays a slightly faster growth rate and concentration of population.

# Whitehorse, vicinity and the Yukon Territory,

1901 - 1981

Census data  
Whitehorse

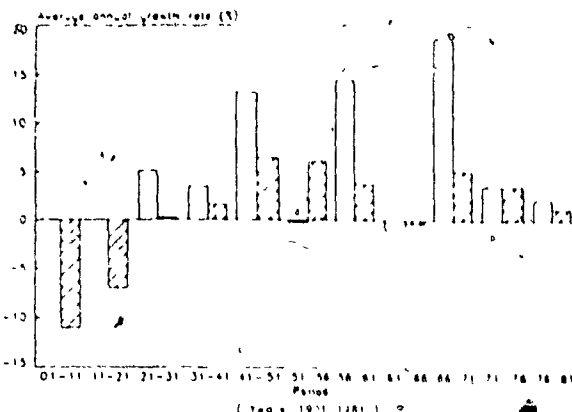
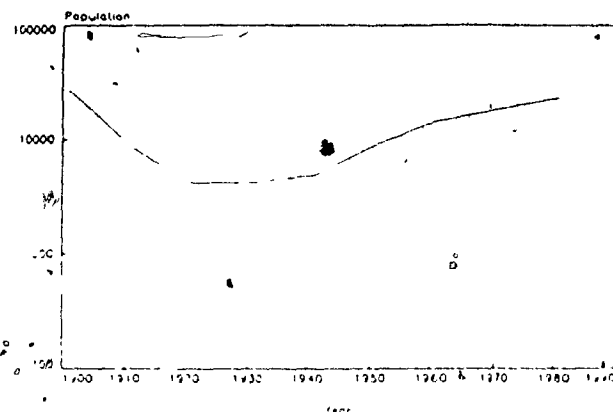
Census data  
Yukon

Estimated data

## Population growth rate

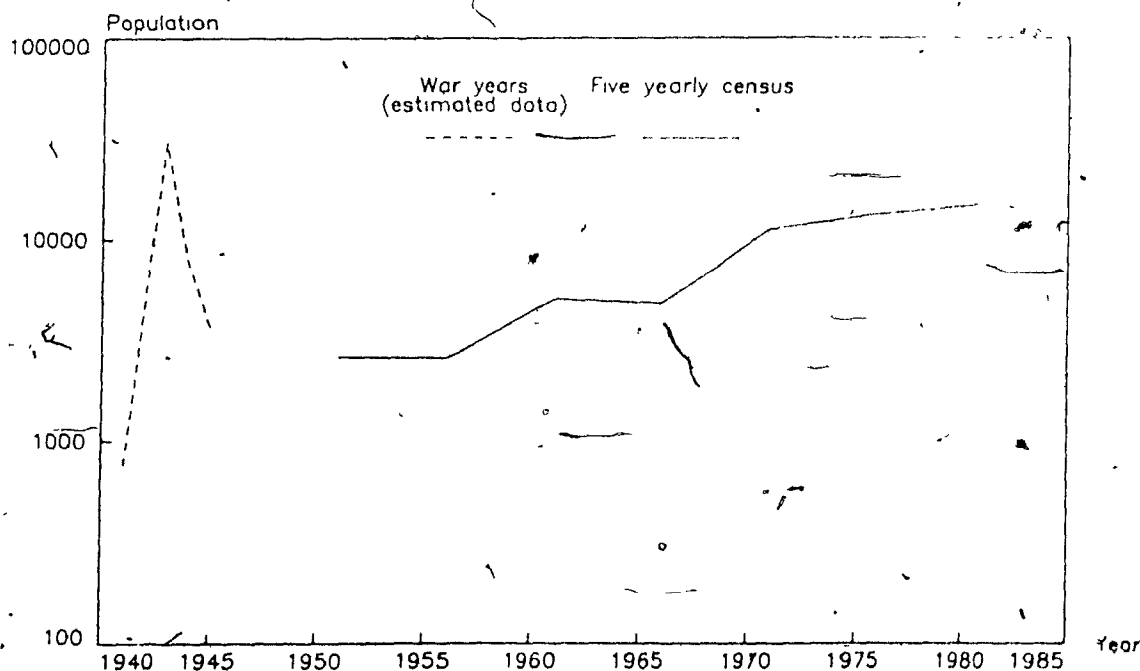
Whitehorse

Yukon



Note: The early Whitehorse data (1901) and the Whitehorse metropolitan area data (1951 and 1961) is estimated data. For data and source see Table 2.2.

## Whitehorse, 1941-1981



Sources: 'Whitehorse Metropolitan Plan Report', CMHC, 1963; Statistics Canada, 1981 Census, Yukon; and G.Buse, 1978.

Figure 2.8 Changes in population, City of Whitehorse, its vicinity and the Yukon Territory, 1901-1981

Table 2.2

Whitehorse and Yukon Territory,  
population statistics, 1901-1981.

Census year	Population Yukon	Whitehorse	Whitehorse population as % of Yukon pop.
1901	27 219	n.a. (2 000) (1)	(7.3)
1911	8 512	852	10.0
1921	4 157	331	7.9
1931	4 230	541	12.7
1941	4 914	754	15.3
1951	9 096	2 594 (5 031) (2)	28.5 (55.3)
1961	14 628	5 031 (8 056) (2)	34.3 (55.0)
1971	18 388	11 217	61.1
1981	23 153	14 814	63.9

Sources: Statistics Canada, Census years. 1) approximate data quoted by Koroscil, 1971, p.66. 2) Whitehorse metropolitan area population quoted by Lotz, 1961 and "City of Whitehorse - Survey and Analysis", 1976.

By 1901 the Yukon population had reached 27,219 and Whitehorse had a population of 2,000 (7.3%), most of whom were young single men. Employment was shared among the different branches of the transportation industry handled by the White Pass and Yukon Route Ltd., government representatives such as the Northwest Mounted Police, and the business community providing services for miners and people on their way to the mines.

As gold became less accessible and the small-scale miner was replaced by large mining companies employing more efficient mining methods, the Yukon experienced a sharp drop in population. In 1911 the Yukon had a population of 8,511, of which Whitehorse had 852 (10%). That population was still male dominated and highly transient. Almost all economic activity was concentrated

in the summer season, when transient labourers such as ship workers and dock hands entered the community in large numbers to meet the demands of the shipping season. The British Yukon Navigation Company provided large bunkhouses near the river (Werner 1975). Between 1921-1931 the White Pass and Yukon Route Ltd. employed the majority of the working population. By 1931 the Whitehorse population had dropped to 541.

This trend was reversed with the onset of World War II defence activity. There was an immediate need for housing for the sudden influx of population. The military were served first in tents, barracks, then proper houses. Civilians who came on their own to participate in the large construction projects had to build their own accommodation. They had to act quickly and did not have much land or suitable construction materials to choose from. This period marked the beginnings of the squatter problem (Koroscil 1978).

After a drastic drop in the population of the Whitehorse area from 30,000 in 1942 to 5,031 in 1951 (inside Whitehorse city limits 2,594), Whitehorse experienced a generally steady growth [19].

The 1951 census still shows a predominantly male population, but by 1981 the sex ratio is closer to most Canadian cities in the south, showing that Whitehorse is now less of a Canadian frontier. The sex ratio in Whitehorse changed from 120 in 1951 to 112 in 1976 and 108 in 1981. The Whitehorse population was and is predominantly young. The population has a tendency to replace itself instead of aging. The population pyramids of Whitehorse resemble the pyramids of southern Canadian suburban developments (Fig. 2.9, 2.10). The age cohort distribution of Whitehorse for 1961, 1971 and 1981, shows that the aging evident in the southern more inhabited regions of Canada is not apparent in Whitehorse (Fig. 2.10). A large percentage of people

over forty leave Whitehorse every year. During the 1960's and 1970's, population growth occurred primarily in the 15-34 age group as a result of continuous immigration to Whitehorse. A large percentage of the population (38% in 1951, 42 in 1971 and 56 in 1981) fell between the ages of 20-44. This means that in Whitehorse there is a large percentage of population in the category of growing income, a large segment who are dominant in every respect, vote, pay taxes, set the lifestyle, influence the housing market; in summary, people who are able to define the direction of development.

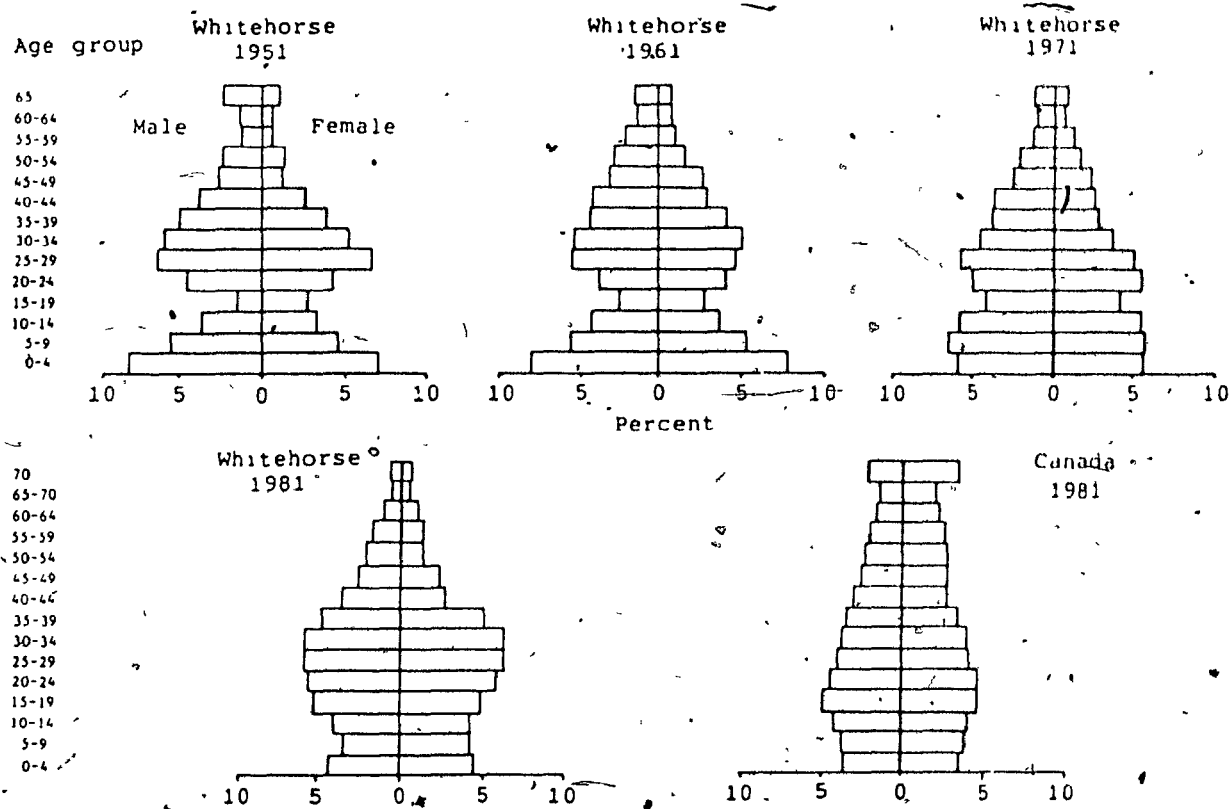
The population's ethnic composition has remained consistent over time, is predominantly of British origin, with native Indians as the third largest ethnic group coming after French Canadians.

### *The native population of Whitehorse and its origin*

The local distribution of native people is shown in Tables 2.3, 2.4. According to the 1981 census, 39.4% of the total native population of the Yukon Territory lives in Whitehorse. Of the 1,595 people of native origin in Whitehorse, about one-third (32.9%) are members of the Kwanlin Dun Band (Whitehorse Indian Band) or are status (registered) Indians. Of the 526 people in the Band 38.9% or 205 live in the Whitehorse Indian Village.

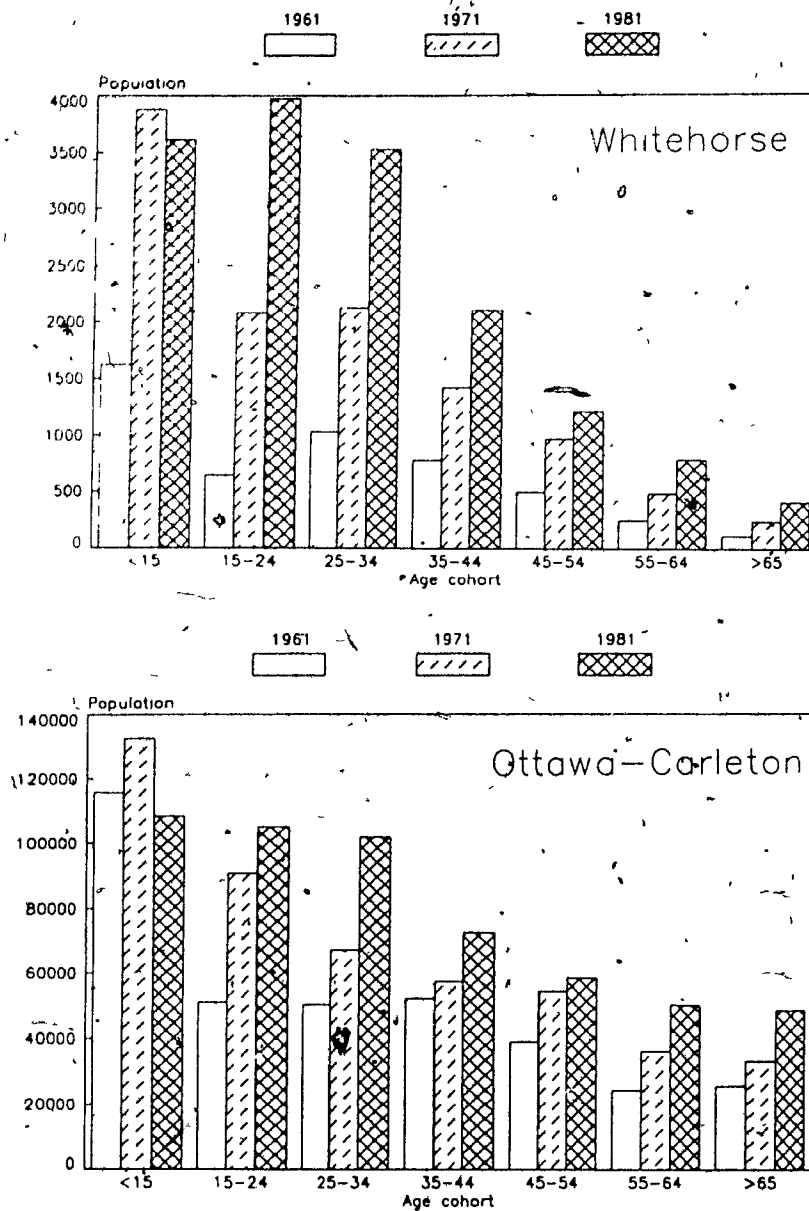
The severe climatic conditions and the relatively small amount of game kept the Yukon Indians of past centuries scattered over a very large area, with only a few family groups in any one location. Records of earliest Indian communities show their existence was attributable to their location on





b Source: Data derived from Statistics Canada publications

Figure 2.9 Population pyramids, Whitehorse and Canada, 1951-1981



Sources: Compiled from data collected by G. Buse, 1978; Statistics Canada, 1981 Census; and Regional Municipality of Ottawa-Carleton, 'Population projections -- Ottawa-Carleton, 1981-2001', Ottawa, 1983.

Figure 2.10 Age cohort distribution of Whitehorse and Ottawa-Carleton, 1961-1981

Table 2.3  
Native population distribution, Yukon Territory,  
Whitehorse and Indian Village, 1971 and 1981

	Yukon		Whitehorse		Indian Village	
	1971 (2)	1981 (3)	1971	1981 (4)	1971 (5)	1981
Indian (registered band member or status Indian)	2452	2770	560	526	450 (6)	205 (4)
Metis	716	190	260			
Non-status Indian		990				
Native people (Indian & Metis)	3168		725			
Native people (status and non-status) (1)			1595	1255		
People with multiple origin which includes native origin (1)		630		340		10 (4)
Total population of native origin (1)		4675 (7)		1595		215

Sources and notes:

1. In the 1981 Census of Population, the question concerning ethnic or cultural origin was changed, soliciting the reporting of ethnicity as perceived by the respondent. The result was a more comprehensive and accurate account of native peoples than was the case in 1971. See "Briefing for users of Native Peoples Data" in Statistics Canada Daily, February 1, 1983.
2. Statistics Canada, 1971 Census, Cat. 92-762; Canada, Indian and Northern Affairs, "Socio-economic baseline data inventory of the Yukon Territory", 1978.
3. Statistics Canada Daily, 1 February 1983, Table 2. Native people by type, Canada and Provinces/Territories, 1981.
4. Statistics Canada, Special tabulation EA C8B13, Population by ethnic origin (12) and sex (3) - 1981, Request number 3, p.1-5 (Yukon). Obtained from the Department of Indian and Northern Affairs, Ottawa.
5. Canada, Indian and Northern Affairs, "Socio-economic baseline data inventory of the Yukon Territory", 1978, Table: Community population by community and ethnic origin, Yukon Territory, 1971.
6. Estimate of the Department of Indian and Northern Affairs, Yukon Region in WCR, Census files, March 1972.
7. Includes 95 Inuit.

Table 2.4

Distribution of population of native  
origin by residential area, Whitehorse, 1981

Residential area.	Native people (Indians)	Native people of multiple origin	Total pop. of native origin.
Riverdale	370	185	555
Downtown	260	45	305
Indian Village	205	10	215
Porter Creek	200	50	250
Hillcrest & Lowbird	70	20	90
Valleyview & Kopper King	55	5	60
Takhini trailer court	40	10	50
McPherson & Crestview	30	5	35
Woolf Creek	25	25	
Takhini		10	10
	1255	340	1595

Source: Calculated from Statistics Canada, special tabulation EA C81B13, Population by ethnic origin(12) and sex(3)-1981, request number 3, p.1-5 (Yukon). Obtained from Department of Indian and Northern Affairs, Ottawa.

routes of trade between the coastal people and interior people, as well as to the proximity of fish and game resources. Anthropologists have designated populations and territorial divisions according to language groups (Jenness 1967), but they do not represent meaningful social, economic or political units. The basic unit of social organization was the family. Related families grouped together in small bands in order to hunt and fish in specific geographic areas (Vanstone 1974:33-39; Osgood 1936).

The impact of the fur trade upon the northern Indians has been discussed by Naysmith (1976:30-35), Archibald et al (1977), Innis (1962) and many others. Before World War II, virtually all trappers in the Yukon were Indian. After the war, an increasing number of non-Indians began trapping as

a means of livelihood. Since the 1950's the more restrictive legislative control over trapping, availability of alternate sources of income and decreasing fur prices made trapping a less attractive occupation. Over the years, due to permanent settlement and job opportunities, major fluctuations have occurred in the distribution of the native population. The new settlement pattern was a decisive factor in bringing Indian communities to the marginal economic position they have in the present Yukon economy (Graham 1979:24).

Yukon bands were formed in 1947 for administrative purposes. At that time all Yukon Indians living on the trap lines were settled in twelve villages along the highway, convenient for the Indian Agent, the representative of the federal government. The Band Council was the administrative arm of the Indian Agent.

The introduction of paddle steamers and the completion of the White Pass and Yukon Railway in 1900 made Whitehorse the main point of transfer from rail to water transportation and a place with job opportunities. Due to the availability of wage work, Indian people began to move to Whitehorse. However only after the Alaska Highway was built in 1943 and Whitehorse became a major centre did Indian families begin moving there in large numbers, initially from nearby lakes and rivers and later from more distant communities. Due to falling fur prices and a lack of cash from trapping, the Indians had added reason to concentrate in highway settlements. The highways themselves put more pressure on the game population (Graham 1979). The testimony of Cruikshank, a Whitehorse-based anthropologist, before the Lysyk Inquiry (Lysyk, Bohmer and Phelps 1977:14) illustrates this circular process vividly:

"In 1942, fur prices were lower than they had been for many years. Many native families who traded at posts near the new highway route (Teslin, Champagne, Burwash Landing) decided for

the first time not to trap that winter, but rather to remain at the post or go to Whitehorse to seek employment related to highway construction. After the highway was completed, many of these people continued to live year around along the highway where they were joined by other Natives. A steady drift of Natives from all over the Yukon to the margins of Whitehorse began with the building of the highways and continued ever since."

The Indians lacked the skills imperative for modern wage labour and lacked the educational and cultural background necessary for urban living. The approach used for the integration of native people into the mainstream of white society proved to be destructive in many respects. Native people in Whitehorse like other native people living in Canadian urban centres have special problems of adaptation to town life. They suffer conflict over style of life and confusion of values as an effect of the proximity of the local white society, lack of tolerance and church education. According to Alexander (1969:90-105), this conflict and confusion is the most important source of their marginality. The Yukon Indians were less exposed to white culture than those in the United States or southern Canada. Due to the very short period of transition (less than one hundred years) the destructive effects of integration are still very apparent. Native children were removed from their families and educated in missions. In Whitehorse Indian students were first allowed to attend public schools in 1960. The curriculum offered by the territorial school system was still absurd for Indian children. Native history was left out of school books and nothing in the school was linked to their heritage. Many teachers did not understand or appreciate the difference between Indian and white values. Native parents felt that communication between parents and teachers regarding their children was always one way.

Native youths continued through the 1970's to leave school prematurely and without adequate education.

Recognizing the serious faults of the educational system DIAND changed its policy in the early 1970's. The effects of the change have not as yet been felt. Native people feel that along with the change in the educational curriculum, larger native communities such as that in Whitehorse should have their own elementary school as an integral part of the total community [20].

Consultants' reports document a high rate of illiteracy, unemployment, alcoholism and the collapse of cultural values among Kwanlin Dun Band members (Whithorse Band) [21]. The Kwanlin Dun Band experienced several negative impacts from the boom and bust nature of the local economy, the educational system of the territory and the aggressively white culture. The Band as a political and administrative entity is relatively new. Until 1952, there was no coherent decision-making body within the Indian Village to act on behalf of the Indian people, or to provide the organizational framework necessary to maintain community cohesion [22]. Between the first federal government involvement in Indian welfare and medical assistance in 1894 (Coates 1983) and the early 1980's the Indians were caught in the mesh of paternalistic politics that made them ever more dependent on the government. The job base of Whitehorse Indians and their average purchasing power will be discussed in the next section, on the labour force. Their weak position in the urban economy is the basis for a weak position in the housing market and a complex and conflictual class position which also constrains the native community.

## *Labour force structure in Whitehorse*

Whitehorse in this generation is based on a service economy, but of a rather special type. It is more dominated by government employment than most cities of its size. Between 1951 and 1981 employment continued to be shared among government, transportation and business services. Before the capital's official move to Whitehorse in 1954, government in Whitehorse was represented by territorial offices such as the territorial agent, the superintendent of game and publicity and the superintendent of liquor control. The federal government had offices representing the Department of Resources, Justice, National Defence, National Revenue, Public Works, Transport, Canada Post and the Royal Canadian Mounted Police.

Most of the population growth of Whitehorse between 1954 and 1981 can be attributed to jobs in the government sector. The growth of the government sector in the territory between 1961 and 1981 is shown in Table-2.5. In 1976 Whitehorse had 70% of all government employees of the Yukon. Between 1971 and 1976 the number of government employees increased by 38%, while Whitehorse's population increased by only 16% (Duerden 1979:73). The town's role as an administrative, service and transportation centre is evident (Table 2.6). The growth of employment in the mining sector in 1971 represents the exploitation of the Whitehorse copper belt by the New Imperial Mines of copper, gold and silver. By 1970 the mine was one of the larger private employers in the city employing 200 people. The overall proportion of employment in the dominant industries however remains more or less the same. During the years only minor changes occurred, e.g. by 1971 there was a decrease in the role of public administration and defence due to the departure of the military. The larger



industrial employers in 1981 are community, business and personal service industries (25.9%), public administration and defence (21.9%), trade (15.9%) and transportation, communication and other utilities (14.1%).

Comparison with other Canadian cities of 10,000-30,000 population shows that Whitehorse employs more people in public administration and defence, construction, transportation and storage. Most cities of that size employ more people in manufacturing and service[23]. There are of course mining towns yet more specialized, such as Fort McMurray (population 15,424 in 1976) whose labour force is concentrated in mining (31.6%), services (20.0%) and construction (11.0%) (Buse 1978).

Because of the seasonality of certain jobs and the uneven nature of the economy - not evident from the ten-yearly censuses - both Whitehorse and the territory often experienced shortages of qualified labour. When the military moved out of the city taking with them their wives, government offices met a shortage of skilled stenographers and typists. The demand for construction skills, particularly for carpenters and heavy equipment operators, could not be filled by skilled labour in 1955-56. In the summer there is always a shortage of skilled service personnel in the tourist industry. Highway maintenance, road construction, placer mining, surveying, exploration and tourism (outfitting) offer lots of seasonal work. During times of recession (e.g. 1961-1966) people leave the territory, and when recession ends hundreds of jobs can not be filled. There is always a lack of qualified people but a surplus of unskilled workers registered in the employment office of the territory[cf. reference 15]. The extreme seasonality of employment is shown in the unadjusted unemployment rate for the period of December 1981 - December 1982 for the Yukon compared to Canada and selected

Table 2.5

Territorial and federal government employment Yukon Territory,  
1961-1981

Year	Ter. gov. employmen	Fed. Gov. employment	Local gov. employment	Total gov. employment
1961	293 (2)	1913 (1)		2206
1966	643 (2)	1205 (1)		1848
1971 (3)	1136	1241	90	2467
1976 (3)	1550	1441	152	3143
1981 (3)	2053	1365	213	3631

Sources: 1) Canada, Department of Indian Affairs and Northern Development, Government activities in the North, Ottawa, 1962 and 1967. 2) Statistics Canada, Provincial government employment, Catalogue #72-007 3) Statistics Canada, Federal government employment, Catalogue #72-004; Provincial government employment catalogue #72-007.

provinces ( Fig. 2.11). A certain number of people leave at the end of each season, while some permanent residents stay unemployed in the winter season.

The relatively narrow economic base of Whitehorse attracts only a limited range of occupational types, which implies that relatively few individual skills would be supplied to the permanent labour force. Transients and seasonal workers supply what is missing such as certain occupations needed in road construction surveying and mineral exploration.

While the 1951 and 1961 occupational census is not comparable with the 1971 and 1981 census for statistical purposes [24], it is safe to say that the occupational structure of Whitehorse has changed little, fluctuating only in numbers. However over the years the population of Whitehorse has become more skilled and more educated. Table 2.7 shows the major occupational groups for Whitehorse for 1971 and 1981. In 1981, 40.1% of the labour force was in a higher-paid occupational category while 48.5% in a medium-paid category [25]. The majority (approximately 88.0%) of job opportunities are in the medium and

Table 2.6

Employment distribution, labour force activity by industrial division, Whitehorse, 1951-1981.

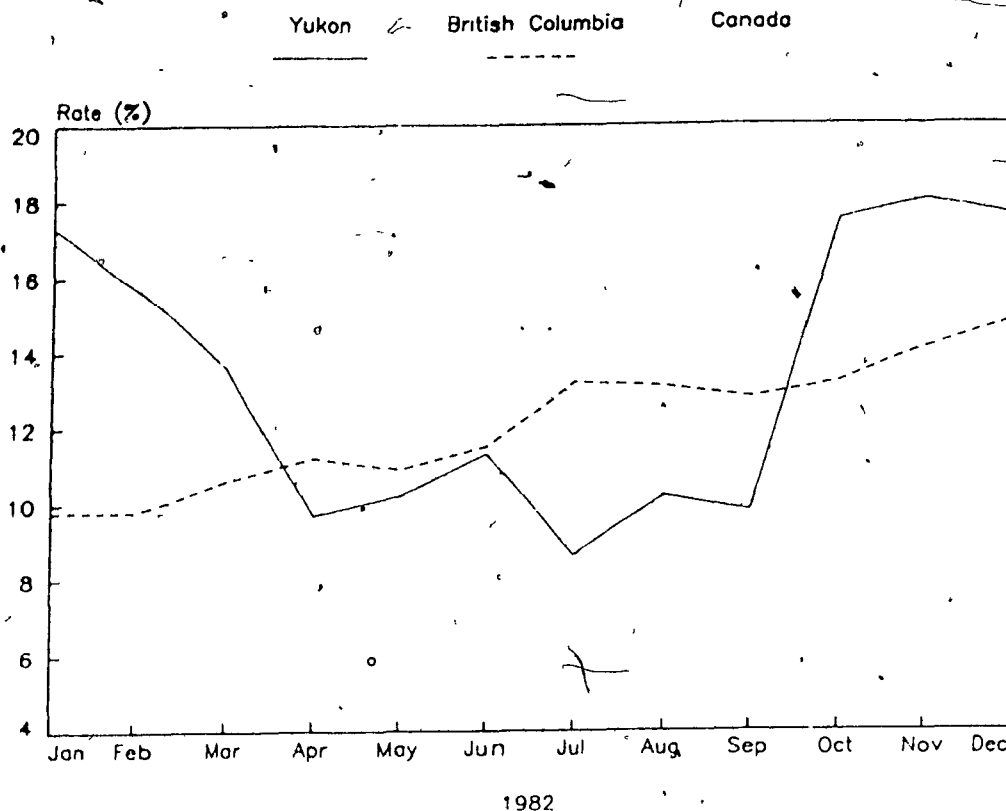
Industrial division(1)	% of all industry or labour force (2)			
	1951	1961	1971	1981
Primary industries (agriculture, forestry, fishing and trapping, mining)	3.1	4.6	8.3	6.4
Manufacturing industries	4.7	2.4	1.9	2.6
Construction industries	10.3	9.9	7.6	8.0
Transportation, communication and other utilities (includes storage)	24.2	13.4	14.8	14.1
Trade	12.7	14.5	13.5	15.8
Finance, insurance and real estate	1.4	1.8	3.0	5.5
Community, business and personal service industries (includes tourism)	17.0	24.6	22.4	25.9
Public administration and defence	25.7	25.1	15.1	21.9
Unspecified and undefined(3)	2.0		13.4	

Notes: 1) The industry classification is based on the 1970 Standard Industrial Classification Manual of Statistics Canada. 2) The universe shown for industry is the labour force or people employed in all the industries listed as given by Statistics Canada 3) In 1981 this category has been redistributed by imputation into new "imputed groups" within each major group. See Statistics Canada, 1981 Census Dictionary, p.27.

Sources: Statistics Canada, 1951 Census, Microfilm, Run 2; Yukon Industries, pages 1653-1656; Buse, 1978(data for 1961 and 1971); and Statistics Canada, 1981 Census, Yukon. Selected social and economic characteristics Catalogue 93-x-947(E-581).

higher income categories, which indicates a more homogeneous society from the income point of view.

# Comparative unemployment rates Yukon, British Columbia and Canada



Note: Unemployment rate is unadjusted

Source: *Yukon Economic Review*, fourth quarter, 1982, p.17

Figure 2.11 Comparative unemployment rates: Yukon, British Columbia and Canada, 1982.

Table 2.7

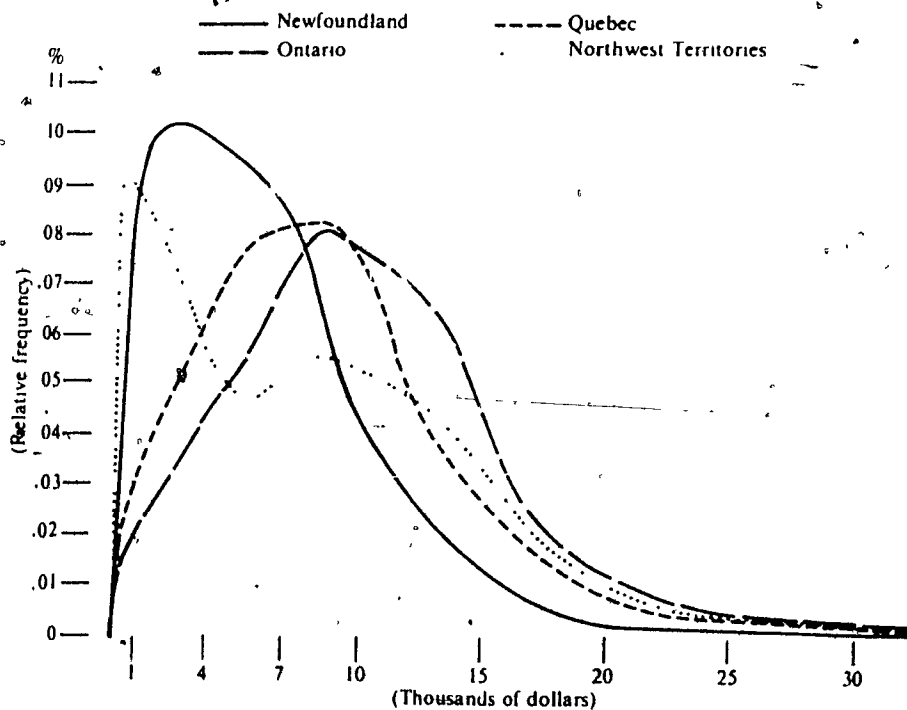
Occupational distribution, Whitehorse, 1971 and 1981.

Occupations - major groups	1971		1981	
		%		%
Experienced labour force	5220	100	8680	100
Managerial, administrative and related occupations	215	4.1	1135	13.0
Teaching and related occupations	185	3.5	325	3.7
Occupations in medicine and health	135	2.6	290	3.3
Technological, social, religious, artistic and related occupations	285	5.5	750	8.6
Clerical and related occupations	885	17.0	1870	21.5
Sales occupations	390	7.5	590	6.8
Service occupations	700	13.4	1120	12.9
Primary occupations	130	2.5	330	3.8
Processing occupations	55	1.0	65	0.7
Machining, product fabricating, assembling and repairing occupations	455	8.7	565	6.5
Construction trades occupations	435	8.3	725	8.4
Transport equipment operating occupations	390	7.5	420	4.8
Other	235	4.5	495	5.7
Not stated	725	13.9		

Sources: Calculated from Statistics Canada, 1971 Census, Microfilm MPLF05-2B Whitehorse, Experienced labour force by occupation; 1981 Census, Selected social and economic characteristics, Yukon, Cat. 93-x-947(E-581).

The Yukon along with Ontario, Alberta and British Columbia was shown in 1970 to have higher income levels than other parts of Canada, and incomes more evenly distributed among households (Fig. 2.12). In 1971, 61.0% of Yukon residents were living in Whitehorse and they accounted for 67.0% of the income reported [26].

Although today a large percentage of the native labour force has obtained some modern skills, very few are steadily employed due to rigid attitudes concerning work experience and preconceptions about the native work ethic. The only place they are hired in large numbers is by government



Note: The family income distribution for the Yukon resembles that of Ontario.

Source: Economic Council of Canada, 'Living together, a study of regional disparities', Minister of Supply and Services Canada, 1978, p.41.

Figure 2.12 Regional family income distribution, selected areas, 1970

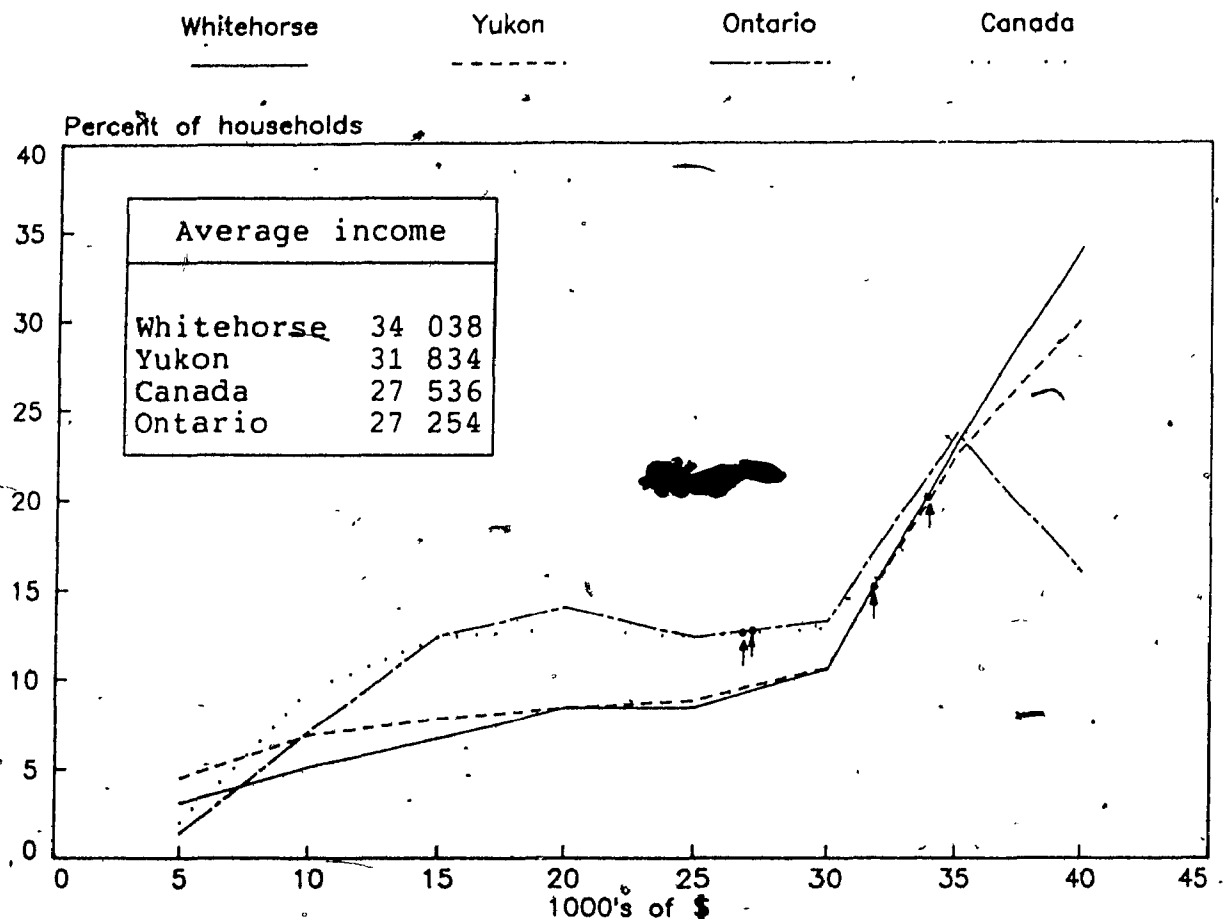
agencies. These jobs were mostly clerical and secretarial positions in the 1970's (Thibault 1975). The native people are generally listed in employment categories such as labourers, recreational personnel, hunters and trappers.

The Canadian average family income was \$9,600 in 1970, while it was \$12,311 for Whitehorse (Kuo and Mathurin 1975). There is an overwhelming difference between the income of families of native people and all others. The census family income per family member was \$6,624 for Indians and \$12,549 -- nearly double-- for all others[27].

Family income distribution in Whitehorse for 1981 has been compared with that of Canada and selected regions for population centres under 30,000 (Fig. 2.13). Whitehorse and population centres in British Columbia have a larger percentage of their population in the higher income categories. Average family income is highest in Whitehorse (\$34,038) followed by British Columbia (\$31,223). Average income for Canada is \$27,536. Average weekly earnings for the period 1977-1980 were 38.1% more in the Yukon than in Canada as a whole[28].

A Yukon taxation study done in 1969 clearly showed the Yukon's superiority in income level and distribution as compared to Canada and specifically to Alberta, British Columbia and Prince George, British Columbia[29]. In the Yukon in 1970, 44% of households paid taxes, the highest percentage for all provinces and territories in Canada, the closest being Ontario (41%) and Alberta (35%) [30].

The five-year period beginning in 1966 witnessed a remarkable increase in the income earned by Yukoners. From the end of the 1960's the North was by far the fastest expanding administrative region in Canada in terms of income growth. Personal income in the Yukon and Northwest Territories increased by 60% while in the next fastest growing area -- Alberta -- it



Sources: Compiled from data published in Statistics Canada, 1981 Census, Income distribution by population, size of area of residence in Canada, Catalogue 13-207, Table "Percentage distribution of families by income group residing in areas with population under 30,000", and Selected social and economic characteristics, Yukon, Catalogue 93-x-947YE-58D.

Figure 2.13 Family income distribution in Whitehorse, Yukon, Ontario and Canada, 1981



increased by 37% (Palmer 1973). While the major source of income growth in the Yukon was the private sector, which provided the territory with its major stimulus, in Whitehorse the role of the government sectors is more significant.

Analyzing the consumption patterns of the families and individuals of Whitehorse it is possible to draw conclusions about certain activities that Whitehorse residents do more or value more than their counterparts in other major cities in Canada. The way they spend their family incomes implies that they function as a high-income city, more like Vancouver and Edmonton than Montreal, Toronto or the eastern cities. For this reason comparisons are made, with Edmonton and Vancouver, comparable also from an income point of view (Table 2.8). The majority of immigrants to the Yukon and Whitehorse come from urban centres in British Columbia and Alberta, and bring their consumption patterns with them.

According to the Statistics Canada 1972 patterns of expenditure survey Whitehorse residents tend to spend more for just about everything because of the higher prices in the north. While they spend more, that expenditure as a percentage of their total consumption is comparable to that in Vancouver and Edmonton. The only item for which they spend more but which represents a slightly smaller percentage of their total expenditure is shelter (Edmonton 14.9%; Vancouver 16%; Whitehorse 14.0%). Concerning shelter Whitehorse residents spend disproportionately more on materials, plumbing, heating systems, electrical work, carpentry, water and fuel. Qualified labour is scarce and therefore very expensive, and most construction materials are imported from outside the territory. Whitehorse residents consume a lot more water[31] and fuel because of the long winters. These aspects of shelter in spite of the cheaper land prices make shelter expensive. Whitehorse residents

Table 2.8

Patterns of expenditure, Whitehorse, Edmonton and Vancouver 1972.

	Whitehorse	Edmonton	Vancouver
Food	2248.1 ( 16.0)	1694.6 ( 15.2)	1727.9 ( 16.5)
Shelter	1974.5 ( 14.0)	1661.6 ( 14.9)	1764.1 ( 16.8)
Rented living quarters	766.1 ( 5.4)	722.9 ( 6.5)	689.3 ( 6.6)
Owned living quarters	673.0 ( 4.8)	665.3 ( 6.0)	724.3 ( 6.9)
Other housing	106.6 ( 0.8)	77.7 ( 0.7)	74.5 ( 0.7)
Water and fuel	428.7 ( 3.0)	195.6 ( 1.8)	276.0 ( 2.6)
Household operation	580.9 ( 4.1)	424.1 ( 3.8)	389.6 ( 3.7)
Furnishings and equipment	571.2 ( 4.1)	590.9 ( 5.3)	474.2 ( 4.5)
Household appliances	134.5 ( 1.0)	142.1 ( 1.3)	120.7 ( 1.2)
Other	436.7 ( 3.1)	448.8 ( 4.4)	353.5 ( 3.4)
Clothing	1011.7 ( 7.2)	849.0 ( 7.6)	678.5 ( 6.5)
Personal care	244.1 ( 1.7)	216.9 ( 1.9)	180.0 ( 1.7)
Medical and health care	283.7 ( 2.0)	277.5 ( 2.5)	247.4 ( 2.4)
Smoking and alcoholic beverages	593.4 ( 4.2)	421.9 ( 3.8)	341.3 ( 3.3)
Travel and transportation	2145.1 ( 15.3)	1532.1 ( 13.7)	1375.9 ( 13.1)
Automobile (and truck)	1434.2 ( 10.2)	1218.2 ( 10.9)	1064.1 ( 10.2)
Purchase	683.5 ( 4.9)	540.8 ( 4.8)	451.1 ( 4.3)
Operation	750.8 ( 5.3)	677.4 ( 6.1)	613.1 ( 5.9)
Other	710.9 ( 5.1)	313.8 ( 2.8)	311.7 ( 3.0)
Recreation	646.9 ( 4.6)	469.1 ( 4.2)	442.5 ( 4.2)
Reading	82.8 ( .6)	62.1 ( .6)	58.0 ( .6)
Education	85.1 ( .6)	116.2 ( 1.0)	102.4 ( 1.0)
Miscellaneous expenses	348.3 ( 2.5)	235.1 ( 2.1)	218.8 ( 2.1)
Total current consumption	10816.0 ( 76.9)	8551.1 ( 76.5)	8000.7 ( 76.4)
Personal taxes	2397.7 ( 17.1)	1850.3 ( 16.6)	1820.6 ( 17.4)
Security	550.1 ( 3.9)	513.2 ( 4.6)	422.4 ( 4.0)
Gifts and contributions	269.9 ( 2.1)	261.4 ( 2.3)	234.2 ( 2.2)
Total expenditure	14060.8 (100.0)	11176.0 (100.0)	14060.8 (100.0)

Source: Statistics Canada, Urban family expenditure, 1972. Table 1.  
 Patterns of expenditure by city, all families and unattached individuals.

are as well housed as other Canadian urban dwellers and use more space than households in other Canadian urban centres.

Whitehorse residents spend more on certain transportation, travel and recreation items such as snowmobiles, boats, outboard motors, truck campers or motor homes, aircraft and gasoline.

The Whitehorse pattern of family expenditure is also similar to that in the set of Canadian cities of 1,000-29,000, from a survey done in 1969 [32]. In this context Whitehorse residents pay less for shelter and more in taxes. The tax difference is attributable to the higher incomes in Whitehorse and the consequently higher income tax.

Population mobility is determined by job opportunities and conditioned by the uneven nature of the territorial economy. The 1971 census of population shows that 49.1% of the total population 5 years and over of Whitehorse were non-migrants. In other words, half had lived in Whitehorse for more than 5 years. Compared to the 26.8 percent of non-migrant residents of Fort McMurray, a single-enterprise town, Whitehorse shows a reasonable degree of stability. Grand Prairie, an Alberta service centre, had a 67.7 percentage of non-migrants [33]. By the 1981 Census the Whitehorse figure was 42.2%, reflecting recession and less stability than in 1971 [34].

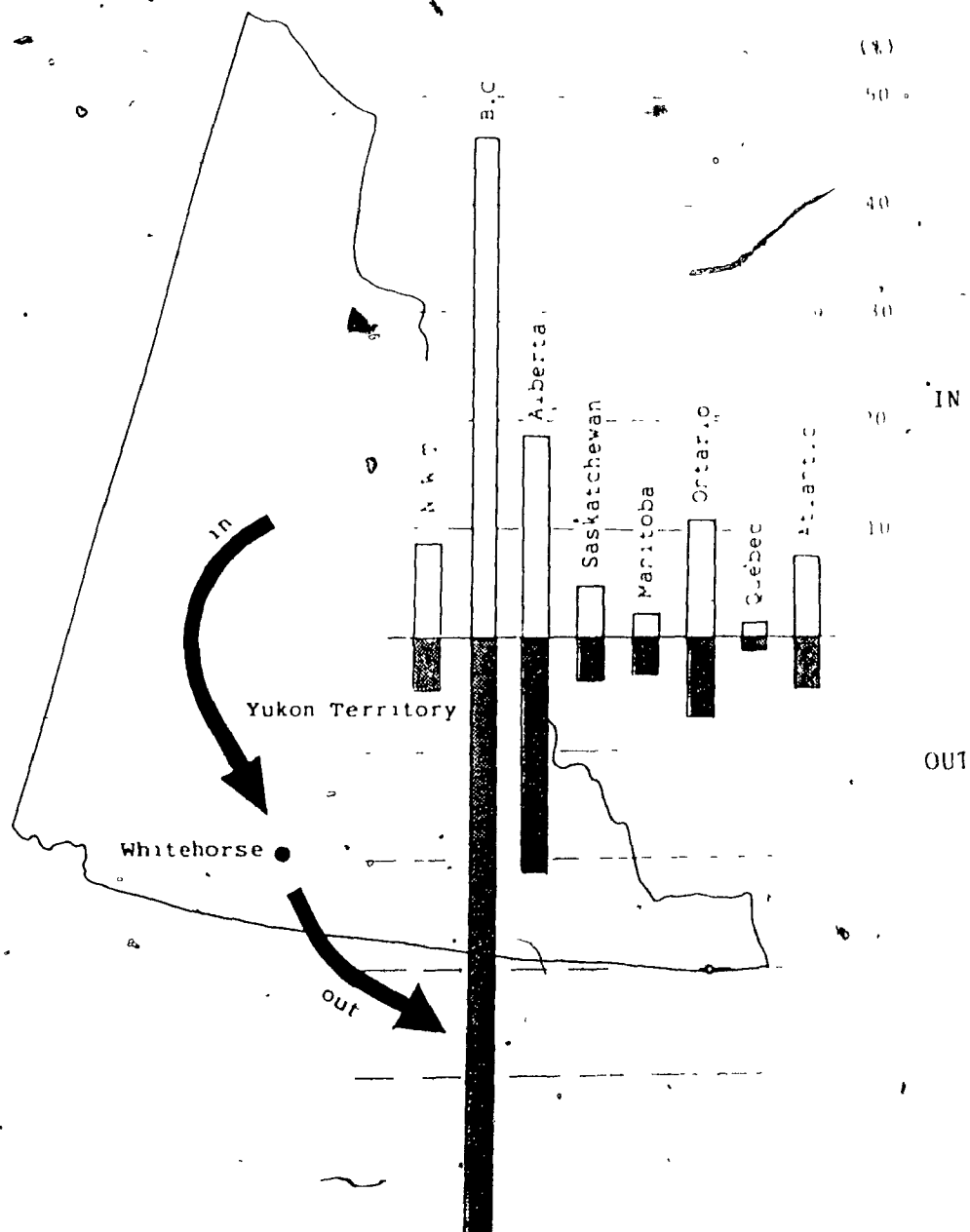
The income incentive is probably the single most important factor in the determination of migration flows. Satisfaction with financial and occupational aspects of one's life is the reason why residents plan to remain in their communities (Nickels 1976). According to Nickels' study concerning selected resource frontier communities which include Whitehorse, finances and work seem to influence a person's coming to the north, but these factors do not seem to determine the person's departure. His willingness to stay depends on the "quality of life" which is the sum total of those life concerns which

are relevant to the individual's immediate personal life. Attempting to define quality of life in terms of the direct influence of the physical and social characteristics of the particular place, Nickels' questionnaire had a community-orientation emphasis. Quality of life factors considered were physical surroundings such as climate and scenery, degree of isolation and distance from a ~~larger~~ city; cost of housing; social life and entertainment as measured by neighbours, opportunity to meet the opposite sex, and television; community institutions and services; and aspects of one's job. Whitehorse residents manifested a high degree of satisfaction (60% or more) with those quality of life factors, especially the job-related aspects.

Studying the proportion of people of different geographical origin can give valuable insight into their environmental background and expectations. People choose settlings with characteristics which they value highly, settling in areas reminiscent of their homes, where they try to recreate their own landscape including dwelling and settlement form (Rapaport 1977:82).

The 1981 census shows that only 16.2% of the in-migrants were from the Yukon Territory and 84.8% came from different Canadian provinces and outside of Canada [34]. Duerden (1981) found that in the 1968-78 period the origin of people entering the Yukon was predominantly urban (47.9%), 23.1% rural and 23.9% northern. Nearly 60% came from the immediate vicinity, such as British Columbia, Edmonton, Northwest Territories and northern Alberta. The 1981 origin and destination of migrants was the same as indicated by Duerden for the period 1968-1978 (Figure 2.14). In- and out-migrants are much alike. However when leaving the Yukon a larger number of people go to the more affluent provinces, <sup>for</sup> British Columbia and Alberta.

Duerden's study shows that the linkages of population of both Whitehorse and the rest of the Yukon are predominantly "outside" the



Source: *Yukon Economic Review*, 'second quarter, 1982, p.8

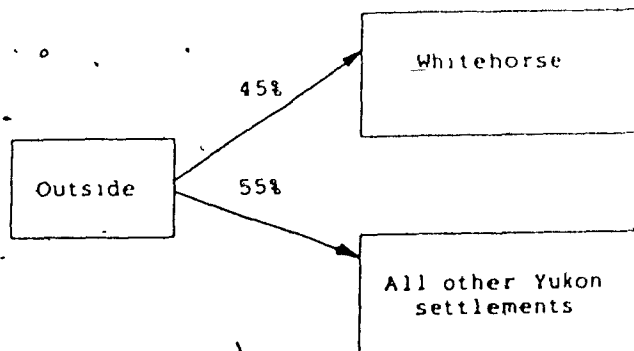
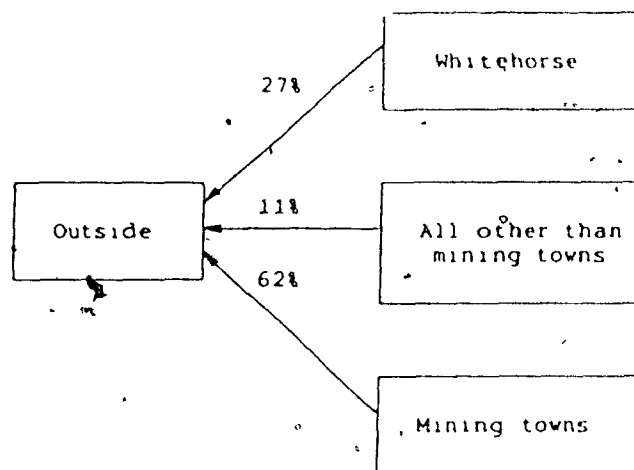
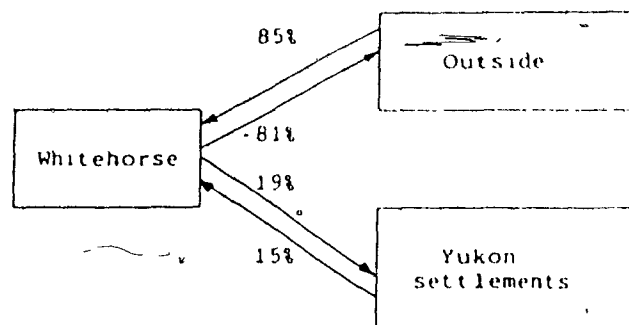
Figure 2.14 Migration estimates by origin and destination, Yukon Territory, 1981

territory. On a secondary level there is an exchange of population between Whitehorse and other settlements of the Yukon territory which contributes to the net growth of Whitehorse (Figure 2.15).

### *Social groups and lifestyles*

The constantly changing population supports an unusually rapid mobility of social status. This fact is a well-known attractive feature of the political and social life of the city. People of various socio-economic and occupational origin are able to attain important public positions within a very short time, on the strength of their personality, of being well-known in a small town. Until recently the legislative assembly had a substantial representation of small business people whose primary concern was profit. Usher (1973) has described this as favouring a frontier concept of development. By the early 1980's the legislative assembly had native people, women and more educated people as members [35].

In addition to this social and political type of mobility, there is an evident occupational type of mobility. People in the Yukon seem to possess a very much needed ability to change occupations with the annual and seasonal ups and downs of the local economy. They have the ability, the experience, the initiative and the energy to change their occupations as required (Carr 1968:319).



Source: compiled from data collected by F. Duerden, 1981, Table 5.

Figure 2.15 Population linkages between Whitehorse, the Yukon settlements and the "outside", 1968-1978

Perhaps for the above reasons and because of the small size of the population centres, social life in Whitehorse is very rich. Organizations and institutions fostering social activities are more numerous than the city's size would lead one to expect[36]. Social life is focused around religious groups, youth organizations, sport clubs, senior citizen organizations, women's organizations, and many others. Recreational activities with large participation rates are curling, cross country skiing and ice-hockey games. Since 1945, a city-wide two week long winter carnival, the Yukon Sourdough Rendezvous, has had an intense unifying effect on the whole population of Whitehorse. Apart from promoting winter season tourism it contributes to community cohesiveness.

One group of people still both informally excluded and reluctant to participate in the social activities theoretically open to all are the Indians. Largely due to the economic, cultural, educational and social gulf existing between the two groups, Indian and non-Indian, the motivation to meet on a common ground is missing. The Kwanlin Dun Band (Whitehorse Band) has its own Community Centre and its own social activities, all of them open to the population at large, but attendance on the part of the white community is limited to a few employees of Indian organizations, some visitors, tourists and the occasional interested government employee[37].

The native population of Whitehorse does not take an active part in the political, social and cultural life of the community. While some are very active within the native organizations of which the most important one is the Council of Yukon Indians, native people are under represented in terms of employment at all levels of government and in other services and industries.

A change in public attitudes is evident. Through the post-war years, hostility, arrogance and contempt have changed to the present mere ignorance.



The rapidly increasing power and responsibility of the Council of Yukon Indians and the approaching settlement of Indian Land Claims will transform this ignorance into definite interest. The change in attitudes is more visible on a government level where native representation and interests are increasingly included at all levels of management; planning and policy making. The native population in Whitehorse possesses a strong positive sense of ethnic identity. While they reject the idea of social and cultural assimilation, they support greater economic integration [38].

Changes in the economic development and the resultant changes in the composition of Whitehorse's population have contributed to the formation of several populations. The several populations of Whitehorse can be categorized in terms of demographic characteristics (age, sex, marital status etc.), occupational groupings, employment in one of the major industries of the city, residential location and time. At each particular time the city is a collection of different populations with different lifestyles. Lifestyle distinguishes among many different groups along lines of interest, involvement in various activities and their resource allocation. It affects the use of time and space, social activities, leisure and recreation, definitions of privacy, degree of interaction desired, the importance of the dwelling and various facets of the city (Rapaport 1980:67-86). Along these lines lifestyle can be defined as the configuration of roles which individuals choose to emphasize from a larger number of possibilities open to those of similar "basic" characteristics (Michelson and Reed 1970:18). While demographically similar groups can differ profoundly in terms of lifestyle, otherwise dissimilar groups can share one lifestyle. Knowledge of people's interests, their involvement in various activities and their resource allocation can have a profound importance in determining the spatial characteristics of these

activities, how they relate to the type of house they require, to the use of residential land and to urban development in general.

From a ~~chronological~~-historical viewpoint we will attempt to describe the spatial distribution of several populations of Whitehorse through two periods: 1950-1960 and 1960-1981. These two periods were chosen because in the second period an identifiable change occurred in the spatial distribution of the different populations. The change occurred for a variety of reasons, the most important being the emerging government policies concerning urban growth.

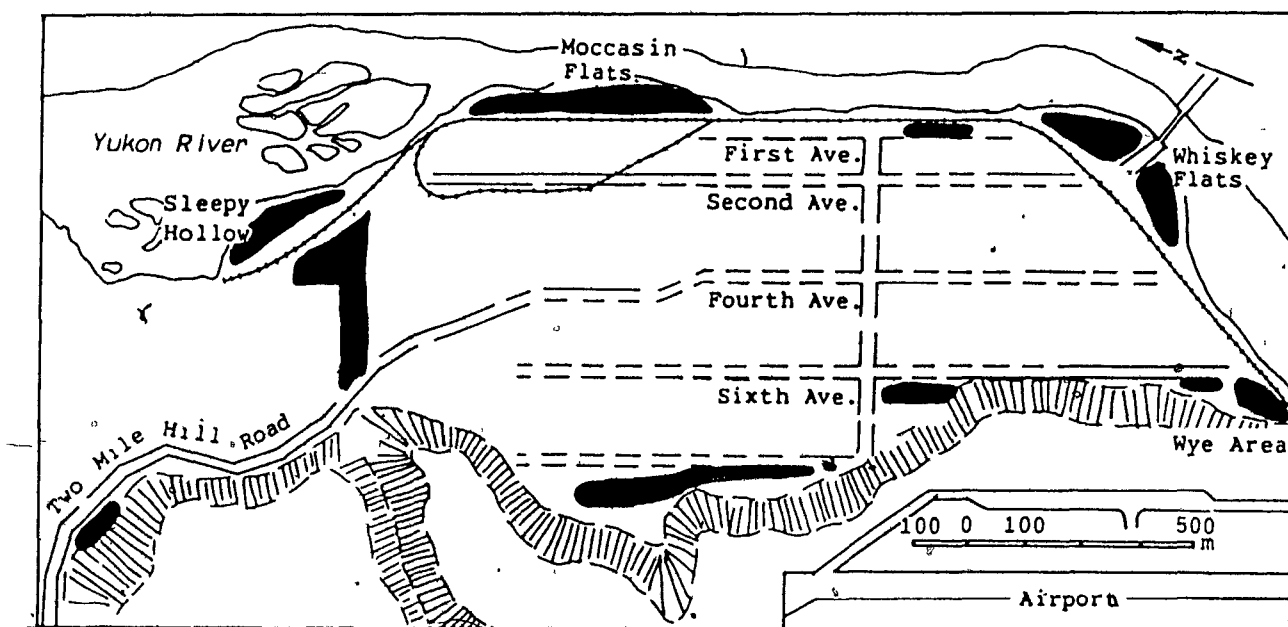
The 1950-1960 period is characterized by residential segregation according to employment in a particular industry, income and status. For example, the Americans built residential areas to house their personnel. These areas were then taken over by the Canadian military. The general institutional unconcern for Whitehorse as an urban centre continued and new housing for government personnel was built outside city limits. This reinforced a work-associated pattern of segregation. Separate high quality residential areas were offered to a specialized, skilled and educated work force as the prime attraction to an undeveloped area.

During this period the city had two distinct areas: Lower Whitehorse and Upper Whitehorse (cf. Chapter 3, Fig. 3.20). Lower Whitehorse consisted of the main townsite inside city limits. It housed all the local entrepreneurs and people employed in the trade and service sector. Riverdale, a new planned and serviced subdivision, was added to Lower Whitehorse in 1956. It emerged as a new federal government area but was open to anyone who could afford to build there. Upper Whitehorse consisted of Camp Takhini, Hillcrest and Valleyview. This area housed the Canadian military and their families, the Royal Canadian Air Force, and the employees of the Department of Transport and the Canadian

Northern Telegraph, a total of about 1,200 people (Lotz 1961). Near the city but outside its limits was the Indian Village. The extensive squatter areas, Moccasin Flats, Whiskey Flats, Sleepy Hollow and 8th Avenue surrounded the city on the periphery (Fig. 2.16). At the end of this period new subdivisions intended for lower income-people who could not afford the services and building standards of Riverdale were opened up along the Alaska Highway.

Beginning with the early 1960's a gradual change occurred due to emerging government policies. Programs such as squatter removal and relocation, urban renewal, public housing and residential land use planning were initiated. These will be discussed in detail in Chapter 3. These programs produced a regrouping of the different populations. More choice of residential environments was offered and the opportunity arose for a greater mix of populations. Residential areas were not restricted directly or indirectly to certain occupational, industrial or income groups. In fact, a mix was encouraged and planned. A medium-density residential area was opened in Riverdale, sewage and water and a more urban character were introduced in Porter Creek (one of the Alaska Highway subdivisions), the squatter population was partially relocated to public housing downtown, government employee housing was gradually phased out and the housing units sold on the open market. Along with the effects of these changes the residential areas of Whitehorse as everywhere else took on some individuality related to the type and size of the population already there; local physical environmental characteristics, such as landscaping, vegetation, topography, view, exposure, distance from the town centre and employment, the type and quality of buildings already there and the quality and amount of services.

The contemporary spatial and demographic characteristics are associated with specific lifestyles. While lifestyle is a criterion for



Source: J. Lotz, 1965

Figure 2.16 The squatter areas of Whitehorse, 1961

separation or clustering by choice, income is one of the means of achieving separation. A city is a collection of different populations who cluster according to their lifestyles. Different places in the city belonging to different groups symbolize and indicate the predominant characteristics and orientation of that group. Four common lifestyles which affect environmental preferences have been proposed by Moore quoted by Rappaport (1977:87) and can be easily identified in the various residential areas of Whitehorse although they obviously overlap in many respects: 1) consumption-oriented, 2) social-prestige oriented, 3) family-oriented, and 4) community-oriented. We might specify as type examples Riverdale for the consumption and social-prestige oriented, Porter Creek as family oriented, and the Indian Village as community oriented. In the Whitehorse context we can probably define also a frontier-oriented lifestyle as a fifth, and include in it some of the people who live in the squatter areas inside and outside the city limits, and on small-holdings at the outskirts. Many people seem to live outside but come into town for work, schooling or shopping. These "frontier" people have increasingly suburban service needs.

Whitehorse residents, especially the more permanently settled, share traits necessary for northern living -- love of land, nature, wilderness, outdoor life and individuality. Frontier lifestyle is a heightened version of the above traits and is reflected in the use of free time most of which is spent around the house or on the piece of land one owns. Frontier lifestyle is also reflected in the widespread ownership of various types of vehicles, fishing and hunting equipment, such as trailers, canoes, snowmobiles and guns. At the same time elements of southern suburban amenities such as a full range of municipal services, transportation to schools and recreational facilities are also greatly appreciated.

Lifestyles reflect an image of an ideal life which springs from a set of expectations. Images are composed of both facts and values. Images are subjective and have different dimensions: spatial, temporal, relational, personal, and emotional. Both images and values play a major role in evaluation and preference in selecting one's environment, including habitat selection and design. The success of environments depends on their congruence with appropriate images. At a global level different groups may share a single preference and image system. Thus it appears that in the United States and Canada for at least the last 50 years the suburban ideal of the single-family dwelling and middle-class images of family life are held by most young people regardless of race, family background, climate or current place of residence (Rappaport 1977:53). Suburbia symbolizes the attainment of freedom and identity, it reflects an ideal of the natural environment free of stress. This is an image that almost all the residential areas of Whitehorse share, their different characteristics being merely variations on the same theme.

On the one hand there are the interests, values, people's images and expectations of a life style. On the other hand are the conditions securing what is realistically attainable. Income is a way of achieving certain aspects of a lifestyle. On another level lifestyle is influenced to such a degree by the local natural physical environment that the environment becomes a component of it. The climate of Whitehorse, its landscape, vegetation cover and topography, and isolation become integral to the local lifestyle. This requires a great deal of adaptation from both the population foreign to it and the urban planners. These two components of lifestyle - income and physical environment - have a significant effect on a residential area or on a city as a whole. Whether people and planners in Whitehorse have adapted to the local

environment and what forms this adaptation has taken in terms of residential planning will be discussed in the following chapters.

What has been worthy of notice since the 1960's is the element of choice. For the majority of Whitehorse residents, of high and medium incomes, since the mid 1960's, the trend towards greater choice in residential location in a framework of planned growth is significant. However, there were times when certain choices were not available to certain groups. A good example is the case of the Indian Village. While low-income housing was available in the city since the early 1970's, the Indians were reluctant to leave familiar surroundings and people, however unsanitary and psychologically unsettling the Indian Village might be.

Lifestyles imply attitudes toward land resources. The availability of relatively cheap residential land combined with higher incomes, the trend of self-building and the prevailing frontier attitudes such as fear of clustering, loss of privacy and individuality, have fostered a general expectation and demand for large parcels of land for exclusive individual use.

White Yukoners were bitterly opposed to the federal government land policy of 1978 according to which the federal government would transfer land to the Yukon Territorial government on a need only basis as opposed to the former policy of large Block Land Transfers. During a legislative assembly debate a member of the Yukon legislative assembly was quoted:

"If they don't give us land, let us get out and drive a peg in the land, and say take it and sit on it, until such time as they do, instead of fooling around" [39].

A 1978 opinion poll conducted by the Yukon New Democratic Party revealed land as a major territorial issue. The weight accorded to basic issues in the Yukon is shown in Table 2.9. Land occupies the first place, followed by the

pipeline and jobs. Explicit concern for housing is minimal. Provincial status, the main political issue of the territorial government and also a land-related issue, did not present itself as a major concern[40].

Burton's (1977) study concerning outdoor recreation in the Yukon gives evidence to substantiate the Yukoners' prevailing ideology concerning land. While the study deals with outdoor recreation it is assumed that the people of Whitehorse have similar attitudes toward urban planning as towards their wilderness. In my interpretation, however, in the city and its periphery they want rights to a more exclusive use and private ownership. They do not see this as a contradiction. The people of the Yukon expect that the vast space they use for recreation be unlimited and uncontrolled, that it be public land and go on being public. They expressed a preference for limited recreational services in favour of a relatively unplanned environment. "I don't want to be told what I can do and where I must stay...Leave us alone to enjoy our natural wilderness...Don't organize us..." These were frequent statements. They reflect the present reality of the territory as one of the few places left on the North American continent where the urban recreationist is free to move almost at will into a vast unplanned natural environment (Burton 1977:167).

Burton also found that while all of Whitehorse's residents live an urban lifestyle, they retain an affinity for and a relationship to the natural environment which is generally not found in the more highly urbanized regions of southern Canada. This is reflected in the kinds and volume of outdoor recreation activity they undertake. Yukoners, Whitehorse residents included, participate in outdoor recreation activities proportionately more, and more frequently than Canadians as a whole. For instance, 15% of Canadians go canoeing at least once each year, 27% of Yukoners, 27% of Whitehorse



Table 2.9

Major Yukon issues - Opinion poll, 1978

Land	33 %
Pipeline	21 %
Jobs	11 %
Prices	8 %
Provincial status	
Yes	4 %
No	4 %
Education	4 %
Alcohol & Drugs	4 %
Bureaucracy	2 %
Taxes	1 %
Environment	1 %
Housing	1 %
Welfare	1 %
Transportation	1 %

Source: Whitehorse Star, 28 June 1978, p.3.

residents; 20% of Canadians go tent camping, 50% of Yukoners, 48% of Whitehorse residents; 45% of Canadians go driving for pleasure and picknicking, 77% of Yukoners and 79% of Whitehorse residents.

This high rate of participation is evident only in the summer months. Burton found low participation rates among Yukoners during the winter time. While in the summer they tend to use many different places and to travel farther, Whitehorse residents participating in four wintertime activities tend to do so in one place regularly; for example, they go cross-country skiing in the Whitehorse area.

The recreation study regarding the use of facilities and services and the satisfaction and dissatisfaction with outdoor experiences found two types of conflicting views and activity patterns. One group (28%) want no minimum development and the prohibition of the vehicles in Kluane National Park while others (17.7%) want more and better trails, and more and better vehicle access

(13.35). The two divergent opinions probably represent the same groups of people as in the urban context. On the one hand, a group of people accepts challenge, hard life and frontier-type living, while another group expects to live the same way as anywhere else in Canada, they came to the Yukon on a semi-permanent basis on the condition that they be provided with all the amenities of southern Canadian urban centres. The reconciliation of these conflicting views appears to be one of the major tasks presently facing planners in both urban and recreational spheres.

#### Summary: local expression of demand for land and housing

The economic well-being of the Yukon is exposed to the instabilities of the mining industry. While greatly influenced by this instability, Whitehorse during the last 15 years has enjoyed a more stable existence, due to the presence of the seat of the federal and territorial governments.

Responsibility for the use of land, for urban growth and the provision of housing in Whitehorse and its vicinity during the period studied was greatly influenced by the evolution of self government in the Yukon Territory. The fight for more power and more land has made the regional planning function and the transfer of land from federal to territorial jurisdiction a political process of a questionable nature. The lack of a concerted approach to the use of land for urban growth on the part of the three levels of government originates in a conflict of interest based on the jurisdictional aspect of land.

While the city is required to develop a policy regarding urban growth, this policy always comes face to face with territorial policy. The territorial government's policy is more political in nature while the municipality tends to deal with urban growth on a functional and financial basis. Though the cooperative nature of policy making was repeatedly stressed especially in recent years, intergovernmental conflict and conflicting decisions are part of the urban growth process.

From a residential planning point of view it is essential to foresee the spatial shifts in population groups and plan the remaining undeveloped residential land accordingly. As the present residential areas are fully developed, further changes will occur. When purchasers of the once cheap land sell their property, the new owners will necessarily have higher incomes than did the original ones. From a residential planning point of view it is essential to foresee the spatial shifts of population groups and plan the remaining undeveloped residential land accordingly. However the continuous availability of cheap residential land has the tendency to keep house prices down and foster extensive land use.

From the very slowly changing nature of the data on age structure, sex, occupational composition, family size and geographical origin it is most probable that the type of people who will be attracted to the Yukon and to Whitehorse in the near future will have characteristics similar to those who already live there. However the size and age of the population at any one time will be determined by the prevailing economic situation. While the population from an income point of view is more homogeneous than in most urban settlements in Canada. It is exposed to sudden changes in income, massive loss of jobs and seasonal unemployment. Native people do not fully share the high incomes, and represent the most important element of heterogeneity.

These population-related factors influence the demand and supply sides of the housing market, affecting in turn the urban growth pattern of the city. While housing demand can change more rapidly, supply changes more slowly. The analysis of the changing need and demand and the means to supply land and housing to the growing city follows in Chapter 3, 4 and 5.

## Notes and References

1. See Bibliography, Primary sources (Major Whitehorse city plans and reports).
2. Kala Swami, 'An analysis of selected precipitation characteristics in the Mackenzie Valley, N.W.T. and Yukon', Canada, Department of the Environment, 1974.
3. Environment Canada, Atmospheric Environment Service 'Canadian climate normals, Frost, 1951-1980', Canadian Government Publishing Centre, Supply and Services, Ottawa, 1982.
4. Environment Canada, Atmospheric Environment Service 'Canadian climate normals, Temperature, 1951-1980', Canadian Government Publishing Centre, Supply and Services, Ottawa, 1982.
5. Environment Canada, Atmospheric Environment Service 'Canadian climate normals, Degree days, 1951-1980', Canadian Government Publishing Centre, Supply and Services, Ottawa, 1982.
6. Air quality records, Whitehorse, Environment Canada, Environment Protection Service, Yukon Region, Whitehorse.
7. The impact of the Second World War on the economy and population of the Yukon is discussed by Rae (1976:53). For land use in this period see 'Down town' in Chp. 3.
8. Annual Reports, 1978 to 1981, Northern Pipeline Agency, Canada. Ministry of Supply and Services; 'An overview of the Alaska Highway Gas Pipeline. The World's largest project'. Papers presented at the National Convention of the American Society of Civil Engineers in Pittsburgh, 1978. American Society of Civil Engineers, New York, 1978.
9. 'Alaska Highway Pipeline Preliminary evaluation of socio-economic impact on the City of Whitehorse 1977' B.C. Research and Systems Approach Ltd. Vancouver, Yukon Archives.
10. Yukon. Department of Local Government 'Land, its development and disbursement'. A discussion paper, Whitehorse, 1977.
11. Evident from the *Whitehorse Star* during the period 1977-1978.
12. Canada, Department of Regional and Economic Expansion 'Economic development prospects in the Yukon', 1979.
13. Personal communication of Tonny Penniket, Yukon Territorial Council, former city councillor, 31 March 1981.
14. Canada, Department of Northern Affairs and National Resources, Annual Reports, 1954 to 1961; Canada, Department of Indian Affairs and Northern Development, Government activities in the North, 1963 to 1972.
15. Yukon Territory, Annual reports of the Commissioner, 1962 to 1980.
16. News Release, 22 October 1979, Public Affairs Bureau, Government of Yukon.
17. Press release 'Revised Northern Land Transfer Policy Announced', Whitehorse, 3 March, 1978. Minister of Indian Affairs and Northern Development, and 'Faulkner announces Northern Yukon Land Withdrawal', Ottawa, 6 July 1978; Minister of Local Government (Yukon) to Minister of Indian Affairs and Northern Development, Telex, 12 January 1976, YGR, Local Government. Land disposition policy in Yukon, file 2840-2, v. 3, YA, Whitehorse, *Whitehorse Star*, 11 and 16 February 1981.
18. For more about the Block Land Transfer Program with regard to its significance for the Indian land claim settlements and further changes in the BLT policy see Chapters 1 and 3

19. *Whitehorse Star*, 14 February 1947; There was a slight population decline associated with the 1961-66 economic recession and withdrawal of military personnel and other federal employees (Chang-May Lu 1975).
20. EPEC Consulting Ltd. Edmonton, Whitehorse Indian Village Relocation Study, 1973. Done for the Department of Indian Affairs and Northern Development.
21. Kwanlin' Dun Band, Whitehorse, 'Proposed social action program, 1983-1988', Whitehorse, 1983.
22. Personal communication of J. Hoyt, 1 April 1981, executive secretary of the Whitehorse Indian Village relocation Steering Committee of 1970, also consultant and researcher to EPEC Consulting Ltd., Edmonton between 1970 and 1972.
23. Stanley Associates Engineering Ltd. Edmonton, 'City of Whitehorse, Survey and Analysis', 1976, p.61.
24. See Statistics Canada, 1981 Census Dictionary, p.38.
25. Estimated after Chuan Jan Kuo and D.C.E. Mathurin (1975) using Table: Distribution of census family heads who worked in 1970 and their average incomes by occupation and ethnic origin, Yukon Territory.
26. Yukon Territorial Government, Statistical Review, 1970-1974.
27. The median census family income per family member was \$1428 for Indians and \$3392 for all others.
28. Yukon Economic Review, December 1980, Economic Research and Planning Branch, Department of Economic Development and Intergovernmental Relations, Government of Yukon.
29. Touche, Ross, Bailey & Smart, chartered accountants, Montreal, 'Yukon Territorial Taxation Study, 1969'. Done for the Ministry of Indian Affairs and Northern Development, Canada.
30. Income and Taxation Statistics, 1970. In Yukon Territorial Government, Statistical Review 1970-74.
31. See 'Land-related services' in Chapter 4.
32. Statistics Canada 'Family expenditures in Canada' v.II. Regions 1969. Table 57. Patterns of expenditures by urbanization, urbanization class 1,000 to 29,999.
33. Calculated from Statistics Canada data summarized by G. Buse, 1978.
34. Statistics Canada, 1981 Census, Selected social and economic characteristics, Yukon, Catalogue 93-X947(E-581).
35. Personal communications of T. Penniket, 31 March 1981, 4 May 1983, leader of the National Democratic Party of the Yukon and J. Cruikshank, Yukon anthropologist, May 1983.
36. Indian and Northern Affairs, 'Socio-economic baseline data inventory of the Yukon Territory, 1978'. Ministry of Supply and Services, Ottawa, Canada; See also J. Lotz 1961.
37. Personal experience and communications with Whitehorse residents.
38. The Council of Yukon Indians 'Land use planning, environmental assessment and land ownership in Yukon', a discussion paper, 1982; See also C. Lambert, 1975, p.7.
39. *Whitehorse Star*, 14 March 1978, p.2.
40. *Whitehorse Star*, 28 June, 1978, p.3.

## CHAPTER 3

### RESIDENTIAL PLANNING AND LAND DEVELOPMENT

Because most of the land in Whitehorse is publicly owned and developed by the government, the planning and implementation potential of the public institutions is greater than in most cities in North America. In the absence of an active land market to guide land development, alternative ways had to be explored to direct the course of urban growth. The interest and the significance of the present study lies in this peculiar feature. This unique property of Whitehorse has raised certain questions and lines of inquiry, and given rise to certain expectations as to the pattern of evolution and the possible contradictions in the residential history of Whitehorse. The major objectives of the chapter are the identification of the principles which guided residential development and the consequences of government involvement in the land development process.

The lines of inquiry pursued here and in the following chapter are:

(1) In what ways is urban growth dependent on land development policies of the federal and territorial governments? Who are the actors, the interest groups, the decision makers? Who plans? In what ways are demands and consumer preferences expressed? Why have so many planning recommendations been shelved? (2) In formulating an urban growth policy, was there a conscious collective effort on the part of the three levels of government to foster urban growth in the spirit of the basic need for a city to be economically

built and managed? At what stage of the development did issues of economic efficiency surface? In particular, are questions of efficient provision of utilities achieved? Is energy-efficiency seen as a problem of urban design? Was there any concern with the question of who bears the costs of urban growth?

(3) Approaches to planning and urban growth have a different meaning for professional planners, the several levels of government, and for residents from various socio-economic groups. What were these differences and how were they dealt with over the years? What were their prime goals? What were their limitations? (4) Experience has often revealed errors in early problem solving. Can we detect a learning process by which later problems were better resolved?

The present chapter is organised in two parts. The first part, more general in nature is an account of the stages of residential growth, and the changing role of the different levels of government. The second part is a description of the various residential areas from a land use point of view, evaluating their strengths and weaknesses and looking at the principles of development and work.

### The stages of residential growth

There are three well-defined stages of residential development in Whitehorse. The 1940's and 1950's can be characterized as explosive growth without foresight. A concern with planned growth and the formulation of some



policy of land development emerged in the 1960's. A new burst of growth in the 1970's brought out serious contradictions in the planning process.

### *The 1940's and 1950's: Growth without foresight*

The 1940's and 1950's were characterized by an acute housing shortage, widespread squatting, and un-coordinated extensive land use and land development.

Following a long period of stagnation, Whitehorse, then a quiet town of 754 people, became in 1942 a military boom town. Because of its strategic position during World War II, it was selected as an air base site. The U.S. military and the accompanying temporary population of approximately 30,000 altered the physical layout of the town and its surroundings. During this growth period there was no concern for orderly development, zoning regulations, building codes, or services such as power and water. Vacant land in the townsite was taken for barracks and warehouses[1]. Insufficient space inside the city was compensated for by the Canadian government which created the "Military Reserve" on top of the escarpment (cf. Fig.2.7), thus expanding the town beyond its original core area. While military personnel was taken care of, the civilian population had to find its own housing. Newcomers and transients established a new squatter area - Moccasin Flats - on the river front, and subsequently occupied every possible gap in the townsite, disrupting established residential areas and zoning. Shacks and substandard dwellings were built under pressure and in great haste.

By 1945 the population of Whitehorse has decreased to 3,680, but it was still five times that of 1941. A percentage of the military was living in temporary barrack-type accommodation. The large number of people associated with construction activities had left, with only the maintenance operations crews remaining. Permanent housing with sewage and water was then constructed for the military. In 1946 the U.S. military left and most of their functions and their housing were turned over to the Canadian government. The Canadian military presence reinforced the pattern of urban sprawl, since in 1948 and again in 1951 residential areas in the military reserve were expanded against the wishes of the town administration and its population[2]. The military residential areas were self-contained units with their own sewer and water systems; they consisted of semi-detached houses on large landscaped lots. The area became known as Upper Whitehorse, while the city proper was known as Lower Whitehorse (cf. Fig.2.7 and Fig.3.20 later in this chapter).

At the end of the 1940's Lower Whitehorse had a population of 2,000, an acute housing shortage, a lack of sewage and water facilities, and dusty gravel roads. Incorporation was seen as a first step in providing funds for upgrading the deteriorated and neglected town. After three years of discussion and two abortive attempts at incorporation, in 1950 the town was proclaimed the City of Whitehorse[3]. The decisive factor in its future development was the removal of the capital from Dawson in 1953, after which date Whitehorse, the new capital of the Yukon, experienced slow but constant growth.

The acute land situation could have been improved with the release of the large private holdings of the railway company and the clearance of the military barracks, but this potential solution was not carried far enough, probably because of the largest land owners' (British Yukon Navigation Company

and the federal government) political power[4]. The railway company sold 90 lots adjacent to the escarpment, land already partially occupied by squatter shacks. There were no desirable residential plots in the city for upper income people because, in the words of the territorial land agent,

"squatting was permitted by both the British Yukon Navigation Company and the Crown, and by the time lots were surveyed the whole area was a mess"[cf. reference 4].

He suggested that the east side of the Yukon River be developed as a better planned and serviced residential area, also suitable for federal government employees. Thus with the development of Riverdale the housing shortage of the time was partially solved.

The federal government had no particular solutions or policies in the way of land provision for development in the vicinity of Whitehorse. In 1955, in a memorandum to the Chief of the Lands Division, Department of Northern Affairs and Natural Resources, the territorial lands agent stated:

"The public is clamouring for home sites in Whitehorse, which are not available, and as an alternative, people persist in staking along both sides of the highway in both directions beyond the boundaries of the airport reservation. Staking of various sized plots has been carried out in a higgledy-piggledy manner"[5].

To put some order in this unorganized, unplanned staking, the territorial lands agent proposed a ribbon development along the Alaska highway from Mile 920 to Mile 925. His proposal was accepted. Between 1957 and 1961 six areas in close proximity to Whitehorse covering 14 miles along the Alaska Highway were declared development areas under the authority of the Area Development Ordinance (Lotz 1961; Koroscil 1978).

In 1958, the City and its citizens, anxious to do something about the deplorable physical and visual state of Whitehorse, pressured the Board of Health to conduct a shack removal campaign. Over the next two years all squatters were moved or evicted, and by 1960 the subdivided part of the townsite was cleared. This did not mean that the squatter problem was solved. The squatters were driven to the edges of the city, where they settled on low-lying parts of the river flat, in areas lying under the unstable Whitehorse airport escarpment and on swampy, uncleared land (Lotz 1965:166) (cf. Fig. 2.16).

During the 1940's and 1950's neither the territorial government nor the municipality was preoccupied with the idea of an urban growth policy, or with future requirements for land and infrastructure. Land development problems were dealt with on a day-to-day basis, satisfying immediate needs. By 1959, the Territorial Council and the City Council began to be seriously concerned with "future growth on a planned and economic basis" [6].

### *The 1960's: The beginning of efficient planning and policy making*

As a result of the concern of 1959, the Queen's University Institute of Local Government was asked to investigate the problems created in and around the City of Whitehorse by Federal areas and other developments that might be integrated into the City for orderly planning and development in the future. The City Council and the Territorial Council were convinced that the solutions would come from

"methods of reorganizing the system of municipal government of the City of Whitehorse in the Yukon Territory, in order to solve or alleviate the problems concerning municipal services and taxation created by the development of housing for military personnel in areas adjacent to the municipal boundaries of Whitehorse and the means by which resulting recommendations can be effectuated" [7].

The Queen's University report discussed the advantages and disadvantages of the military establishment for the well-being of the city and concluded that the military was making a positive contribution, substantially aiding the city's survival over lean times. With regard to their choice of location, as it affected servicing and the tax base, incorporation within the city was rejected. Whitehorse already had to contend with the interference of federal and territorial government. To add more federal establishments would further undermine the city's power.

Problems of municipal services and taxation were not seen to be the direct result of the establishment of military housing outside the city limits. The problem was seen to arise from the close proximity of these areas to the city. The military occupied excellent building sites and used a large amount of land for a small number of people. Because this land was not available, during the 1950's, people were buying land north and south along the Alaska Highway, where land was cheap and taxes low.

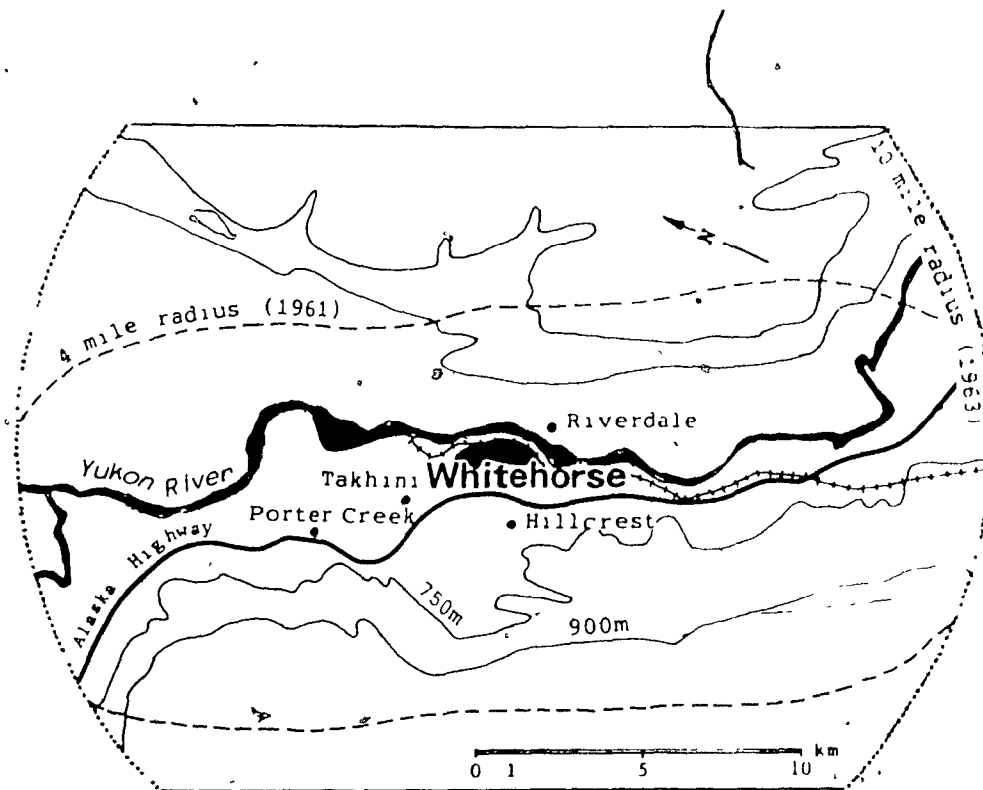
The report suggested the concentration of future development in the city and the restriction of residential development outside those limits. The report urged the release of land not in use and the demolition of surplus army buildings to make this land available for residential purposes. It also recommended housing development at cost, with squatters having first choice. To protect the land outside city limits the Queen's University Report called for a freeze on staking within a ten-mile radius of the town centre. This

circle was designated the Whitehorse Metropolitan Area (Fig. 3.1). It recommended the preparation of a metropolitan plan in cooperation with the City and a professional planner.

The Queen's report made the practical observation that trailers were necessary as an alternative housing form. It pointed out the need to regulate, license and control the location and use of trailers in the city, and also within the metro area. It recommended establishment of a municipal trailer park as a first measure.

With regard to their basic mandate, to determine "methods of reorganizing the system of municipal government", the Queen's report recommended that the City Council be granted "the power of approval or disapproval in the first instance..." and further that City Council be given control of the subdivision land within city limits subject to the approval of the Commissioner. The Whitehorse City Council until then had had no say in the subdivision of land within its own limits. Such decisions were made by the Commissioner of the Yukon Territory and merely reviewed by the Municipal Council.

There was prompt follow-up on the Queen's report. The Metropolitan Area was defined as recommended; it included the the military reserve. Development was restricted to Porter Creek, the largest of its territorial subdivisions. In January 1961, at the request of the Department of Northern Affairs and Natural Resources, C.M.H.C. undertook the preparation of the metropolitan plan. The city was not given any substantial control over its land development. I shall return to that question after a quick look at the Metropolitan Plan. It will be seen that the features omitted from the plan are as important as the features included in it.



Source: 'Whitehorse Metropolitan Plan Report', CMHC, 1963

Figure 3.1 Whitehorse Metropolitan area boundaries, 1961 and 1963

The Whitehorse Metropolitan Plan[8] incorporated a twenty-year pattern of future development. It is still the single most important document affecting the shape of Whitehorse. While the recommendations were discussed at length for eight years and some were changed to suit the wishes of City Councillors or the Commissioner, they were largely accepted and partially implemented[9].

The CMHC study of land use as of 1961 reports serious inefficiency, for example in the wasteful size and location of industrial areas, commercial areas, the cemetery and vacant land. The amount of land used for roads was considered excessive. A quarter of townsite land was allotted to industrial and commercial uses; and another quarter (27%) was taken up by roads. City expansion to the north was restricted by the transshipment area and railway sidings belonging to the British Yukon Navigation Company (White Pass and Yukon Railway) which had occupied the narrow strip of land between the escarpment and the river since 1900. Encircling the town on the west and north were the military and federal reserves, which took up a lot of unused land and forced development to the east bank at Riverdale and beyond the army reserve to the unserviced Territorial (or Highway) subdivisions. Although the study points to general low use, misuse, and non-use of land, it does not mention the low density of housing and building in all residential areas.

The general aims of the C.M.H.C. plan were to define a metropolitan area, to provide land for orderly expansion and overall development control, to establish major use zones able to expand without undue conflict; and to correct defects of land use and traffic. They operated on the assumption that the population of Whitehorse would reach 14,000 by 1980. In fact it reached 16,000.

It was recommended that the metropolitan area defined in 1961 be reduced in scope, as shown in Fig.3.1. The reduction was due to reasons of



topography, the area beyond the new boundaries not being suitable for urban development. The planners suggested that all future development in federal areas be considered with respect to its implications for the organized development of the Whitehorse area, and that it conform to the metropolitan plan. It re-stated the Queen's University suggestion that of the five Alaska Highway subdivisions only Porter Creek be allowed to expand, and that all residual land in the metropolitan area remain free from development. Porter Creek was to be developed as an unserviced area of low density and limited population (1000 to 1200 people), while Riverdale and the Lower West townsite were expected to house the rest of the population[10].

The Whitehorse Metropolitan Plan was weak in two respects: (1) the existence and future of the Indian Village was not addressed. It was assumed that its population would integrate into the city and the land occupied by the Village would be freed for industrial use. (2) There were no details given on the density of development of the residential areas. Land use in the residential areas was not related to the housing and population density or to housing type.

As an outcome of the new restrictions on land inside the metropolitan area, demand increased for land outside it. In the absence of regulations, people settled on varying sizes of parcels immediately outside the controlled area. The people who settled outside were former squatters who needed a piece of land and could produce only a substandard dwelling, people who wanted to live in a more isolated area and people who wished to carry out some form of agriculture[11].

To implement the Plan, starting in the mid-60's the territorial government was given more control over land policy and regulation in the Whitehorse area. Crown lands were transferred to the jurisdiction of the

territorial government, and in 1970 a "development control zone" was set up surrounding the city, with sufficient area to enable projected expansion for 10 years[12]. The City's own land planning responsibilities were, however, very limited. It approved and checked construction starts under its own zoning and building by-laws. The territorial Department of Municipal Affairs strongly believed that the matter of subdivision regulations was a territorial matter and not a municipal one[13]. The role of the Department included guidance, advice and "co-operation".

The territorial government and its Department of Municipal Affairs as a part of its increasing responsibility and power started work on a new land policy. The major questions of land policy were the manner in which decisions were to be made, what land would be sold at what time, what would be the standard of services, and the price of lots and zoning[14], in short land legislation, land development and land disposal. All concerned accepted the 1963 CMHC recommendation closing the four Highway Subdivisions, restricting development to Porter Creek, developing Riverdale, and encouraging a more compact and efficient land use on the main townsite.

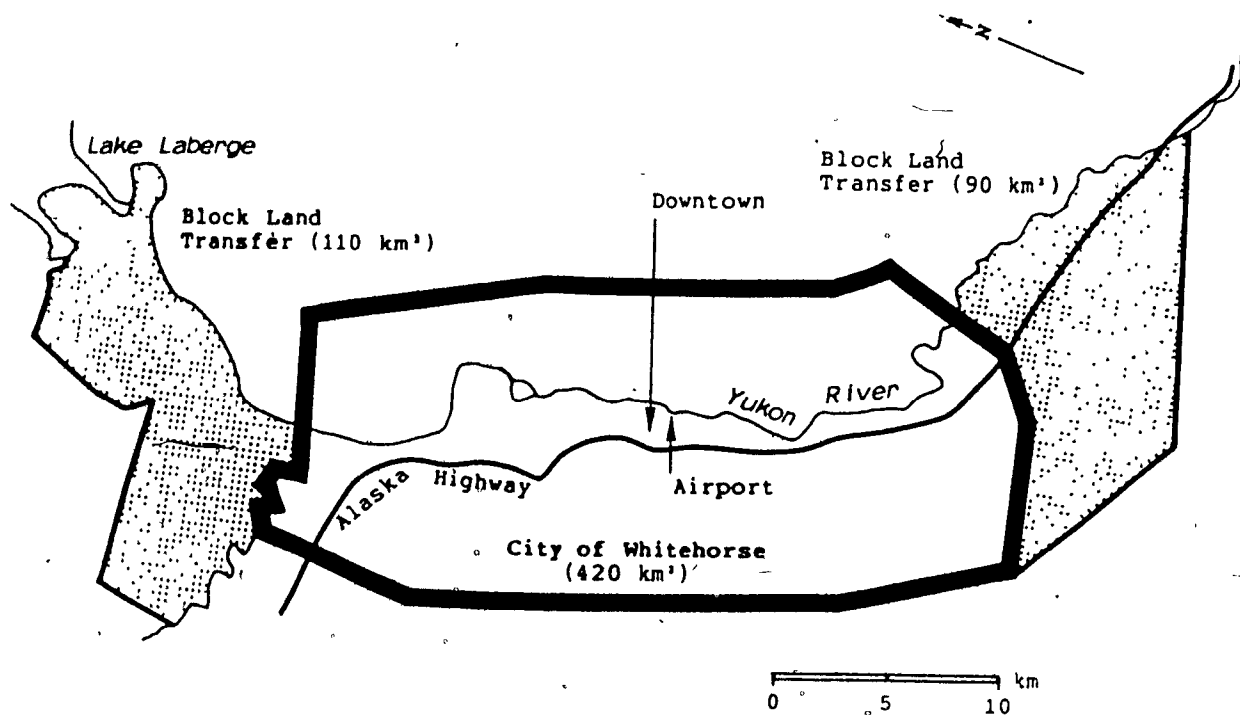
From the point of view of legislation, the transfer of Crown land within the metropolitan area to the administration and control of the territorial government was a major step forward for the Whitehorse area in its search for control over its own problems and priorities. Land development -- subdivision and servicing -- became the full responsibility of the territorial government. Land in the Whitehorse metropolitan area could no longer be sold until it was subdivided and surveyed.

### *The 1970's and early 1980's: Contradictions emerge*

The direction of land development in the 1970's was influenced by the enlargement of the area and power of the city and by increased demand for land due to economic growth in the territory and in anticipation of the construction of the Alaska Highway pipeline. Large sections of federal land north and south of the enlarged city were transferred (Block Land Transfers) to control of the territorial government, to allow for more autonomy and responsibility with regard to community development (Fig.3.2).

At the same time the federal government restricted the availability of cheap land outside city limits. The restriction was intended to be temporary until the federal government could sort out administrative and jurisdictional concerns concerning this land, in particular the Indian land claim. As it enlarged, the City of Whitehorse was expected to be able to accommodate all types of residential needs. All levels of government became more sensitive to environmental degradation and to the costs of servicing dispersed settlements. In the 1970's each of the three levels of government worked out its respective land development and growth policy. While the jurisdiction of the three levels of government did overlap, in many cases their land policies did not complement each other.

After several attempts (1960, 1963, 1966, 1967) at enlargements, in 1970 the territorial government made the city boundaries of Whitehorse identical with those of the metropolitan area. The goal was unified and effective control over urban development under a single responsible municipal government. The City, with a population of 6,000 on two square miles, was extended to more than 160 square miles, incorporating 11,000 people. In this



Source: See reference no. 38.

Figure 3.2. Whitehorse Block Land Transfers, 1971

extremely large area most of the development was concentrated in pockets within 4% of the land area dispersed along the Alaska Highway (Figs.3.1 and Fig.2.2). Due to the dispersed nature of settlement, with widely fragmented and different levels of services, the boundary extension was not in the City's financial interest, but the extension removed duplication of services and brought some economies of scale[15].

Along with full responsibility for administration, the City gradually gained a degree of joint responsibility with the Territorial government for urban planning. All the undeveloped surface land stayed in the territory's ownership, and the territorial Department of Local Government acted as developer. Development plans were henceforth prepared through cooperation between the city and the territorial government, with the help of outside planning consultants.

The city of Whitehorse, having been greatly enlarged in area and responsibility, had to work out its urban growth policy. Specific city tasks pertaining to the growth policy were housing problems and public works investments[16]. From a municipal finance and user cost point of view the city's planning consultants (Central Interior Planning Consultants Ltd., Prince George, B.C.) recommended a "fill in" policy, to develop the vacant land in existing subdivisions. The planners also recommended more medium-density housing and a reduction in size of single family lots[17].

In 1976 the City commissioned Stanley Associates of Edmonton to prepare its first official community plan. The most important locally perceived objectives for the plan related to the extent of coordination among the three levels of government and the improvement of land use policies[18]. The planners recommended that future residential development be directed to areas which could be economically serviced and which would reflect the lowest

possible user costs. The city manifested a concern with respect to the proper location of higher-density residential development. Medium-density developments in Riverdale and downtown had a high concentration of low-income housing and lack of usable open space. The concept of neighbourhood residential development was first proposed in this plan. The "neighbourhood" should accommodate a population of about 3,500 people, and have as a focal point an elementary school and neighbourhood park. Multiple-family housing, generally in a town house (e.g. row house) configuration should be close to the central park and school.

The planners noted that mobile homes, forming 11% of the housing stock within the City, were poorly located and planned. These homes were not mobile, but a form of inexpensive pre-fabricated housing. Recognizing that people inhabiting mobile homes needed the same conveniences as in conventional areas, the planners recommended that the new residential areas accommodate mobile homes, and that discrete areas be designed for them. The planners identified twelve areas for future urban development (Fig. 3.3). These were selected on the basis of amenable topography and top soil conditions, existing infrastructure, and on the scale requirement of population of 3,500 per neighbourhood. Of the twelve areas, 1 and 2, Riverdale and Porter Creek were already committed, and Area 12 and 11 were intended to be rural in nature and not provided with public municipal services. Taking into consideration the major capital cost factors and maintenance and road user costs, the planners concluded that Area 3 would provide the lowest maintenance and user cost, with Area 4, 5, 9 and 10 ranking second. The alternatives were not assessed from any point of view other than the a unilateral financial one (cost of development). No evaluation was made of their suitability for certain

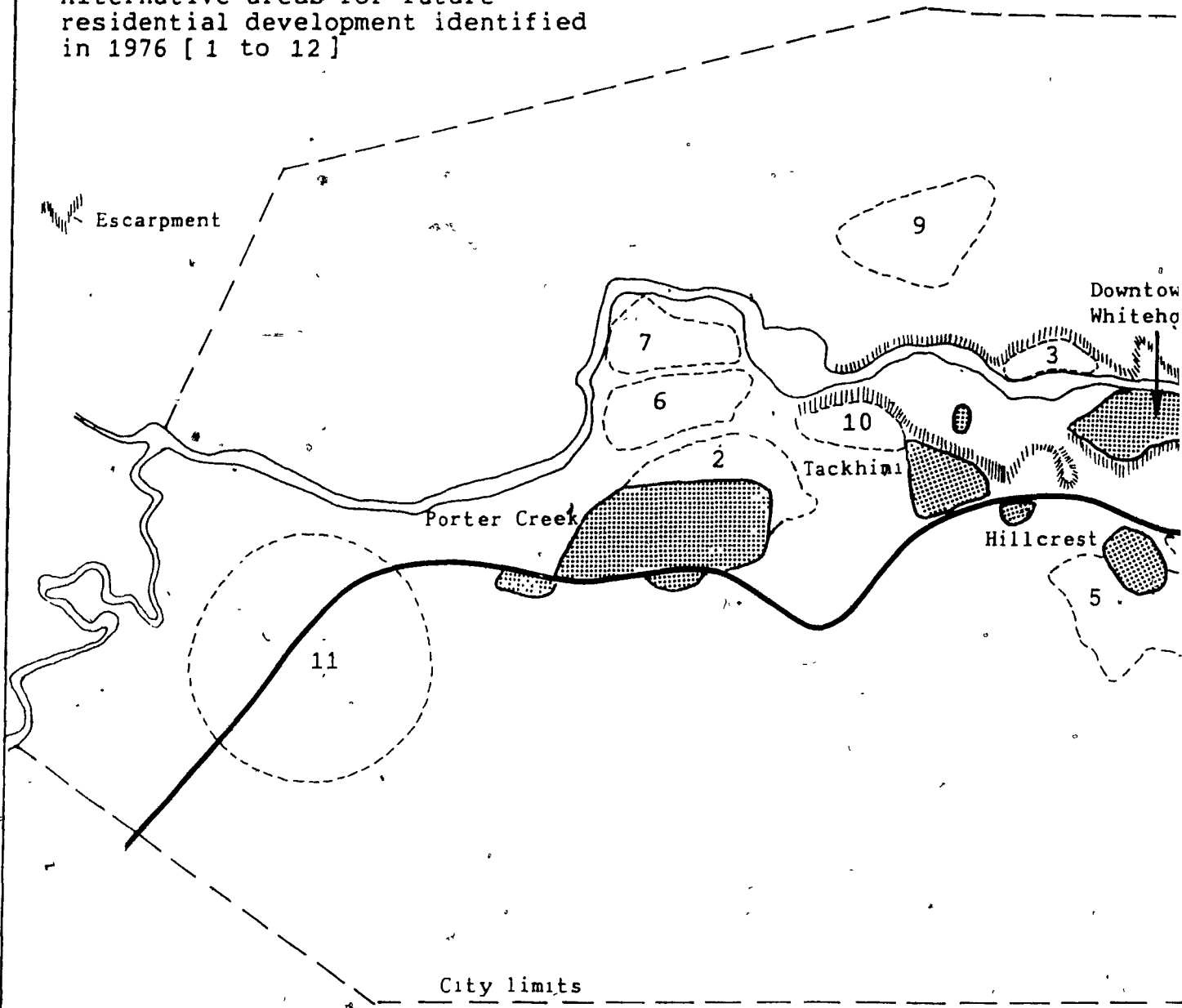
categories of people, for certain building types or housing densities, or land use capability.

Following the guidance of its consultant planners, the 1976 community plan and the utilities and roadways engineering analysis done in 1973[19], the city adopted a stringent policy of focusing its growth on the existing serviced subdivisions. During the 1970's the city acted as a general contractor for land development while the territory's Department of Local Government remained project manager with responsibility for design and funding approval[20].

Rapid economic growth due to mining and the preparation for the construction of the Alaska Highway pipeline contributed to massive land development in the period 1977-1979. During the fall of 1977, developers, real estate agents, business people, and prospective home owners became alarmed over the possibility of a population boom and the scarcity of residential land. The alarm was fueled by speculative lot buying in Riverdale: in 1977 twice as many people lined up for lot buying than there were lots available[21]. The private construction industry was afraid that if the town did not prepare for the boom, large scale developers from outside would take the construction jobs[22]. While it was difficult to meet the temporary demand for land and housing in 1977, planning and servicing of residential land had been progressing and hindsight shows that a more than adequate supply to 1985 was in the process of being planned or developed. The budget for land development was multiplied in each year between 1976 and 1979 (Table 3.1).

The city and the territorial government were prepared for a boom which did not materialize. Several socio-economic and housing studies were made to forecast impacts of the pipeline construction[23,24,25]. Population growth

Alternative areas for future residential development identified in 1976 [ 1 to 12 ]



Source: 'City of Whitehorse -- General Plan', 1976

Figure 3.3 Alternative development areas, Whitehorse, 1976



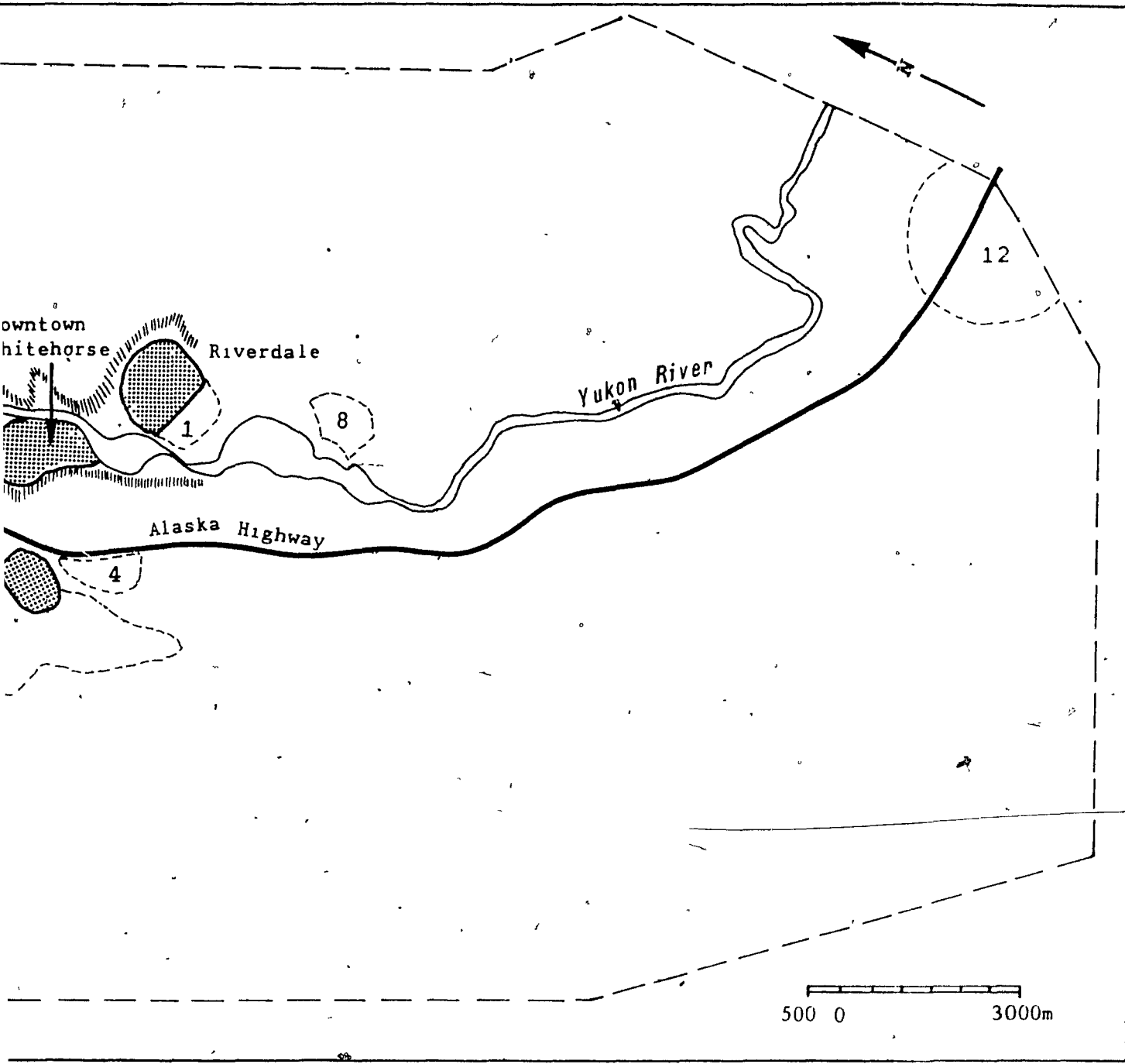


Table 3.1

Land development budget,  
Yukon, 1976-1984

Year	Budget for land development (\$)
1976	500 000
1977	2 000 000
1978	4 000 000
1979	10 000 000
1980	11 510 000
1981	8 500 000
1982	6 000 000
1983	5 000 000
1984	4 000 000

Source: Land development, YGR, file 2840-2, YA, Whitehorse.

was projected with the aid of an economic model; and housing requirement forecasts were translated into residential lot requirements. The forecasts were based on types of dwellings occupied in the Yukon by age of household head, but they assumed that the relative distribution of income among age groups would remain unchanged. The territorial government (Department of Local Government) issued a Green Paper (1977) on land policy, stating their intention of developing land in excess of maximum projections [26].

The strategy was to fill in the residential areas inside the municipality, to develop new land in the controlled blocks at the edges of the city, and to permit some controlled private land development alongside public development [cf. reference 24]. By making available lots for those who might want to settle in the Yukon, the territory sought to influence the stability of the population and the Yukon economy as a whole. While the policy accommodated the needs of a region with a growing economy, it was not changed

once the economic situation was reversed, when people started to leave and those who stayed had less money for land and new construction.

By May 1980 the "land shortage" experienced during the pre-pipeline speculation was over. In 1981 the Yukon territorial government was faced with an inventory of 700 developed lots [27], when 10% of the housing stock was for sale. The territorial government exerted pressure on the city to agree to placing the lots on the market. The city, doubting that the lots would be sold, refused to assume responsibility for the municipal infrastructure in those areas [28]. The city recommended a go-slow approach to release land gradually, and opposed the release of land in the Hillcrest extension.

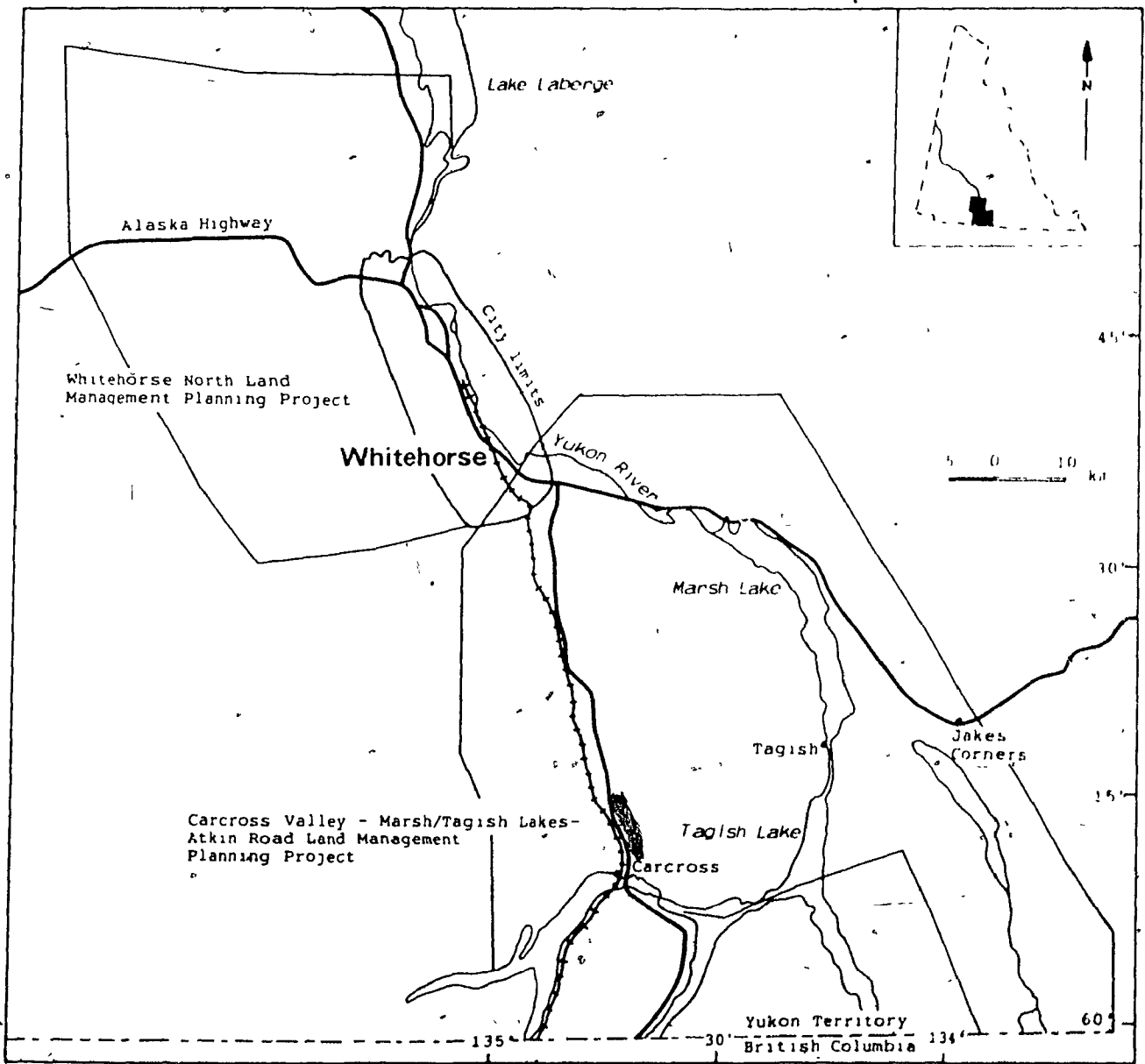
Release of promised varied and attractive lots was part of a political exercise of the territorial government. It claimed this would encourage home ownership and broaden the municipal tax base [29]. Land availability was an election issue politically exploited during the decade 1973-1983 [30]. The territory's solutions to overcome the city's financial concerns included an operating grant to compensate the city for unused lots until 50% of ultimate sales were achieved, and a territorial government warranty on infrastructure for a six-month operating period. The extended warranty was considered a development cost and included in the price of the lots [cf. reference 29].

While urban growth inside city limits proceeded in an organized and planned manner, until the mid-1970's disposition of land outside city limits was administered by the federal government in their traditional primitive way, responding on an ad-hoc basis to requests for land. In 1975 a decision was made to rationalize the land use pattern. Formal and informal moratoria were established to halt land dispositions while the process was going on (Redpath 1979:74).

Regional planning was initiated by the Department of Local Government and the Land Resources group of DIAND in 1977 in the areas shown in Fig. 3.4 [31,32]. Both studies were done under the direction of a competent land use planner who developed a deep understanding of land use issues in the Yukon. It had been estimated that 10 % of the total housing demand would occur on lands beyond the boundaries of Whitehorse. Recognizing the need to satisfy this demand for rural living, the regional study asked two very important questions. (1) Since only 5% of the city's land is developed, how much more could be developed for settlement purposes before it would be necessary to develop on land lying beyond the city's boundaries? (2) Why is there a demand for land outside the city when there seems to be sufficient area in the city[cf, reference 31].

The study concluded that there was sufficient land inside the city boundaries to satisfy the demand, but there was an insufficient range of choice in both size and location of available properties that would cater to various lifestyles. The residential subdivision policy within the city of Whitehorse was viewed as restricted, focusing basically on serviced urban lots where so many other opportunities existed for residential settlement. The city's reluctance to use other options was attributed to the lack of an adequate physical land inventory program.

Other facts which contributed to the demand for land outside city limits were these: Crown land outside the city unlike land in private ownership, was being sold below the market value; the taxes were lower in unincorporated areas, and there were no controls on the use of land. The study recommended planned rural subdivisions in the Block Land Transfer areas. They suggested avoiding duplication in the options available in the city and



Source: See references no. 31 and 32.

Figure 3.4 Regional planning areas, Whitehorse North and South

outside of it. They recommended 2-4 ha rural lots outside and 1-2 ha rural lots inside city boundaries.

In the opinion of the land administrator (Yukon Territory, Municipal and Community Affairs), there should be no economic incentive to live outside of the built-up communities. "People should choose to live there for reasons other than simple economic reasons"[33]. In other words, the cheaper land, lower taxes and relaxed building regulations near the city were undermining the city's tax base. In the words of the federal land use planner, "large lots for many residents are not possible for reasons of higher servicing costs, higher fuel costs related to increased travel distances, and reduced amount of land base to accommodate competing needs"[34]. In his view the large lot subdivisions provided in the early 1980's should be designed in a manner that would allow further subdivision when necessary.

In the view of the city manager "the need for large lots in or around the city is questionable. Practice shows that for residential purposes 0.8 ha is sufficient: more land is of little use. In fact, faced with the taxes they have to pay, many owners of 1.5 - 2 ha would like to subdivide[35].

When the loss of population in the early 1980's left a surplus of housing and developed land in the city, the territorial government still went ahead with land development and sale in the surrounding belt, in order to provide more variety for the voters and to demonstrate its need for more land[36]. In spite of the fact that the federal land transfer program was stopped in 1975 (due to Indian opposition to the transfers in advance of a land settlement), in 1979 the Yukon Government proposed to take over the entire study region[37].

During the 1960's and especially the 1970's the territorial government and the City of Whitehorse expanded their efforts to rectify the effects of the unorganized growth of the 1940's and 1950's. The 1970's were characterized by organized and planned expansion. While the efficiency and wisdom of this expansion is still debatable, residential land use is now characterized by controlled development.

All three levels of government have advanced in their positions. The need for land conservation has become an accepted fact, although its meaning is not yet clearly defined. A real concern for the use of land is developing. City policy is definitely moving towards compactness, filling in existing residential areas. While cooperation of the federal and territorial governments in regional land planning has generally been constructive, the territorial government policies have tended to undermine the policies of the city. The city has lots of developable land and is able to accommodate population growth projected for the next 20 years. In spite of this, land development is planned and proceeding outside city limits.

At the end of the 1970's there was still an absence of adequate basic data concerning population characteristics, housing and land. Data is not yet available for the nature of the population and the strength of their attachments to Whitehorse, the permanence of their employment, and their attitudes towards continued residence. Understanding of common attitudes towards lifestyle, housing and land could produce land planning policies appropriate to the population's needs [38].

The growth policies and plans of the last 30 years are firmly imprinted today on the urban landscape of Whitehorse. The developmental history of the individual residential areas are presented in the next section.

### Residential areas of Whitehorse: the effects of planning.

In reviewing the development of individual residential areas, the goal of this section is to look at the principles of land development at work and to evaluate its strengths and weaknesses. The chronological treatment and socio-economic background of the residential areas will add to the understanding of the differences among them.

The city's residential areas developed as distinct identifiable communities [39]. Figure 2.3 shows the present residential areas of Whitehorse. Table 3.2 and 3.3 show population breakdown by residential area. The growth and decline of major residential areas as indicated by the housing stock is illustrated in Table 3.4, while net residential densities appear in Table 3.5.

The largest population concentrations are Riverdale (34.6%), Porter Creek (21.4%) and Downtown (17.6%), but the space accorded to each will not be proportional to their population or area size. The areas represent different stages in the sequence of residential development in Whitehorse. Certain aspects or stages will be highlighted in view of their origins, identity, differentiation and innovations in growth patterns.



Table 3.2

Population growth by major residential areas  
Whitehorse, 1961-1981

Major residential areas	1961	1971	1981
Downtown	4153	3703	2621
Riverdale	680	2348	5130
Porter Creek	624	2088	3182

Source: Figures are approximate, calculated from Statistics Canada Census data (amalgamated enumeration areas).

Table 3.3

Population by residential area, Whitehorse, 1981

Residential area	Population (%)
Riverdale	5130 (34.6)
Downtown	2621 (17.6)
Porter Creek	3182 (21.4)
Hillcrest/Lo-Bird	955 (6.4)
Takhini	807 (5.4)
Valleyview/Kopper King	654 (4.4)
Crestview (includes Northeast Alaska Highway and McPherson)	674 (4.5)
Wolf Creek (includes Southeast Alaska Highway)	455 (3.0)
Marwell (includes Indian Village)	290 (1.9)
Other	46 (0.3)
Total	14,814 (100.0)

Sources: Calculated from Statistics Canada, 1981 Census, amalgamated enumeration area population, Yukon Territory; See also Yukon Economic Review, second quarter, 1982, p.6.

Table 3.4

Dwelling units by residential areas  
(Number of units and percentage of total units)

Residential area	1963	1968	1977	1982
Downtown	1022 (51.1)	1242 (47.3)	1175 (26.0)	1169 (21.9)
Upper Whitehorse (Takhini, Valley- view, Hillcrest)	595 (29.7)	461 (17.4)	424 (9.4)	459 (8.5)
Porter Creek and Crestview	181 (9.0)	224 (9.3)	741 (16.4)	1215 (22.7)
Riverdale	175 (8.7)	419 (15.9)	1432 (31.7)	1663 (31.1)
Other (squatters, trailer court, rural areas)	26 (1.3)	257 (9.7)	738 (16.3)	835 (15.6)
Total	1999 (100.0)	2623 (100.0)	4510 (100.0)	5341 (100.0)

Notes and sources:

1) The 1963 figure for Downtown includes squatter dwellings and the Indian Village. 2) Data compiled from: General Development Plan, Whitehorse Metropolitan Area, 1970; "Baseline housing data for the Whitehorse area", North Western Associates Ltd., for the Yukon Housing Corporation, 1977; Manuscript data for the forthcoming new Whitehorse Official Plan, EPEC Consulting Western Ltd., 1982.

*Downtown*

During its developmental history today's downtown was referred to as Whitehorse, Lower Whitehorse, Whitehorse Proper, and Western Townsite, and now simply Downtown. These names were associated with the role of the area at particular times. Apart from housing 21.9 % of the population of the city, downtown is a multifunctional centre providing the commerce, public buildings,

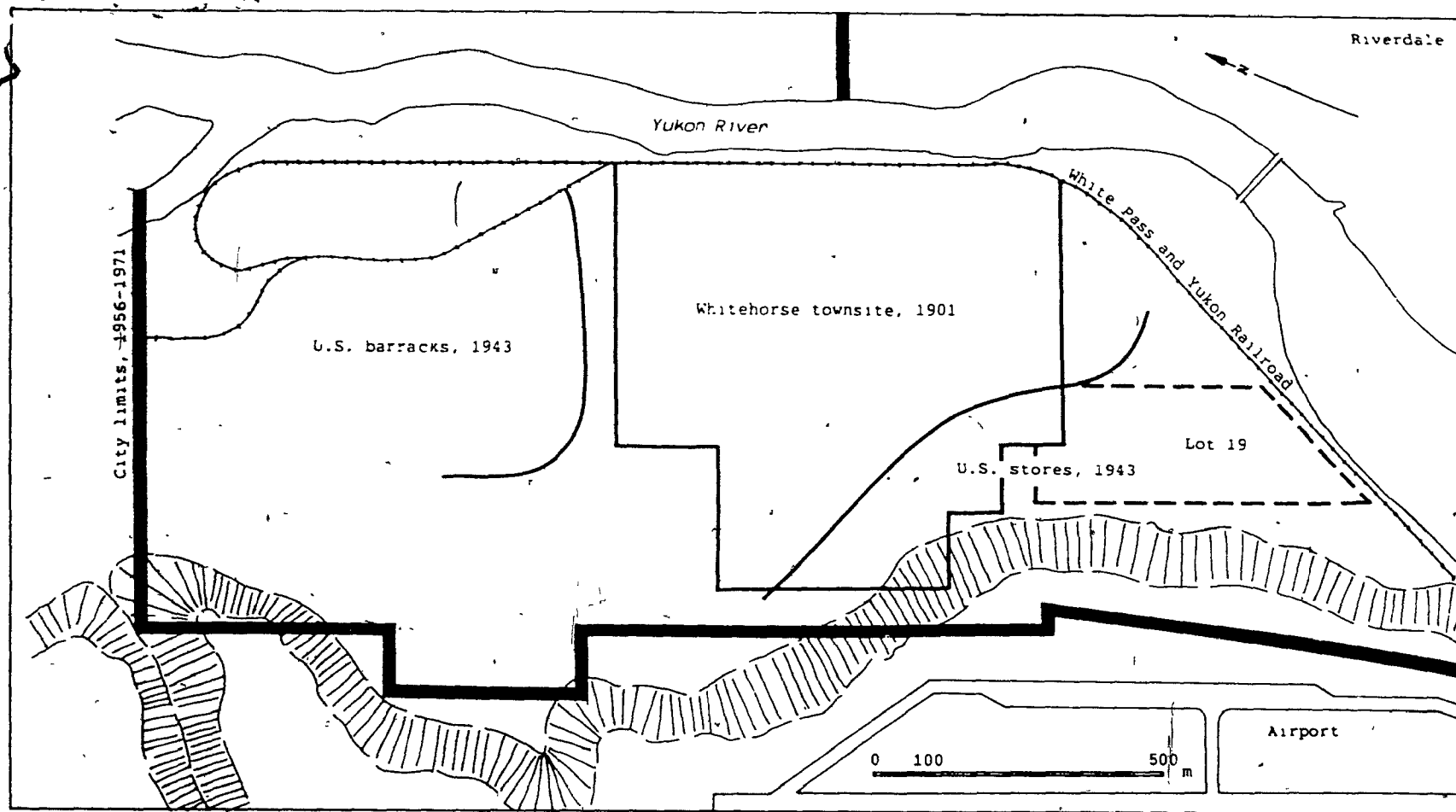
Table 3.5  
Net residential density by area, Whitehorse, 1982

Area	Residen- tial units	%	Density units/ acre	Density units/ha
Downtown	1169	21.9	15.2	37.5
Riverdale	1163	31.1	7.9	19.5
Marwell (includes Indian Village	102	1.9	10.2	25.2
Takhini-Valleyview	184	3.4	6.3	15.6
Hillcrest	275	5.1	8.6	21.2
MacRae	12	0.2	6.0	14.8
Porter Creek	1091	20.4	3.6	8.8
Crestview-McKenzie	124	2.3	2.8	6.8
Kopper King (mobile home park)	90	1.7	6.0	14.8
Takhini Trailer court	113	2.1	8.7	21.5
Northland (mobile home park	106	2.0	3.2	7.9
Lo-Bird (trailer court)	61	1.1	2.8	6.8
Wolf Creek	118	2.2	0.3	0.8
McPherson	55	1.0	0.3	0.8
Rural areas	178	3.3	1.3	3.3
Total	5341	100.0		

Source: Data compiled from a manuscript prepared for the new Whitehorse Official Plan, EPEC Consulting Western Ltd., 1982.

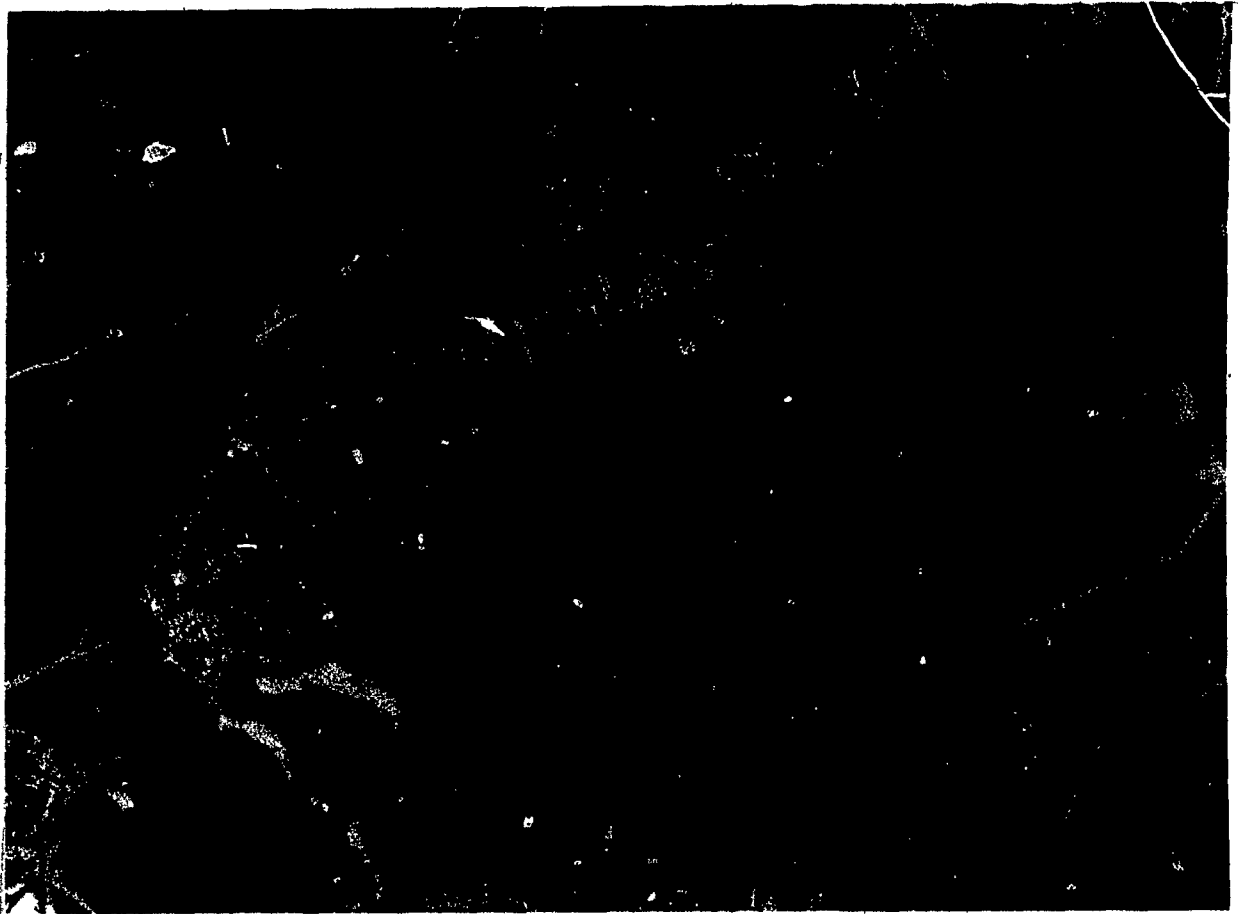
historical sites, transportation and warehousing, recreation and higher education for the Yukon Territory.

Natural elements constrain downtown's urban land use (Fig. 3.5, 3.6 and 3.7). Downtown Whitehorse is located on a gravel river terrace on the west bank of the Yukon River at an average elevation of 634m. In the south the terrace is terminated by a small lake. Behind the townsite along the west side of the lake and river terrace a bench of white clay rises 61m. The instability of this escarpment is an obstacle to the development of much vacant land.



Source: Information derived from G. Taylor, 1945 and historical maps and records (see reference no. 41)

Figure 3.5 Downtown Whitehorse, land use history



Note downtown Whitehorse wedged between the Yukon River and the escarpment. The bridge leads to the Hospital and Riverdale.

Source: Department of Energy, Mines and Resources, air photo no. A25006-91, July 1978, 1:25,000.

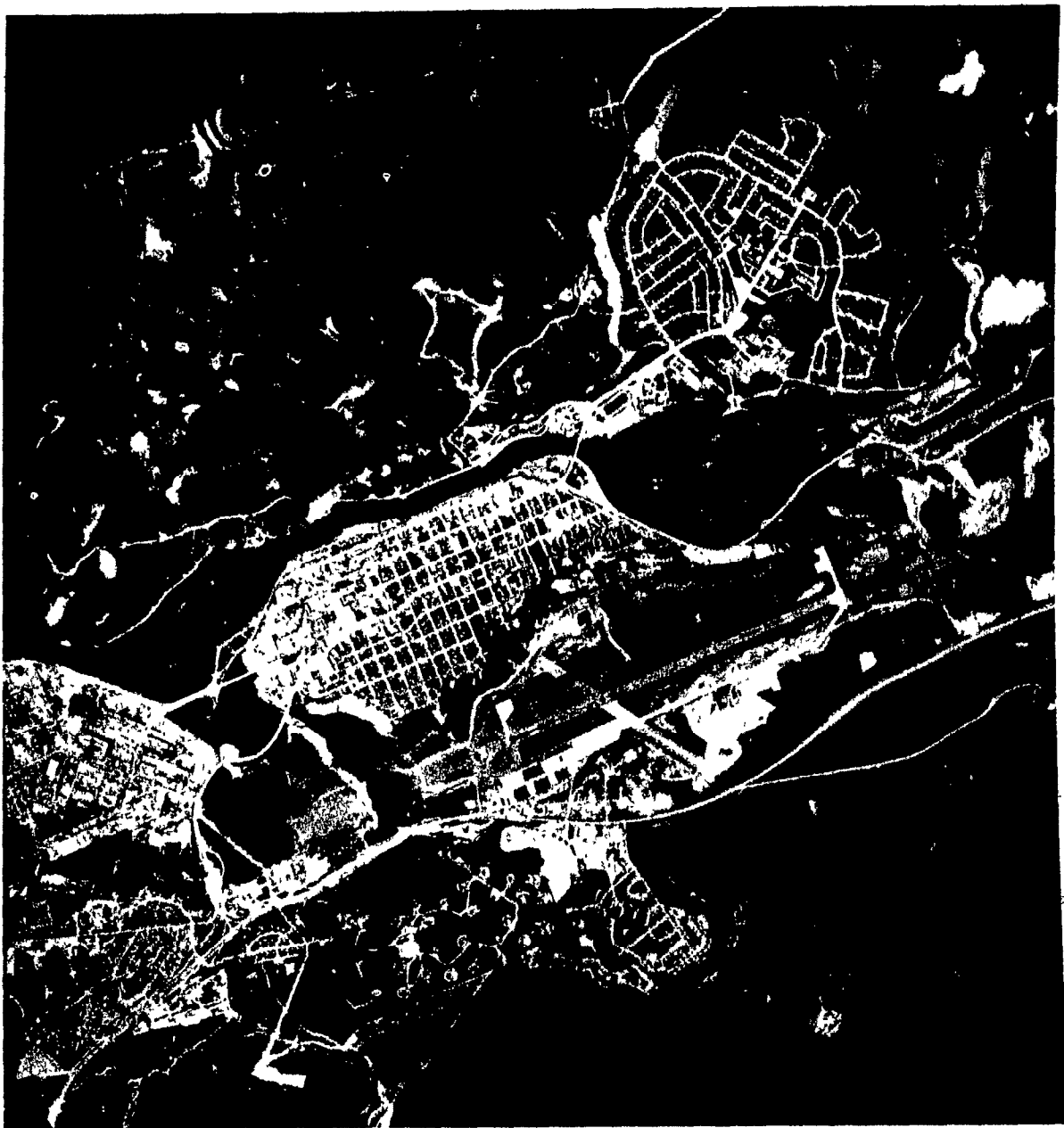
Figure 3.6 Downtown, 1978.

The terrace is about 610m wide and slopes from the foot of the bench to the river. The southern section and the edge close to the river are subject to flooding each year. Surrounding the Yukon Valley are ridges 460 to 610m high. The White Pass and Yukon Railway approaches downtown from the south along the foot of the escarpment and the Yukon River.

While the natural setting is extremely attractive, downtown Whitehorse gives a negative overall impression (cf. Fig. 2.1). Because the surface material is extremely poor for plant growth, the town is dusty and untidy in appearance during the snow-free season. The majority of lots are in a deteriorated state. The commercial streets are lined with false fronts. Most of the residential and public buildings have a nondescript square or rectangular shape (Fig. 3.8). There is no provision for public open space inside the built-up area.

Random development resulted in low overall density with considerable wastage of land. Consolidation by means of zoning regulations has occurred only since the early 1960's. Obstacles such as large private land holdings, lack of legislation, and a conservative attitude have prevented a faster pace of change.

The site was surveyed in October 1899 by the British Yukon Railway Company using a Dominion land surveyor. The area was designated as a townsite after staking by individuals acting on behalf of the British Yukon Mining and Transportation Company. Application to purchase was made on the basis of staking 17 lots of 40 acres each and three other large lots. This covered all the land between the escarpment and the river [40]. In accordance with territorial regulations, 80 acres was reserved for police and other government purposes [41].



Source: Department of Energy, Mines and Resources, air photo no.A25006-91, July 1978, 1:25,000.

Figure 3.7 The situation of Downtown in the Yukon Valley and the Whitehorse area, 1978.

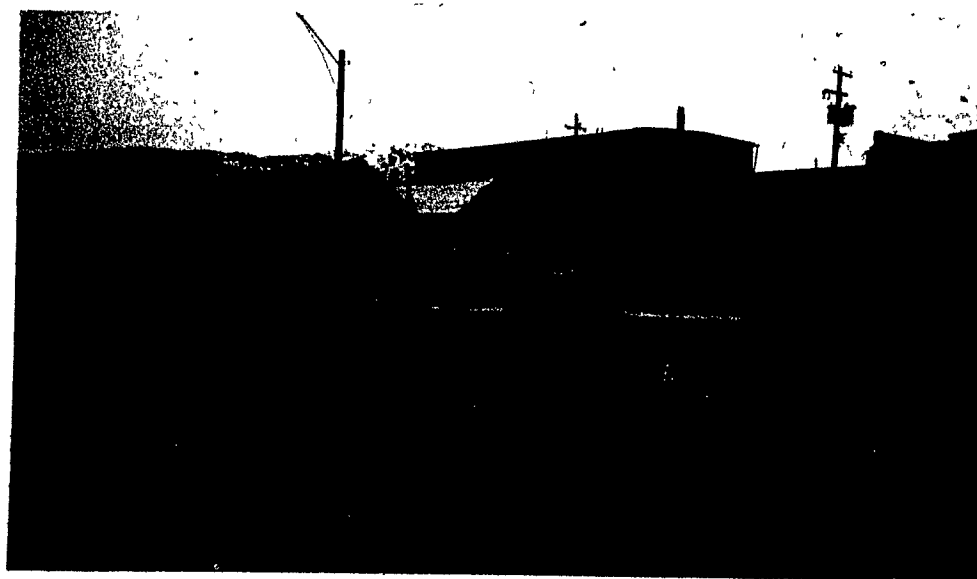
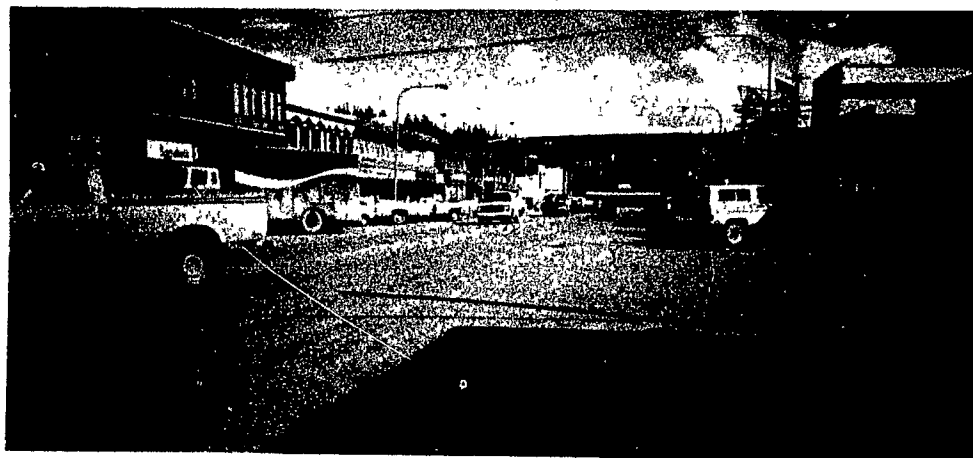


Figure 3.8 Buildings and land use in downtown Whitehorse, 1981

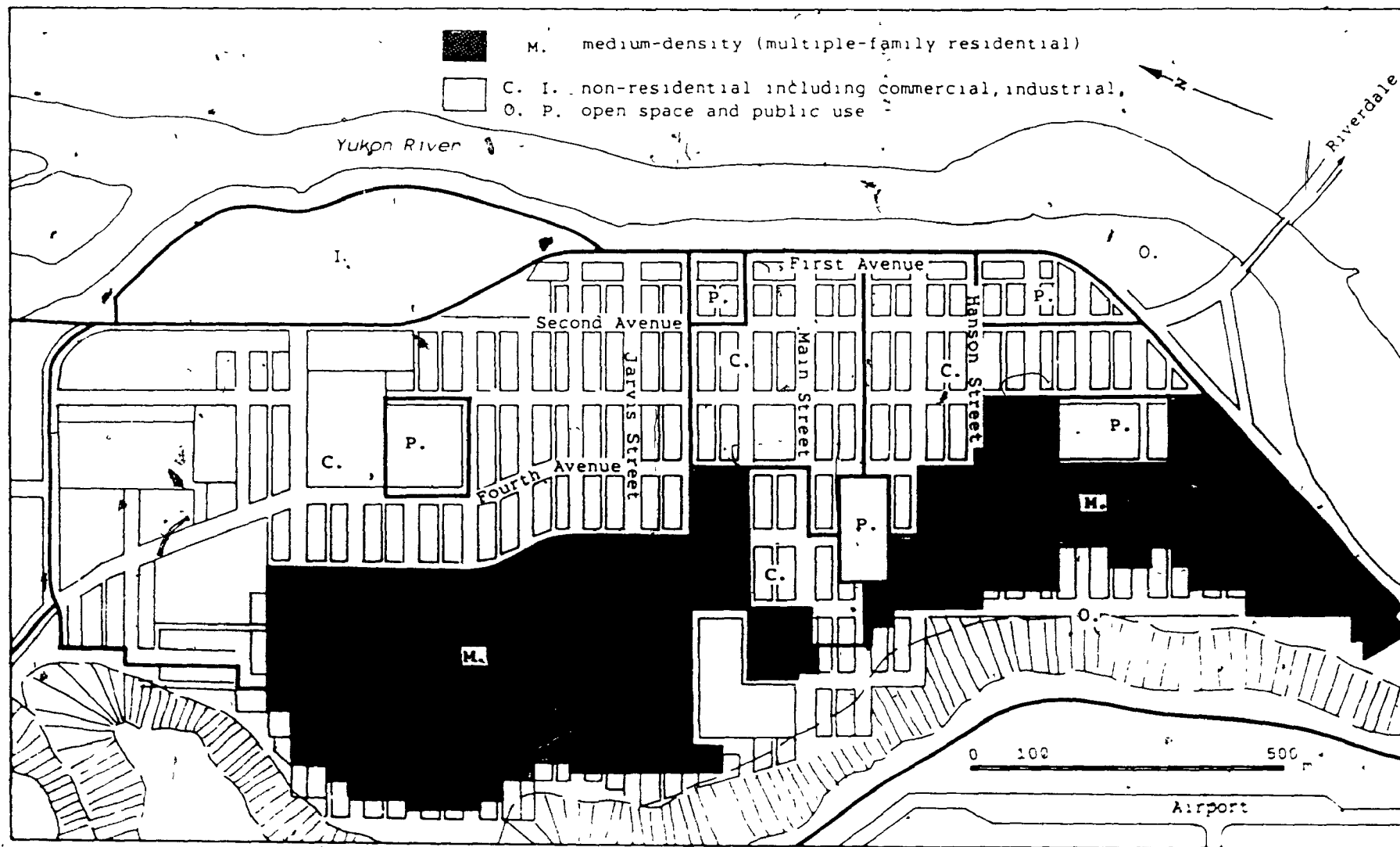


The original town plan, followed the pattern of the classical railroad town (Gerecke 1978:7-8). The goal was to provide adequate traffic connection between freight terminals, the waterfront and the business section. The town was laid out in the conventional grid.

Samuel H. Graves, the first president of the British Yukon Railway Company, in addition to the 292 acres in the Whitehorse area that he acquired from the Crown for railroad use, also purchased the majority of land in the townsite. After the original 20 parcels were acquired from the government, each by a different individual, Graves re-purchased all the lots. During 1900 and 1901 he sold the majority of this land to the British Yukon Land Company incorporated in 1900 [cf. reference 40]. The townsite was resurveyed, the group lots were subdivided into town lots (44x100; 100x30; 100x50 feet) and went on sale in 1901 by public auction. Streets were 80 feet wide with the exception of Main and 1st Avenue which had a width of 100 feet (cf. Fig. 8.9).

By the spring of 1901 the town had a population of 2,000 living in tents, log houses and clapboard buildings mostly of a utilitarian character. The area from the riverfront to Fourth Avenue and Hanson Street north six blocks to Jarvis Street was built up almost continuously. Beyond that lay scattered residences, shipyards and brickyards, railway terminal buildings and steamboat docks (Koroscil 1978). Permanent and transient populations slowly began to separate into identifiable residential districts. A "better-class" residential area developed in the west and south, a "second-class" district south and north under the escarpment, and the poorest class of people occupied the edges of the town south and north and on both sides of the railway at Whisky Flats (Ridge 1953; Koroscil 1978).

During the war years (1942-1944) the old town was pinched between U.S. Army dwellings to the south and stores and refinery buildings to the



Source: City of Whitehorse, Zoning Map, Bylaw 493

Figure 3.9 Downtown, zoning, 1980

north. Large portions of land within the townsite were also occupied by military buildings (Taylor 1944; Lotz 1961; Denis 1952:151) (Fig. 3.10). The southern area was slowly abandoned as a residential area in favour of locations such as Camp Takhini built by the Canadian Army in 1948 (Ridge 1953:297; Denis 1952:95).

Meanwhile civilian workers who could not rent or purchase a lot became squatters. Squatters filled up Whisky Flats, the original poor and transient area, then established Moccasin Flats and finally occupied every available space on the subdivided townsite. During this period the squatter areas were of such magnitude that along with the military areas they became the only clearly identifiable residential zones. After the war the continued presence of military buildings and shacks made the townsite undesirable and unavailable for new residential construction. Squatting remained an accepted way of life for a long time[42].

### *Changes in land use*

In the 1960's and 1970's squatter areas were cleared, as were some of the deteriorated buildings. Vacant land was used for residential purposes, an area was designated for multiple family housing and about 115 units were built for low-income and senior citizens.

By the end of the 1970's downtown had two major (cf. Fig.3.9) residential areas. The older one, to the north, consisted primarily of single-family dwellings of various ages and conditions. Among them are several buildings of historical significance or uniqueness such as the log "skyscrapers" on Lambert Street, residences on Lambert Street, Elliot Street, Wood Street and Steel Street. Many of the historical buildings are being lost because they are no longer economically useful[43].



Note: Wartime military buildings are at the right. Note the still (1946), large number of pine trees which died or were destroyed since.

Source: National Film Board photograph no. 24954, 1946(?), obtained from the McGill Centre for Northern Studies and Research, Montreal.

Figure 3.10 Wartime military buildings, Whitehorse, World War II

The newer southern residential area built since 1963 consists mainly of townhouses and three-storey apartments. Multifamily housing was developed since 1965 due to the mining boom and public housing programs. Most of the residential, public and commercial buildings suffer from lack of landscaping. Their form, layout and style make little contribution to the architectural character of the city.

While in 1963 downtown housed two-thirds of the Whitehorse area population, in 1982 it housed only 21.9 %. The number of housing units is almost the same. Multifamily housing was developed with the mining boom since 1965. The 1977 Yukon Housing Corporation Housing Survey showed that half of all housing units in Downtown were single dwellings. Short blocks are interrupted by unsightly lanes. Unused lots, a want of public open spaces, large unused setbacks and mixed building styles and materials perpetuate inefficiency and a faceless downtown. As new attractive residential subdivisions were opened, downtown gradually lost its appeal, with its accessibility and centrality remaining its only assets.

Recent studies to improve downtown include plans for expansion of the comprehensive core zone, Main Street beautification, waterfront development, tourist facilities development, and for the downtown core [44]. They involve proposals for compact mixed commercial-residential development for the downtown core and giving life through a recreation-commercial-business type of renovation to the presently deserted or delapidated riverfront. The object is to attract and keep people in the downtown area.

Inspired by recent Ontario and Saskatchewan experience, these plans emphasize the need for an organizational structure which can effectively harness and sustain the energies and resources of both the private and public sectors. Since there is no financial assistance available for the present,

the public sector's role is to provide guidelines, planning and professional support [cf. reference 43]. Development on a lot by lot basis without specified design standards and development agreements does not lend itself to organized and effective change. Comprehensive design is needed involving building groups and landscaping.

### *The squatter problem*

In 1956 squatters made up about one-third of the population of the Lower Townsite or downtown. In 1960 a "squatter survey" by Lotz (1961) for the federal government counted 366 buildings and 864 individuals in 10 squatter areas. Squatting was common because of the high price of land on the townsite and in the new subdivision of Riverdale, the high cost of house building, the inaccessibility of the unserviced territorial subdivisions to a person with no car, and an economic climate of uncertainty. Squatters did not pay for sewer and water since they had no sewer and water. They paid very little taxes. The land owner paid an acreage tax substantially smaller than the tax on subdivided land. In the strict sense of the word a squatter is defined as a settler having no legal title to the land occupied by him, or a person renting a dwelling whose owner does not have legal title to the land on which the dwelling stands (Lotz 1965:176).

From a town planning and municipal finance point of view, squatting is a serious problem. It is a lot harder to deal with than to prevent (Buckstar 1970). At the same time squatting is a solution for certain categories of people. Squatting in Whitehorse occurred in three stages. In the first, between 1942 and 1960 squatting was a response to a serious land and housing shortage. During the second stage, between 1960 and 1975 incoming people could find other alternatives, and former squatter areas became less

attractive. However some of the old timers stayed. In the third, contemporary stage, squatting is not an economic necessity.

The largest concentration of squatters was in Whisky Flats (305 people in 1960). Despite the poor quality of housing the area took on a pleasant appearance during the summer months due to the proximity of the river and its trees and green spaces. While it was a shabby place, living there was an accepted fact. Newcomers, often seasonally employed, had to take what was available. A large percentage of the population was in the same position, in need for reasonably priced housing. The squatter areas were self-reliant, home-made and without class distinction. Volunteer work and community spirit replaced government help, available only to the military and a certain category of government employees [cf. reference 42].

Lotz's (1965) sociological survey found that squatters included a large number of single men (31.7% of the households); Indians (12 %); problem households involving heavy drinking, the very poor (24 %), and many unemployed and seasonally unemployed. A quarter of the squatter households had no steady income, 10.4% had a lot less than the average wage for 1961, but half (53.0%) had more. This indicated that a large percentage of squatters had the means to afford alternative accommodation. At the same time about one third were very poor with no material means available for change. Lotz (1965) identified several different types of needs which called for several solutions.

The first attempt to get rid of squatting was a shack removal campaign instituted by the Board of Health in 1958. Squatters were regarded as a problem because the land was needed for other purposes, their living standards were very low, and they did not pay "a fair share" of taxes for the services they used or could have used as taxpayers. Methods of cleanup

involving all three levels of government between 1958-1968 included dismantling of uninhabited buildings and moving habitable buildings to other sites[45]. Many squatters moved or were moved to the periphery to land owned by the Crown or the largest landowner, the British Yukon Navigation Company, (White Pass and Yukon Route Co.) Those lands were generally unsuitable for residential development of any kind, as they were low lying and susceptible to flooding, too close to the escarpment and subject to land slides, or they were swampy and uncleared (Fig. 2.13). Squatters moved from one squatter area to another.

One attempt was the establishment of a Transient Subdivision where taxes had to be paid and hygienic standards met but where there were no building regulations. Attempts to move squatters voluntarily to the Territorial Subdivisions failed because of the distance involved, the lack of schools and the limited income of the people to be moved. Most squatters needed to be within easy reach of urban work, schools and stores[46].

The Queen's University report suggested that Lot 19, owned by the British Yukon Navigation Company, be vacated, surveyed, subdivided, serviced and sold to the City for squatter relocation[cf. reference 6 and 45]. In 1961 the territorial government made the decision to buy lot 19 (they borrowed money from the Federal government) but the proposal to make it available for low rental housing for squatter relocation was voted down by the citizens of Whitehorse. The public at large did not want the squatters to "have something for nothing"[cf. reference 46]. Negotiations and discussions continued for another ten years[47]. Lot 19 was eventually developed for multiple-family housing. The area was serviced and placed on sale in 1969, and parts of it were developed for low rental housing in 1971.

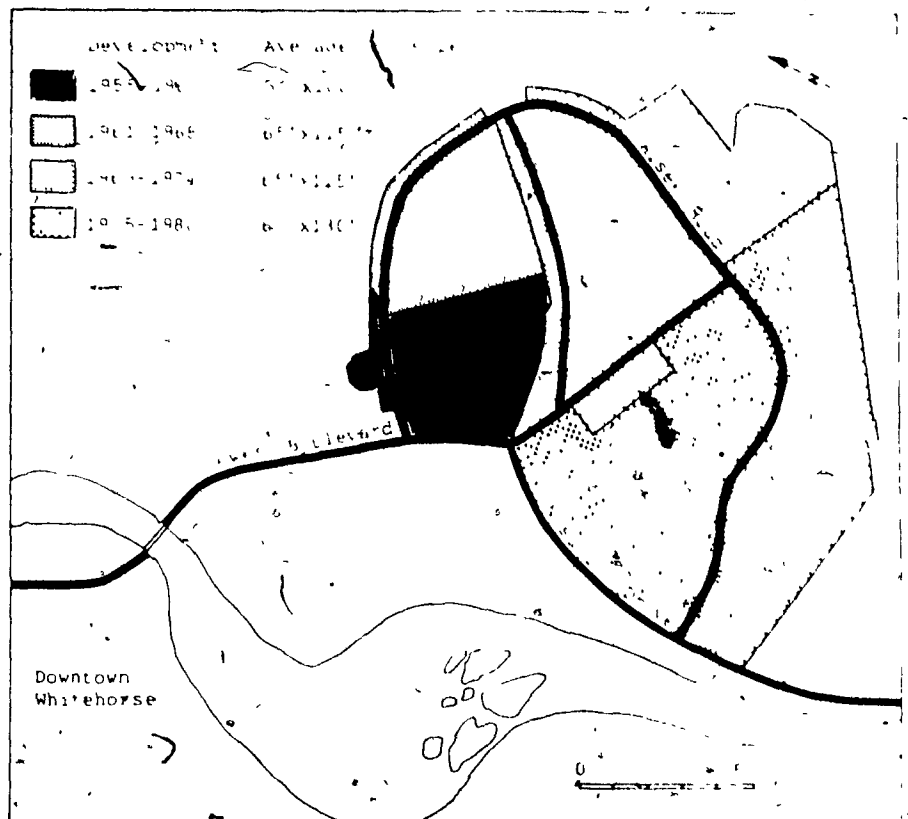


Through the 1960's and 1970's most of the squatters left downtown. They purchased lots and moved to Porter Creek, Crestview or Hillcrest. Some settled along the Alaska Highway or the bush outside city limits. Many accepted the government offer of low cost housing and now reside in the area still known as Lot 19. Status Indians were moved or encouraged to move to the Indian Village. Today only a few squatter buildings exist in the downtown area. The largest concentration is Sleepy Hollow, the area not yet needed for other uses. People are not evicted, but in case of fire only lives are saved[48]. People who squat today are either old timers who want to continue their old frontier way of life or individualists with a pioneer spirit who prefer the solitude of the bush within the social and economic shadow of the city.

### *Riverdale*

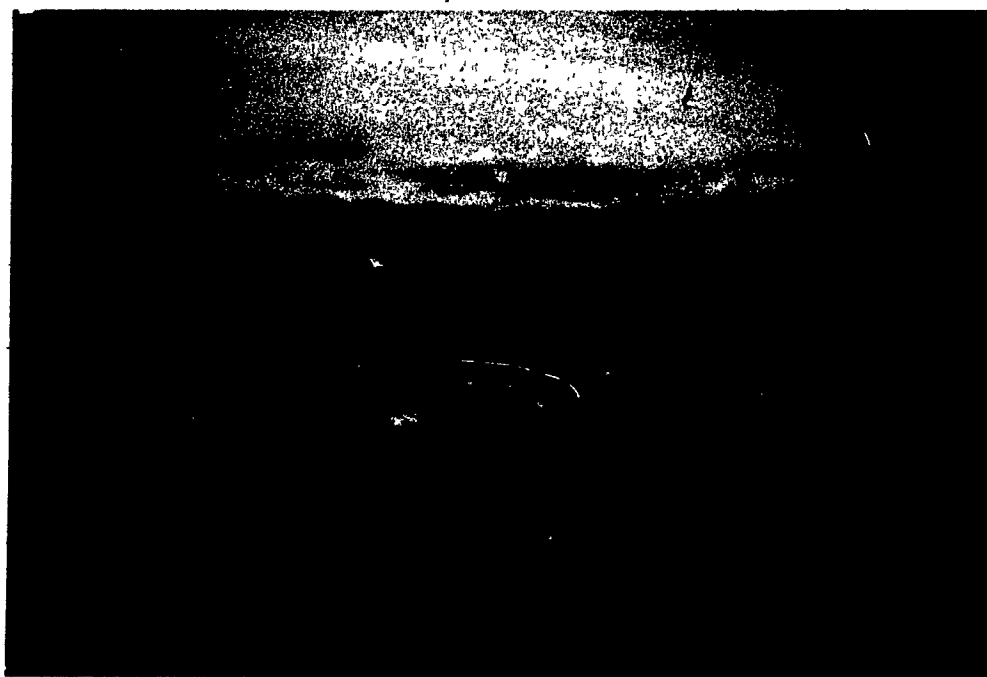
The Riverdale subdivision containing 31% of the residential units of the City of Whitehorse (1982), was developed between 1955 and 1980 (Fig. 3.11). Its rapid growth can be attributed to its central location and municipal servicing. Situated south of downtown, about a 20-minute walk from the city centre, it is the only residential subdivision accessible on foot (Fig. 3.12).

Riverdale is located on a river valley gravel terrace. Its 226ha are confined by natural features. On the west it is bounded by the Yukon River on all other sides by stratified silt bluffs rising 46m. To the south



Sources: see references no.50 and 51; and Canada, Department of Energy Mines and Resources, air photo A25006-91, July 1978; 1:25,000

Figure 3.11 Development phases, Riverdale, 1955-1980



Note: Left foreground is Riverdale. Background shows the escarpment, the airport and the surrounding hills. The forest behind the airport contains the newly surveyed and-developed Hillicrest extension.

Figure 3.12 The situation of Riverdale in the Whitehorse area

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development is limited by the Anvil Power Line right of way. Most parts of Riverdale are very attractive mainly because of the presence of natural vegetation well taken care of during land development and building construction (Fig. 3.13).

Development was proposed in 1953 for a government staff residential area[49]. In 1954 a joint decision was made between the City of Whitehorse and the Northern Administration and Lands Branch of the Department of Northern Affairs and Natural Resources to develop the Riverdale subdivision as an addition to the City. The Central (now Canada) Mortgage and Housing Corporation was requested to do the plan since at that time there was no planning organization or qualified personnel available in the territory.

While the whole area was reserved and set aside to provide 3,000 lots, as a first step only 200 lots were planned, surveyed and serviced. The water and sewer mains were so constructed that they could later be extended to service 1,500 lots. There was, however no overall plan for the subdivision.

The development was financed by a federal loan to the territorial government[50] which sold the lots at development cost to the public. Lots in Riverdale cost from \$1,200 to \$2,000 in 1956. In 1957, as agreed upon before its conception, Riverdale was included in the city, and due to its suburban qualities and price, it attracted the upper-income population.

Its pattern may be described as a modified grid. Lot sizes were 50'x100', 60'x100' and 70'x100' feet with minor streets 60 feet wide and collector roads 80 feet[51]. While no restrictions were placed on building types, the lots were essentially suitable for single family dwellings. The manicured lawns reflected conformity and imitation of southern Canadian suburbs. Main town planning concerns included the preservation of soil cover, vegetation and the use of contours. There were no sidewalks and no alleys.

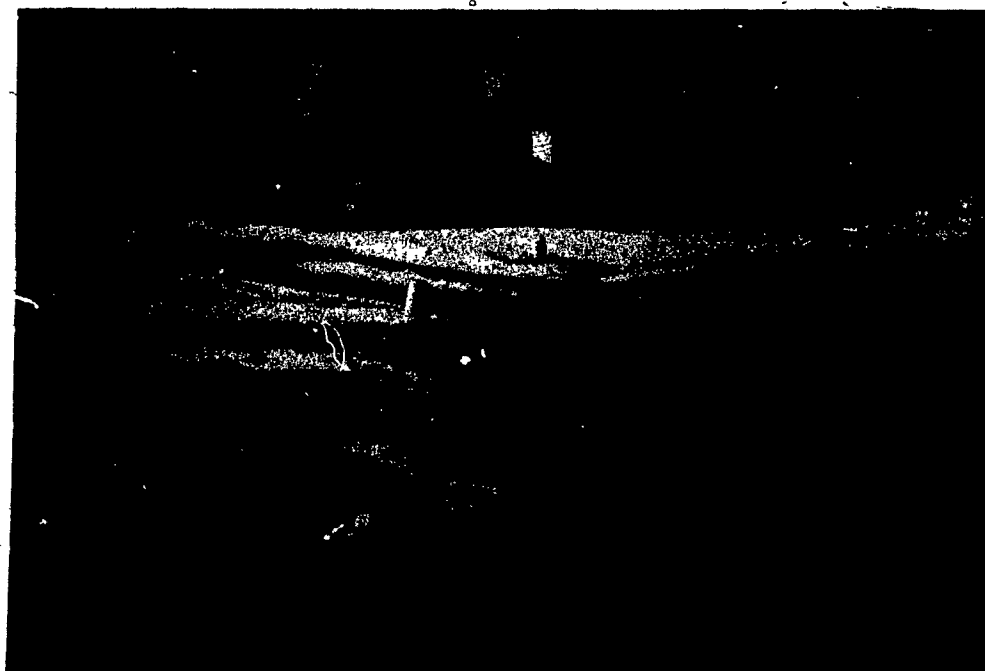
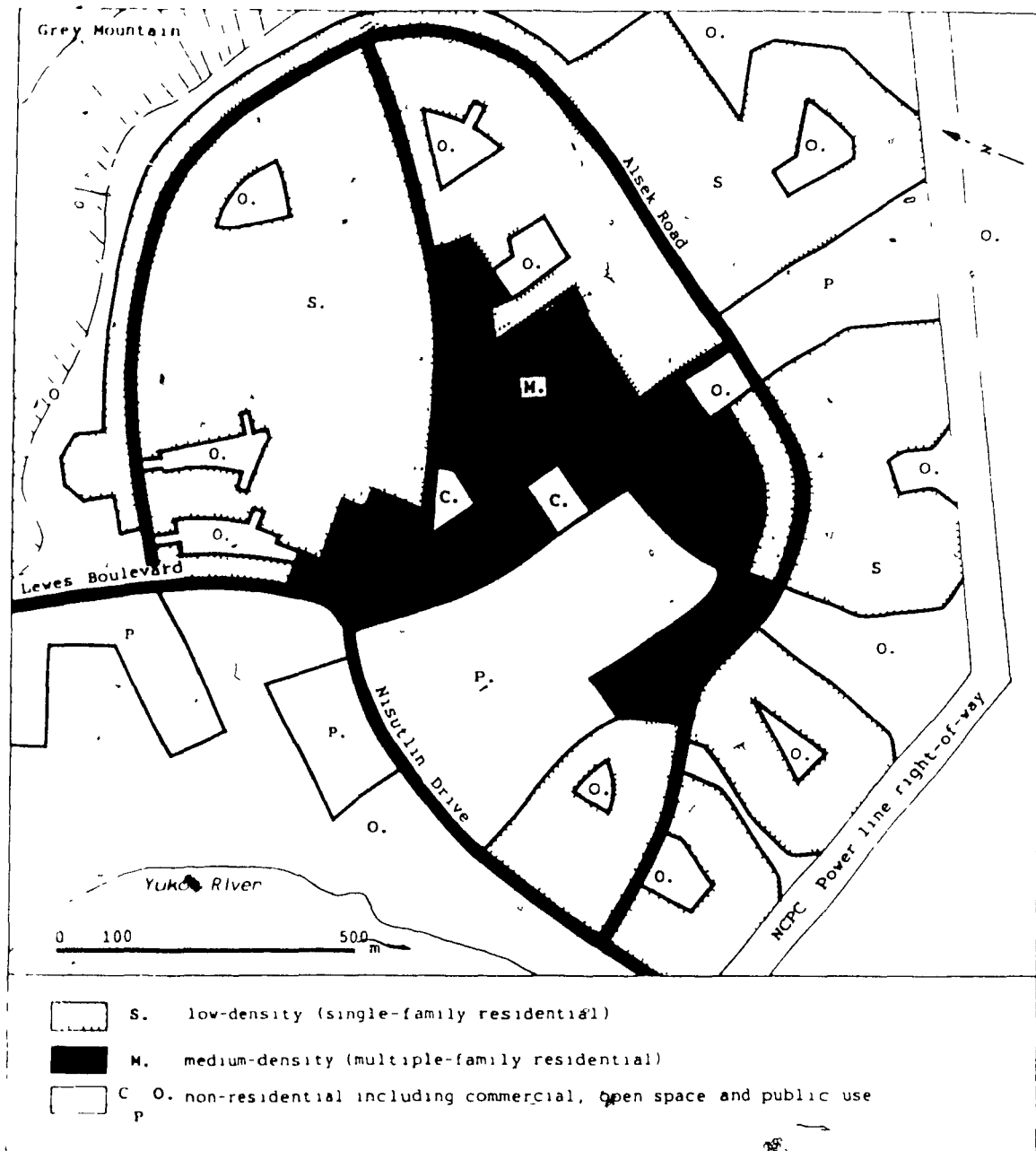


Figure 3.13 Riverdale: overview from Gray Mountain (top), new units, 1978-1981 (bottom)

The community's original response to the new planned subdivision was not enthusiastic. Riverdale was expensive, and there were few alternatives to choose from. In 1960, four years after the opening of the first 200 lots, there were still 40 lots available in the higher price bracket [52]. Of 185 housing units in 1965, 75 were federally owned, housing government employees. Riverdale was designed for high-cost housing. The fact that the lower-cost lots were taken up first proved that low-cost lots were in demand. This prompted the suggestion that Riverdale should be further developed in a new direction, creating an area for lower cost housing. As development progressed a centrally-located portion was designated for multiple family housing on the grounds that "this type of housing is usually located close to a main thoroughfare for traffic purposes" [53]. The metropolitan area review of 1970 recommended a ratio of 75 % one or two-family dwellings and 25 % multiple-family dwellings [54]. During the period 1969-1978 the central area of Riverdale was filled up with row houses, town houses and walk-up apartment units. Nevertheless by 1982, 83% of Riverdale's residential land was occupied by single-family detached housing, while only 17% was taken up by multiple-family housing including duplexes, rowhouses and apartments [55]. By the mid-1970's it was evident that the concentration in the centre of the subdivision without adequate open space of all multifamily housing was a mistake (Fig. 3.14). During the preparation of the 1976 community plan, concern was expressed about the location of higher-density development and its relation to lower-density housing.

In 1974 the territorial government called for the preparation of a comprehensive subdivision plan for the balance of the usable land in Riverdale. This was the subdivision's first comprehensive plan. By then about 73% of the total area was developed [56]. The terms of reference called for



Source: City of Whitehorse, Zoning Map, Bylaw 493

Figure 3.14 Riverdale, zoning, 1982

integration with the adjacent areas, traffic patterns and land uses. Of the proposed development 45% was dedicated to single-family housing for 1,280 people and 11% to multiple family housing to accommodate 800 people. The average single-family lot was changed from the 65x115 feet of the 1960's to 60x130, reducing frontage but increasing overall size.

From a socio-economic point of view Riverdale developed into a combination of medium, upper-income and low-income people. The majority of the labour force are employees of the three levels of government [57]. According to the 1981 Census, Riverdale also houses the largest concentration of people of native origin, about one-third of the total native population [58].

Medium and upper income people live in the single family areas surrounding the central medium-density, multifamily low income area. Since social housing is usually accommodated in medium-density, multifamily housing, the central area forms a small low-income ghetto. Multiple family housing, (12 unit apartment buildings, rowhouses and duplexes) was provided by private initiative since the late 1960's and by the Yukon Housing Corporation since the late 1970's [59] (for details on multiple family housing see Chapter 5). Deficiencies in house design layout, landscaping and open space planning make the medium-density zone less attractive. The Klondike condominium rowhouses and the Yukon Housing Corporation duplexes on Green Avenue, provide an acceptable cheaper alternative to the single-family house. While saving on land, services, taxes, and heating costs these developments provide adequate open space, storage space and privacy [60].



## Porter Creek

Initially an unserviced ribbon along the Alaska Highway, Porter Creek has grown into a sizable settlement. The recent adaptation of its original rural style to urban standards, and its consequent transformation into a less "affordable" environment will be described.

Located 9km (5.5 miles) north north-west of downtown Whitehorse, Porter Creek has an area of 476 ha [61]. Its perimeter is limited to the north and east by the Yukon River escarpment, to the south by terrain characterized by three pronounced finger-type ridges of increasing elevation, and to the west by steep and rough terrain. The built up areas are characterized by ridges and depressions surrounding a low lying zone of 32.3 hectares (80 acres) through which Porter Creek meanders into Hidden Lake.

In terms of population growth Porter Creek experienced rapid growth especially between 1968-1980 (see above Tables 3.2 and 3.4). As Porter Creek grew, it incorporated more and more wilderness areas. Like Riverdale, Porter Creek had no developmental plan until 1974. Development proceeded piecemeal. Streets were extended and lots surveyed in small groups as the federal or territorial government felt there was a demand.

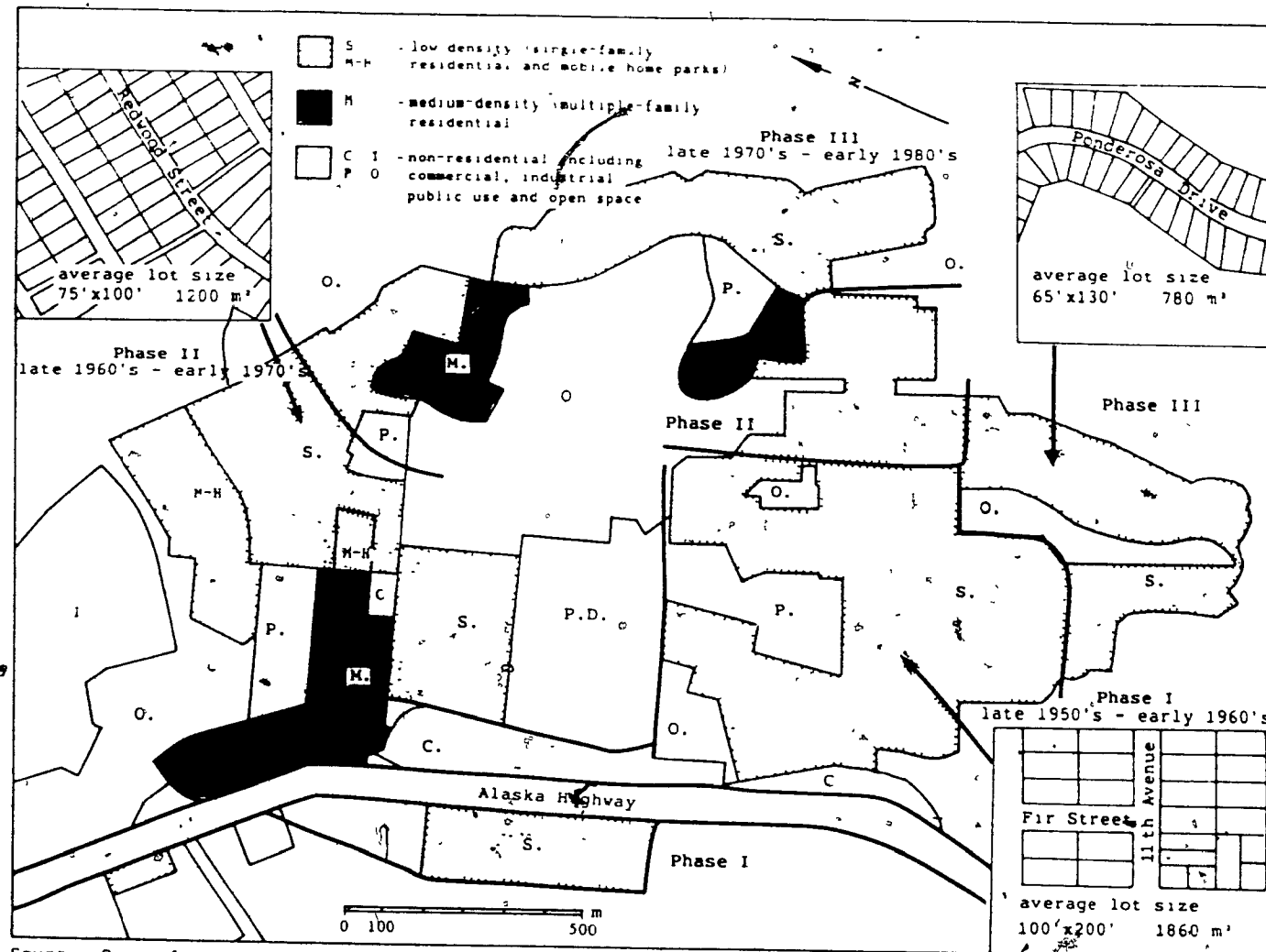
Its three-phase construction has given the subdivision a varied character in terms of land use, and socioeconomic make-up. The changes in layout and density are shown in Fig. 3.15. The first phase left the southern and south-western part of Porter Creek lining the Alaska Highway and its surroundings with a rural character, large lots, wide streets and a grid pattern. The second phase is characterized by a curvilinear roadway pattern, with standardized smaller lots planned in anticipation of municipal servicing.

The third phase, planned and developed at the end of the 1970's and the beginning of the 1980's, while still of low density has a more distinct urban character, narrow frontage lots, pavement and underground servicing.

From a socio-economic point of view, Porter Creek started out as a lower-middle class area with no services, but with low-cost land in large lots (100x200 ft), relaxed building standards and generous financing at low interest rates from the territorial government. In the early 1960's the price of an approximately 100x200 feet lot was between \$200 and \$300, and it was no higher than \$600 in 1973 for an unserviced lot of 75x100 feet. This price included surveying and road construction to grade (unpaved). During the 1970's Porter Creek was gradually serviced. It still has an attractive view and environment, low densities, a socially and economically mixed population, a "do-your own thing" tradition and employment opportunities within its large industrial area.

The population of Porter Creek was always community and family oriented. Community discontent started as soon as the subdivision was surveyed, and it took an organized form with the creation of the Porter Creek Citizens Association. In the early 1960's its concerns included substandard building, squatting, fire protection, lack of transportation facilities and lack of street lighting. As it grew, the Association's concerns extended to water and sewage, dust control, bus shelters for children, a skating rink, road upgrading, school building and mosquito control [62].

Staking of lots in the section Mile 921-925 of the Alaska Highway started in the early 1950's. The idea of a ribbon subdivision at Mile 921 was conceived in 1954. The federal government surveyed 248 lots and in 1960 turned them over to the territorial government for administration.



Source: See references no 62 to 68.

Figure 3.15 Development phases, Porter Creek, 1959-1980

Following the recommendation of the 1963 Whitehorse Metropolitan Area Plan, all other ribbon development was stopped along the Alaska Highway, but because Porter Creek was the most developed subdivision and represented an economical choice, it was permitted to expand to a population of 1,000 to 1,200. This size, it was believed, would support a primary school, neighbourhood shopping, and public transportation service to the city[63].

Due to population growth, demand for municipal services, and the territorial government's commitment to upgrade living conditions, the layout had to undergo an essential change. Lots of 100x200 feet were prohibitively expensive to service. Reduction of lot size met with fierce opposition from both residents and politicians. Beginning in 1964 lots were surveyed and unsold lots resurveyed to 75x100 feet [64].

In 1971 Porter Creek was incorporated into the City of Whitehorse. In 1973 the city requested that the territorial government stop selling unserviced land in Porter Creek. The city wanted to upgrade services to city standards, and insure service to all new extensions. Servicing Porter Creek with water, sewers and pavement made the area eligible for CMHC mortgages.

The idea of a land assembly project arose early in 1972, as a city initiative, using 75% CMHC and 25% territorial government funding [65]. Financial assistance to municipalities to assemble land for residential planning or development was a federal program at that time. Since most of the undeveloped land in the city was in public ownership, the territorial government was the City's land developer and the newly formed Yukon Housing Corporation also had assembly as its mandate, the city's project might seem redundant. It was in fact significant. It was a city initiative, giving the city an opportunity to play an active role in residential planning and land development matters.

The Federal Territorial Land Assembly Report prepared by Central Interior Planning Consultants of Prince George, British Columbia states:

"...while we would not have advocated the development of Porter Creek initially, its existence requires that it be properly serviced." [66].

Their comprehensive land use plan for the the next three years stressed consolidation of existing sprawl through infilling of small undeveloped parcels rather than attempting to link up with the neighbouring subdivision of Takhini. Linkage would entail low densities and high service costs, since it would necessitate more roads, water and sewage lines than the infilling of undeveloped parcels, some of them with multiple-family housing. The planners criticized the large lots which perpetuated high capital cost and high operating costs [67]. Nevertheless, at a later stage the territorial government chose to link Porter Creek and Takhini with a low-density corridor.

The same year EPEC Consulting Western Ltd. of Edmonton was commissioned by the territorial government to complete a comprehensive land use plan, development plan and municipal services plan for Porter Creek [68]. Its objectives included: long-range comprehensive subdivision plans for the balance of the usable land located within and immediately adjacent to the existing subdivision; identification of potentially developable areas and the design of development plans. The average size of a single-family residential lot would still be 65x130 or larger. However a variable lot size provided a welcome option in price [69]. Areas designated for multiple-family dwellings were recommended to be developed on a planned unit development basis with an average density of 30 units per hectare. The plan provided for 438 single-family housing units and 390 multiple-family units.

Table 3.6

Expenditure and revenue for 1966-1967, Porter Creek

Expenditure (\$)		Revenue (\$)	
Street maintenance	11,223	General tax	3,752
Water delivery subsidy	5,888	Grant	5,889
Dust control	1,750		
Insect control	1,650		
Total	20,413	Total	9,641

Source: YGR, Porter Creek, file 635-6-18-G, v.6.

Influenced by the expected pipeline boom, in accordance with the Territorial government's land development policy towards developing land in excess of demand, large amounts of land were developed between 1977-1980. In the downturn of the economy in 1980 the territorial government was left with 137 unsold lots in the new extension of Porter Creek.

Property taxes in the territorial subdivisions were calculated according to the services provided. Improvements in all other areas of the territory were assessed on the same basis, but a percentage termed "hamlet allowance" was deducted from the assessed value according to location. In addition the City's mill rate was higher than the one in Porter Creek. This meant that for an identical house in Whitehorse considerably higher taxes were paid than for one in Porter Creek.

When servicing was introduced the largest share was allocated for road construction. The wide streets and large lots required large sums of money. Of \$70.00 per effective front foot, \$55.00 was allotted for road construction including road grade, pavement, curbs, gutters and sidewalks. Since this cost was prohibitive roads were only partially paved, and gutters and sidewalks

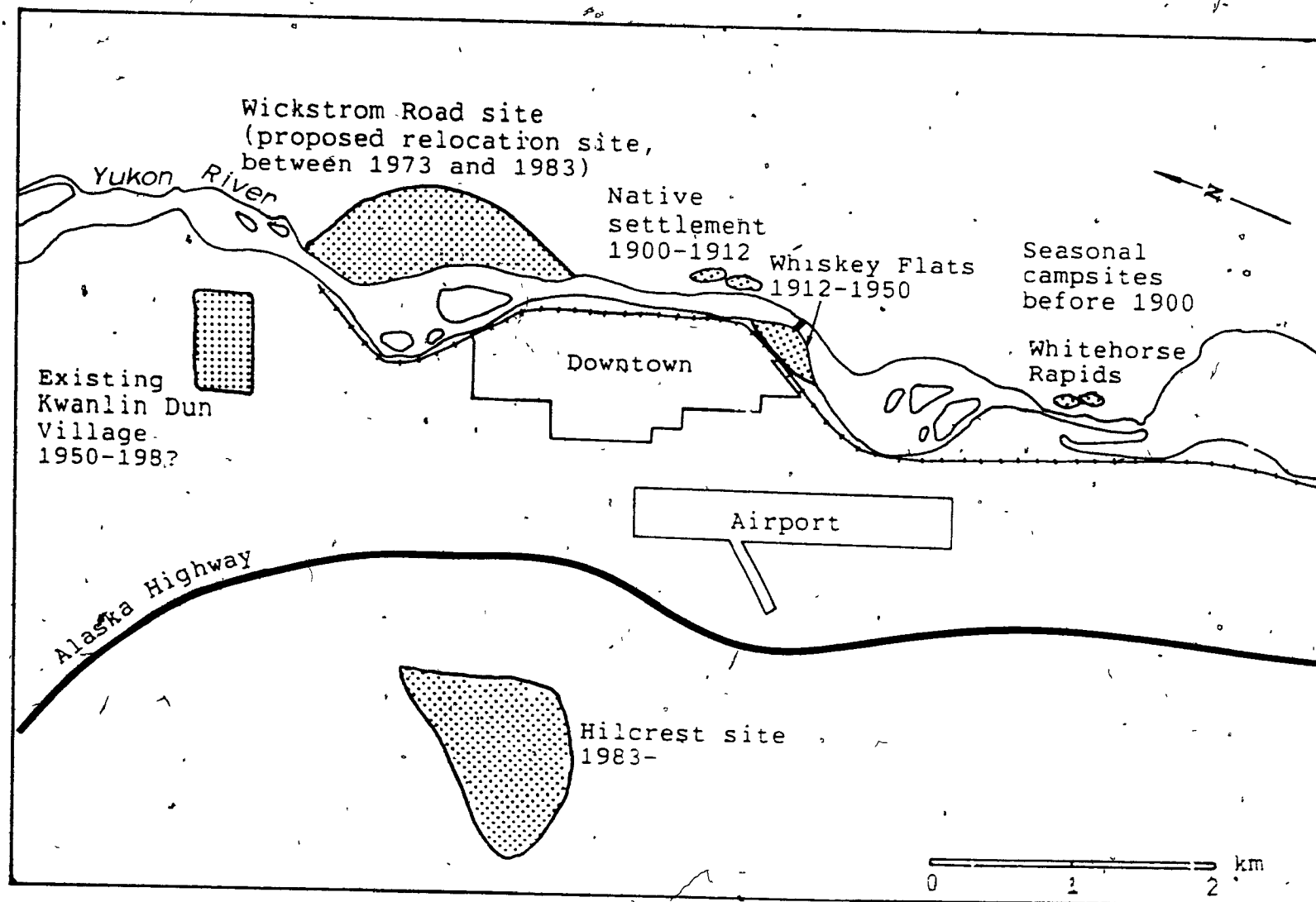
were omitted [70]. Still servicing costs for Porter Creek in the 1960's, including street maintenance, water delivery and dust control, far exceeded the revenue collected from property taxes and the territorial grant accorded to the subdivision (Table 3.6).

The most up-to-date serviced areas of Porter Creek are now inhabited by upper-income people, who can afford the single family houses. As the older large unserviced lots, once cheap, are serviced, they change owners because of higher property taxes, and the whole subdivision is slowly changing its socio-economic character from lower income to higher income.

### *The Indian Village*

Indians have lived in the Whitehorse area since before the gold rush and the arrival of Whites. Their small settlements have been moved several times from one site to another (Fig. 3.16). The present conditions in the Indian Village, occupied since 1950, will be shown as especially unsatisfactory. Ironically its conditions have been made worse by the protracted planning exercise (1969-1984) to relocate and develop a new village.

The present Indian Village situated north of the Marwell industrial subdivision is under the jurisdiction and administration of the federal government represented by the Department of Indian and Northern Affairs. The Village is inhabited by the members of the Kwanlin Dun Indian Band. It has independent status as an Indian reservation and is outside the jurisdiction of



Source: See references no. 72, 77 and 90.

Figure 3.16 Sites of Indian settlement in the Whitehorse area



the city and territorial governments. Of the 600 people belonging to the Band, only 225 live in the Village according to the 1981 Census. The rest of the Band population lives scattered around the city and some at Lake Laberge outside the city limits. While the Band grows at a very high rate (6.3% a year), the population of the Village is decreasing because of its deplorable living conditions [71].

Since its settlement in 1950 the village has been unsatisfactory mainly due to its poor site and the expansion of the industrial area. In 1981 there were 54 unserviced housing units on a 20-acre dust covered plot, confined to the north by marshland, to the south by the industrial park, to the west by the escarpment, and to the east by the Yukon River (cf. Fig. 2.2 and 2.3. and 3.17). Until 1976 raw sewage was discharged from Camp Takhini and a trailer park down the escarpment to the west of the Village, creating a health hazard and an odour problem. Raw sewage from the City of Whitehorse flows into the Yukon River, which borders the Village. The adjoining industrial park consists of the unpaved White Pass truck yard which creates clouds of dust over the Village most of the year.

There is a shortage of homes. Houses provided by DIAND are designed, constructed and located with little or no input from the inhabitants. They are poorly designed, poorly constructed and too small, having or sharing outdoor privies [72].

Due to the relocation idea and planning which started in 1969, very little effort was spent on renovation or new house construction. In the mid-1970's villagers began to take up residence in other parts of the Whitehorse area. Between 1970 and 1981 about 30% of the inhabitants left the Village. New young families have no choice but to move out of the Village. In town, people find accommodation in low-income housing and rental/purchase

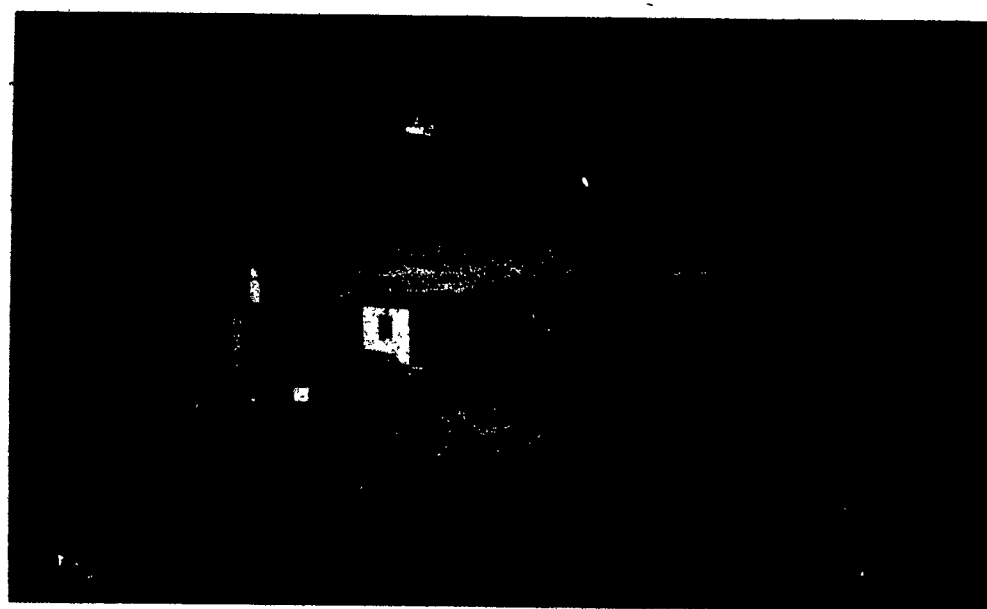
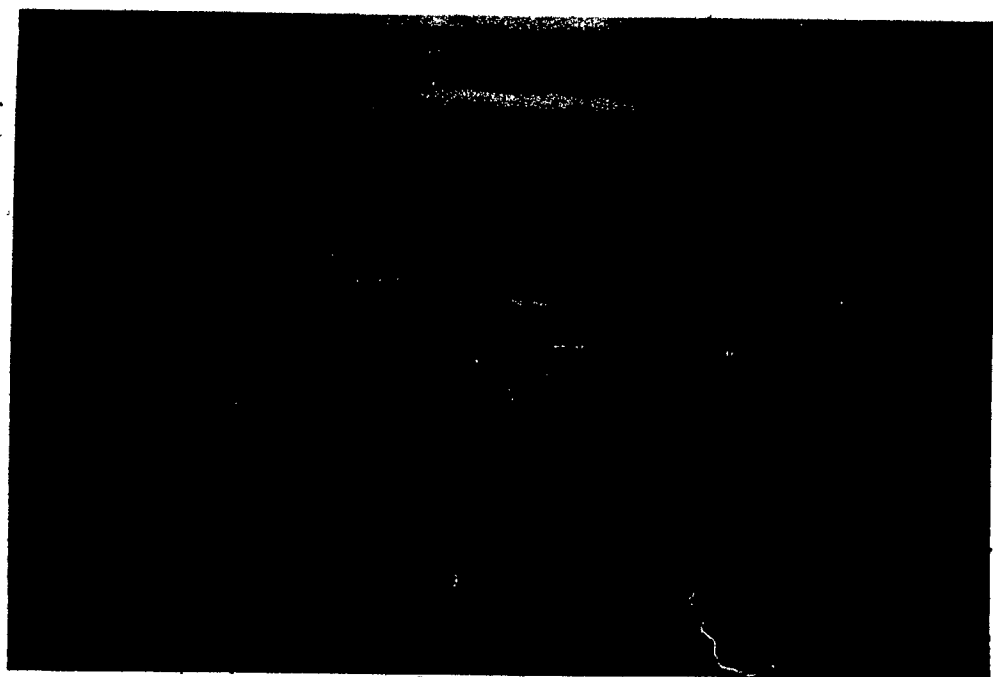


Figure 3.17 The site of the Whitehorse Indian Village: overview (top),  
Federal government (DIAND) housing, 1980 (bottom)

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housing available to both Indians and Whites. While this accommodation is far better than what they are leaving, native people and their organizations object to these options. The conventional homes are not suitable for large or extended families and the option in town removes them from their communities. The housing programs were developed without consultation with native people who want to be part of the planning, design and construction of their homes [73].

Most of the responsibility for "running" the Indian Village lies with DIAND. While the Village provides its own police force, the City of Whitehorse provides fire protection, recreation and a public transit system. Until the transit system started in 1978, the Village was isolated from the rest of the community including all medical, educational and employment opportunities in downtown Whitehorse, 4 km away.

The City could provide more services such as garbage pick-up, water delivery, animal control and building inspection service but is embroiled in numerous conflicts with the Village regarding city by-laws. Village residents also desire relative autonomy or independence [74]. To a varying degree the services mentioned are provided with the financial help of DIAND.

The deterioration of the physical and social situation of the Village can be attributed to several basic factors: the defects of the site and its physical surroundings; loss of social responsibility and self-reliance caused by a process of selection and moving out of the more employable segment of the population and dependence on welfare of the ones who remained; the socio-economic rift between the white and native population and the uncertainties associated with expectation of relocation.

Prior to the establishment of a white community there, the Indian people camped for periods of the year along the banks of the Yukon River

by the Whitehorse Rapids to catch and dry salmon. When the White Pass and Yukon Route Railway was completed in 1900, they were employed by the railway company. The growth of river traffic provided opportunities in ship building, river boat work and cutting firewood for the stern wheelers. Due to these job opportunities an "Indian Village" was established on the east bank north of the present hospital site. Since the docks were on the west bank and there was no bridge at that time, problems arose in shuttling men and materials across the river. Consequently in 1912 the White Pass company barged the Indians across the river and relocated them on the Whisky Flats owned by the company [cf. reference 72]. Inhabited since the Gold Rush, this area was an attractive, wooded site. According to people familiar with the area, Whisky Flats was until about 1950 a well-integrated low-income area of both Indians and whites [75].

There were also other sites set aside for the use of Indians in the Whitehorse area. Due to the encroachment on native-used lands by mining-related activities in 1900, the Crown Land agent at Tagish requested on behalf of the Indians that land be reserved at the head of Lake Laberge, north of Whitehorse where Indian families were already settled. Commissioner Ogilvie supported the request and urged Ottawa to set aside land for the use of Indians in the area [76]. When Indian people began after 1900 to move to Whitehorse in order to get wage work, in 1921 a similar action reserved land in the vicinity of the town, 10km north of downtown Whitehorse [77]. But since the reserved site did not present any attraction, it remained largely unsettled until the forced relocation of 1950.

In 1950 when the White Pass Railway Company wished to extend its operation onto Whisky Flats, this reserved site was used to relocate the

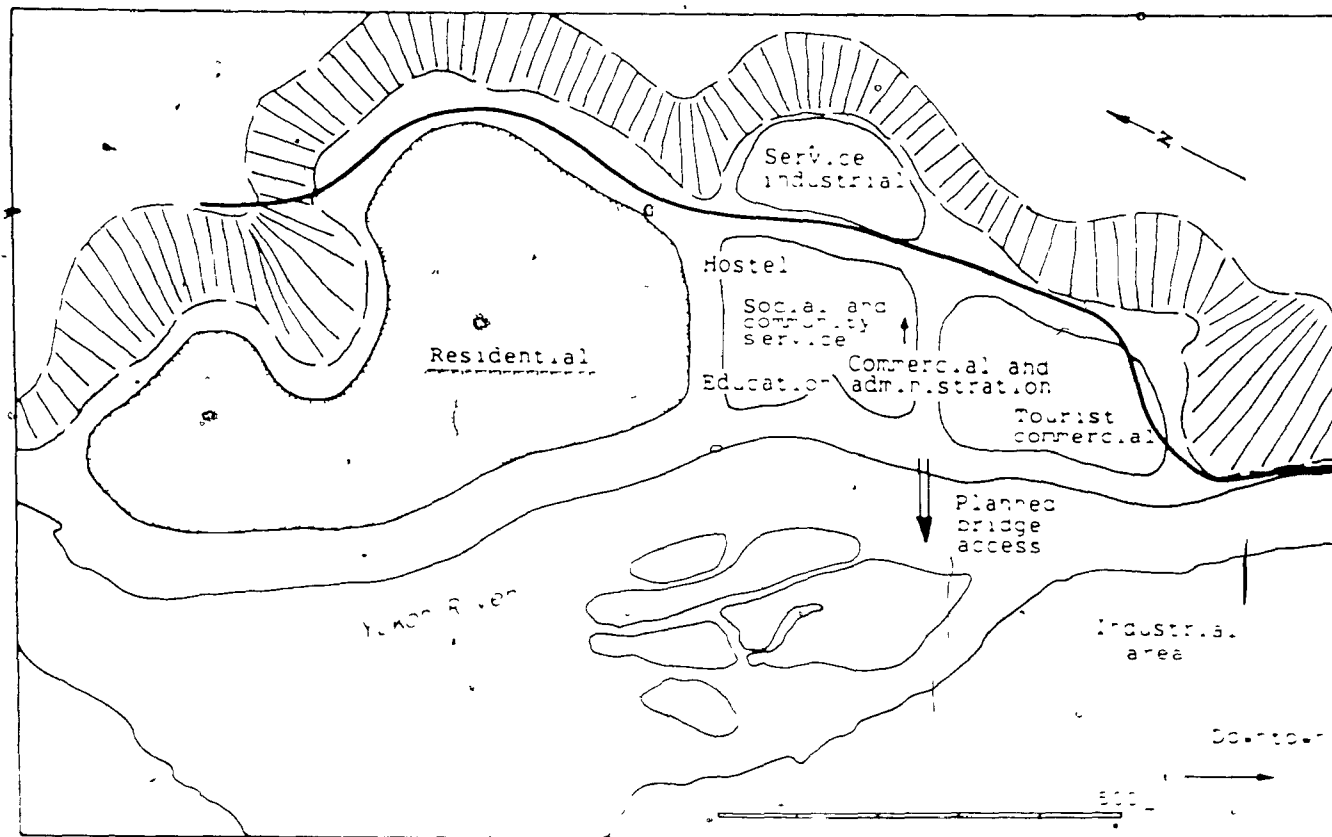
Indians. They were moved by the Royal Canadian Mounted Police to the present "Indian Village" where DIAND took over the provision of housing.

The 1950 relocation coincided with a loss of job opportunities caused by the reduction of White Pass river traffic and the end of road construction [78]. The Indian population became increasingly dependent upon welfare and social deterioration of the community was associated with the disruption of the move and the deficiencies of the new village.

As the idea of a new relocation matured, the Band Council appointed a committee to plan the operation and sought the assistance of the Indian Affairs Branch. Between 1970 and 1973, with the participation of the Band, the Yukon Native Brotherhood, the Yukon Territorial Council, the Ministry of Indian Affairs and the Commissioner of the Yukon, financial assistance was allocated for planning; concepts were studied, several possible sites were investigated and, an engineering consultant (EPEC) was retained [cf. reference 75].

In 1973 the EPEC planners helped to choose a site on the east bank of the Yukon River, a short distance north of the Robert Campbell Bridge and the Whitehorse Hospital (Fig. 3.18). It comprised a low, level bench of about 52 hectares of dry, highly forested ground with topography and soils excellent for development. The Wikstrom Road site was accessible to downtown by road (3.3 km) and to some further rural land on which the Indians had a claim. The site had the potential for satisfying a more traditional lifestyle and allowing a unique development [cf. reference 72].

Goals and aspirations of the Band, as expressed in the EPEC report, included the improvement of the social climate and social interactions within the village and among Band members, a new self-sufficient community which would co-exist with the white community but be independent of it, and improved



Source: See reference no. 72

Figure 3.18 Wickstrom Road site (Indian village plan)

employment and business opportunities for Band members and Band enterprises. Those social and economic priorities came ahead of improved housing and provision of sewage and water.

° By a door-to-door survey, endless meetings, and the use of Indian research assistants, the EPEC planners achieved a good understanding of the Indian community. In addition to helping the ~~Band~~ to choose the right site, the EPEC plan had several other important features. The study was preoccupied with the prospects for economic development and employment, including opportunities for recycling the old village site and other Band lands.

On the new site the planners suggested a residential layout of clusters focused on extended families who shared a common geographical origin [cf. reference 72]. The notion of common geographical origin refers to the twelve villages established in 1947 by the government for administrative purposes, from which the Whitehorse Indian Band originated.

In choosing this site the Band and the planners envisioned a second crossing of the Yukon River providing a direct link of less than one mile with downtown Whitehorse. The route via the hospital and the present Robert Campbell bridge is 10km (6 miles) from downtown. It was argued that the second bridge would support tourist and commercial facilities which have been planned near the river front and would provide a shorter route to transportation arteries. The high cost of a second bridge was a formidable obstacle to development of the site, and the Whitehorse Indian Band Relocation Committee of 1979 considered this the reason there was so little progress up to 1977[79].

I believe, however, that the federal policy of integration had also to do with the inaction at that time. The issue of "integration" is complex

and the Indian organizations and individuals, as well as government agents have shifted politically in their interpretations of it. The 1963 Whitehorse Metropolitan Area Plan analyzing industrial land use of the Marwell area states

"...it is assumed, however, that the present policy of integration will free this land for industrial uses long before the surrounding area is completely utilized"[80].

The Commissioner of the Yukon of 1960 addressing the Yukon Council talking about education and jobs for the Indians stated

"... the clinging to outmoded traditions and customs would steadily diminish, while at the same time inherent qualities of independence and leadership would emerge"[81].

Lambert (1975:9) during her research on integration in Whitehorse in 1971 found that all her white informants believed that cultural and social assimilation of native people was essential for their successful economic integration into Yukon and Canadian society.

"To the Whites assimilation implies conformity to white values and behavioural norms, and implies the abolition of the Indian status and the Indian Act." (Lambert 1975:9)

While other options for housing existed outside the Village, and the poor living conditions in the Village created some potential for integration of the Indian population in Whitehorse, the Village did not disappear. Integration is a controversial issue. It is difficult to predict whether integration is likely to take place in a particular community, which members are likely to integrate, and how long the process will take. On a theoretical and empirical level, the works by Lambert (1974a and 1974b), Dosman (1972) and Brody (1971) deal with integration and related problems of contemporary urban



Indians. Lambert deals in particular with Whitehorse and Yukon Indians; her conclusion was that the majority will not integrate or assimilate, and that rural Indians will not invade urban centres. Her prediction of 1975 still appears pertinent.

In 1977 the Minister of Northern Affairs requested that the Band proceed with further refinement of plans and cost estimates. In 1979 Associated Engineering Services Ltd. completed the cost study [cf. reference 79].

The Band Relocation Committee fixed new priorities and more specific planning criteria. The development should relate well to Indian traditions and lifestyles. It should respect the family unit, encourage community social activity, and facilitate traditional pursuits such as hunting and fishing. The natural characteristics of the area should be retained. The village should be provided with paved roads, water, sewage, electricity and communications. Utility distribution systems should be underground. In order to foster social and community identification with the new village, they wanted to insure a degree of independence from Whitehorse. The new village should have its own administration, school, recreation facilities and neighbourhood shopping. Yet they did not want isolation from Whitehorse. In particular, access to jobs is essential [cf. reference 79].

Both planning companies -- EPEC (1973) and Associated Engineering (1979) -- had good working relationships with the Indian community, and all their recommendations reflected a mutual agreement over planning concepts. A shortcoming of the 1979 plan is that it did not present financial and conceptual alternatives. There are always cheaper alternatives, lower standards, or short cuts, such that even the best plans fall short of their purposes if corners are cut during implementation. In 1980 \$7.5 million was

allocated for the new Indian Village to be spent over the next five years, \$1.5 million each year. The 1979 study called for a stronger start and a larger commitment over a longer period of time: \$27.7 million over 14 years, \$4.5 million of it to be spent in the first two years[82]. DIAND had found the Associated Engineering plan too expensive, too elaborate, overbuilt, unrealistic and too much to handle for the small Band[83], so yet another study had to be undertaken to explore what could be done within the scope of the funding. In January 1981 work started with a new planning consulting company, Heine, Johson, Sustrom, Weinstein & Associates Ltd. of Edmonton. It was agreed that the concepts set out in the 1979 plan be accepted[84].

In the 12 years of planning the Band has lost interest and faith in the new village. In March 1981, 104 people voted out of the eligible 350 with 96 per cent in favour of relocation[85]. The individuals and families who badly wanted a change had left, seeking employment and housing elsewhere in the Whitehorse area. Indian leadership has concentrated on the land claims issue, on behalf of all Yukon Indians, status and non-status. The Council of Yukon Indians headquarters is in Riverdale, and most of the leaders live outside the Village. In fact the Village has become a concentration of marginalized people, single mothers, old people and the unemployed[86]. It is obvious that some degree of absorption and integration has taken place, but this is not sufficient for the total abandonment of the relocation idea.

While the City of Whitehorse was anxious to participate in the decision making process, it did not find the principles of autonomy of the future village acceptable. The city did not want another municipality on their borders[87]. The City became more receptive to the needs of the new village in 1979 with the election of a new Council[88]. However now that the

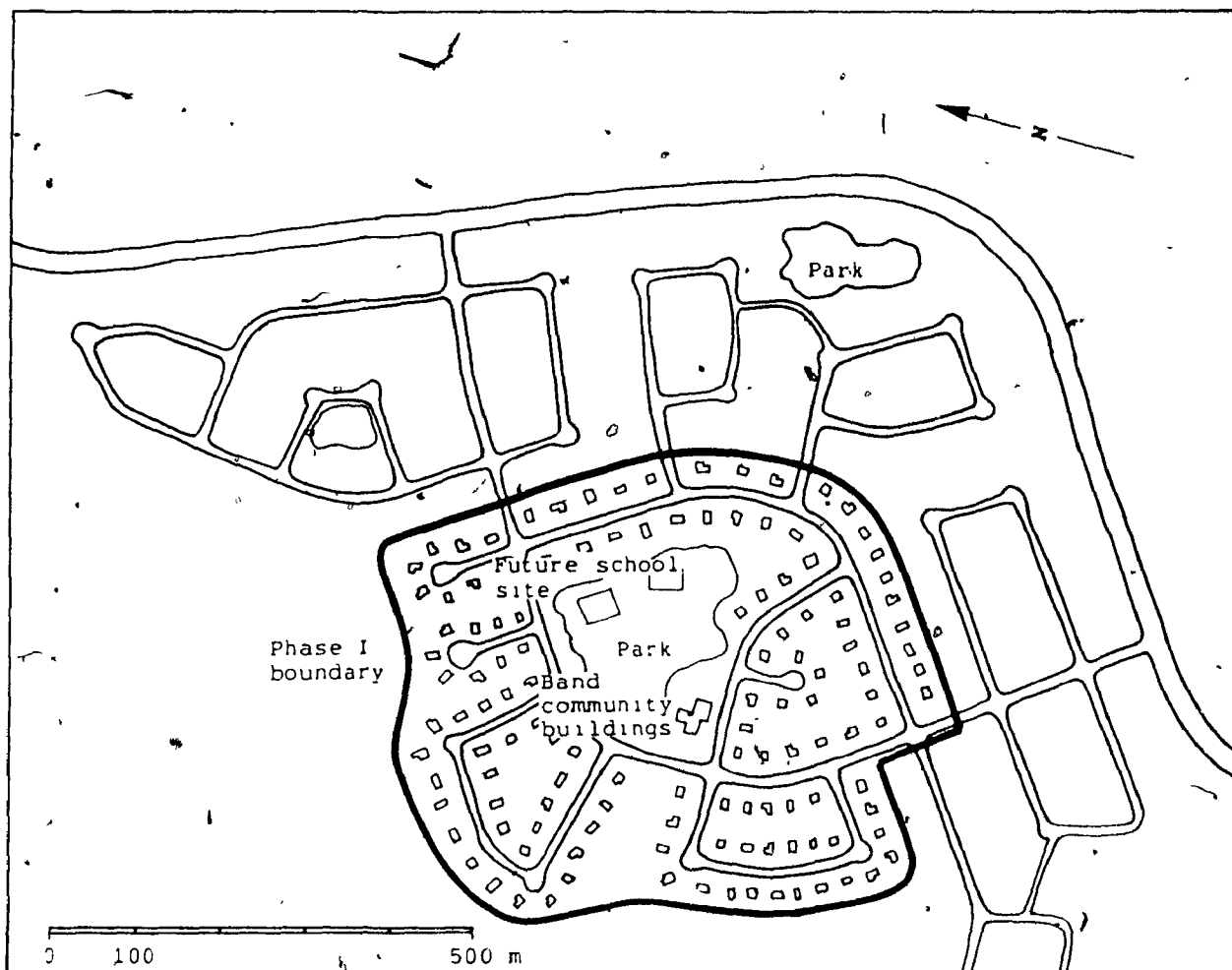
relocation is becoming a reality both the city and the territorial government oppose the retention of the Village's independent status on the new site.

In 1982 the planners completed the scaled-down version of the 1979 plan. A bridge was not included[89]. The Band still needed title to the land and a transfer of ownership from the Government of Yukon Territory.

But in 1983 the territorial government recommended a new site; they suggested part of the newly developed Hillcrest subdivision (McIntyre Neighbourhood), without prospects to be sold and settled in the near future[90]. Building on this site could start almost immediately. It is environmentally pleasant and has scope for expansion (Fig. 3.19). Unsolved problems include the status of the land, (the present site, the Wickstrom road site and Hillcrest site) funds for land development, the form of government and the relationship of the village to the City[90]. Also the question arises how will the quality of life change for band members, if they are separated from their rural lands?

In conjunction with the physical planning for relocation a Social Action Program was prepared and extra funds requested from DIAND by the Band[91]. The Band feels that the program is necessary: to mitigate the negative effects of integration of the Indian community into the white community; to preserve and revive lost values and traditions such as respect for the wisdom of elders, the concept of family responsibility, willingness to share; to train people to develop the skills necessary to build, administer and operate their village; to foster economic development and develop health maintenance and social support. All these objectives were part of the 1973 plan.

It took 15 years of planning, debate and decisions to make sure that the "new" site, the move, the form of administration and government and land



Source: Indian and Inuit Affairs, Yukon Region, Drawing no. 38599-2, Jan. 1983

Figure 3.19 Kwanlin Dun village, Hillcrest site

tenure is acceptable to the several levels of government and the Band. The decision whether to relocate, to rebuild on the same site or to integrate into the white community has consequences for Indian generations to come. It was important to make sure that the move was wanted and that the Band itself be totally involved in planning, phasing and building. While there is some logic in this process of "buying time for ironing out differences", the 15-year waiting period was destructive to the Indians numbers and self-respect. While the relocation will bring housing and environment up to an acceptable standard, it will not in itself address some of the major social and economic problems of the Band.

The issue of land title and political and administrative control played a major role in the relocation delays. It is significant to note the difference in developmental history between any of Whitehorse's residential subdivisions and the story of the Indian Village relocation. Residential land is free and its development is usually effortlessly financed by the territorial and federal governments as requested by the voters. But the provision of funds and land title for the relocation of the native village has been and still is a process full of uncertainty and lengthy delays [92].

### *Upper Whitehorse*

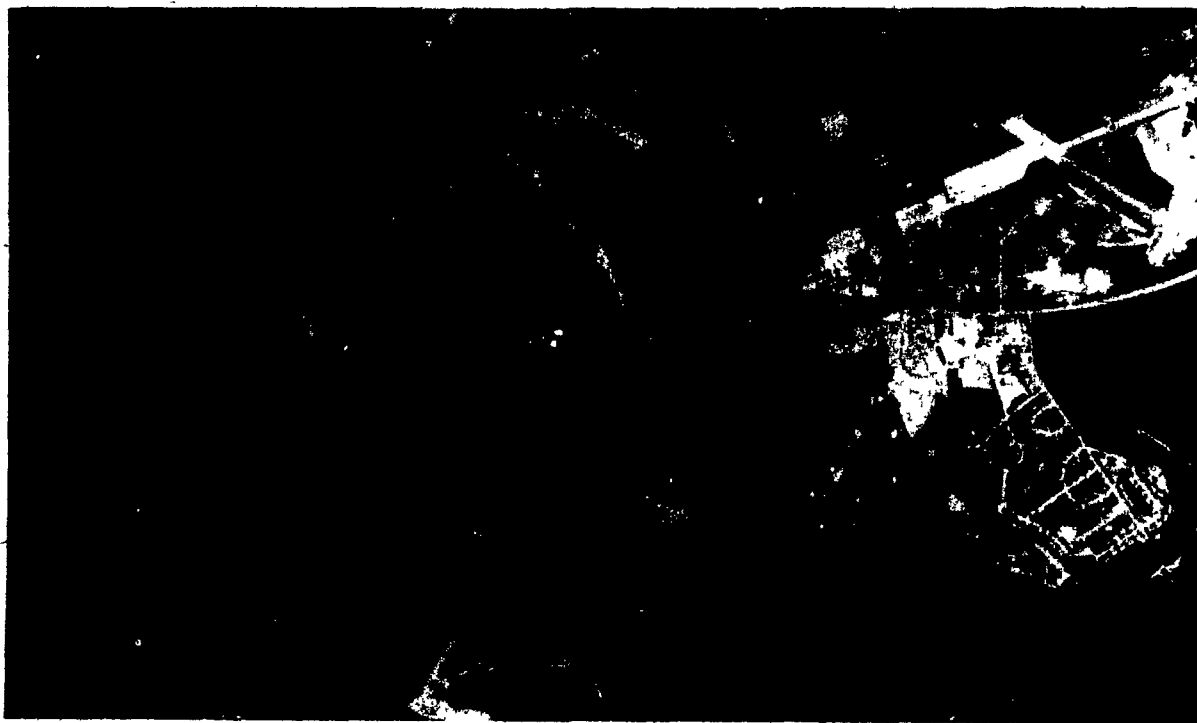
Takhini, Valleyview and Hillcrest located above the Whitehorse escarpment are former military residential areas built during and in the post-war period; they are also referred to as Upper Whitehorse (Fig. 3.20). They were part of

the Military and Federal Reserve created by the Canadian Government in response to the land needs of the United States Army (cf. Fig. 2.7). The Military Reserve covered an area extending seven miles north to south and two miles east to west. The Military and Federal Reserves spread over 6,770 acres of which 2,600 acres was an army reserve (Takhini) including a small federal area, 1,650 acres were occupied by the Royal Canadian Air Force (Hillcrest), and 1,250 acres were taken up by the Department of Transport including the Airport and Valleyview[93].

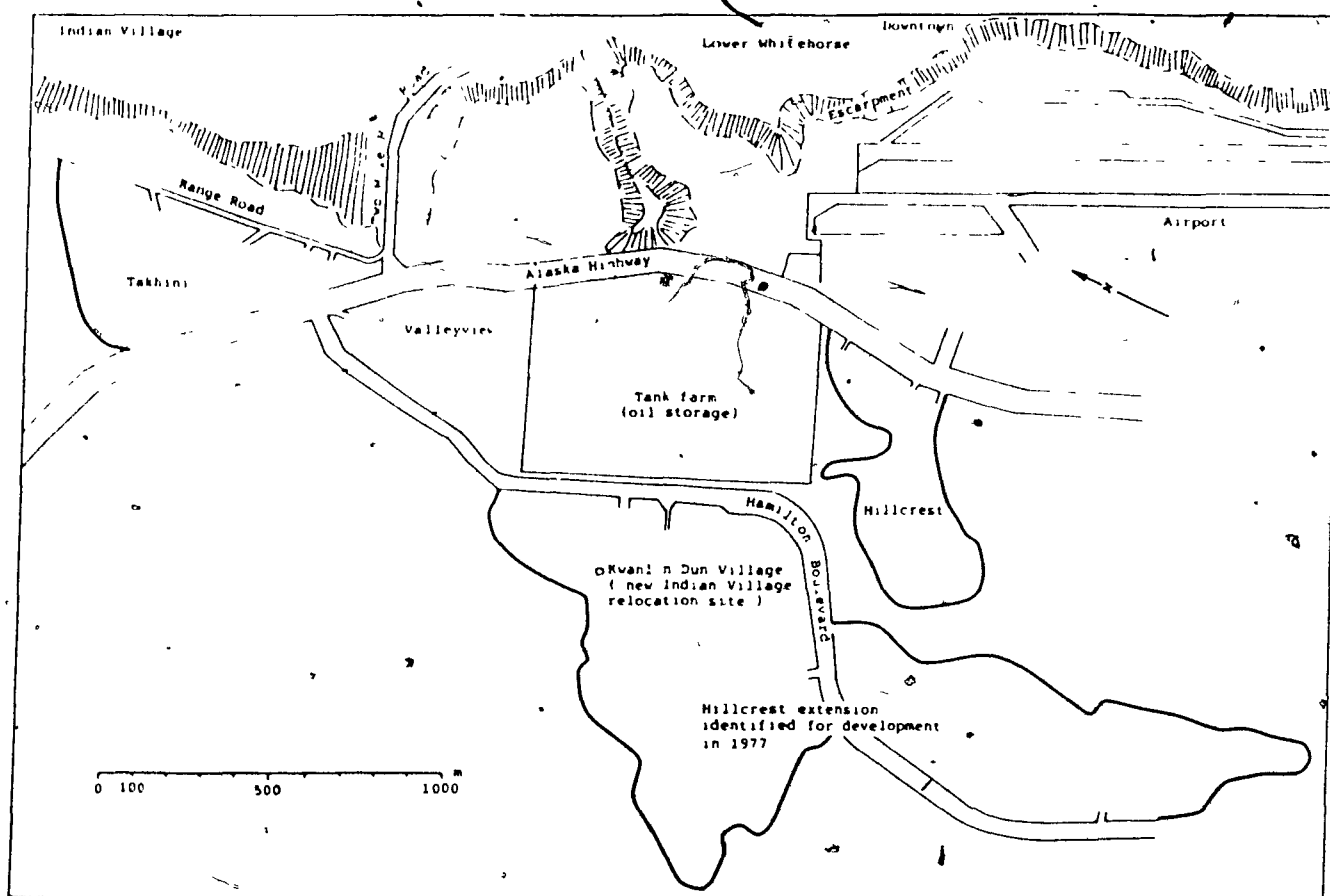
While by 1982 they contained only 8.5% of the city's total housing units, in 1963 they contained 30% of the Whitehorse area housing stock (see above Table 3.4). In fact in 1956 Upper Whitehorse housed more than half of the Whitehorse area population (Lotz 1961). However its significance lies not in the number of people it housed but in its location and land use.

The military establishments (residential and service facilities) used up excellent building sites and a large amount of land in the immediate vicinity of Whitehorse for a very limited number of people. This land only a decade later could have been used for the planned and efficient expansion of the city.

The military residential areas were selfcontained, and well laid out on large lots. Lot size in Valleyview and Takhini varies between 560-1200 m<sup>2</sup> (6,000-12,000 sq.ft.) and in Hillcrest between 500-610 m<sup>2</sup> (5,400 - 6,600 sq.ft.). The residential areas had their own water and sewage system, the first in the Whitehorse area. The mostly detached houses were well designed and at the time of their construction considered luxurious and wasteful compared to other local housing[94]. While physically and administratively (until 1971) separated, Upper Whitehorse in many ways was and is an integral part of the Whitehorse community. During the war years and the post-war



Source: Department of Energy, Mines and Resources, air photo no.A25006-91, July 1978, 1:25,000.



Source: City of Whitehorse Whitehorse Urban Area, map, 1982, J. Lotz, 1961

Figure 3.20 Upper Whitehorse

period it depended on Lower Whitehorse for entertainment, shopping, educational and religious facilities (Lotz 1961).

During the war years Upper Whitehorse housed the United States military personnel who at the beginning lived in tents and barracks. After 1946 when the Canadian portion of the Alaska Highway was turned over to the Canadian government the area was taken over by the Canadian Army Engineers, Department of National Defence, the Royal Canadian Air Force and some federal government departments (Ridge 1953:216;297). In the early 1960's when the military left Whitehorse the three residential areas were transferred to the federal department of Public Works to house federal government employees[95]. Hillcrest, Takhini and Valleyview are still desirable housing areas due to their attractive location, the size of their lots and houses and their proximity to the centre of the town.

Attempts to administratively incorporate parts of the area in the City of Whitehorse have failed until 1971, when the whole area was amalgamated in the enlarged city[96]. Attempts to redesign and add to Takhini also failed because it proved to be uneconomical[97]. The new residential subdivision of Hillcrest when fully developed is planned to integrate both Valleyview and Hillcrest.

### *Hillcrest*

In 1976 the territorial government report "Housing and land strategy for pipeline development", in addition to the "development to capacity" of the



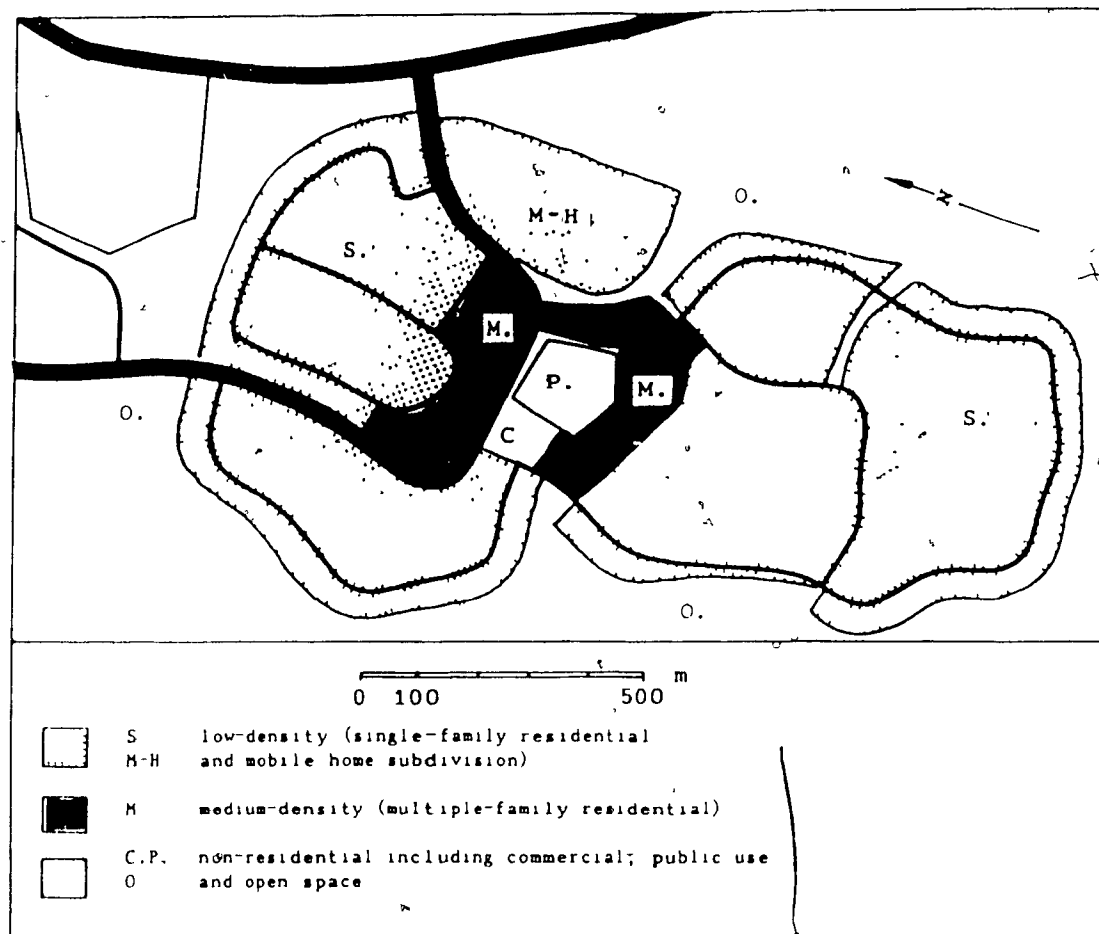
existing residential areas, identified the need for an additional 400 single-family house lots. The Hillcrest subdivision incorporating two existing subdivisions (Hillcrest and Valleyview) and an additional 420 hectares of land northwest of the Airport was identified for development in 1977 (see above Fig. 3.20). It was the first Whitehorse subdivision to be comprehensively planned incorporating progressive planning concepts. While the total population capacity projected for the new area is 10,235 with an overall population density of 32 persons/hectare assuming 3.2 persons per household, as a first phase 557 single-family house lots were prepared for development [cf. reference 98]. It was anticipated that the skeleton of all community services would be installed with pockets of residential land developed in phases.

From a visual point of view the gently rolling land covered by moderately open to dense pine forest is extremely attractive. The landforms within and adjacent to the area reflect the effects of the retreat of the last ice-sheet, consequently some areas with bedrock were excluded from the proposed development area, limiting development and influencing the distribution of different land uses.

The outline plan was prepared by EPEC Consulting Western Ltd., veteran planners of the City of Whitehorse, within the context of the 1976 General Plan, and it respected the density-related constraints supplied to them by the city [cf. reference 98]. The outline plan [99] reflects the following considerations. Neighbourhoods are sized to enable the support of an elementary school. The neighbourhood with a population of 2,300 to 3,200 is centered on an elementary school and local shopping facilities with population density decreasing from the centre towards the extremities of the neighbourhood. While a mix of residential land uses are planned for each

neighbourhood, they are planned in pods with the emphasis on lower neighbourhood densities (Fig. 3.21). The outline plan allows the provision of a desirable interrelationship of housing types within each neighbourhood through individual subdivision cluster designs. However the maximum gross neighbourhood population density is limited to 37 persons per hectare. One of the subdivision clusters in each neighbourhood has been designed for either a mobile home subdivision or a mobile home park. Land designated for multiple-family housing is to be planned on a Planned Unit Development basis. The urban arterial and collector roads provide for bicycle paths and cross-country ski trails. The single-family housing areas still take up most of the residential land. Because of their location, they also take advantage of most of the open space. The multiple-family housing areas incorporating 40% of the dwelling units, use only 9% of the total residential land (Table 3.7).

The original design concept consisted of four neighbourhoods, two of which encompassed the existing Hillcrest and Valleyview Subdivisions. While the original neighbourhoods and the development phasing were changed by Underwood McLellan (1977) Ltd. who did the detailed engineering analysis, the design concept and planning principles remained consistent with the philosophy outlined in the original Design Brief done by EPEC Consulting Western Ltd. [100]. However actual housing development in the two new Hillcrest neighbourhoods did not occur until 1984. In 1983 the Yukon government offered to sell part of the empty Hillcrest subdivision built in anticipation of an increased demand for housing for the purposes of the Indian Village relocation. The "McIntyre Neighbourhood" was redesigned to accommodate the new Indian Village, thus drastically changing the original plan for the area (see above Figs. 3.19 and 3.20).



Source: City of Whitehorse, 'Outline Plan of Hillcrest Subdivision', map sheet 2, 1977.

Figure 3.21 Hillcrest extension "Neighbourhood 2"

Table 3.7

Percentage distribution of housing type by  
neighbourhood, Hillcrest Subdivision

Neigh- bour- hood	Conventional single-family (%)		Mobile home(%)		Multiple family(%)	
	Land	Dwel. unit	Land	Dwel. unit	Land	Dwel. unit
1	72.9	45.1	6.4	8.6	9.8	46.3
2	78.3	63.9	9.1	8.3	6.1	27.7
3	63.1	50.4	20.1	29.7	0.5	19.9
4	70.2	52.1	10.1	13.7	11.5	34.2

Note: Table excludes existing Hillcrest and Valleyview

Source: Design Brief, Hillcrest Subdivision, City of Whitehorse, IPLC  
Consulting Western Ltd., 1977, p.16. Dwel.=Dwelling.

### *Mobile home courts, parks and subdivisions.*

Mobile home living is a market solution to affordable and instant housing. This fact was recognized by many municipalities in both Canada and United States who created or adopted special by-laws and development standards to accommodate and improve the standards of mobile home living[101].

Mobile home living in the Whitehorse area became widespread at the end of the 1960's when, due to the mining boom in the territory, the large number of incoming people needed affordable and immediate accommodation. However neither the city, nor the territorial government was prepared to house people in mobile homes. There was no space available. The only site where mobile homes were allowed on a temporary basis was in Porter Creek[102].

The few privately owned trailer courts opened during the late 1960's were poorly planned and developed. They were in less accessible locations (e.g., Lo-Bird Trailer Court, Porter Creek Trailer Court), or on unsuitable marginal lands (e.g., Takhini Trailer Court) in an unpleasant environment [103 (Fig. 2.3, Chapter 2)]. A proposal for a centrally-located city-owned mobile home park was turned down for lack of funds [104]. While the 1974 Mobile Home Park By-Law introduced regulation, and control and established standards for the layout and construction of mobile home parks and subdivisions those already established have retained their appearance and standards to date [105 (Fig. 3.22)].

During the 1970's the trend of living in mobile homes increased. While in 1971 there were only 250 mobile home units in the Whitehorse Metropolitan Area, by 1977 there were 623 (or 13.8% of the housing stock), and demand was on the increase in the range of 30 to 60 units per year (106)). However due to the economic downturn of the economy demand for mobile homes lessened. In 1982 mobile homes formed 12.5% of the housing stock [107].

The 1976 City of Whitehorse General Plan recognized the existence and growing trend of mobile home living as an economic housing alternative. Its recommendations stressed the importance of locational criteria for mobile home parks and subdivisions. Mobile home dwellers require the same municipal services and residential amenities as single-family homeowners or other citizens. For this reason the integration of mobile home accommodation within new residential development areas was recommended on specifically designated areas zoned in two categories, areas zoned exclusively for mobile home units with a minimum lot size of 450m<sup>2</sup> and areas zoned for mobile homes with the possibility of conversion to a conventional single family dwelling (minimum lot size 540m<sup>2</sup>). Due to the expected opposition of property owners to

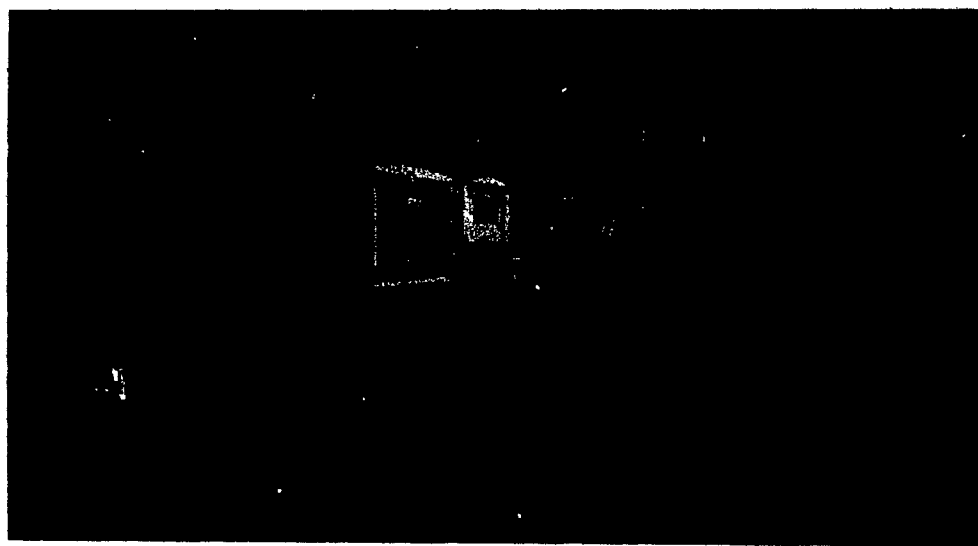
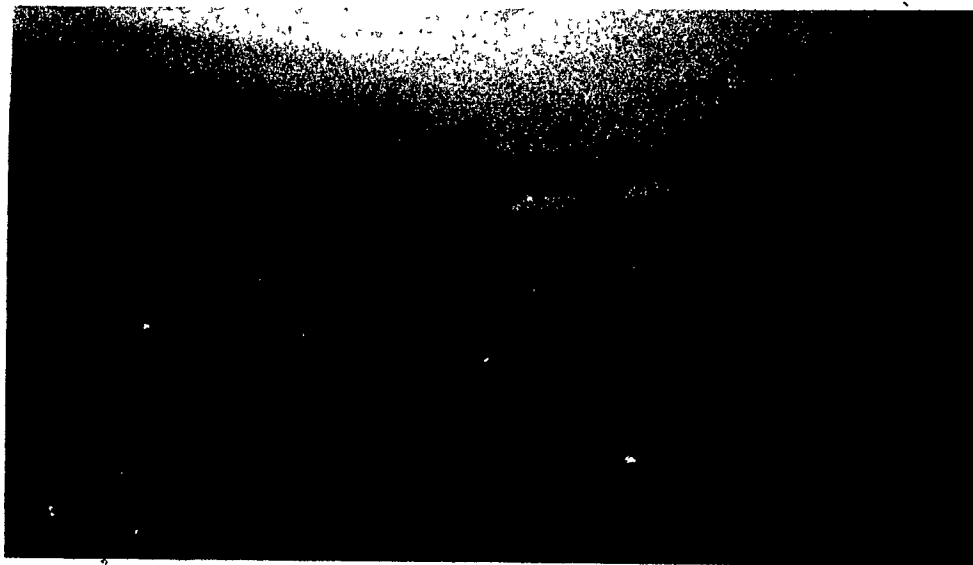


Figure 3.22 Mobile home parks: Porter Creek (top), Downtown Whitehorse (bottom)

development of mobile home subdivisions in established areas experience shows that the proper time for planning such subdivisions is in the outline planning stage of a new residential area.

The new mobile home subdivisions in Porter Creek, Crestview and the Northland Trailer Court developed since 1977, are well planned with adequate space for additions, recreation areas, storage and parking [108]. In Crestview, Porter Creek and the Hillcrest extension the mobile home subdivisions are integrated in the regular neighbourhoods. Mobile home parks are neighbourly and sociable. They are also well adapted to the local climate. Almost all mobile homes have vestibules, closed-in porches to reduce heat loss and create added storage.

A large percentage of Whitehorse's population is transient, their stay ranging from a few months to a few years. Another variable but important segment of the population is living on incomes provided by seasonal jobs. The mobile home, an inexpensive accommodation, can be both owned or rented without substantial financial resources. In the early 1980's when all housing construction and transactions were at a record low the most saleable housing accommodation was the mobile home [109].

### *Country residential subdivisions*

In the early 1970's due to demand and pressure from the community for larger remote building lots the territorial government and the city looked into ways of providing them. The city's planning consultant (Central Interior

Planning Consultants Ltd., Prince George, B.C.) advised against dispersed living because of the high costs of public services, including health, education, emergency and security. They recommended that non-urban activities requiring large areas be permitted only by lease not sale of land.

" When we start with public land there is increasing support for the view that reasonable term leasing without guarantee of renewal can maintain the land value without unearned increment to prevent subsequent deterrent to economic housing or other development....in your (Whitehorse's) instance, I feel quite strongly that property alienated from the (public) domain should be in the form of leases, and not become opportunities for speculative gain at the cost of public investment." [110]

Nevertheless in 1975 after the City Planning Board and Council identified the demand for country residential parcels, the territorial government started work on two planned country residential subdivisions (Fig. 2.3, Chapter 2)..The lot size varied from a minimum of .801 hectares to a maximum of 1.86 hectares. The range of sizes created a range in pricing for wider buyer appeal. The lots were sold for \$2,000 per acre [cf. references 33, 34 and 36)

While the request called for low-cost, minimum-service lots and the price of the lot was not expensive, it was clear that building and living in such a subdivision would be expensive and affordable only to middle or high-income people. The cost of a well and the required septic tank alone amounted to about \$12,000 in 1979. As will be shown later, taxes would also have to be high.

The McPherson Subdivision (55 lots) was developed and sold in 1977, then the Wolf Creek subdivision (114 lots) in 1978 (Fig. 3.17). Services included legal survey, road grading and primary electric and telephone



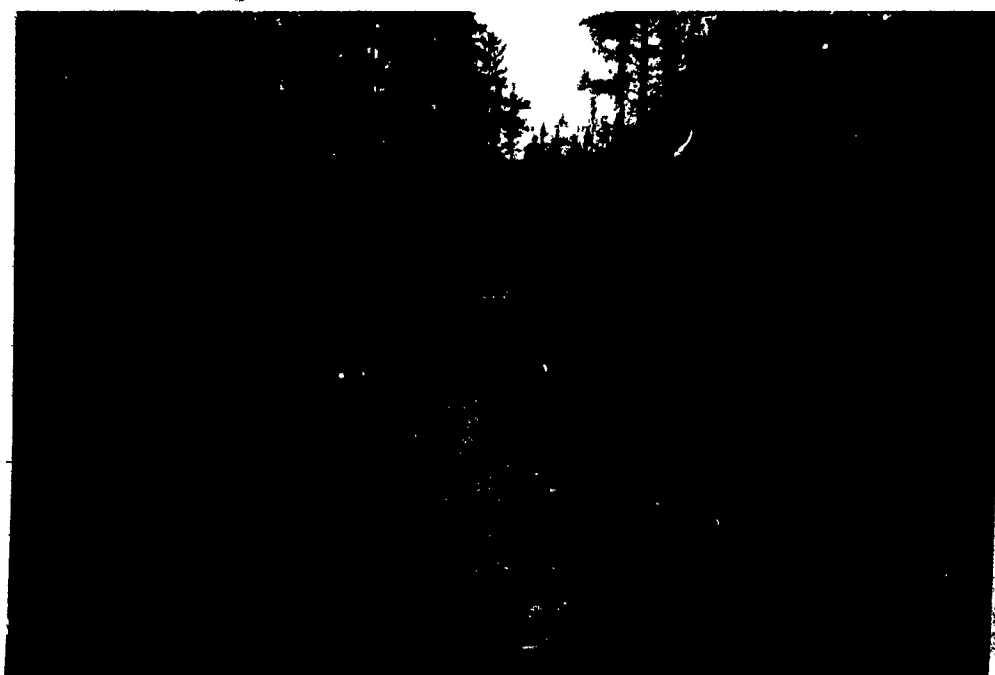


Figure 3.23 Country residential subdivisions: McPherson (top);  
Wolf Creek (bottom)

transmission lines. Each individual, developer, realtor or building contractor was allowed to purchase only one lot, and re-subdivision was forbidden.

All lots were sold immediately. It was the first time that a subdivision was opened with such large lots and a wilderness setting. However the high turnover of property owners since then shows that living there for most people was a dream feasible only for a short period of time. Inconveniences associated with isolation, high-cost transportation and financing make family living difficult [cf. reference 35]. Living in the rural subdivision is a beautiful, expensive and lonely experience especially for children (Fig. 3.23).

### Summary

Until the first Metropolitan Plan in 1963 the City of Whitehorse had no urban growth policy of any kind. This is attributed to the town's earlier stagnation and to a lack of faith in its future existence. In later years, the consolidation of a policy to guide the direction and rate of development was prevented by two factors: the restricted city limits and the uncoordinated jurisdiction and development outside city limits. This jurisdictional split was detrimental to the city administration during the 1950's and 1960's when city limits were restricted, while residential expansion outside was encouraged, undermining the city's tax base. During that period, land use policy in the Yukon reflected the Federal Government's wish to populate and settle the north in order to assure its presence there.

and to provide a work force to build an infrastructure for future resource exploitation. New land for residential purposes was cheaply available, leading to extensive land use without much planning.

The 1970's brought a serious concern for the future use of land, both inside and outside city limits, and the establishment of several policies for urban growth and development in a more financially efficient manner. Past mistakes had to be paid for. All three levels of government have formulated land development policies, but because each level of government responds to a different geographical and financial order of jurisdiction, it has a different set of priorities.

The basic need for a city to be economically built and managed does not have the same significance for each level of government. In fact it is not a part of their land development and urban growth policy. The municipality is more concerned with this than the other two levels of government. The higher levels of government seem concerned above all to attract skilled and professional people to the north by offering them a lifestyle no longer affordable in southern Canada.

In Whitehorse the role of government in shaping the residential landscape is very powerful. A limited land market functions only in the older part of the city. For new development there is no market, since all undeveloped land is public property. The government decides the timing, quantity and location of land to be developed. There is, however, a housing market and the urban economy functions in the general framework of the market economy.

In summary the territorial government land development and planning policy was guided by the following principles. In order to fully control development both outside and inside city limits, only developed land (at least

surveyed and subdivided) is made available in designated areas. The government does not profit financially from residential land development; in fact we have seen that it indirectly subsidizes the process. Residential land for single-family housing is sold at development cost. The government has successfully prevented speculators appropriating the surplus value acquired due to services, location and time passed by limiting individuals to the purchase of one lot (or two adjoining lots for one dwelling) and developers to only 5 lots. In addition, developed land sold by the government must be built on or it reverts back to the government. Priority of selection is given to individuals and institutions. Rural lands are sold with an agreement that they can not be subdivided by their owner. The amount of land developed is calculated on the basis of a careful monitoring of the housing market and perceived electoral demand. The choice of location of new subdivisions and extensions is determined on the basis of size with large tracts yielding 100 to 500 lots being developed using the principle of economies of scale. Development of new residential extensions was carried out concomitantly in several areas in order to provide a choice of location, price and lifestyle. In the early 1970's the city and territorial governments adopted a policy of raising all residential areas to the same standard of services.

The history of residential land development and planning over the last forty years shows a slow adaptation process. Changes in attitude and adaptation of land use to the local socio-economic and physical conditions are the result of needs which have arisen from financial constraints, depletion of resources and a search for alternative solutions. By the 1980's the residential areas of Whitehorse offered a wide variety of lifestyle alternatives, most of them in low density residential settings (Table 3.8).

Table 3.8

Variety of low density residential lots,  
Whitehorse, 1981

Residential area	Average lot size (m <sup>2</sup> )
Downtown	465
Riverdale	725
Porter Creek	
North	1120
South	1860
New development	780
Hillcrest (old)	500-610
Valleyview/Takhini	560-1120
Hobby farms	6.1 ha
Wolf Creek and McPherson	.8-2 ha

Source: 'City of Whitehorse: Survey and Analysis, 1976', Stanley Associates Engineering Ltd.

The residential areas underwent various changes in size and character. Downtown gradually lost its appeal. Both the existing and incoming population was drawn to the new subdivisions which were very attractive especially from a physical environmental point of view. Downtown, with its lack of vegetation and landscaping, neglected and untidy buildings and lack of character remained favoured only by those who valued its centrality and accessibility. Squatting widespread during the 1950's and 1960's, was greatly reduced.

Riverdale was developed to answer the need of government employees and other professionals for above-average housing. Riverdale stayed upper class, attracting government employees of higher income levels due to its centrality, attractive landscaping and housing and its similarity in appearance to southern Canadian suburban developments. Its central part as a medium density area with row houses, apartment houses and duplexes was an afterthought, when

government planners realized that unless more variety of housing were provided the area would develop into an exclusive suburb.

Porter Creek was developed piecemeal from an unserviced ribbon of rural style into a serviced suburb of increasingly urban character. Since it did not have an overall developmental plan until 1976 its early parts are extremely wasteful from a land use point of view.

The history of the Indian Village and its relocation differs markedly from the development of all other residential areas in many respects. The provision of funds and land title for the relocation is a process full of uncertainty and lengthy delays. All parties involved in the relocation have proceeded extremely cautiously and slowly seeming almost to take advantage of every obstacle in the way. To some extent this is due to the independent status of the Kwanlin Dun Indian Band, outside the jurisdiction of the city and territorial governments. The process was probably slowed down by the simultaneous land claim negotiations for the 12 Yukon Indian bands, including Kwanlin Dun, which is unique in being located in a large urban area. The fact that the Whitehorse Indian Band until recently was in a weak position from an organizational and educational point of view did not help. While the relocation is finally at hand the site decided upon is not the one which was chosen by the band on many well reasoned grounds. It is a site which, albeit a very attractive and good one, was chosen by the territorial government for purely financial reasons.

Questions raised by the relocation to the Hillcrest site are: How will the new Indian Village and the rest of the Hillcrest subdivision be integrated? What kind of facilities and services will be available in the area? Will the band continue to be a distinct legal and political community at the new site or will it become part of the City of Whitehorse? Will the

overall Yukon land claim agreement apply to the new site? How will the quality of life be affected for band members, separated from their rural lands?

The residential areas of Upper Whitehorse (Takhini, Valleyview and Hillcrest) were developed to house military and federal government employees. The mobile home parks and subdivisions, housing 10% of the population are a contemporary manifestation of a need for affordable transient housing. The country residential subdivisions (Wolf Creek and McPherson) were developed recently to accommodate rural living on the outskirts of the city. The new Hillcrest extension, not as yet sold and built on (1984), was planned to accommodate a wide range of people incorporating modern planning concepts. Its future however in view of the 1983 decision to relocate the Indian Village to parts of the site is not worked out as yet.

Suburban living in Whitehorse is very similar to that in other suburbs of large and small Canadian cities. There are two differences. One is that there is no large urban core to this set of suburbs. The other difference is that the residential areas of Whitehorse are very close to the wilderness. Due to the distances between residential areas and from each suburb to various urban facilities people drive everywhere, to work, to socialize, to shop, to take part in the many church groups, and to use sports and recreational facilities. Except for the rural subdivisions, all areas are part of a very efficient (from a public service point of view) but heavily subsidized public transit system.

There is a lot of open space inside the developed residential areas that cannot be and is not actively used. Its only purpose seems to be to ensure privacy and an open view. Most houses are placed in the centre of the lot with large back and front yards. The streets are wider than can be justified by the traffic.

Multifamily developments in Whitehorse lack both personal and public outdoor space. In some cases the land is there but it is not usable for anything. The multifamily developments are simply dropped on the site without ensuring usable, functional spaces close by. In Riverdale for example all the apartment houses and townhouses are enclosed in the built up area (see Riverdale zoning map, Fig. 3.8). There is no park or other usable open space in the vicinity. Multiple-family residential developments use less land per dwelling than single-family housing but the land thus saved is not used for their inhabitants' enjoyment.

By the end of the 1970's it was possible for both the city and territorial governments to learn from their own experience. Accommodating different lifestyles in one residential area became more acceptable, and the newer developments reflect this principle. The provision of lots of various sizes and the integration of mobile home subdivisions in conventional residential areas are examples of an adaptation to a demonstrated need.

The solutions of one period became the problems of a later stage. Porter Creek was developed in the 1950's and 1960's as a rural subdivision. The lots were large and not intended to be serviced. With the growth of the population and the need to fill out the subdivision, sanitary and other problems came to the fore. People started to organize and ask for services. But the large size of the lots and extremely wide roads made capital and user charges prohibitive.

The experience with Porter Creek was the cause of the City's reluctance to provide any more large lot residential development inside city limits until the end of the 1970's. For the new rural subdivisions developed at the end of the 1970's a firm policy has been formulated that the lots must be large



enough to accommodate their own well and septic tank and that they will never be serviced.

In Whitehorse some problems are gradually and partially solved, while others never get closer to a final solution. Serious social problems due to poverty combined with ethnic conflict, the seasonality of many northern jobs, and the uncertainty of economic development are not subject to resolution by improved land and housing policy.

A major flaw in the Whitehorse urban growth policy is the lack of coordination between physical and social planning. Most policies serve the interests of the middle and upper-income majority. While the low-income groups like the elderly, the handicapped, single-parent families and people with temporary financial problems are permanently present in the population as a whole, their problems have been dealt with on a very low level as regards land development. The housing market does not provide for low-income groups.

Basic problems associated with government land development are land wastage and the apparent lack of concern with overall spending on capital and operating costs of local government. These two problems are closely related. The next chapter will continue the analysis of the issues raised and discussed here on a more technical level. The instruments of planning, community plans, subdivision plans and zoning will be analyzed in the context of local physical and socio-economic conditions, concluding with the implications of land use for municipal finance, municipal services, government grants and property taxation.

### Notes and references

1. For details about the land situation in downtown Whitehorse in the period 1943-45 see WCR, Box 66, v.1, file 10-23-2. See also *Whitehorse Star*, 21 November 1952:11, 13 November 1953:2, and 12 February 1954:2.
2. *Whitehorse Star*, 16 November 1951.
3. *Whitehorse Star*, 1 April 1950.
4. City of Whitehorse extension, 6 March 1953, YGR, Riverdale Subdivision, v.1, file 635-6-20G, YA, Whitehorse.
5. Municipal Engineer, Department of Highways and Public Works, Yukon Territory to Director, Municipal Affairs, 25 November 1970, YGR, Land Policy, file 635-6-2-2, YA, Whitehorse.
6. Territorial Council resolution 1959, First session, Yukon Government.
7. Queen's University, Kingston, The Institute of Local Government, The City of Whitehorse, Report prepared for the Department of Northern Affairs and National Resources, 1960.
8. City Council Minutes 1963-1970, YA, Whitehorse; Personal observations.
9. Canada, Central Mortgage and Housing Corporation, Architectural and planning division, 'Whitehorse Metropolitan Plan Report', 1963.
10. To meet future needs (after 1980), two easily serviceable sites adjacent to the Lower West town site were selected to be reserved for long term residential development. The site north of the hospital on the east bank of the Yukon River had a potential to support 2,800 to 3,000 people, depending on the density of development. (This site became the potential home of the new Indian Village in the 1973-1983 period.) The second site to be reserved was in Upper Whitehorse, at the top of the Two Mile Hill Road in use at that time as a tank farm. With regard to the provision of new residential areas on the main townsite it was recommended that the vacant area referred to as Lot 19 owned by the White Pass and Yukon Route Co. be made available for residential development.
11. Rae Howe, Municipal Engineer to Director, Municipal Affairs, Yukon government, 25 November 1970, YGR, Land policy, v.8, file 635-6-2-2, YA, Whitehorse.
12. Minister of Northern Affairs, Canada, to Commissioner of Yukon Territory, 15 May 1967, YGR, Territorial Lands, file 4-01, YGR, Whitehorse.
13. Acting Director of Municipal Affairs, Yukon Government to Commissioner of the Yukon Territory, 7 July 1969, YGR, Land policy, file 635-6-2-2, YA, Whitehorse.
14. Municipal Inspector to Director of Municipal Affairs, Yukon government, 21 November 1969, YGR, Land policy, file 635-6-2-2, YA, Whitehorse.
15. E. Hardy Consulting Ltd. 'Financial and related consequences for the City of Whitehorse of city enlargement and the new Municipal Aid Ordinance', 1972.
16. Memorandum from City Clerk to City Manager, 2 January 1973, WCR, Planning, file 1200, v.1147, YA, Whitehorse.
17. Central Interior Planning Consultants Ltd., Prince George, B.C., City of Whitehorse - Porter Creek, Federal Provincial Land Assembly, April 1974; Memorandum, Land Assembly Project, 15 August 1973, WCR, Planning, file 6000-12, YA, Whitehorse; and D. Parker, Director of Planning, Central Interior Planning, Prince George, to City Manager, Whitehorse re: Federal/Provincial Land Assembly, 26 June 1973, WCR, Planning, file 6000-12, YA, Whitehorse.

18. Stanley Associates Engineering Ltd., Edmonton, 'City of Whitehorse - General Plan', 1976.
19. Associated Engineering Services Ltd. City of Whitehorse, Yukon Territory, 'Utilities and roadways engineering analyses and capital works budget, 1974-1983'. Commissioned by the City of Whitehorse, 1973.
20. *Whitehorse Star*, February 1976.
21. *Whitehorse Star*, 31 August 1977:7.
22. *Whitehorse Star*, 21 November 1977.
23. K Lysyk, E Bohmer, and W. Phelps, 1977.
24. Yukon Housing Corporation, 'Housing strategy for pipeline impact 1979'.
25. Government of Yukon Territory, Yukon Housing Corporation and Economic Research and Planning 'Residential lot requirement forecast', Whitehorse, 1979.
26. Yukon, Department of Local Government, 'Land its development and disbursement', A discussion paper, Whitehorse, 1977.
27. In Crestview, 154, in the Hillcrest extension 400 and in the new area of Porter Creek 141 lots.
28. City Manager to Director, Department of Municipal and Community Affairs, 25 November 1980; City Manager to Deputy Minister, Department of Municipal and Community Affairs, 2 February 1981, YGR, Land policy, file 2840-0, YA, Whitehorse.
29. Lot sale, responsibility and costs. Memorandum. Department of Municipal and Community Affairs, 15 March 1981, YGR, Land development - General, file 2840-2, v.4, 1981.
30. Personal communication of J. Pierce, City Councillor, May 1983.
31. Yukon Territorial Government and Canada Department of Indian Affairs and Northern Development; 'Whitehorse North Land Management Project', 1979.
32. Yukon Territorial Government and Canada Department of Indian Affairs and Northern Development, 'Carcross Valley - Marsh/Tagish Lakes - Atlin Road, Land Management Planning Project', 1980.
33. Rural land values, memorandum, 5 December 1980, YGR, Land development, Municipal and Community Affairs, file 2840-0, YA, Whitehorse.
34. Land use planner, Land Resources, Indian and Northern Affairs, to Director, Yukon Department of Local Government, 16 November 1977 and 19 December 1978, YGR, Land development-general, file 2840-1-2, v.3, YA, Whitehorse.
35. Personal communications of D. Gairns, City Manager and J. Pierce, City Councillor, 1981.
36. Acreage developments in and around Whitehorse, 2 February 1981; Memorandum: Lot sales, responsibility and cost, 17 March 1981, YGR, Land development - General, file 2840-2, v.3, YA, Whitehorse.
37. Minister of Local Government (Yukon) to Minister of Indian Affairs and Northern Development, Telex, 12 January 1979, YGR, Local Government. Land disposition policy in Yukon, file 2840-2, v.3, YA, Whitehorse.
38. J.W. Wilson, Government land use policies in the South Yukon, 1979, Report to the Northern Pipelines Branch, Department of Indian and Northern Affairs.
39. Discussions with the following people contributed to the content of this section: H. Thompson, J. Pierce, J. Hoyt, P. Salez, I. Baden, D. and N. Jensen, T. Bergen, S. and T. Young, and many other residents of the various subdivisions.
40. Whitehorse Townsite 1899-1901. Central Registry Files (1894-1951), G.R.G. I, Series I, v.13, file 2788, YA, Whitehorse.

41. White Pass, and Yukon Road Corporate Records (1899-1952). R.G.1., V1.5, YA, Whitehorse.
42. Personal communications of G. Lattin, Minister of Municipal and Community Affairs, March 1981.
43. EPEC Consulting Western Ltd. Edmonton. 'City of Whitehorse Core Study'. 1982.
44. Studies dealing with the downtown area, commissioned by the City of Whitehorse and done by EPEC Consulting Ltd. Edmonton in the period 1980-1982 include: Downtown Core Plan Study; The Expansion of the Comprehensive Core Zone; Main Street Beautification Plan; Water front Development Plan; and Whitehorse Tourism Development Plan.
45. *Whitehorse Star*, 27 February 1962; Lot 19, 1965-1968, WCR, v.955, Box 4; Squatter relocation program, 1962-1963, WCR, 6000 12 15, Box.30, v.982, YA, Whitehorse.
46. The squatter problem and ways to deal with it are reported in several issues of the *Whitehorse Star*: 11 February, 27 October 1961; 3 December 1962. See also Lotz 1965.
47. WCR, 1963, file 6000-32, pt. 3 and Lot 19, 1969, WCR, file 6700, YA, Whitehorse.
48. Personal communication of N. Jensen, firefighter, April 1981
49. Agent of Territorial Lands, Canada, Department of Resources and Development, Lands Division, to Commissioner Yukon Territory, Re: City of Whitehorse extension, 6 March 1953, YGR, Riverdale Subdivision, file 635-6-20G, v.1, YA, Whitehorse.
50. YGR, Land Development Riverdale, file 2840-2-2; 2-3; 2 4, See also YGR, Riverdale General, old files, no.635-6-20G, v.1 to 15, YA, Whitehorse.
51. New townsite Whitehorse, CMHC drawing 124/4, 6 April 1955, YGR, Riverdale Subdivision, file 635-6-20G, YA, Whitehorse.
52. *Whitehorse Star*, December 1960.
53. Memorandum, City Manager to Mayor and Alderman, 6 August 1970, WCR, Development, file 6000, v.1154, YA, Whitehorse.
54. Reid, Crowther & Partners Ltd. Consulting Engineers and Planners, 'General development plan, Whitehorse Metropolitan Area', 1970.
55. Calculated from manuscript notes prepared for the forthcoming new Whitehorse official plan, EPEC Consulting Western Ltd., 1982.
56. EPEC Consulting Western Ltd. 'Planning report and developmental plans, Riverdale Subdivision', Edmonton, 1974.
57. Various electoral lists (listing occupations) obtained from the Tax Assesment Office, Whitehorse.
58. Statistics Canada, 1981 Census, Special tabulation EAC81B13, Population by ethnic origin(12) and sex(3) 1981, Request number 3, p.1-5, Yukon.
59. Personal communications of R. Wigen, builder-developer, March 1981; I. Warner, 'An informal history of the Condominium', Whitehorse, 1976.
60. Personal communications of T. Young and S. Young, former president of the Klondike townhouses, March 1981.
61. EPEC Consulting Western Ltd. Manuscript notes prepared for the new Whitehorse official plan, 1982.
62. Porter Creek Citizens Association, YGR, Porter Creek, file 2848-9700 General, v.1, YA, Whitehorse.
63. Whitehorse Metropolitan Plan, 1963, Recommendation no.7, p.47; Memorandum, Supervisor of Land, Federal Government, to Assistant Commissioner, Yukon, 30 October 1967, YGR, file 635-6-20G; and file 635-6-18-1G, YA, Whitehorse.

64. Resurvey of building lots in territorial subdivision, sessional paper no.16 and sessional paper no.56, Territorial council, first session 1964, in: Memorandum to the Commissioner, Yukon, 3 November 1964, YGR, Riverdale, file 635-6-20G, YA, Whitehorse. The original suggestion was for 50x100 feet lots in the territorial subdivisions, but a compromise was reached at 75x100 feet, a size appropriate for a dwelling with water level and septic tank. Street width was reduced from 100 to 60 feet.
65. Memorandum: Land Assembly Project, 15 August 1973, WCR, file 6000-12, YA, Whitehorse; See also several documents in the above file, all pertaining to the purpose and recommendations of the project.
66. 'Federal Provincial Land Assembly, City of Whitehorse, Porter Creek', Central Interior Planning Consultants, Prince George, B.C., April 1974.
67. D. Parker, Central Interior Planning Consultants Ltd., to Acting Manager, City of Whitehorse, 9 January 1974, YGR, Porter Creek, file 2848-9700, v.13(1974-1975), YA, Whitehorse.
68. 'Porter Creek Subdivision, City of Whitehorse', Planning Report, EPEC Consulting Western Ltd., December 1974.
69. This meant for example a price of \$11,000 for 0.067ha or \$21,270 for 0.121ha in 1981.
70. YGR, Porter Creek, file 2840-2-7, file 635-6-18-1G, v.12 to 15, YA, Whitehorse.
71. Statement made by Harry Harker, band consultant in the *Whitehorse Star*, 16 February 1978.
72. EPEC Consulting Ltd. Edmonton, 'Whitehorse Indian Village Relocation Study', 1973. Done for the Department of Indian Affairs and Northern Development.
73. McEwen, E.R., Native Housing Committee, 1972, 'Report on visit with native organizations in Western Canada concerning housing and land claims'. Council of Yukon Indians Library, Whitehorse.
74. Whitehorse City Manager to Director of Program Services, DIAND, Ottawa, 29 September 1980, DIAND, Yukon Region, Current files, Whitehorse.
75. Personal communication of J. Hoyt, former consultant and researcher to EPEC Consulting Ltd., during the preparation of the plan (1970-1973) and Executive Secretary of the Steering Committee in 1970, 1 April 1981.
76. J. Cruikshank, 'Through the eyes of strangers: a preliminary survey of land use history in the Yukon during the late nineteenth century'. Report to the Yukon Territorial Government and the Yukon Archives, 1974, p.15.
77. Canada, Government House, Privy Council, Order in Council 3242, 1921. These were Crown lands owned by the Department of Indian and Northern Development, which has not been given reserve status but which is set aside for a particular Indian band.
78. Whitehorse Indian Village Relocation Steering Committee, 'Relocation of the Whitehorse Indian Village', Report to the Minister, DIAND, 1972.
79. Associated Engineering Services Ltd., Edmonton, 'Feasibility and cost of development of a new Indian Village near Whitehorse', done for the Whitehorse Band, 1979.
80. Whitehorse Metropolitan Plan, 1963:62.
81. *Whitehorse Star*, 10 November 1960:26.
82. Minister of DIAND, to Mayor, City of Whitehorse, 5 August 1980, DIAND, Yukon Region, Current files; Roy Sam, Whitehorse Indian Band, 19 September 1980, DIAND, Yukon Region, Current files, Whitehorse.
83. Personal communications of J.R.Wright, Director Program Services, Indian and Northern Affairs, Ottawa-Hull, March 1982.

84. Heine, Johnson, Sustronk, Weinstein and Associates Ltd., Edmonton. Relocation Committee Meeting Report no.1 and 2, 12 January 1981, DIAND, Yukon Region, Current files, Whitehorse.
85. Relocation vote statistics, 1981, Whitehorse Indian Band, DIAND, Yukon Region, Current files, Whitehorse.
86. Personal communications of J. Neismith, Relocation coordinator, Whitehorse April 1983.
87. Mayor, City of Whitehorse to Chief, Whitehorse Indian Band, 5 May 1978; and Mayor, City of Whitehorse to Minister, DIAND, 15 November 1978, DIAND, Yukon Region, Current files, Whitehorse.
88. Personal communication of T. Penniket.
89. Heine Johnson Sustronk Weinstein & Associates Ltd., Edmonton. Interim report for relocation of the Kwanlin Dun Band Village, March 1982. Done for the Kwanlin Dun Band, Whitehorse. The 'Whitehorse Indian Band' name was changed in 1982 to 'Kwanlin Dun Band'.
90. Personal communications of R. Koral, Engineering and Architectural Division, Indian and Inuit Affairs, Yukon Region, March 1983, Whitehorse.
91. Kwanlin Dun Band, Whitehorse, 'Proposed social action programs, 1983-1988', Whitehorse, 1983; See also A. Verdeyden, 'Whitehorse Indian Band socio-economic development strategy', DIAND, 1981, Program Reference Centre, DIAND, Ottawa-Hull.
92. Other references used in this section are: Canada, Indian and Inuit Affairs, Yukon Region, 'Yukon Region Briefing Book, 1981'; and Whitehorse Indian Band to Director, Special Projects, DIAND, 28 October 1980; Manager, City of Whitehorse to Band Manager, Whitehorse Indian Band, 30 June 1978; Mayor, City of Whitehorse to Minister, DIAND, 25 June 1980; Minister, DIAND to Mayor, City of Whitehorse, 22 July 1980; and Relocation Coordinator, Whitehorse Indian Band to Director, Special Projects, DIAND, 28 October 1980, DIAND, Current files, Whitehorse.
93. CMHC, 'Whitehorse Metropolitan Plan Report', 1963.
94. *Whitehorse Star*, 13 July 1951 and 21 March 1952.
95. 'Government activities in the North 1964', Canada, Department of Northern Affairs and National Resources, Advisory Committee on Northern Development, Ottawa, 1965.
96. Incorporation: correspondence, plans and memorandums, WCR, file 6000 40-13 (1966-67), YA, Whitehorse.
97. 'City of Whitehorse - General Plan', 1976.
98. Hillcrest expansion, YGR, file 2840-2-17, 2-17-5, 2-17-8 and 2-17-9, YA, Whitehorse.
99. Design brief, Hillcrest Subdivision, City of Whitehorse, EPEC Consulting Western Ltd., December 1977.
100. EPEC Consulting Western Ltd., to City of Whitehorse 16 March 1978, YGR, Hillcrest expansion, file 2840-2-17, v.4, YA, Whitehorse.
101. *The motionless mobile home in urban environment*, Regional District of Fraser, Fort George, Prince George, B.C., 1970; *A report on mobile home parks, their present inadequacies and recommended solutions*, City of Calgary, Planning Department, 1971; *Mobile home bibliography*, Information paper 3, CMHC, 1975; *Mobile homes and park development*, Community Planning Association of Canada, Ottawa, 1975; *Site planning for mobile homes*, CMHC, 1979; J. Everitt, 'The misunderstood mobile', *Habitat*, v.22(3) 1979; 'The mobile home: A housing alternative - The case of Brandon, Manitoba', *Urban Forum*, v.4(5) 1979; *Site planning for mobile homes*, CMHC, 1979.
102. Mobile homes and parks, 1967-73, WCR, file 6225(5), YA, Whitehorse
103. *Whitehorse Star*, 21 January 1976.

104. City of Whitehorse, Mobile Home Park By-law, By-law 397, passed October 7, 1974; *Whitehorse Star*, 9 October 1974.
105. Proposal for mobile home facilities in Whitehorse, 1968, WCR, file 6225(5), YA, Whitehorse.
106. By-law correspondence re: Mobile home subdivisions, 3 June 1977, WCR, file 1100 (Legislative), v.1143 (1968-77), YA, Whitehorse
107. Data compiled from manuscript prepared for the new Whitehorse Official Plan, EPEC Consulting Western Ltd., 1982.
108. City of Whitehorse; Mobile Home Park By-law 557, 11 July 1977.
109. Discussion with N. Jensen, (Block Brothers) real estate agent in charge of mobile home sales, April 1983.
110. Miscellaneous correspondence between D.J. Parker, Central Interior Planning Consultants and the Department of Local Government and City of Whitehorse, 1972, WCR, file 6000-12, YA, Whitehorse.

## CHAPTER 4

### INSTRUMENTS OF PLANNING AND IMPLICATIONS FOR MUNICIPAL FINANCE

While the preceeding chapter was an account of the stages of residential growth, here an analysis of residential planning instruments and a discussion of the implications of land use for municipal finance are presented. The lines of inquiry of this chapter are similar to those in Chapter 3, but the approach here is more technical. These concern : (1) the level of consciousness on the part of the different levels of government with regard to the economics of urban design; and the different conceptions of planning and urban growth held by professional planners, the different levels of government and residents from various socio-economic groups, how these differences have been dealt with over the years, and the extent to which the planning concepts used were borrowed, adapted to or designed for local conditions.

During the last 20 years the containment of land use through the use of planning instruments (community and subdivision plans and zoning) and the adoption of progressive concepts has evolved considerably. However the already dispersed city and the disparity existing between services provided in various residential areas has had serious implications for municipal finance. The high costs of services are not perceived to be consequences of Whitehorse's extra elbow room. By 1982 suburbs of more southern Canadian cities are also recognizing the same difficulties. In social terms, the fact that certain



people, now many people, cannot afford housing, is also not usually attributed to the creation of excessive elbow room for some. Of course other factors such as income levels, financing and labour costs contribute to the affordability question, however it is mainly the excessive size of the settlements with their sprawling road and utility systems and their taking up more and more land for various uses especially single-family housing, which causes the increasing affordability problem and inaccessibility of quality housing.

#### Evolution of instruments and concepts of planning

While the introduction of planning tools and evolving planning principles was badly needed, Whitehorse's physical and socio-economic conditions required their careful adaptation. All the planning tools introduced in Whitehorse to accommodate new principles such as residential area planning on the basis of the neighbourhood unit principle, clustering, development on a planned unit development basis and zoning in pods, were devised in southern or central North America and Europe as responses to conditions in large cities with competitive land market pressures in order to preserve open-space, light and air, to constrain incompatible uses, and socially to protect spaces, make room and insure mobility for those who could afford it. While their merits, especially the more efficient way of developing raw land to reduce costs of servicing in spreading suburban developments, are undisputable, the Whitehorse urban condition differs substantially from the places where these concepts

were developed. In Whitehorse, there is not such severe competition of uses and no large population to settle. Rather there was a recognized need to compress, compact, and squeeze the city! So all of these concepts should have been specifically adapted to the entirely different conditions of this particular northern town.

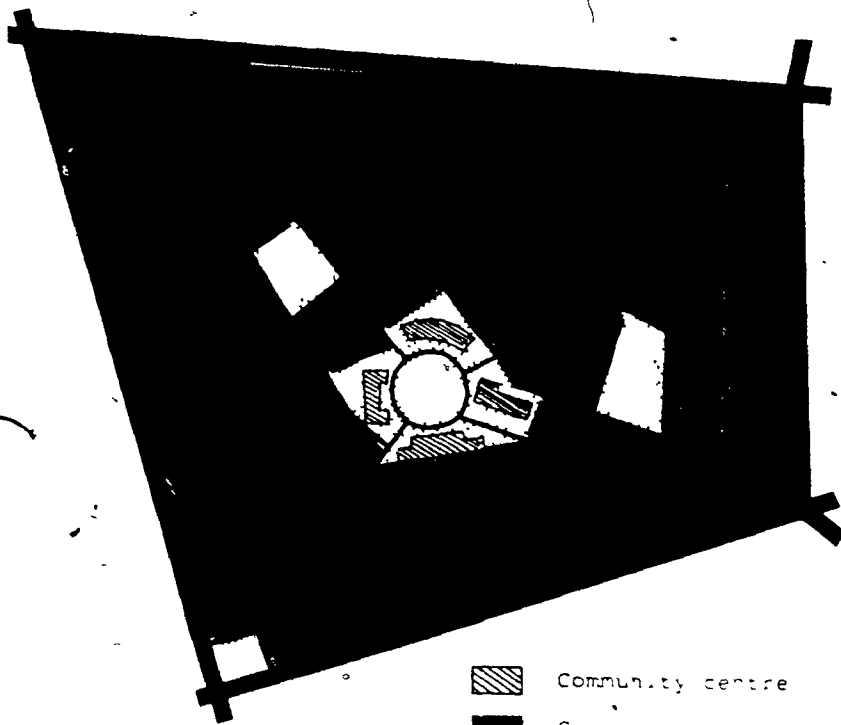
#### City, subdivision and regional plans





The first metropolitan plan adopted by the federal, territorial and municipal governments in 1963 contained enough valuable ideas and concrete recommendations to guide the growth of the city for at least the next thirty years. Some of the crucial land use recommendations were immediately implemented, some were used as general guidelines for accommodating organized growth and redevelopment, and some were ignored. But its very existence required the development or adoption of instruments of planning. In 1963 the municipality had no jurisdiction over most of the land in the area, while the territorial government did not yet have a strong planning capability or land use policy.

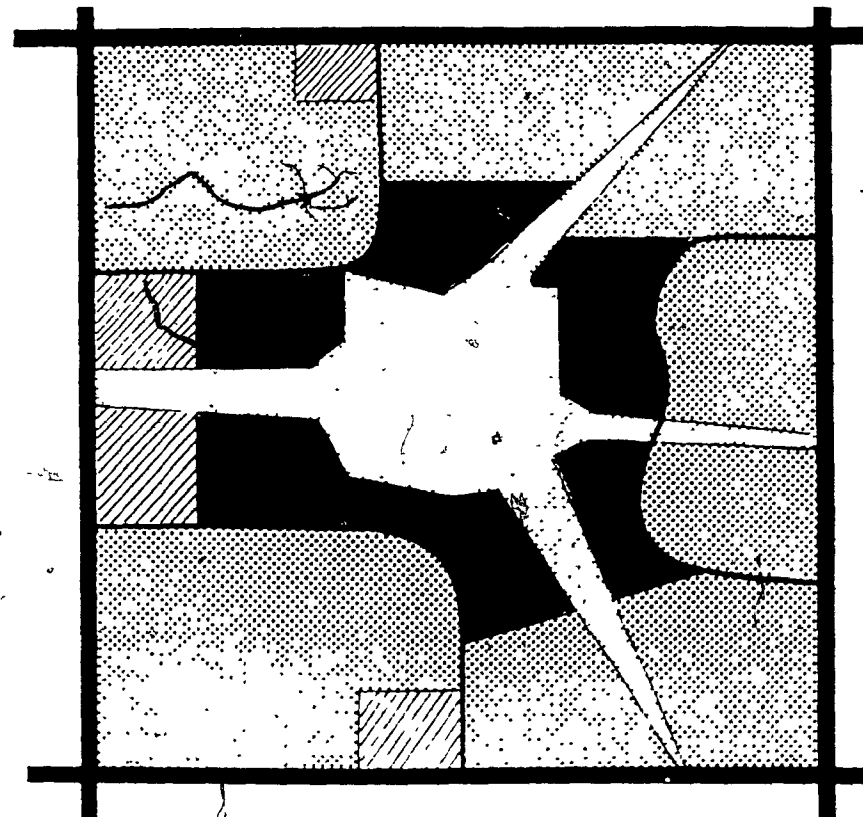
The 1963 plan focused on the problem of rationalizing land use and municipal services. It did not, however, provide a framework for the development of density standards. The 1970 review of that plan[1] did not contain anything new, but in 1973 a new zoning by-law was introduced, to guide development in the enlarged city[2]. A new community plan was prepared in 1976[3]. Its planners recommended the introduction of the neighbourhood unit as a concept for residential development.







The idea of the neighbourhood unit dates back to Howard's Garden City published in 1898 (Howard 1965). He conceived a town made up of "wards" of about 5,000 people, each of which would contain local shops, schools and other services. Clarence Perry, a contributor to the New York regional plan in the 1920's developed the idea as a device of social planning to help people achieve a sense of identity with the community and the place (Perry 1929, 1939; Golany 1976:181-205; Richman and Chapin 1977). He suggested groupings of about 5,000 people, focusing on a primary school and separated by main traffic roads (Fig. 4.1). In 1933 Stein identified the need for separation of pedestrian ways from the routes used by the private car, and applied the idea in a development in Radburn, a New Jersey new-town (Hall 1975: 59-60) and in several New Deal "greenbelts". A separate system of pedestrian ways reached from the back doors of the houses entering community open spaces, linking streets and the centre. The vehicle streets were designed according to a hierarchical principle with main primary routes giving access to local distributors and then in turn to local access roads designed as cul-de-sacs, serving small groups of houses. The system came to be known as the Radburn layout and received almost universal acceptance. Large communities were conveniently broken down into manageable planning areas -- neighbourhood units -- focusing on the elementary school, a park, playground and a neighbourhood shopping centre all within convenient and safe walking distance of the housing areas.

In Canada among the first communities using the neighbourhood unit principle were the Town of Mt. Royal, planned in 1912 and Don Mills, in 1951-52 (Faludi 1950:143-147; Sewell 1975:28; McCann 1974). Today the use of this planning principle is widespread both in the suburbs of North America and in Europe.



-  Community centre
-  Commercial
-  Residential areas
-  Open space



-  single family
-  multiple family
-  apartments
-  parks, schools, open space
-  arterial road
-  collector road

Clarence Perry's concept

Concept recommended for Whitehorse by consulting planners

Source : P.Hall, 1973:58; and 'City of Whitehorse General Plan', Stanley Associates Eng. Ltd., 1976.

Figure 4.1 The "neighborhood unit" concept

Since Whitehorse needed a tool to direct its pattern of growth, the neighbourhood unit had some relevance, but it was not wholly appropriate as it was developed in response to decades of southern suburbanization. Whitehorse is a small town with small neighbourhoods. In its wilderness setting the residential subdivisions are not bordered by each other or by industrial and commercial areas, they are bordered by forested hills and other natural features. The centrality of the elementary school is an important factor, but the centrality of multifamily units or their proximity to major transportation arteries is meaningless since public transportation is easily accessible from any part of each subdivision. Proximity to the surrounding open space is more important. In fact if the multifamily, more densely populated housing developments were located at the edge of the neighbourhoods or subdivisions they could benefit greatly from the proximity of the surrounding open space. Figure 4.1 illustrates Perry's neighbourhood unit concept (intended for 5,000 people) and the neighbourhood unit (intended for 3,000 to 5,000 people) recommended for Whitehorse by the 1976 plan. The neighbourhood unit adapted for Riverdale (population 5,000) and Hillcrest expansion (neighbourhood planned for about 1,000 people) is shown in Chapter 3 (Fig. 3.14 and 3.21). Figure 3.14 (Riverdale) illustrates the location of multifamily housing in the centre of the subdivision. In the Hillcrest extension the neighbourhoods are smaller and multifamily housing is planned in pods. It is not concentrated in one area.

The scattered residential areas of Whitehorse with a population of 1,000 to 5,000 cannot develop their own viable community centres complete with shops, schools and recreation facilities. In the Whitehorse context the creation of smaller scale sub-neighbourhoods deserves more attention from both a physical and a socio-economic point of view. While the 1976 Plan states a

concern for both capital and user costs of subdivision development, it does not suggest that traditional low densities be increased.

The subdivision plans of Whitehorse are of two categories: subdivision plans prepared on a piecemeal basis such as the ones for Riverdale and Porter Creek, or the more comprehensive type of plan as for the development of Hillcrest. Additions planned in the mid and late 1970's incorporated several positive ideas and new planning concepts, among them adaptation of the layout to the natural environment, orientation of streets to take advantage of southern exposure, and greater care to preserve the original vegetation. Concern was expressed at every stage of planning for compactness and fill between developed areas. School sites were located on a neighbourhood unit basis. Instead of traditional uniform lots, lots of various sizes were made available in the same area, offering a wider choice for buyers. Small mobile home subdivisions were also integrated in the regular residential subdivisions.

In accordance with the 1976 Community Plan, provision was made in new developments for development alternatives for multiple-family housing in the form of clustering and development on a planned unit development basis, following the recent changes in methods of land development[4]. In cluster development the structures are arranged in closely related groups. Rather than spreading houses uniformly over an entire tract, the developer of a cluster project builds at higher densities in certain areas and preserves open space and natural features in others. Cluster planning is consistent with high quality open spaces. Clustering is based on the concept of density averaging. Overall density for the large unit meets legislated limits but within the area density varies higher or lower than the average. Cluster development is energy saving. The structures are arranged in closely related groups sharing walls.

Above all clustering of dwellings may reduce the total length of utility lines and reduce the capital cost of servicing (O'Mara 1978:113; Whyte 1971).

Whereas clustering is a design solution based on density transfer, planned unit development is not only a design concept but a legal concept.

"Planned unit development can be defined as a land development project which is planned as an entity, grouping dwelling units into clusters, allowing an appreciable amount of land for open space, mixing housing types and land uses, and preserving useful natural features" (O'Mara 1978:114-115).

Residential planned unit developments may range from a few hectares to well over 400 hectares (1,000 acres) in size. However the number of units is a better determinant of size than is area. The minimum number can be as few as five or six, although 50 units or more better justifies the application of the concept. It is residential density averaged over the entire area being planned, which offers the control, rather than individual lot specifications of minimum size and setbacks. The principle of planned unit development permits greater flexibility of design, and promotes economies of scale in infrastructure and amenities. Planned unit development is an evolutionary stage of suburban residential developments which can still retain set standards, but can also, by permitting the development of a tract of land as a unit, create an opportunity for improved design, with a mix of residential building types to meet the needs of people of different income and age groups. Planned unit development requires large "front-end" investment and a large tract of vacant land under the control of the developer. Along with this strong financial support, excellent management and design skills are needed. These resources can usually be mobilized only by large-scale developers or the public sector (Kristoff 1973). In Whitehorse land is available and zoning regulations since 1976 allow for this kind of development, but the Whitehorse

building industry is dominated by small-scale builders. Because of this, as well as the downturn of the local economy and a soft housing market, planned unit developments did not materialize in Whitehorse. Effective planned unit developments in Whitehorse would need strong government initiative.

### *Zoning as a land use planning instrument*

In Whitehorse, zoning has an increasingly powerful influence on the form, shape and appearance of the city[5]. Its stated purpose is to implement the development control provisions of the official community plan by specifying permitted land uses and defining norms for different land use categories[6]. However most of the rules which make up the zoning by-law are not specified in the community plan. Subdivision plans usually use the city zoning by-law as a guideline as to the permitted population or dwelling unit density. The relationship between the community plans, subdivision plans and zoning is not that clear[7].

In a small town like Whitehorse the content of the zoning by-law is powerfully influenced by the community at large[8]. The protection of property values by clear separation of different uses is among the earliest justifications of zoning (Goetz and Wofford 1979; Moore 1979; Nelson 1980). Like most postwar zoning schemes, it distinguishes sharply between single-family dwelling zones (R1, R2, R3, R4) from multiple family dwelling zones (RM1, RM2, RM3, RM4). The meaning of each sub-zone and the minimum site requirements for them is reported in Table 4.1.

The important innovations, so far as Whitehorse practice was concerned, were the introduction of a small lot zone (R3), and the reduction of the lot frontage requirement from 25' x 20'. These measures allowed development of



Table 4.1

Minimum site requirements for  
residential zones, 1973 zoning by-law

Residential zone	Minimum site area (sq.ft.)	Maximum density (dwelling units/acre)
R1 Single family	6 000	6
R2 Two family	9 000	
R3 Single family	3 300	
R4 Mobile homes	4 000	
RM1 Multiple family		
Single family	6 000	30
Two family	7 000	
Multiple dwelling (up to 20 boarders)	9 000	
RM2 Multiple family		
Single family	6 000	
Multiple(for boarders)	9 000	6
Multiple dwelling	12 000	30
RM3 Townhouse	2 000	100
RM4 Multiple dwelling	20 000	

Source: Compiled from the City of Whitehorse Zoning By-Law 369, 1973.

single-family dwellings on small inexpensive lots and added some flexibility for townhouse and in-fill development [cf. reference 2].

In 1976 the categories were changed to allow more flexibility for planning higher-density areas. But regulations still allow development only in "pods" containing comparable densities; they do not permit a mix of housing types. Development in "pods" was a compromise in the face of the opposition of property owners defending real estate prices [9]. The 1976 zoning by-law somewhat simplified the categories to the following uses: single family (RS); multiple-family (RM); mobile home park (RH-P); mobile home subdivision (RH-S), and country residential (RC). Multiple-family areas of less than 65,000 sq. feet could now be developed on a lot by lot basis, or as a planned unit

development. Sites larger than 65,000 sq. feet must be developed as planned units[10].

To regulate development of these more complex planned units, the zoning by-law adopted a land use intensity ratio (LUI), a numerical expression integrating ratios of floor area, land area, parking, recreation space, open space, types of structures and range of densities. The conventional measure of neighbourhood density, number of dwellings per unit of space, gives a reasonable guide where housing is uniform (e.g. all single-family housing). When building in mixed form, overall density as a measure is meaningless. Land use intensity standards were instituted in 1963 by the United States Federal Housing Administration for the control of density in order to help the developer create imaginative and effective developments[11]. The land use intensity system identifies the overall building mass and space relationships in a planned community. Land use intensity provisions for Whitehorse and the meaning of these provisions for the major residential areas is illustrated in Table 4.2. A 1979 amendment raised the permitted land use intensity to 7.0 for multiple developments in downtown and 5.2 in all other parts in the city[12].

The increase of density refers only to multiple-family zones. The single-family zones have been carefully guarded. Current residential land use by density, dwelling units by type and amount of land dedicated to each is shown in Table 4.3. The present balance between land used for single-family and multiple-family dwellings is very similar to that of any small Canadian municipality[13]. 82% of all residential land is occupied by 53% of the housing stock, in the form of single-family housing. Multifamily housing, comprising 24% of the housing stock, occupies only 4% of the land area.

Table 4.2

Land use intensity provisions for Whitehorse, 1976

Residential areas	LUI (1)	Units/acre(2)
Downtown	5.5	30
Porter Creek	5.0	8 to 10
Riverdale	4.0	8 to 10
Takhini	3.8	8 and under
Velleyview	3.8	8 and under
Hillcrest	4.0	8 to 10

Notes: 1) Land use intensity, 2) Varies with the size of the units, more if the units are small.

Source: City of Whitehorse, Zoning By-Law 493, 1976.

Despite the more homogenous high incomes of the Whitehorse households (Fig. 4.2) and the availability of land at cost of development, there is an unequal distribution of land. Land allocation is a form of income. While in a sense residential land is free and theoretically available to anyone it is allocated only to those who have the financial ability to pay for its development costs and to build a house on it. Once this originally free land is developed and built on it acquires a certain value which is a form of income. The inequality of land allocation reinforces the status significance of density, and the poorer design and site management of housing in Whitehorse maintains a certain low-class image of multifamily housing. So low-density land is still being used as the status indicator of a market economy. Whitehorse's gross residential densities are very low even by North American standards (cf. Table 3.5 and 4.3).

Zoning powers to increase densities are available but are not presently used. Barriers to increased density are largely market oriented. If medium-density developments in the form of duplexes, rowhouses and small

Table 4.3

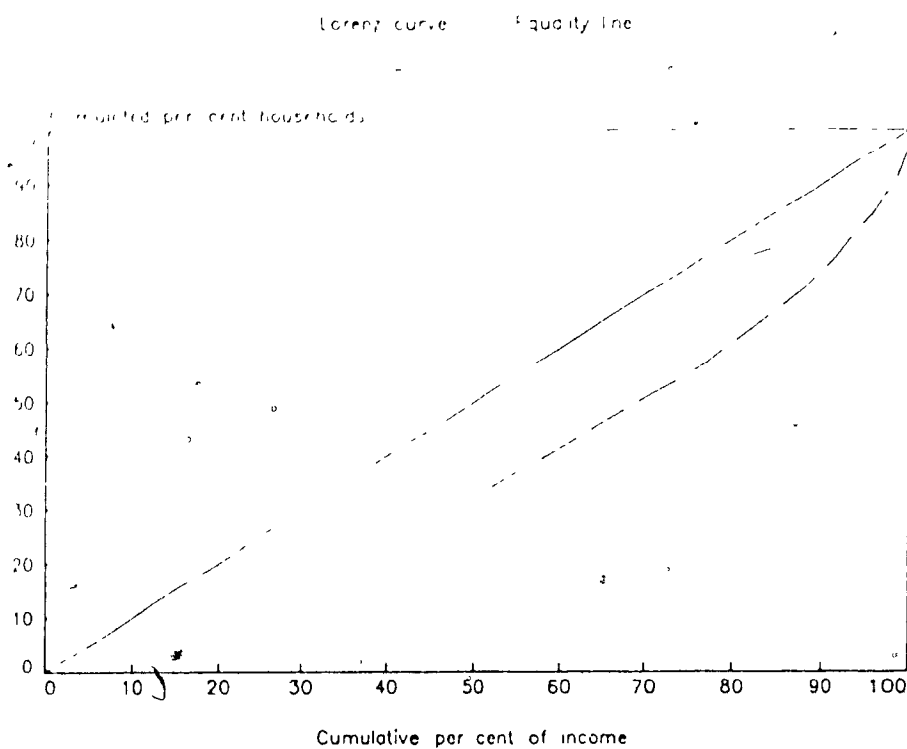
Residential land use by area, housing type and density, 1982

Selected res. areas	Net land area by housing type acres						Net Density		Total res. land
	Single fam.	Duplex	Multi. fam.	Apt.	Mobile home	Squat.	Units/acre	Units/ha	
Riverdale	175.6	7.7	15.6	11.2	-	-	7.9	19.5	210.1
	83.5	3.6	0.7	5.3	-	-			100.0
Downtown	55.1	4.2	8.2	6.0	1.9	1.9	15.2	37.5	77.4
	71.2	5.4	10.5	7.7	2.4	2.5			100.0
Porter Creek	263.7	3.6	0.9	0.8	33.9	0.6	3.6	8.8	303.6
	86.8	1.2	0.3	0.2	11.2	0.2			100.0
Wolf Creek	316.7	-			47.2	-	0.3	0.8	363.9
	87.0	-			13.0	-			100.0

Density	Housing type	Area (acres) %		Dwelling units %	
Low 2.7u./acre density 6.7u./ha	Single fam. and duplex	1,201.07	82.2	3,295	61.7
Medium 23.6u./acre density 58.3u./ha	town and row apts. senior cit. and rooming units	54.13	3.8	1,280	23.9
3.5u./acre 8.6u./ha	mobile homes	186.03	12.7	668	12.5
4.6u./acre 11.3u./ha	squatter	21.16	1.4	98	1.8

Source: Calculated from manuscript data prepared for the forthcoming new Whitehorse Official Plan, EPEC Consulting, Western Ltd., 1982.

apartment buildings were promoted they would offer a cheaper and more attainable alternative to the single-family home. However, to be acceptable as



Note: The curve is not complete because the income data stops at 40,000+.

Source: Calculated from 1981 census data (income by income groups and number of households in income group) using the Lorenz curve technique explained by Hammond, R. and McCullagh, P. (1978).

Figure 4.2 Lorenz curve of inequality, Whitehorse, 1981.

an alternative higher-density development has to be made more attractive both from a financial and a functional-aesthetic point of view.

### *Land availability*

The question of availability of land in the sparsely inhabited north seems to be a paradox. To analyze availability, we have to distinguish between availability of surveyed land, time, location, quality and level of services, price, size of lot, and the demands of various categories of people.

Land shortage of one type or another occurred because of the lack of long-range planning and the perennial response to day-to-day or year to year demand[14]. A much greater variety of lot types was being offered by the end of the 1970's when, due to the expectation of immediate economic growth in the territory, the federal government invested a great deal of money in advance land development. The current tendency is still to meet all demands regardless of long-run costs to the community and the individual. The apportionment of land for various housing types is viewed by the territorial government as a difficult task. Questions as to how many units of each type/price/quality and who would live in them were left to housing developers in the private market. Although income is a basic determinant of choice of housing type, it was never given much attention in the land use plans. The new diversity of options include large-lot rural subdivisions, serviced mobile home subdivisions, some multiple-family housing areas, as well as single-family areas with a wide range of lot sizes. These options were provided through designating more and more land for development. Starting in 1975, the territorial government pumped more and more money into land development. Invariably the groups who are satisfied first are the more vocal ones, the ones who have the resources to buy land and build. People who are already

property owners vote in large numbers and are also heard. Transients, natives, marginalized and low income people are less vocal minorities; they are also thought about from time to time, but their needs are answered at a much slower pace and lower level, as we saw in the handling of the squatter situation and the Indian Village. We must now look at the implications of land use for municipal services and finance.

### The implications of land use for municipal finance

The bulk of municipal spending is on the servicing of land, and it varies with the density and arrangement of uses on the land. This section discusses the relationship between land use and municipal finance in Whitehorse. In it municipal expenditures for water, sewage and roads will be analyzed and who pays for what services, and how much is subsidized will be determined.

The analysis of municipal financial statements is difficult because the accounting system and categorisation of functions change. Municipal data across Canada is not collected according to a uniform accounting system. However Statistics Canada (Public finance, Local government section) reworks this data to fit their own categories[15]. In order to compare Whitehorse with Canadian or provincial data, the annual Whitehorse financial statements have been reworked to match the Statistics Canada financial system for municipalities. Differences shown in those statistics between general revenue and general expenditure bear no relationship to budget surpluses or deficits.

shown in the local financial statements. Whitehorse has a fund-accounting municipal finance system which does not reflect real expenditure on different functions. In spite of the reworking of the data, municipal finance comparisons between the Canadian provinces and Whitehorse have only a limited value. It is difficult to make interprovincial comparisons about the provincial-municipal and territorial-municipal transfer systems because the size, composition and responsibility of municipal governments vis-a-vis their provincial or territorial governments vary. While all provinces provide financial assistance to local governments, such assistance can vary widely. Comparability can only be achieved when the provincial government and its enterprises are consolidated with those of local government [16].

Municipalities in the eastern provinces are responsible for fewer services; in the western ones most service costs are shared between the province and the municipality (Richmond 1981:162-199). Whitehorse is responsible for a smaller range of functions than most Canadian cities. Services performed by most municipalities but not by Whitehorse include assessment, police, public health, social welfare, public libraries, education and electricity. Until the mid-1960's Whitehorse was subject to an unusually direct federal supervision. Education has been excluded from some of the data; it is the largest single expenditure of many cities and its relation to land use is not obvious.



### *Land-related services*

The cost of streets, sewage disposal, water<sup>s</sup> supply, storm drains, fire protection and refuse disposal is related to the density of population in the area served (Downing 1973:632-33). The lower the densities, the higher the costs. The large sums spent by the territorial government on land development are recovered from the sale of the properties. This may cover some of the capital costs of building streets, sewers, drains etc., but it does not contribute to the maintenance of that capital, nor the operating costs. The practice of charging a flat rate per household regardless of the size of the lot is a factor contributing to urban sprawl or land extensive development (Bird 1983:45,91; Downing 1977), and represents a transfer of benefits from small-lot to large-lot owners. The density question therefore has implications both for the efficiency and solvency of municipal governments, and for the equity of costs among residents.

The costs of scattered development were pointed out in every single report, study or plan of Whitehorse[17]. The Queen's University report of 1960 pointed to the financial consequences of the extension of the city to the east side of the Yukon River (Riverdale and the hospital site). Consequences of low-density land use were analysed by Hardy (1972) after the Whitehorse metropolitan area was amalgamated into the city. Both reports quoted the cost of sewage, water and roads as causes of the excessive operating and capital costs of managing the municipality.

There are several other factors which create the excessive operating and capital costs of the water and sewage systems: (1) the long winter and

short construction season, (2) the "wastage system", and (3) the amalgamation of systems designed for independent operation. These must be examined.

To overcome low temperature and freezing problems, much water is "wasted". Each service connection and each hydrant is provided with a bleeder which wastes a continuous flow of water to the sewer. The practice of wasting water through "bleeders" permits the systems to continue to operate without freezing even though the surrounding ground is frozen for almost half the year. As a consequence, Whitehorse uses 400 gallons of water per capita per day, the highest per capita usage in Canada.

As the city increased in size and new areas were connected, the high per capita usage multiplied the difficulties of keeping up with the demand for pumping capacity and supply main capacity. Before the amalgamation (1971), there were three water systems, one covering downtown and Riverdale (System 1), another Upper Whitehorse (System 2) and a third Porter Creek (System 3). System 3, installed in 1967, is a circulation type system with little wastage. In 1972 the daily water consumption in Systems 1 and 2 varied from 260 to 320 gallons, while in System 3 it varied from 70 to 90 gallons [18].

With the extension of the city boundary the length of mains more than doubled, while the number of houses serviced did not. The length of the mains per house doubled as well. The system became very dispersed and predominantly of the wastage type. While technology has made more efficient and cheaper water systems available since the late 1970's for the benefit of future developments, those already in existence can not be changed and must be lived with.

A large volume of water also means a large volume of drainage to dispose of, and the power requirements for pumping both water and sewage are directly proportional to flow. An extensive 1977-78 study of the Riverdale

sanitary sewer system showed that 279,000 gallons per day (18.5 %) were used for domestic sewage, 446,000 gallons (29.7%) were wasted through infiltration, and 777,000 gallons (51.8%) were used for bleeder flow[19].

" As a result of excessive water usage in the Yukon, sewage treatment installations would cost six or seven times the capital expenditures elsewhere",

stated a 1970 report of the Public Engineering Division of the territorial government's Department of Health[20].

When the City asked for a new community development master plan in 1973, the territorial government recommended utilities and roadway engineering analysis as a base on which to plan and build for the future[21]. The engineering analysis of 1973 based the waterworks requirements of the city on existing and projected land uses. It was estimated that 42,000 people could be accommodated in the existing residential districts, almost three times the present population. Ample land was available for 20 to 30 years[22].

While fund accounting seems to show that the cost of sewers and water is recovered from user charges, this is far from the truth. Water and sewer revenues fall far short of the local costs. The water and sewer revenues, including a territorial grant, charges for new service connections and charges for frozen and plugged water and sewer lines, fall far short of the local costs, when we add debt charges and capital expenditures from current funds[23].

The dispersed areas that were joined with the old city in 1971 necessitated large capital commitments in form of government aid and higher operating expenditures. The cost of providing water, sewers and paved roads for the areas developed but not yet serviced to urban standards was estimated by Associated Engineering in 1973 at \$8.6 million, meaning an average of \$

9,600 per lot. The lion's share was to come from capital subsidy while an insignificant fraction was to be recovered from the property owners. The Community Services Improvement Program planned for 1974-1980 would require another \$5,734,000 for the sewage system and \$ 14,007,000 for roads and sidewalks[24].

Local government expenditures on transportation, communications and environment vary from province to province and territory. However the largest expenditures on environment (water, sewage and garbage disposal), as a percentage of local government general expenditure for all local governments is experienced in Whitehorse. Table 4.4 shows that in Whitehorse 32.8% of the total general expenditure is spent on environmental services, while the average Canadian community spent only 14.3%. Expenditure on transportation and communication is about the same. Expenditures on transportation, communications and environment in Whitehorse take up about half of the local government expenditure for the period of 1970-1980 (Fig. 4.3). While the per capita general expenditure in the provinces and territories varies widely and follows a growth pattern in line with the local economy (Fig. 4.4), the per capita environmental expenditure is distinctly higher in the Yukon (Fig. 4.5).

This type of development -- sale at low prices and a low level of services, followed by heavy public investment to upgrade services -- has occurred in most suburbs and annexations in North America, but it is usually perceived as a consequence of speculative enterprise without government control. In Whitehorse public "planning" and public control of land subdivision had exactly the same consequences. The later investments were in fact a subsidy for lot buyers.

Table 4.4

Percentage distribution of local government expenditure by selected functions for Canada and Whitehorse, 1970-80

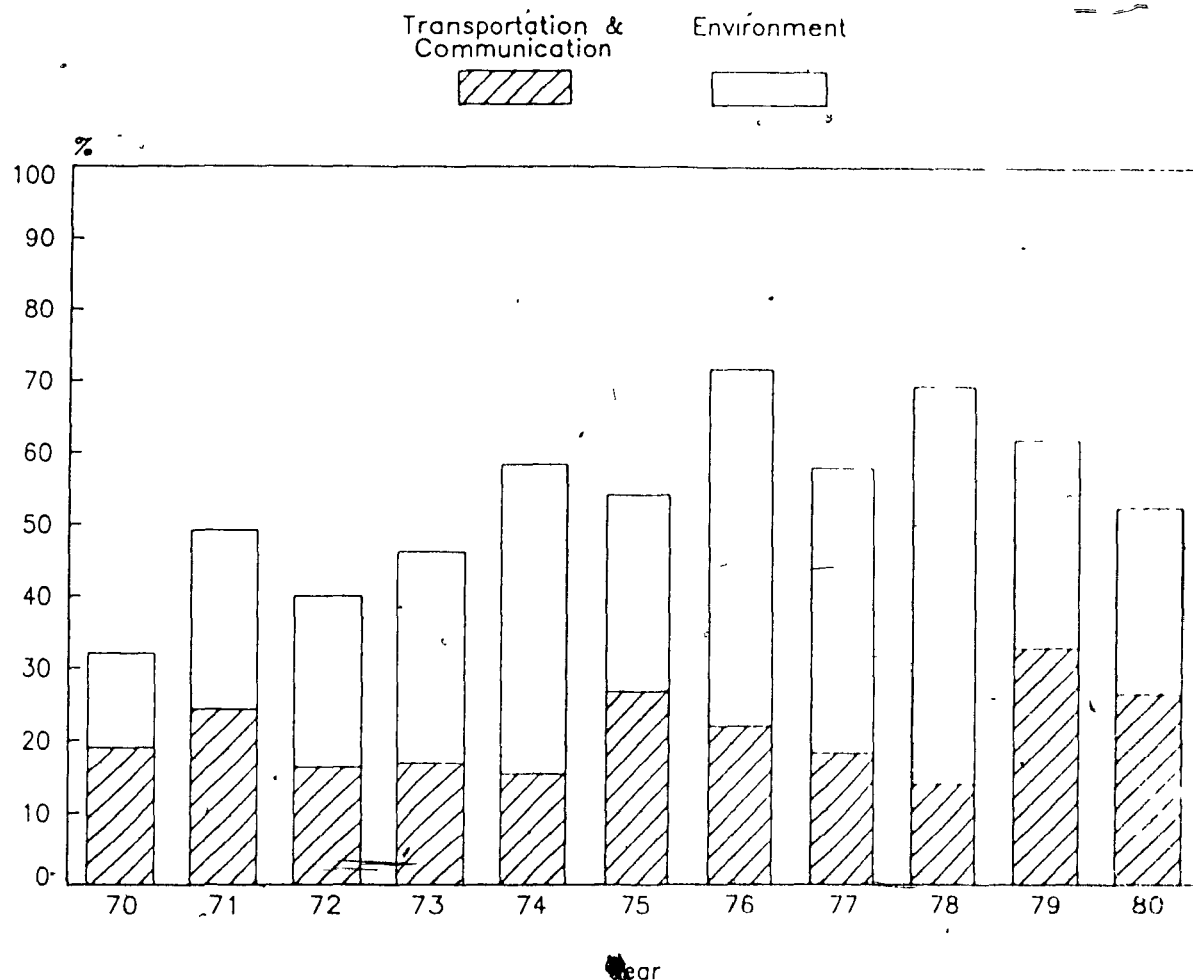
Year	Transport & Communication		Environment	
	Canada	Whitehorse	Canada	Whitehorse
Avg.	21.0	21.1	14.3	32.8
1970	23.5	19.0	13.4	13.0
1971	22.2	24.3	13.3	24.9
1972	21.7	16.3	13.4	23.7
1973	20.5	16.9	13.8	29.2
1974	22.3	15.4	14.4	42.9
1975	20.8	26.7	14.7	27.4
1976	19.9	22.0	15.4	49.7
1977	20.3	18.3	15.4	39.6
1978	20.0	14.0	14.9	55.3
1979	20.1	32.8	14.5	29.1
1980	20.1	26.4	14.5	26.1

Sources: 1) Statistics Canada. Local Government Finance. Catalogue 68-204. Annual 1970-80. Expenditure on education was excluded since in Whitehorse education is not the responsibility of the municipal government. 2) The Whitehorse data was calculated from the original municipal finance records of the City of Whitehorse according to instruction received from Statistics Canada.

Note: "Transportation & Communication for Canada includes public transit, while for Whitehorse does not. Avg. = Average.

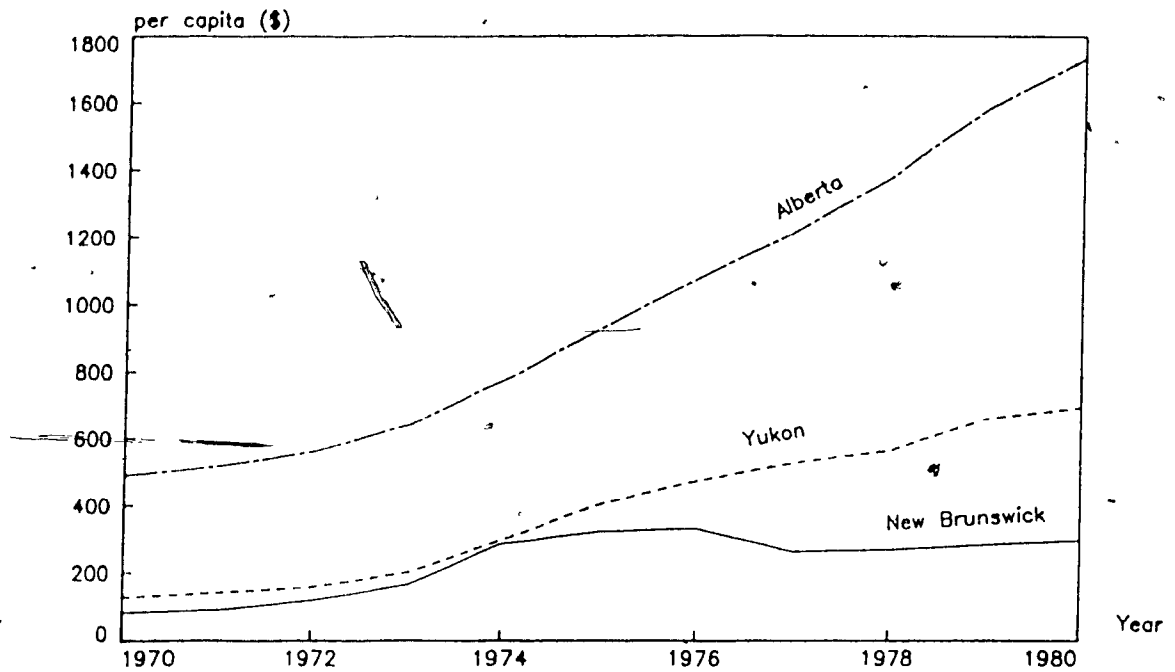
### *The transfer system*

The cost of soft and hard services are shared by several levels of government and the individual taxpayer. However, the mammoth share of the capital costs of land related services are covered by government grants. The rationale for intergovernmental transfers is based on fiscal equity. Each jurisdiction (e.g. the municipality) is expected to provide some "average."



Source: Calculated from original municipal finance records of the City of Whitehorse according to instructions received from Statistics Canada, Public Finance Division.

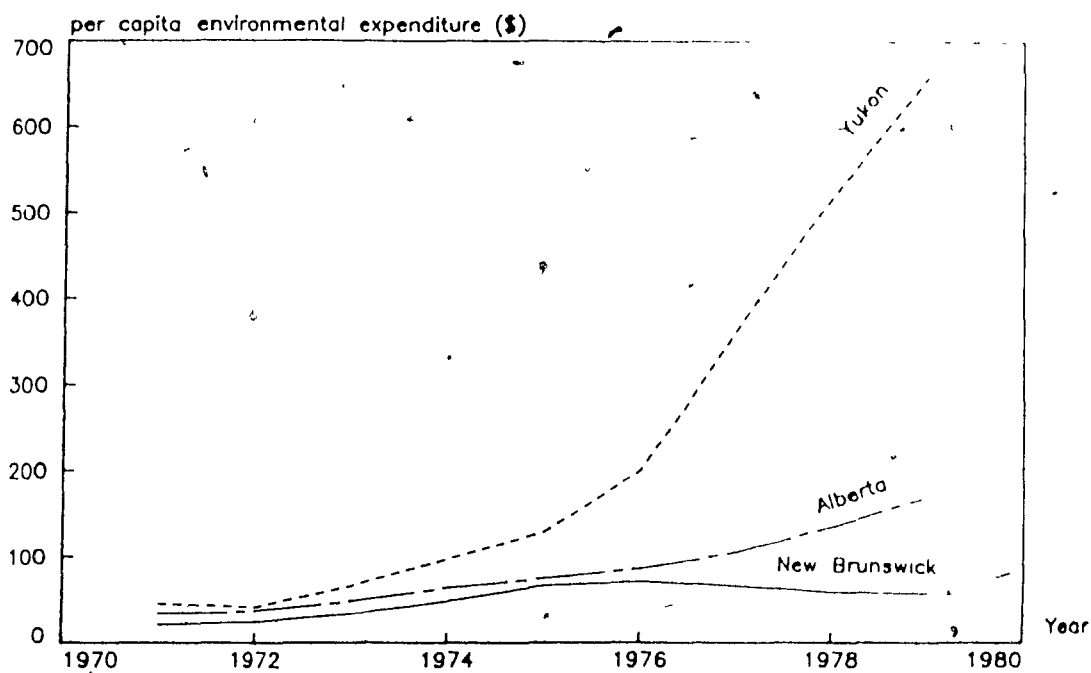
Figure 4.3 Expenditure on transportation, communication and environment as a percentage of gross general expenditure, Whitehorse, 1970-1980



Source: Compiled from Statistics Canada, 'Local Government Finance', Catalogue 68-204, Annual, years 1970 to 1980.

Note: Data is 3-yearly moving average.

Figure 4.4 Local government expenditure per capita for New Brunswick, Alberta and Yukon.



Source: See Fig. 4.4

Figure 4.5 Environmental expenditure per capita for New Brunswick, Alberta and Yukon



level of public services by exerting an "average" fiscal effort, usually measured in terms of its tax rate (Bird 1983:101). One way to achieve fiscal equity is to provide lump-sum grants to upgrade services, according to service needs and the taxable capacity of the jurisdiction. When upper-level governments want local governments to establish certain minimum levels of services, they may offer conditional matching grants or specific purpose grants for these functions.

In Canada, on average, roughly one-half of local government (municipal) revenues are derived from transfers. These grants are as important a revenue source to municipalities as are revenues from their own sources that are under local control (Bird 1983:112). In the Yukon transfers are made from the territorial to local governments for roads and communications and the environmental services of water, sewage and garbage disposal. These constitute about 65% of the total territorial transfer[25]. All are density-dependent services, and we can infer that the territorial government is providing a heavy subsidy to low-density land use.

During the 1960's an unconditional operating grant was calculated in relation to property assessment. This produced an increase in grants as the urban community grew. Substantial conditional grants were provided for street construction and street maintenance on a cost-sharing basis. The first municipal water and sewage system was built in 1956-57. The territorial government loaned \$ 1,000,000 and granted \$ 700,000, and the federal government granted \$ 591,500[26].

Starting in 1972 the per capita operating grant was calculated on census population, and fixed for five years at a time[27]. The Municipal Ordinance of 1972 restricted the right of the municipality to require a developer to meet the capital costs of municipal service installations[28].

The effect was an imposition of strict limits on the extent to which the municipality could shift the cost of urban expansion to the land developer. This helped to hold down the cost of new housing, but the municipality had to take over certain development costs. Therefore it is not indifferent from a municipal finance point of view what type of development is promoted with regard to location, land use intensity and layout, since the municipality incurs both capital and operating costs. Some of these costs were to be covered by capital grants from the territorial government as legislated in the Community Assistance Ordinance [29]. To qualify, the project had to be included in the approved five-year capital budget program of the City [30].

Formulas for capital cost sharing during the 1975-1980 period can be summarized as follows. (1) Territorial government pays 90% of the capital cost of sewer and water systems, the City 10%; (2) For distribution and collector systems, where the construction cost exceeds a calculated territorial average per front foot of lots serviced, the territory pays the municipality three-quarters of the excess. (3) The territory pays the City 90% of the capital cost of arterial roads and 80% of the sharable costs of collector roads [31].

In 1974 the territorial government evaluated capital needs and standards of services in Yukon communities [32]. The objective was to develop a rationale for forecasting capital, operating and maintenance grants. Following this a seven-year \$32 million Community Assistance Program was adopted to upgrade services in all Yukon communities. There was no pre-determined entitlement formula, only a guide to funding expectations. Whitehorse had access to \$1.4 million annually commencing with the 1975/76 fiscal year. The amount of financial assistance available to applicants had

to correspond to the level of self-government attained, indicating the community's ability to assume management responsibility.

Of the \$8.2 million received by Whitehorse between 1974 and 1980, 18.7% was spent on paving and 73.1% on sewer and water projects, that is a total of 91.8% on services strongly dependent on residential density. An additional separate grant of \$5.6 million was allocated for sewage treatment.

All this financial assistance encouraged further extensive land use. The conditions for operating and specific purpose grants changed again in the early 1980's, but they still do not discourage the traditional low-density pattern of development[33]. The territorial government picks up the tab for capital costs generated by low-density sprawl.

### *Property taxation*

The property tax captures for the community some of the increases in property values that are generated by public expenditure for services and capital improvements. These benefits of the property tax are best exploited when assessed values are based on current market values, in order to avoid the payment of taxes based on an outdated (and very low) price for land and improvements (United States Department of Housing, 1979:5). However, in no country has the taxation system succeeded in collecting the major part of the additional value created through the urbanization process (Darin-Drabkin 1977:273). A property tax is generally divided into two components, a tax on land and a tax on improvements (structures). The tax system has a base, on

which the amount is calculated and a rate which is applied to the base. Assessment patterns do not appear as planning decisions, yet they have enormous ramifications (Nader 1973:358). Assessing at less than market value provides a variable that can be manipulated for the benefit of specific groups. The frequency and degree of inequality in assessments increase as assessments are put at a low percentage of market values (Nader 1973:358). By putting the weight of the assessment on improvements rather than on land, taxes discourage optimal use of land. Assessments which shift the tax burden to land contribute to a higher-intensity and more efficient use of land.

In Whitehorse, residential land acquired all its value from planning decisions and public expenditures unrelated to any investment by the owner. Hence it is entirely proper for the municipality to capture through taxation a significant part of the economic benefits that flow to private land owners. In the case of equal assessment weight on land and structures, gross undertaxation of raw and vacant land can occur with excessive taxation on structures. Buildings depreciate with the years while land tends to go up in price.

Whitehorse, like other cities in North America, has experienced several changes in assessment procedure not for planning or land use reasons but for reasons of fiscal health, borrowing capacity and intergovernmental pressures. Time lapses between assessments have periodically created inequities in the tax base. Various bases for property assessment involve the use of fair value, market value and actual value [34].

In Whitehorse land was always assessed and taxed at 100% of its fair actual value (and only recently at market value), but the assessment on improvements decreased gradually from 60% of fair actual value in the 1950's to 30% in 1975 [35]. While land prices were rising due to rising development

costs, their weight in the city's tax resources decreased gradually because they were not valued at their current market value (Table 4.5). Improvements, although undervalued, increased more. By 1975 only 22.3% of the total base represented land while 77.7% represented improvement. For residential assessment alone the difference is even more dramatic: 17.9% represents land, and 82.1% improvements.

The new assessment of 1977 raised the valuation of land from the 1964 fair value to 100% of the 1976 market value. It retained the same base for valuation of improvements, approximately 25% of actual replacement value[36]. This gave land a much larger percentage of total assessment than in previous years. Under taxing improvements shifted the tax burden to land. While this is extraordinary and very progressive from a land use point of view, the shift encountered a great deal of opposition from large lot owners[37], and was compromised. As a result the legislation was amended in 1979, requiring buildings to be assessed at their full replacement value. Depreciation is allowed when a building is not new. All building assessments were therefore multiplied by four for the 1980 tax year[37]. Table 4.6 shows assessment figures for various lot sizes in different residential areas.

Figure 4.6 illustrates the change in property taxation, revenue from own sources and government transfers for the period 1970-1980. While the amount derived from property taxation and revenue from own sources is steadily increasing, large government transfers are added to the budget mostly for land-related capital expenditures[cf. reference 32].

Meaningful comparisons with the provinces are difficult but a national tax incidence survey (1982) comparing property tax levels across Canada shows that Yukoners pay the smallest property tax in Canada[38]. In this survey, three sample properties of lower, average and higher quality were

Table 4.5

Property taxes - City of Whitehorse, 1971-1975

Year	Land	% of total	Improvements \$	% of total	Total \$
1971	10,310,940	29.0	25,234,360	71.0	35,545,300
1972	14,409,340	24.9	43,262,790	75.1	57,672,130
1973	14,966,498	23.9	47,417,980	76.1	62,384,478
1974	15,478,260	23.2	51,202,970	76.8	66,681,230
1975	15,685,310	22.3	54,378,130	77.7	70,063,460

Source: City of Whitehorse; Statistical Review 1970-1974, Government of the Yukon Territory.

identified and comparable houses sold in 1981 were selected. Differences in services financed through the property tax were taken into account. Yukoners in the lower quality house pay the smallest tax in Canada followed by New Brunswick, Prince Edward Island, British Columbia, Manitoba and Newfoundland; Yukoners in the average house still pay less followed by New Brunswick, Newfoundland, Prince Edward Island and Alberta; Yukoners in a higher quality house pay slightly more than the taxpayers of New Brunswick and Newfoundland (Fig. 4.7).

While the study provides a meaningful and concise comparison of property taxation levels across Canada, it could not take into consideration all the various factors that affect individual taxes such as the level of service, provincial grants to municipalities and school boards, and municipal development policies.

An earlier taxation study (Yukon Taxation Study 1968) pointed out that the revenue potential of the Yukon exceeded the Canadian average. It also exceeded the present level of taxation in the Yukon. The territory received substantial amounts for road construction and maintenance which were not

Table 4.6

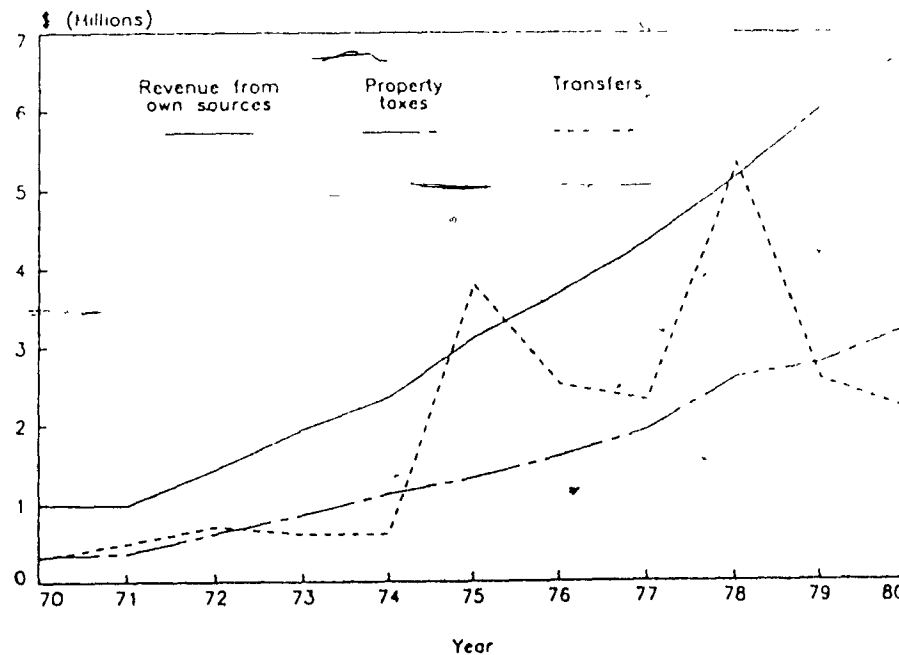
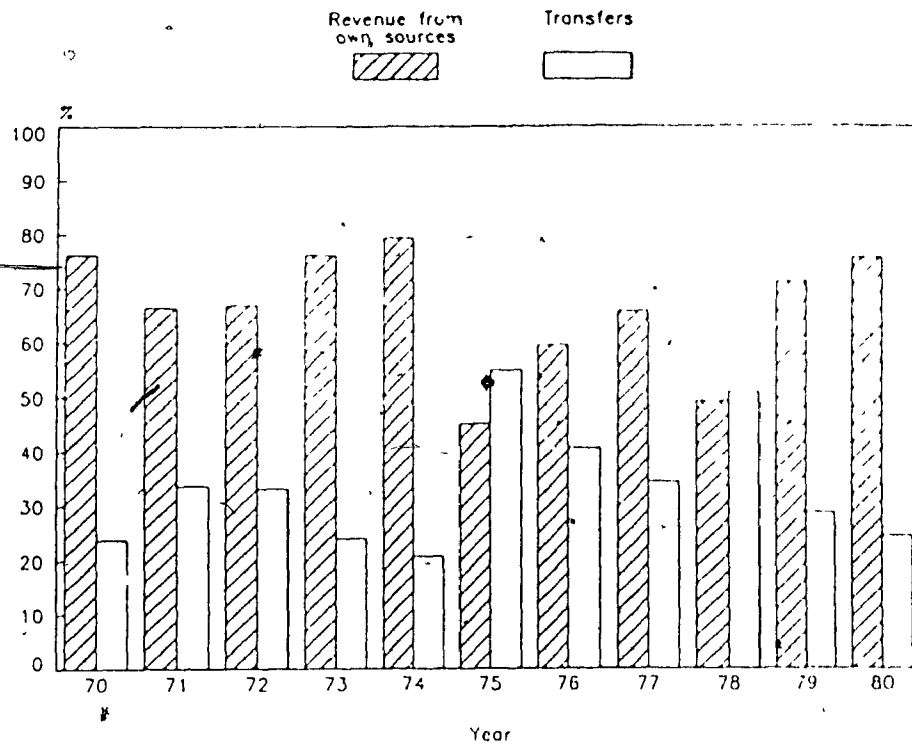
Assessment values and lot sizes, 1980 tax year

Residential area	Housing type	Land size(m <sup>2</sup> )	Land value(\$)	Building value(\$)	Land value(\$) per m <sup>2</sup>
Riverdale (Liard Rd.)	single family detached	747	13 640	90 340	18.26
(Bates Rd.)	"	1000	15 880	76 820	15.88
(Green Cr.)	duplex (attached house)	385	7 460	42 790	19.38
(Klondike Rd.)	townhouse	322	6 940	32 300	21.55
Porter Creek (12th Ave. -old part)	single family detached	1858	17 080	28 960	9.19
(Evergreen Cr. -new part)	"	778	14 760	52 440	18.97
Wolf Creek (rural residential)	"	1.28 ha	14 800	54 480	0.86

Source: Property assessment services, Municipal and Community Affairs, Yukon Government.

available to the provinces, and the cost incurred by the federal government in developing the natural resources of the Yukon Territory exceeded the revenues received by the federal government from these sources. The generous payments made by the territorial government to Yukon municipalities were indirectly financed by the federal government, in other words by Canadian taxpayers outside the Yukon.

While it must be recognized that a small municipality has insufficient tax capacity to shoulder the cost of a full range of municipal services, the question must be raised: is the type of development promoted by the different levels of government economical, equitable and fair? Admittedly great capital expenditures were needed to upgrade the municipal services of

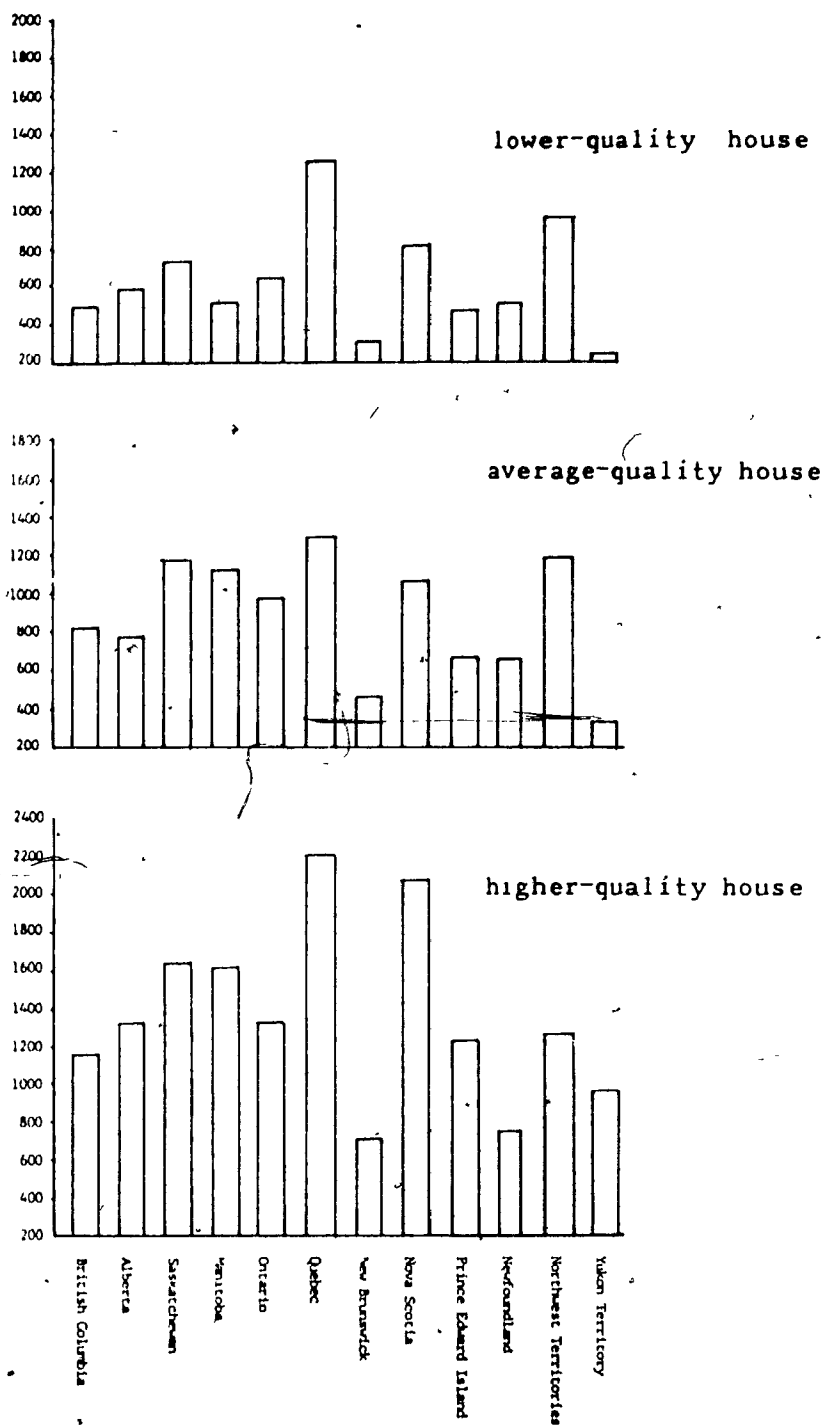


Note: Revenue from own sources includes property and related taxes, grants in lieu of taxes, sales of goods and services (water and sewer).

Source: Calculated from financial statements obtained from the City of Whitehorse and Statistics Canada, Local Government Finance Section.

Figure 4.6. Revenue from property taxation, own sources and transfers Whitehorse, 1970-1980





Source: See reference no.38

Figure 4.7 Residential taxes, single-family homes, Canadian provinces and territories, 1981

the Whitehorse area following the extension of the city boundaries into dispersed residential areas[39]. The capital and operating commitments required could have served as a powerful learning experience and an impetus for change in attitude to land use planning. Instead more money is still being pumped into the municipality and its surroundings to keep up and reinforce sprawl. The City by and large is exempted from expenditures outside its urban areas, and the services necessary to link them together and to assure their proper functioning are heavily subsidized.

### Summary

Most planning principles used in the new subdivisions of Whitehorse were borrowed from general planning principles developed in North America along the lines of the loose low-density garden city layout. Modern planning found its genesis in the garden city movement which envisaged the creation of the ideal town (Adams 1978). This garden city concept has been modified by cultural, political and economic pressures, yet its fundamental principles, -- limitation of numbers and area, and the control of the land in the public interest -- have been retained. While few garden cities were built according to the original concept, the garden suburb movement is very much alive in developers' hands, especially in areas favoured by economic growth. But transplanting planning concepts used in more populated urban areas, metropolitan suburbs and large-scale new towns is not logical for a small town of fragmented needs.

The neighbourhood unit concept developed for residential area planning in North America and Europe was a response to the need to accommodate large urban populations, satisfying their requirements for open space and for near-by educational, transportation and commercial services. Whitehorse, a northern town situated in an immense wilderness park, is a small town with no prospects of ever becoming big. In the Whitehorse context the creation of smaller-scale sub-neighbourhoods deserves more attention from both a physical and socio-economic point of view. Due to the small number and scale of the neighbourhoods (subdivisions) the central position of higher-density housing developments is irrelevant and in fact disturbing.

Advanced planning concepts such as clustering and development on a planned unit basis were introduced and provisions were made for their use.

However to date these provisions have not been used. This is due to the large "front-end" investment necessary for such development, which is not available to the traditionally small-scale developers and builders of Whitehorse.

Effective planned unit developments in Whitehorse would need strong government initiatives and a stronger housing market, a combination which is not likely to occur during the present economic downturn.

Whitehorse's early plans did not provide a framework for the development of density standards. Zoning and planning concepts which allow a little more flexibility and slightly higher-density development have been gradually introduced, however they do not stimulate or require higher-density development. Zoning restricts high densities but does not restrict low densities. The American planning concept of grouping dwellings of the same type and price together in order to maintain neighbourhood real estate values is a serious impediment to the creation of a more innovative residential environment. As a compromise in the newer subdivisions of Whitehorse the

variable lot size and development in pods allows for some differences in value.

While the current philosophy of the territorial government is to meet all land demands, the apportionment of land for various housing types is viewed by the territorial government as a difficult task. The projections used (See Chapter 3) to calculate need are deficient in many respects. Although income is a basic determinant of choice of housing type, it was never given much attention in the land use plans. The more vocal groups, the ones who had the resources to buy land and build on it were served first. Transients, natives, marginalized and low-income people were served much later and on a more fragmented and lower level. What appears to be "free land" is in fact allotted to people on the basis of their income.

The financial cost of low-density land use are the excessive costs of the utility systems and the energy for transportation and residential heating. Both are aggravated by the climate. These expenditures are borne at all levels of government and by homeowners themselves, but their incidence is not apparent to most inhabitants.

Planners in their analysis of the existent situation attracted attention to the following problem areas related to the spread out nature of the town: firefighting, location of schools and transportation of children, location of different types of housing, lack of certain housing types in certain areas, inaccessible or nonexistent recreational facilities, and excessive municipal expenditure for water and sewage. While planning consultants did suggest limiting growth to the existing subdivisions, higher population densities and generally a more compact development, their recommendations were only partially accepted.

From time to time, people in key positions in the lands office or local government have made valuable observations pointing out basic trends and important data for planners and policy makers. For example, in spite of popular enthusiasm for "frontier living" -- no planning, large lots, and for the single-family house -- the following observations were made by the municipal engineer in 1970:

"a) the suitable vacant land in the Whitehorse area is very limited; b) wherever there is a concentration of people, certain basic services must be provided, such as streets, schools, electricity, water and sewers; c) the majority of people work in the Whitehorse area, and hence transportation to work can present a major expense; d) most applications to date have been adjacent to highways, hence the highway has provided access..."[40].

While in later years a definite effort was made for more compact and controlled development its interpretation remains vague. The new subdivisions are still low density and spread out. Moreover new rural subdivisions are developed outside the already spread out and enlarged city.

The causes of high municipal spending are well known and also well documented. This spending is also ignored. The bulk of municipal spending goes to provide land-related services. In Whitehorse land use-related services require large capital commitments and higher operating expenditure than in most other Canadian cities. Infrastructure spending is heavily subsidized. The mammoth share of capital costs of land related services are covered by government grants. Fully 65% of the total territorial government transfers are for density-dependent services such as roads, communications, water, sewage and garbage disposal. Low-density land use is heavily subsidized and the continuous forthcoming assistance for that purpose encourages further extensive

land use. For capital costs generated by low-density sprawl, the territorial government picks up the tab.

Whitehorse residents also pay less property tax than homeowners anywhere else in Canada. While it must be recognized that a small northern municipality can not provide services comparable to those of larger southern Canadian cities by relying on its tax capacity, the question must still be raised: is the type of development promoted by the government economical, equitable and fair?

Energy conservation has never been an objective at any level of land use planning in Whitehorse. Planning objectives such as compact, contiguous urban form, land use patterns that minimize automobile trips, energy-efficient neighbourhoods and energy-oriented development controls are simply nonexistent. Most people have not made the connection between the amount of energy consumed and the suburban land use patterns (Sewell and Foster 1980). Whitehorse like most Canadian cities is characterized

"by sprawl and dispersal over a large area, low suburban population densities, leap frogging development, infrastructure patterns which are locked in and perpetuate low density, segregation of land uses and physical layouts that are insensitive to climate and require significant amounts of energy to satisfy demands for the movement of goods and people" (Habitat and energy in Canada 1977).

The Whitehorse infrastructure requires an enormous amount of energy to function effectively.

Planners have been slow to draw the attention of decision-makers and the general public to the potentialities of land use planning as a tool for improving energy efficiency. There are new technologies which need promotion (Erley and Jaffe 1979; Sewell and Foster 1979; Lang and Armour 1980a; Harwood 1977; Ross 1979). The energy costs borne by private households (space heating)

are discussed in Chapter 5, but energy-conscious land use planning, on even a moderate level, would also result in reduced public investments, service costs, increased property tax revenue and possibly greater flexibility in the provision of public services.

This is an example of the conflict between popular planning concepts and institutional ones. It is a conflict between collective interest and individual expectations. While both public institutions and individuals are aware of collective interests (e.g. the provision of high quality services, the elimination of poor housing and squatting), Whitehorse residents resist and detest collective control. The need for collective control to protect individual or group interests comes up from time to time mostly in the defence of property values. Resistance is associated with a resistance to raising taxes, even though the local property taxes are lower than anywhere else in Canada.

During the 1950's and 1960's institutional planning concepts in Whitehorse largely followed the popular ones mediated by private enterprise. Professional planners were well aware of the consequences of different uses of land. Criticism of the suburban concept and its grandiose waste of land and resources in the professional literature (Real Estate Research Corporation 1974; Urban Land Institute 1961; Middleton Associates 1979; Gottman 1966; Lorimer and Ross 1971) of the 1960's and 1970's, did not affect the north.

Although planners who worked for Whitehorse modestly suggested the changes needed, they were powerless to execute them. The more direct and radical ones disappeared from the planning scene [41]. Over the last three or four years professional planning concepts and institutional ones have been merging in the wake of the professionalization of many public positions and the need for financial efficiency, but the whole process of change in concepts

concerning overall land use and lot size is very slow. Nothing radical or drastic has ever happened in Whitehorse.

We see from the financial analysis that intergovernmental conflict is an obstacle to the formation of an integrated joint urban growth policy necessary to articulate a direction and pattern for future growth. An integrated planning policy would have to be built on two basic considerations: (1) The shouldering by all levels of government and the inhabitants of all the capital and operating costs involved in land development; and (2) the accommodation of all types of lifestyles and all socio-economic levels.

The formation of an integrated joint urban policy is also hindered by the lack of land inventory and basic population data. The city of Whitehorse has lots of land but only a small percentage of it is serviceable. No one knows how much and to what degree[42]. Also, routine population data should be collected on a continuing basis, to include age, length of residence, permanence of employment, income, lifestyle and housing tenure. This type of information would provide a more realistic view regarding the housing affordability question and a better basis for residential land use planning.

The relationship between residential land use planning, housing type, and density is rarely discussed. Whitehorse residents' expectations of a detached, single-family house are very strong. This type of housing is so strongly desired and so widely accepted that no politician or public official will touch upon its inherent problems.

It would be possible to avoid waste by deliberately changing residential land use patterns toward more intensive development and housing types. This would reduce municipal expenditures and offer a choice of living styles for all socio-economic groups. But goals such as convenience, privacy and mobility still play the central role in city and regional planning.



The financial and social consequences of the spread-out nature of the city are not universally recognized as present or future problems. Both the community plans and subdivision plans emphasize accommodation to the existing situation. They fail to recommend alternatives, to recognize the socio-economic changes that took place in the time elapsed between the plans. There is no learning process which would serve as a built-in mechanism for change. Whitehorse needs comprehensive long range planning with land development phasing. The search for alternatives must go on.

## Notes and references

1. 'General development plan, Whitehorse Metropolitan Area, 1970'.
2. City of Whitehorse, Zoning by law no. 369; 1973.
3. City of Whitehorse - General Plan, 1976.
4. For the historical evolution of the principles guiding planned unit developments see W.I. Goodman and E.C. Freund, eds. 1968, p.480-481.
5. Municipal Ordinance, assented to November 13, 1980, Ordinances of the Government of Yukon, Part II, Municipal volume, 1980, p. 166-180.
6. The zoning by-law regulates, permits and prescribes the use of land for different purposes, the class of use of land for different building types, the minimum and maximum size of lots or parcels into which land may be subdivided, the density of population or intensity of development, the location, height, number of stories, area and volume of building, the percentage of a lot or parcel of subdivided land that may be built upon, and the use of yards and other open spaces. City of Whitehorse, Zoning by-law 493, office consolidation, amendments to September 27, 1982.
7. In 1963 there was a zoning by-law prepared in conjunction with the Whitehorse Metropolitan Area Plan. In 1973 a zoning by-law was prepared to extend the existing city by-law to areas annexed in 1971. The first community plan and a new zoning by-law were prepared in 1976; See also the document on the new community development master plan, 2 April, 1973, WCR, file 1200, v.1147, YA, Whitehorse.
8. By-law correspondence, WCR, file 1100, v.1143(5); Zoning, WCR, file 6000, v.1154, box 29; Zoning by-law 493, Public hearing, 31 March 1976, WCR, file 6000, v.1154, YA, Whitehorse.
9. April 1983. J. Pierce, City Councillor.
10. City of Whitehorse, Zoning by-law 493, 1976.
11. The use of the land-use intensity standards (LUI) is described by W.I. Goodman and E.C. Freund eds., 1968, p.481-483; See also W.P. O'Mara, 1978, p.61.
12. City of Whitehorse, Zoning by-law 493, office consolidation, amendments to September 1980.
13. See for example land use statistics in Regional Municipality of Ottawa-Carleton, 'Land use in Ottawa-Carleton', 1982, p.6, Table 2.
14. Data concerning demand for land, land sales and land availability is documented in the following sources: *Whitehorse Star*, 1950-1980; YGR, file category 2840 (Land, Land sales, Land development) 2848, 9000, 9300, and 9700 (M-1 Lands).
15. Statistics Canada, Public Finance Division, *Local government finance*, Catalogue 68-204 Annual; Statistics Canada. *The Canadian System of Government Financial Management Statistics*, Catalogue 68-506; *Statistics Canada, Financial Information System for Municipalities*, Catalogues 12-532E, 12-533E and 12-534E. Statistics Canada does not publish individual financial data on cities the size of Whitehorse. The Whitehorse data collected by Statistics Canada is consolidated and published with other local governments in the Yukon. Whitehorse municipal statistical data and substantial help to convert the data was obtained from Mr.G.A. Marr, Director, Public Finance Division, Local Government Section Statistics Canada, Ottawa.

16. 'Inter-provincial comparability', in *Local government finance*, Catalogue 68-204 Annual, Statistics Canada.
17. Detailed information and analysis of Whitehorse's municipal finance and servicing level for the period before 1972 can be found in the Queens University report on the City of Whitehorse (1960), the Whitehorse Metropolitan Area Plan (1963), the Yukon Territory Taxation Study (1968) and the Hardy report (1972).
18. Hardy report, 1972; History of the city of Whitehorse sewer and water system, 1971, WCR, file 4000-2, v.5, YA, Whitehorse; Utilities and roadways engineering analyses and capital works budget 1974-1980, 1973.
19. Capital Assistance Program, Department of Local Government, 1973-1983, YGR, file 2830-5, v.2, YA, Whitehorse.
20. Hardy report, 1972:24.
21. Commissioner of Yukon to City Manager, Whitehorse, April 2, 1973, WCR, file 1200 (planning), v.1147, YA, Whitehorse.
22. 'Utilities and roadways engineering analyses and capital works budget 1974-1980', 1973.
23. Hardy report, 1972: 62.
24. 'Community services improvement program, Yukon Territory, 1974-80, 1973, YGR, file 2830-3, v.1, YA, Whitehorse.
25. Calculated from Statistics Canada, Catalogue 68-204, *Local government finance*, Table: Gross general revenue, for years 1971-1979.
26. Queen's University report on the City of Whitehorse, 1960:23.
27. Yukon Territory, Municipal Aid Ordinance, 1972; The operating grant provided \$46.00 per capita for the first 1000 people and \$40.00 per capita for the balance of population.
28. Yukon Territory, Municipal Ordinance, 1972.
29. Yukon Territory, Community Assistance Ordinance, 1975 (as amended to Nov. 1980)
30. The Municipal Ordinance had already tightened the rules for capital financing requiring a capital budget procedure, and a limit on capital expenditure from current funds.
31. This is defined as the difference between the total cost of arterial roads less any monies recovered from frontage tax on properties which are directly benefiting.
32. Capital Assistance Program, Local Government, YGR, file 2830-5, v.2; Departmental estimates - municipal services and capital projects 1976-1981, Local Government, YGR, file 2830-3, v.1, YA, Whitehorse; *Whitehorse Star*, 18 October 1974.
33. Memorandum re : Items to be included in land development costs, 28 April 1975, YGR, Land policy 1974-1976, file 635-6-2-2, v.11, YA, Whitehorse; Municipal Finance Ordinance, assented to April 16, 1981 and amendments to November 1981; Municipal Finance Act, 1982.
34. 'Yukon Property Taxation Review', 1978, prepared by an Independent Advisory Committee of Yukoners, M.E. Miller, chairman, for the Government of Yukon. Fair value includes considerations of location, quality of soil and rental value. Market value is the most probable sale price, determined by consideration of the cost of reproduction, the sale price of comparable properties and the value indicated by rentals or anticipated net income. Actual value includes the consideration of a number of factors such as location, size, cost of replacement, age and condition of buildings and sale of comparable properties.
35. Memorandum re : Assessment information for Planning Commission, 23 August 1972, WCR, file 1200, v.1147, YA, Whitehorse;

36. Whitehorse Star, 21 November 1977; 27 April 1978; 25 May 1978.
37. Written and personal communications with Mr. M. Smith, Director, Property Assessment Services, Municipal and Community Affairs, Yukon.
38. 'National residential tax incidence study', 1981, British Columbia Assessment Authority, Victoria, 1982.
39. Hardy report, 1972:70.
40. Rae Howe, Municipal Engineer to Director, Municipal Affairs, Yukon Government, 25 November 1970, YGR, Land policy, file 635-6-2-2, v.8, YA, Whitehorse.
41. Mr. D. Parker, of Central Interior Planning Consultants, Prince George, outspoken advocate for public ownership of land, higher densities and urban containment in the early 1970's, disappeared from the planning scene. Others equally well trained technically but more diplomatic and subdued in their approach to sensitive issues survived longer.
42. The need for long term land use planning and the problems associated with the process were debated in the following sources. *Whitehorse Star*, 13 December 1974; Memorandum - Municipal data base, 28 July 1980, YGR, file 2820-13, v.1, YA, Whitehorse; 'Government land use policies in the South Yukon'.

## CHAPTER 5

### THE HOUSING PROCESS AND RESIDENTIAL LAND USE

Government involvement in the housing process in Whitehorse is not as evident as its involvement in residential land development. The major difference between the housing process in Whitehorse and the more settled urban areas in southern Canada is the government's power to influence land development including its location, sequence, price and availability. All other forms of government involvement such as lending, direct government housing and social housing are very similar to those in the rest of Canada.

By the early 1980's the population of Whitehorse was relatively well housed with the exception of the native Indian population living in the Indian Village. Housing problems are not immediately apparent. The inadequacies of housing are not clearly seen and are not openly disputed because they affect mainly non-vocal marginal groups. Certain inadequacies are tolerated since no way is seen to eliminate them and still retain the type of housing and lifestyle valued by the community. The history of housing however will reveal problems, some characteristic of a certain stage of development, some specific to northern towns, and others common to all urban areas in Canada. These problems range from housing shortage, squatting, deficient financing, lack of choice or affordability, distribution and energy inefficiency[1]. Some of these problems were or are more acute in Whitehorse because of the severity of the climate and the volatile nature of the economy. The basic problem is a

mis-match of housing stock and demand which arises from the cyclic nature of the economy in the Yukon.

Major problems in the past were squatter housing and periodic housing shortages. Present housing problems are first the undeclared needs of low-income groups, and second the unusually high costs of household operation. Underprivileged groups do not participate in the market place. Decisions for them are made on an institutional level limiting their choice in housing type, tenure, cost and location. Due to the high costs of household operation new single-family houses are not affordable any longer for the majority, so that more and more people are squeezed out of the housing market. While shelter is of comparable cost with cities like Edmonton or Vancouver, household operation is far more expensive, because of heating and utilities. Most housing in Whitehorse is wasteful of energy due to inappropriate housing type, style and design elements. The site design and orientation of housing still does not maximize the positive effects of sun and wind.

Since some of these inadequacies are not readily perceived, they do not surface as housing demands on the housing market. A quality of life survey, newspaper reports and participant observation show that the population at large is relatively pleased with their housing environment including size, quality and location. But a closer examination will point to inconsistencies, contradictions and a general lack of common sense. The above problems and inadequacies interrelate on several levels and it will be seen that they all have a direct relationship with the inefficient use of land.

The Whitehorse housing market and its deficiencies, the history of government involvement in the housing market and the implications of the land development process on the housing process will be dealt with in this chapter. Some questions raised are: what adjustments have been made due to

Whitehorse's changing economic situations?; how did the need for non-market housing surface?; what was and is the role of government in the provision of housing?; and how can land be used differently to make housing more affordable?

The chapter is organized around three themes involving the economy of housing. (1) private market housing in historical perspective, (2) the government role in the housing market, particularly with respect to social housing, and (3) the relation of energy-efficiency in housing to land use.

### Market housing in historical perspective

The Whitehorse housing stock was and is largely produced by the private housing market. However during the war and post-war years Whitehorse's special political and economic circumstances necessitated the institutionalized provision of housing for military and some government employees whose presence defined the purpose of the town. In 1961, of 2,000 housing units in the Whitehorse area, 595 (29.7%) were units of utility and government staff housing[2]. However starting from the early 1960's direct provision of housing subsided, and market housing acquired more strength.

The housing history of Whitehorse is marked by four significant periods of housing need: a post-war shortage from 1945 to 1960, the sudden economic development of the late 1960's, the anticipation of pipeline construction in the late 1970's, and the economic downturn of the early

1980's. These periods are identifiable on Figure 5.1 illustrating population growth and housing starts.

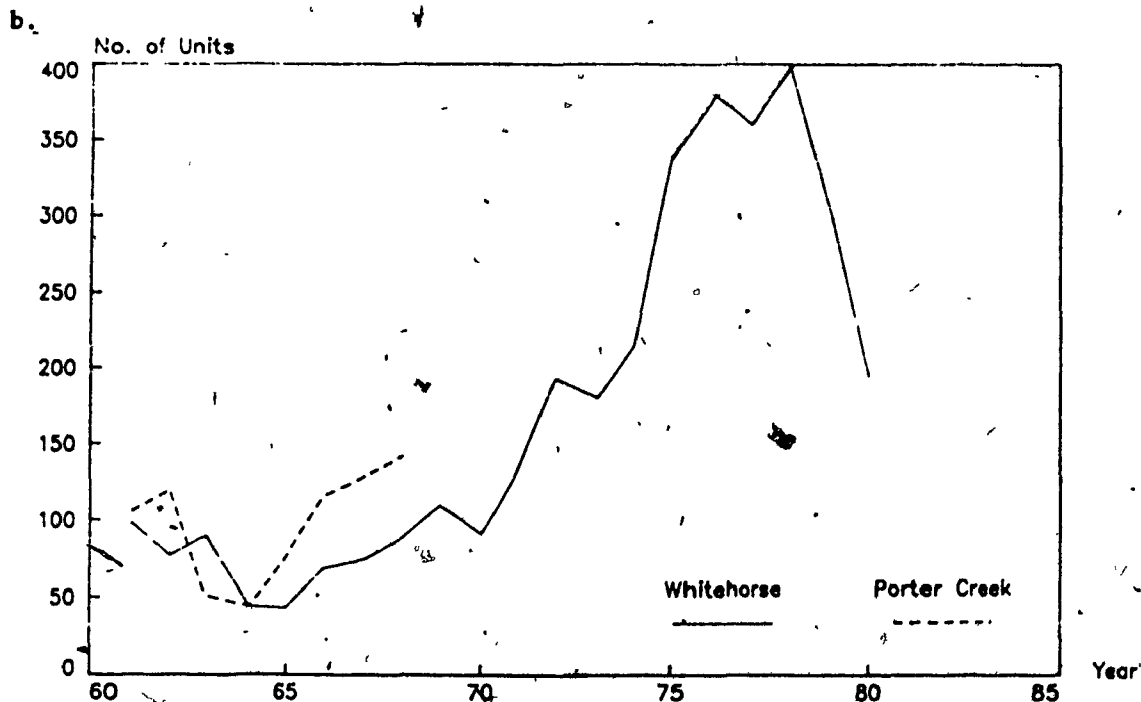
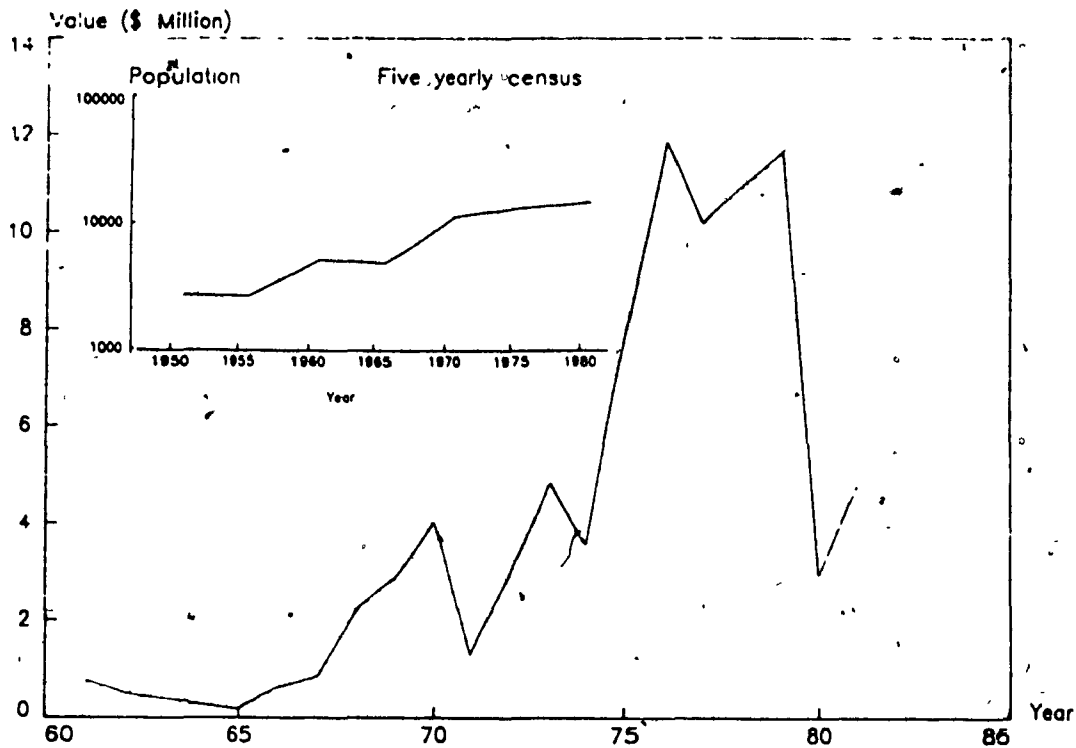
In the post-war years and during the 1950's, housing failed to grow as fast as population. While the residual population of the war years was poorly housed and there was a great need for new housing, Whitehorse had no housing industry. Housebuilding was hindered by a lack of affordable and attractive land, financing and construction materials. The poor state of housing in 1961 is apparent from the Census. Half of the dwellings (49.8%) were in good condition, 28.9% in need of minor repairs, and 21.3% in need of major repair, a condition much worse than statistics for small Canadian urban centers (5,000 - 9,999 inhabitants). Of the 1022 residential units on the townsite in 1961, 287 (35%) were squatter dwellings. Of the 735 non-squatter units, 37.5% were reported in good physical condition, 51.8% in fair and 10.6% in poor condition[3].

During the early 1960's economic uncertainty and a reduction in job opportunities caused a temporary drop in population, reflected in decreased housing demand and the departure of skilled construction workers and carpenters. The loss of these workers caused a construction labour shortage at a later period.

From the mid-1960's through the end of the 1970's, the Yukon experienced steady growth. It found the house building industry unprepared, and housing construction fell short of demand for a decade. The supply of mortgage funds was short and uncertain, and there was a shortage of skilled labour[4].

At the worst, housing starts in the city between 1966-1968 totalled 77, while the voting population rose by 333[5]. This number of adults implies a conservatively-estimated population increase of 450 people, which would have





Sources and notes: E. Thibeault, 1975, Whitehorse Chamber of Commerce Report, 1977; Yukon Statistical Review, 1970-1974; Yukon Economic Review, 1982. Prior to 1971 building permits issued for Porter Creek and Crestview were not included in the Whitehorse data.

Figure 5.1 Population growth and residential building permits, 1961-1981, Whitehorse

a. Value of permits

b. Number of units

meant that the 77 new housing units were occupied by an average of 6 people each. Since this could not have been the case the surplus population was probably accommodated by friends or in squatter dwellings, rooming houses and mobile homes. Demand for rental apartments was evident from the experience of the few apartment house operators[5], in part because of unaffordability of the single-family house. During a six month period in 1968, 365 queries were received by Whitehorse real estate agencies from persons wishing to purchase a home, but approximately 300 (82%) were unable to raise the down payment. Almost all of the others found it necessary to take out second mortgages or to make up the balance of their down payment through a personal bank loan. This confirmed the Yukon government survey indicating that 67% of tenants residing in Whitehorse (1968) earned less than \$9,000 annually, the amount considered necessary to carry a mortgage[6].

The demand for apartments was partially filled by outside contractors who settled in Whitehorse. Before 1969 there were only a few small scale contractors living in the Whitehorse area[cf. reference 1]. As a solution to the housing shortage, the shortage of reasonably priced serviced land in the city and the high construction material and labour costs of the late 1960's, Ray Wigen, a Prince George (British Columbia) contractor-developer, proposed a large (180 unit) townhouse/garden apartment development in Riverdale. It was designed for middle-income families with children. The proposal called for a large area (13 acres) to permit a free-form arrangement of the housing units, which he believed would offer savings on land, low operating and servicing costs[7].

While Wigen did build 7 small apartment buildings (155 units) and 30 townhouses for condominium ownership between 1968 and 1972, his proposal for a Planned Unit Development was not accomplished. The condominium was built

with the financial help of the CMHC and the White Pass and Yukon Railway Company which needed housing for truck drivers and their families working for Anvil Mines. While the building and later the upgrading of the condominium development had financial and administrative problems attributed to its newness in the Yukon Territory, it has proved to be a satisfactory and financially very attractive housing alternative to the single-family home [8]. The change in housing types during the period 1961-1981 is illustrated on Table 5.1 and Figure 5.2.

During the early 1970's more contractors and builders came to Whitehorse. With one exception, all stayed small-scale, building 3 to 4 houses a year. At the end of the 1970's as the housing market slumped, the majority of contractors and builders again left the Yukon taking with them the experience gained during their Whitehorse stay. New builders who come once the economy improves will have to go through the same trial and error learning process.

About half the city's single-family housing is built by self-builders and the other half by small builder-contractors. During the 1960's and 1970's the local housing industry produced the stick-built home, the pre-manufactured home, the RTM/modular home (RTM = ready-to-move) and the mobile home [9]. The stick-built home, the most expensive and most traditional method, involves the purchase of all basic materials for on-site assembly and erection. Pre-manufactured homes are built from a prefabricated package, whose finished or pre-finished components are erected and assembled on-site. Advantages include the use of better quality materials, a relative adaptation to climate, and professional workmanship. In most cases the pre-manufactured home is visually indistinguishable from the stick-built house. The RTM/modular home has emerged as an extension of the prefabricating industry. The

Table 5.1

The Whitehorse housing stock, change in housing types,  
1961-1981

Structural type	1961,	1966	1971	1976	1981
Total number of dwelling units in housing stock	1,310	1,237	3,240	4,130	4,985
Single detached	1,002	778	1,760	1,900	2,680
Single attached (double row, attached to non residential dwelling	205	84	370	620	690
Apartment (includes duplexes)	193	303	860	1,105	1,008
Movable	-	72	240	505	610

## Percentage distribution

Total	100	100	100	100	100
Single detached	76.5	62.9	54.3	46.0	53.7
All other	23.5	31.3	38.0	41.8	34.1
Movable	-	5.8	7.7	12.2	12.2

Source: Calculated from Statistics Canada, Census data. Housing stock refers to the total number of occupied dwellings.

pre-manufactured components are assembled and erected in a factory or off-site location and delivered as a single unit. The mobile home is completed in the manufacturer's plant and is delivered in such a form as to assure immediate on-site occupancy.

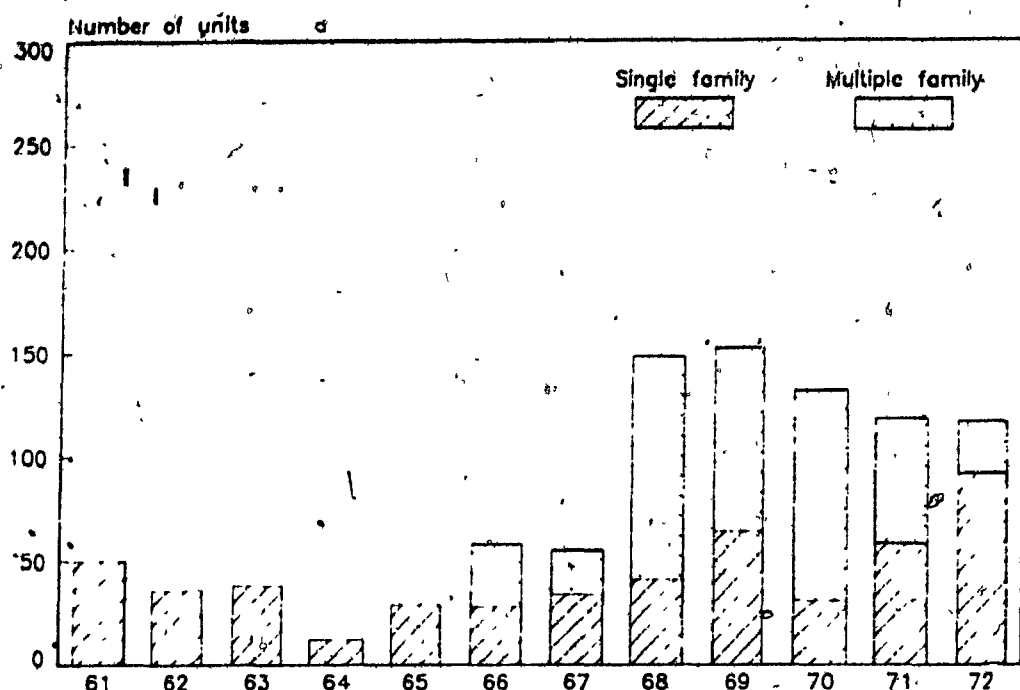
Due to the fact that most building materials are brought in from outside the territory their price is always higher than in southern Canada. Whitehorse prices, e.g., ran 20 to 25% over prices in Prince George, B.C. in 1968. Freight costs, inventory factors and low-volume marketing practices contributed to the high cost of housing in Whitehorse. Labour, initially

cheaper in southern centres, has rapidly become more expensive. Labour was and still is not as efficient or productive as in southern Canada.

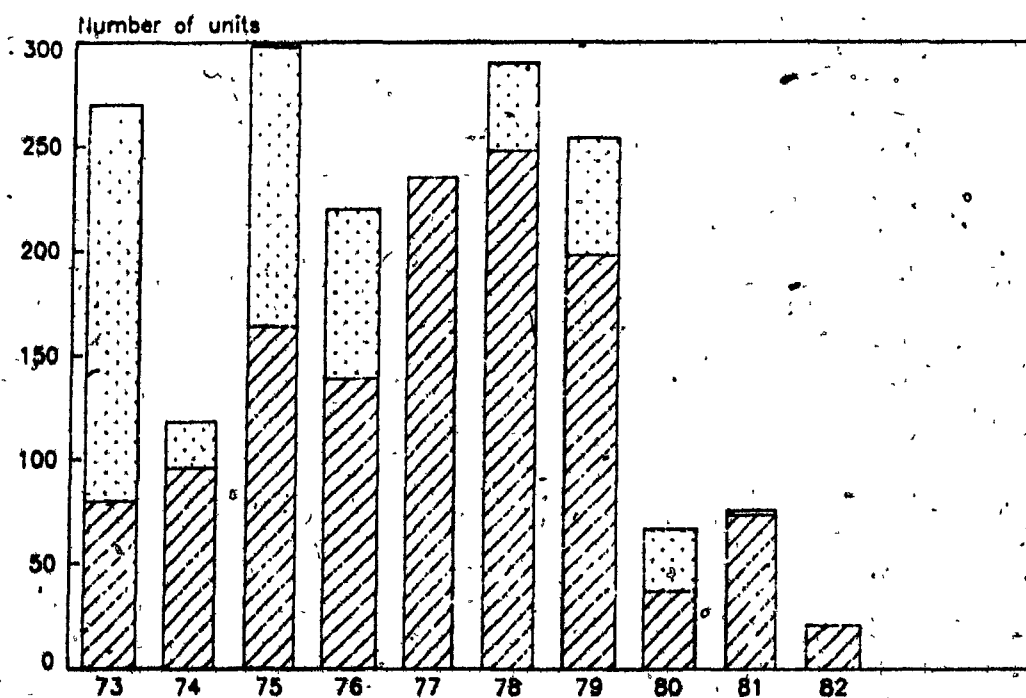
From 1975 to 1979 Whitehorse experienced a strong housing construction boom. "The major cause was the suggestion by Judge Berger that the Alaska Highway should be the corridor for a natural gas pipeline from Alaska. Other factors stimulating construction were the relocation of the headquarters of the White Pass and Yukon Railway Company from Vancouver to Whitehorse and the continuous increase in the size of the government workforce[cf. reference 6]. The local construction industry reacted quickly, before the territorial government or municipality could plan[10], but availability of land was nevertheless facilitated by the territorial government's intensive land development program. The intense speculative building activity concentrated on single-family homes (See above Fig. 5.2). Mortgage money was available both from conventional lenders and CMHC-approved lenders, and the interest rates were relatively stable, hovering between 10% and 11.75%[11].

The housing boom was over by 1980. In 1980 and 1981 interest rates rocketed, reaching a peak of 21.75% in August 1981. The downturn of the economy and the saturation of the housing market put a stop to new construction. The market remained strong for existing smaller units, duplexes, row houses (condominiums) and mobile homes[12]. This change in demand is attributable to both the high mortgage payments caused by high interest rates and the rapidly increasing costs of energy.

Some people were undoubtedly deterred by high mortgage rates from purchasing any housing. With taxes the prospective home owner in 1981 faced monthly payments of around \$900 for a \$74,000 house. Therefore, according to bank standards, a family income of around \$36,000 was necessary to qualify for



Year  
1961-1982



Sources and notes: Data for 1961-1965 is from 'Yukon today', Government of Yukon Territory, Whitehorse, 1968; data for 1966-1976 was collected from the City of Whitehorse original building permit records; data from 1977-1982 is from the City of Whitehorse monthly building activity reports. Prior to 1971 the data do not reflect all the construction in the Whitehorse area.

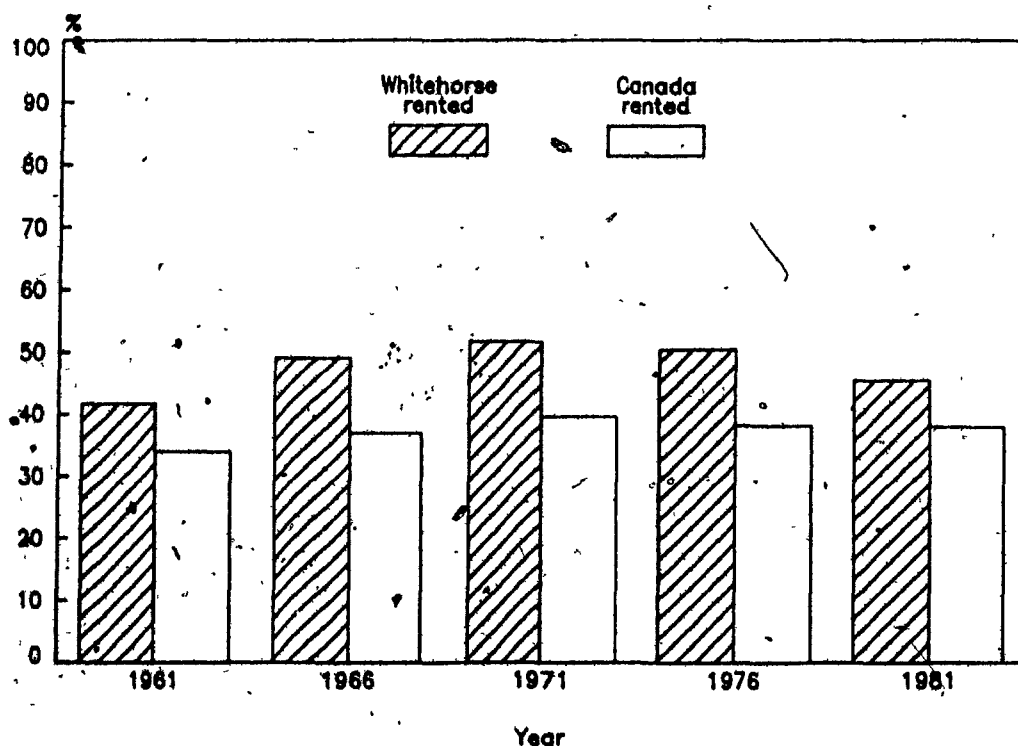
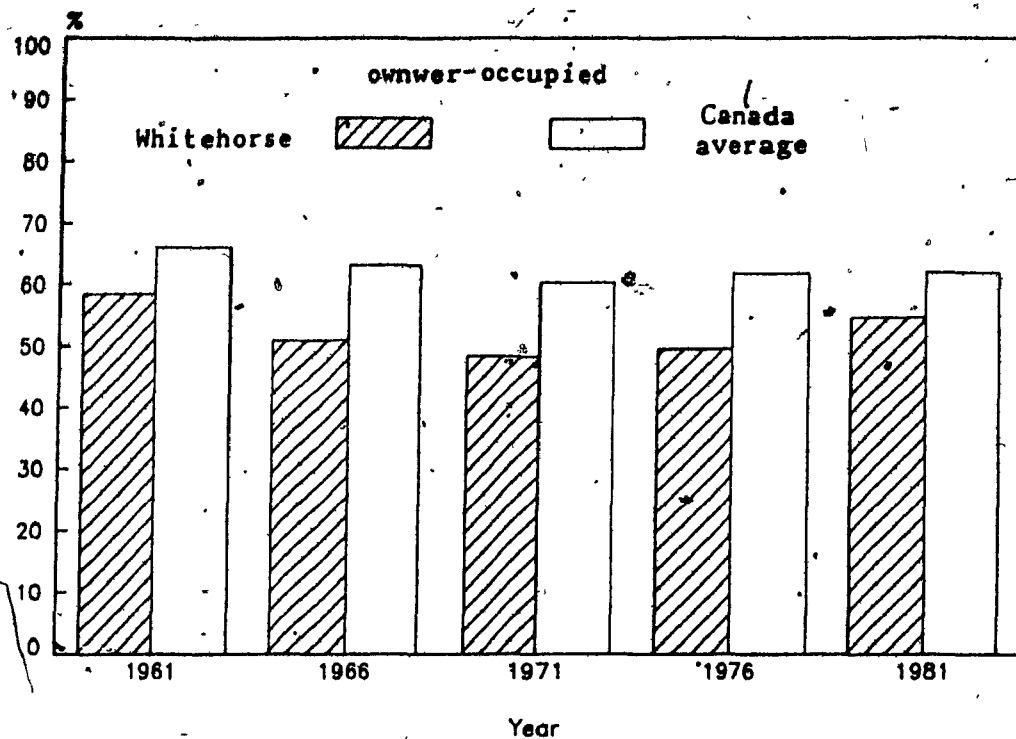
Figure 5.2 Residential building starts by housing type, Whitehorse, 1961-1982

a mortgage. Average family income in 1981 was \$27,000, so many would-be homeowners were excluded from the market [cf. reference 11].

In 1982, when interest rates returned to an acceptable level, there was a wide variety of building lots available and house prices had stabilized, but there was still very little demand for new housing. There was a strong "expressed" demand for affordable smaller and better-insulated houses, but in an overbuilt housing market prospective homeowners settled for whatever was available [cf. reference 12].

Homeownership has been encouraged by the territorial government and the large companies operating in Whitehorse because its stabilizing effect is considered very important. Due to the creation of advantageous conditions, the share of homeowners increased from 48.3% in 1971 to 54.6% in 1981, a change more pronounced than on the Canadian scene as a whole (60.3% in 1971 and 62.0% in 1981) (Fig. 5.3). This is probably an indication of more permanence and stability. While in Canada in general a much larger percentage of households own their homes, the figure for census metropolitan areas for 1981 are much the same as for Whitehorse [13].

About 60% of the rental stock of Whitehorse is in single-family homes, mobile homes and duplexes. About 40% is accommodated in walk-up apartment buildings and row housing. Rental Housing was first built in the downtown area, then in Riverdale where most is now found, and more recently in Hillcrest (Table 5.2). Most of the rental housing (70%) was built between 1968 and 1978 during the phase of rapid economic and population growth. By 1978 the vacancy rate had reached a not unhealthy 6.2% level, but by December 1982 the vacancy rate had risen to 16.0%. In new, expensive areas the vacancy rate jumped from zero in 1980 to 29.0% in 1982. In the frontier economy of the Yukon, with its reliance on external markets, income and housing demand



Sources: Statistics Canada, Census of Canada 1961, 1971 and 1981; and Canadian Housing Statistics, annual, Canada Mortgage and Housing Corporation.

Figure 5.3 Percentage distribution of occupied private dwellings by tenure, Canada and Whitehorse, 1961-1981



change quickly and unexpectedly. To build in advance of growth means taking chances of overbuilding; not being prepared for growth means shortages and disorderly development.

Anticipating growth, the territorial government since the mid 1970's has reserved land in all new residential areas for medium-density housing which could be built for rental. The Yukon government with its Economic Planning and Research Unit is monitoring the rental market, vacancy rate and price by structural type, area, and size, to facilitate the housing industry's decisions as to what and where to build.

While housing quality in Whitehorse has improved dramatically over the last two decades a certain inequality exists in the distribution of housing quality. While this inequality is not localized by residential area since there are now fairly uniform service standards all over the city, small pockets of poor housing exist in the squatter-areas, the Indian Village and some of the mobile home parks. By 1981 housing in Whitehorse had improved to a condition comparable with the rest of Canada. Virtually all of the housing had running water, bath, and flush toilet.

The apartment houses of Whitehorse are small, usually with 12 or 22 units (Fig. 5.4). Rowhouses are of the standard type visible all over Canada. Multi-family dwelling construction has grown steadily since 1961, mostly in government assisted housing and during periods of rapid growth. Multiple-family housing gained momentum between 1966 and 1976, single-family detached housing between 1976 and 1981 (See above Fig. 5.2 and Table 5.1). The growth of mobile home living as a cheap alternative to the single-family house is also significant. By 1981 it formed 12.2% of the housing stock. Its presence was facilitated by planning land for mobile homes in regular residential subdivisions.

Table 5.2

Rental accommodation by area, size and vacancy rate

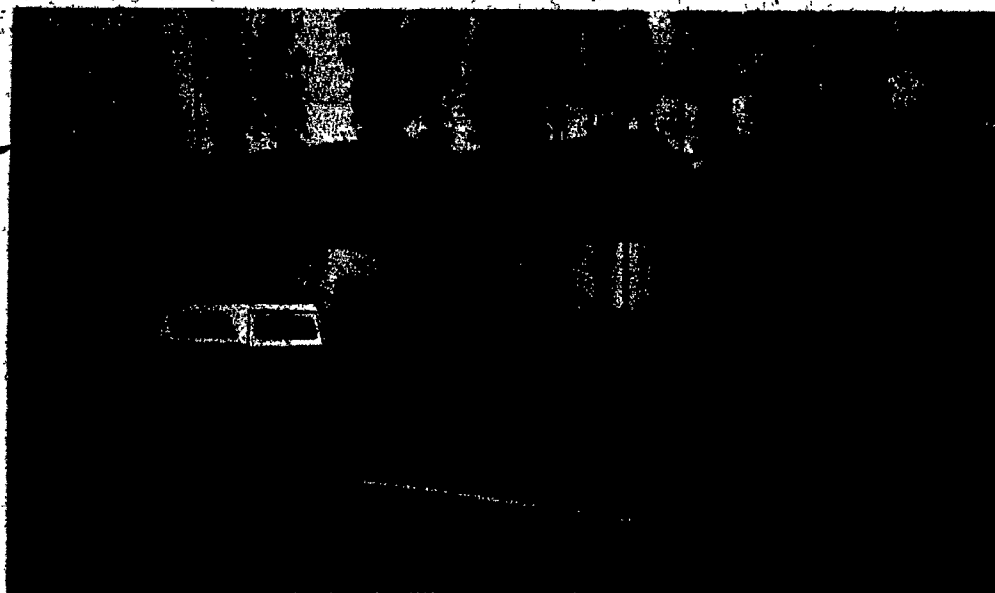
Residential area	Bachelor	One bdrm.	Two bdrm.	Three bdrm.	Four bdrm.	Total # of units	Vacancy rate Dec. 1980	Vacancy rate Dec. 1982
Downtown	72	142	70	12	-	296	4.1	12.5
Riverdale	2	48	253	132	12	447	3.6	16.7
Hillcrest/ Crestview	4	12	46	-	-	62	0.0	29.0
City of Whitehorse	78 9.6%	202 25.0%	369 45.8%	144 17.8%	12 1.4%	805 100%	3.5	16.1

Source: Compiled from the Yukon economic review 1980 and 1982.

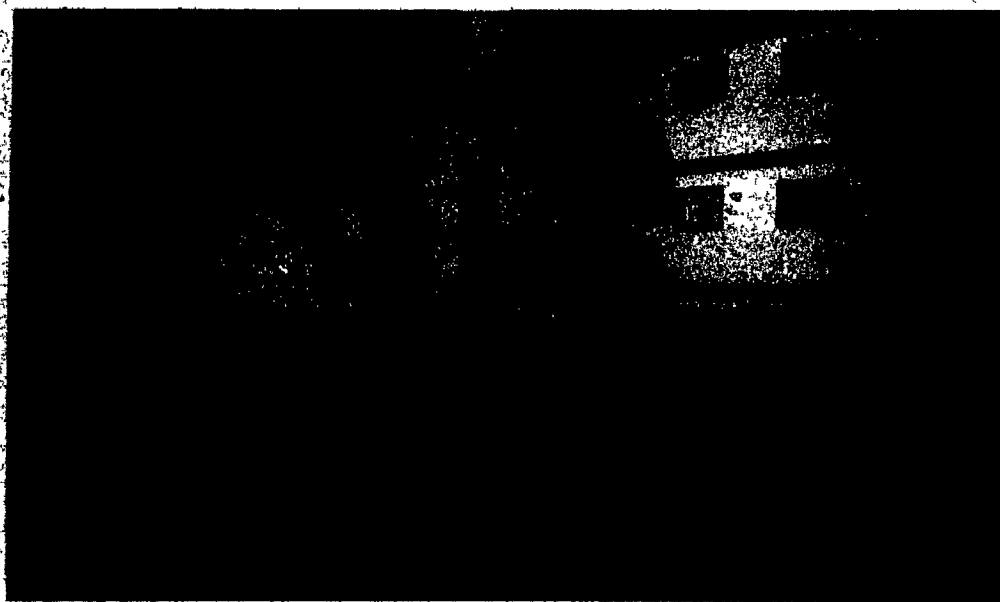
Notes: 1) Excludes rental accommodation in mobile homes, single-family homes and duplexes. 2) bdrm. = bedroom

The price of housing in Whitehorse is comparable to house prices in similar urban areas in southern Canada. The spatial price index [14] for housing shows that the overall housing price for Whitehorse, Edmonton and Vancouver is not much different (Table 5.3). The same was shown by CMHC statistics for Saskatoon, Saskatchewan and Nepean, Ontario (Fig. 5.5). There is, however, a marked difference between the main components of housing cost shelter (shelter index) and household operation (household operation index). While the provision of shelter is comparable, even slightly cheaper, compared with the major urban centres in Canada, household operation is drastically more expensive in Whitehorse, 70.3% (1981) more than in Edmonton and 77.8% (1981) more than in Vancouver.

Housing characteristics contributing to household operation costs such as the energy efficiency of the housing stock and elements of housing type, form and design are harder to measure and thus less documented. The cost



The Klondike condominium townhouse development, Riverdale



Twelve-unit apartment house, Riverdale

Figure 5.4 Multi-family dwellings built in the early 1970's, Riverdale

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Table 5.3

Whitehorse household budget indices relative to Edmonton and Vancouver (June 1980 and 1981)

Housing	Edmonton=100	Vancouver=100	Edmonton=100	Vancouver=100
Housing	115.5	114.7	125.0	122.9
Shelter	101.9	92.4	96.5	93.5
Household operation	145.2	154.5	172.3	177.8
Furnishing	103.8	105.6	112.8	102.9

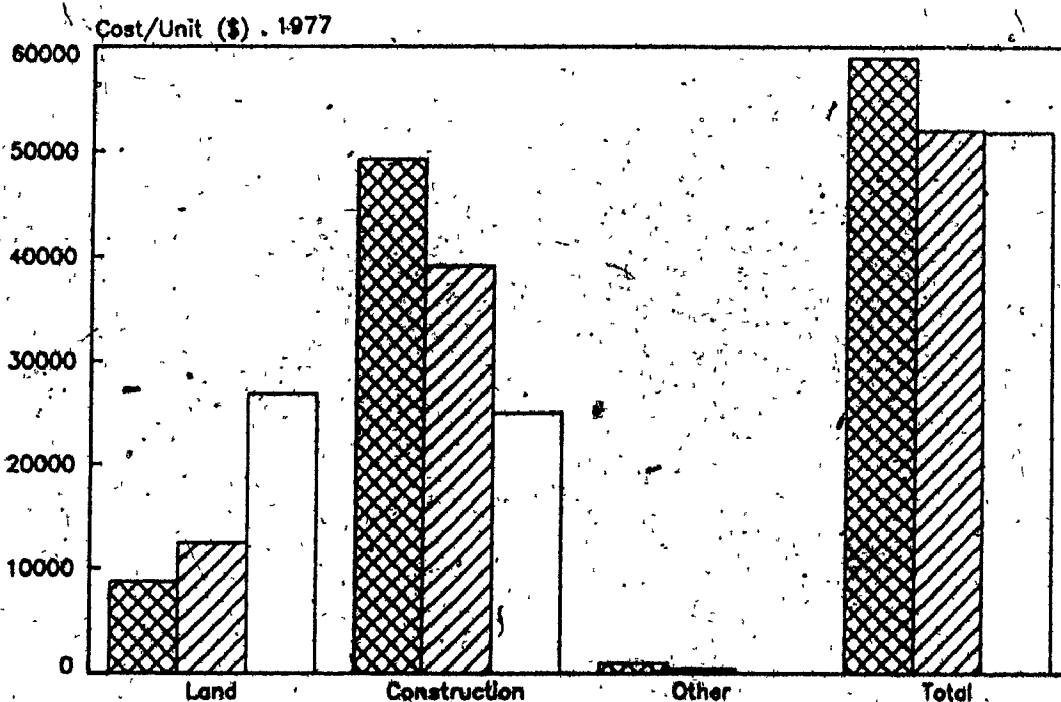
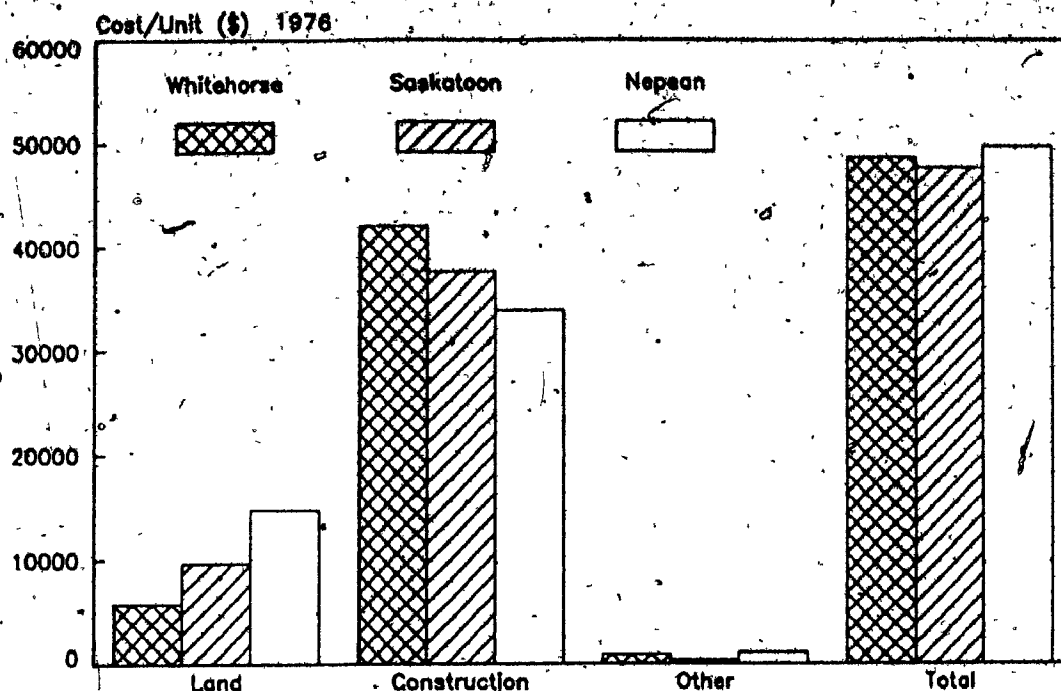
Source: Compiled from the Yukon Economic Review, 1980 and 1982.

of energy in the Yukon (1980) placed a cash burden on households which was almost double the levels faced by similar households in Edmonton. This problem is analyzed in the last section of this chapter.

In spite of higher construction costs in Whitehorse, the substantially cheaper land component brings shelter construction to a level comparable with the major urban centres in Canada [15] (Fig. 5.5). The property tax component of operating costs is smaller in Whitehorse than anywhere else in Canada (Fig. 4.7, Chapter 4). The excessive expenses of household operation are for heating, electricity, maintenance and some utilities.

It can be concluded that Whitehorse homeowners get two important breaks in their housing expenditure; cheaper land prices and lower taxes. The price of housing remains steep, however, because of the predominance of the single-family house, poor insulation standards, and factors related to climate and construction cost.

The unavailability of basic affordability data prevents an objective evaluation of the housing market [16]. Territorial government housing studies used too little income data; their housing and residential lot requirement



99 to 119 sq.m.

Source: Calculated from unpublished data obtained from the Statistical Division of the Canada Mortgage and Housing Corporation, Ottawa

Note: Data pertains to houses built with CMHC financing.

Figure 5.5 Comparative new house costs, Whitehorse, Saskatoon and Nepean, 1976 and 1977.

forecasts were based on past trends rather than affordability data. However if we look at the range of family income and the number of those who obtained mortgage loans for single detached housing in 1981 as opposed to 1976 it is quite clear that only people in upper income categories can afford the single-family house [cf. reference 15].

While market housing has taken care of the majority, certain segments of the population such as transients, low-income people, seasonal workers, single parents, native people and senior citizens have experienced various degrees of housing problems. Government involvement to help the housing process and strategies to satisfy the unmet needs of the Whitehorse population will be discussed in the next section.

### Government role in the provision of housing

The provision of housing in Whitehorse functions in the framework of the Canadian housing at large (Rose 1980). Government intervention in housing markets is usually justified on the following economic grounds: a) to compensate for market imperfections in the allocation of capital and resources to the housing sector; b) to keep in balance externalities in the production or consumption of housing services; c) to redistribute income; and d) to reduce cyclical fluctuations (Smith 1980:339).

The first Canadian legislation that established a permanent public responsibility for housing was the Dominion Housing Act of 1935. Up to the present the federal government in assuring adequate shelter has adhered

rigidly to the assisted marketplace framework (Dennis and Fish 1972:1-20). Between 1935 and the late 1960's the thrust of Canadian housing policy was to assist rather than replace the private sector in the housing and mortgage markets. Efforts were made to stimulate adequate supplies of private mortgage money through federal mortgage insurance, to manipulate the interest rate and to set forth appropriate terms to encourage individual homeownership. Access to mortgage money at rates slightly lower than those prevailing in the money markets, was facilitated through the National Housing Act after World War II, prevailing in the money markets, downpayments were successively reduced, and loan ceilings increased. The period of amortization increased from fifteen years in 1946 to 20, then 25 and to 35 years or more by the late 1970's. The national housing policy was dedicated to the prime objective of individual homeownership, transforming Canada from a nation of tenants to a nation of homeowners many of them heavily mortgaged. However the federal government neglected rental accommodation for families in the lowest third of the income distribution (Rose 1980; Dennis and Fish 1972).

Government intervention rose sharply in the 1970's but with a different emphasis. Since the mid-1960's policy has shifted from facilitating the efficient operation of the private sector to more direct intervention and regulation (Smith 1971, 1977, 1981). Policies of the 1970's became more and more identified with social policy (Sewell 1975:211). Evident on the Whitehorse scene are large scale government construction and subsidy of new dwellings for low-income families, rental assistance for those in need, cash grants to first homebuyers, and a readiness for the introduction of rent control.

Starting in the mid-1960's more responsibility was given to the provinces (and later to the territories), local authorities and municipalities

in the provision of public and social housing (Rose 1980:41). While the roles of the different levels of government keep changing, the federal government's influence is more economic and regulatory while the junior government's role is more of an administrative and planning nature. The provinces created housing instruments of their own (provincial housing corporations) only in the mid-1960's, initially undertaking only the peripheral aspects of the housing process: the housing of the poor, rental and purchase accommodation for ~~lower-income groups~~ and a limited amount of urban renewal and land assembly (Bettison 1975:315).

The Yukon Housing Corporation (YHC) was formed in 1972. Before its formation, territorial programs such as low cost housing, staff housing, and standards control were directed by the territorial Department of Housing and Area Development (early 1960's) and later by the Department of Engineering and Municipal Affairs Division of Housing and Accommodation[17]. Along with taking over the various housing programs, the mandate of the Yukon Housing Corporation included exploitation of available federal programs, and initiation of new ones based on local conditions and local needs. Its mandate included the development of all types of housing, land development and subdivision and land assembly. Loans by the Yukon Housing Corporation were guaranteed by the territorial government. In 1974, for example, a time of urgent need for affordable rental and homeownership, the speculative builders showed no interest in building medium-density housing, so the Yukon Housing Corporation undertook to sponsor 28 semi-detached units in Riverdale. The houses were built by local builders and sold under the federal Assisted Homeownership Program (AHOP). The project was very successful and private builders followed the lead[cf. reference 1]. In the coordinated effort to prepare for the pipeline boom, they planned more demonstration projects. Land



was reserved for them by the territorial government. However due to the downturn of the Yukon economy and the consequent soft housing market, the projects were abandoned.

In addition to the provision of serviced residential land as already described, three other types of government involvement in the housing process in Whitehorse will be looked at: rental accommodation for government employees, social housing and mortgage loans.

### *Government employee housing*

The provision of government employee housing is based on the principle that in order to carry out its responsibilities the government of Canada must be able to locate employees in all parts of the country. Suitable accommodation was not available in the vicinity until the early 1970's, but as Whitehorse has developed into an urban community comparable to any town in the most settled areas of Canada, government policy with regard to staff accommodation has changed[18].

The bulk of the government staff and military housing was built in the 1950's and early 1960's in Takhini, Valleyview, Hillcrest and Riverdale, in a period which coincided with the growth of territorial and federal personnel in the Yukon and with an acute housing shortage. This housing, with the exception of areas in Riverdale, was built on federal land outside city limits. The high standard was in marked contrast with the then available private housing in Whitehorse[19].

While administered separately, federal and territorial housing is comparable. More than 50% of government employee accommodation was generally taken up by teachers, the rest by key personnel, professionals, managers and directors of government departments. The number of units rented to government

staff has decreased over the years, from about 600 units (30% of the housing stock) in 1961 to 100 units by 1975, less than 5% of the housing stock [20]. The phasing out of federal and territorial housing ownership was fixed as a long-term goal in 1969 [21], but a compromise was made. Since the end of the 1960's the government instead of building more units, has encouraged private builders to build apartment houses by guaranteeing long-term rental of a certain number of units [22]. Rents were gradually increased to equal the amount it costs the government and later market values [23].

By the end of the 1970's the attractiveness of government staff accommodation was reduced, by limiting residency to two years and charging comparative market rent. The only advantage of employee housing today is convenience at the time of arrival in the city [24].

### *Financial assistance*

While National Housing Act loans became available in 1951, the Yukon did not benefit as much as the rest of Canada for two reasons. (1) Their loans were offered only to areas served by a sewer and water system, available in Whitehorse only after 1957, and in a limited area. (2) The loan was proportional to the cost of the building and had a maximum limit which depended in part upon the size of the building. Because construction costs were 40% higher in the Yukon, people could not raise the cash for the higher downpayment.

In 1960 the National Housing Act loan regulations were amended to raise the maximum loan to \$14,200 or \$14,900 depending on house size, resulting in the reduction of downpayment requirements. To offset the higher construction costs a second mortgage fund was proposed and in 1962 funds were made available by the territorial government to provide an additional loan

over and above that available under the National Housing Act, up to a maximum of \$2,000[25]. Until 1972 the overwhelming majority of loans were direct CMHC loans. As the economy strengthened the private lending institutions (CMHC-approved lenders) took over the mortgage lending field under the National Housing Act mortgage insurance scheme (Table 5.4). However by 1977 the demand for mortgage funds showed a considerable weakness and by 1982 it came close to total disappearance. The national decline in housing starts attributed to high mortgage rates, declining population growth and sluggish growth in real income manifested itself in Whitehorse in a more powerful form due to the downturn of the territory's mining and transportation industry.

#### *The low-cost housing assistance program*

National Housing Act loans were restricted to areas serviced with sewers and water. During the 1950's and 1960's there was very little such land available in the Whitehorse area. There was also a need for housing assistance for residents able to finance minimum standard dwellings of limited size but unable to afford housing under the National Housing Act. The Department of Northern Affairs and National Resources initiated a low-cost housing assistance program of first and second mortgages. Under the program the territorial government advanced first mortgage loans to a maximum of \$8,000 and second mortgages to \$1,000. The money for the loan came from the federal government and the program was administered by CMHC on behalf of the territorial government[26]. The program became functional in 1963. Under this program approximately 200 houses were built in the Whitehorse metropolitan area especially in Porter Creek and Crestview,

Table 5.4

National Housing Act loans approved for new housing  
in Whitehorse, 1968-1982

Year	Approved lenders (number of units)			CMHC lending (number of units)		
	Single detached and semi-detached	Row and apartment	Total	Single detached and semi-detached	Row and apartment	Total
1968	5	-	5	29	37	66
1969	-	-	-	49	74	123
1970	3	-	3	43	135	178
1971	-	-	-	5	43	43
1972	26	-	26	7	-	7
1973	33	-	33	2	114	116
1974	33	-	33	4	-	3
1975	70	39	109	64	81	145
1976	92	68	160	19	24	47
1977	112	-	112	-	-	-
1978	58	-	58	1	-	1
1979	25	36	61	-	-	-
1980	4	4	8	-	-	-
1981	9	-	9	-	-	-
1982	4	-	4	-	-	-

Source and note: Compiled from unpublished data provided by the Statistical division of the Canada Mortgage and Housing Corporation.

The provisions have not been as favourable as the mortgage loan provisions under the National Housing Act. Limitations on the size of the house discouraged the building of three and four bedroom houses.

Starting with the early 1970's, following the amalgamation of all the Whitehorse metropolitan area's subdivisions with the City of Whitehorse and the City's decision to service and sell only serviced land in the developed subdivisions, the low cost housing assistance program gave way to greater use of the provisions of the National Housing Act.

## *Social housing*

The evolution of social housing in Whitehorse was in reaction to need. All levels of government waited until a definite and sometimes desperate need arose before any meaningful steps were taken. Social housing, in contrast to land sales, apparently did not occupy a high priority on the government's political agenda.

Squatter housing on the main townsite, the poor housing conditions and the acute shortage of the 1950's provoked a great deal of public and government debate but little action. The two alternative approaches were the opening of the fully serviced Riverdale subdivision where house building had to meet National Housing Act standards, and the opening of the territorial subdivisions along the Alaska Highway where there were no services and no building standards. These solutions did not fully satisfy low income needs, since to live in the territorial subdivision, car ownership was a must.

In 1961 a serious federal-territorial civic program was launched to get rid of squatting. Besides relocation of the squatters (reviewed in Chapter 3), the territorial government started planning low-rent apartments on the townsite. Although the scheme was planned in the early 1950's [27], the first 10 units were approved by City Council only in 1961. The low-rental scheme was abandoned in 1962 in the face of unexpected costs [28].

During the severe shortage at the end of the 1960's, the City of Whitehorse in its submission to the Federal Task Force on Housing (1968) asked the federal government for help in coordinating action by all levels of government and private enterprise. The City requested CMHC assistance to take full advantage of the National Housing Act especially those sections referring to multiple-family housing and low rental housing. The Consumer Association of Canada, Whitehorse Division in their brief to the same Task force

recommended the establishment of a territorial housing information centre or service where the general public could learn the pros and cons of various structural types, information on local housing resources for rental, construction work, real estate agents, land registry, mortgage resources, prefabricated housing dealers, co-ops, legal procedures and building techniques for building and new technologies in house building [cf. reference 6]. The information centre did not become a reality.

A territorial public housing program was established in 1967 giving priority to one-parent families. In 1968 two three-bedroom houses were built and administered by the Department of Social Welfare [cf. reference 6]. At the end of the 1960's due to the persistence of the squatter problem, substandard accommodations, presence of social welfare cases and the lack of affordable accommodations, the municipality finally started on a rental housing program. Because of the strong interest in home ownership, council members suggested the building of lease-purchase single-family housing integrated in the city.

Most social housing in Whitehorse was built and acquired between 1972 and 1978 [29]. The territorial government housing demand survey of 1972 indicated that 10% of families were interested in low-rent housing, and 27.1% were interested in home ownership but could not afford it on the open market [30]. The survey established a need for 183 units, low-rental or assisted-ownership, preferably with a central location in downtown or Riverdale. The survey also found that people living in mobile homes would prefer low-rent housing in a home.

Low-rental housing became a reality in the Yukon in 1971-72 under what came to be known as the Whitehorse Public Housing Project. The Yukon Housing Authority was set up to administer the project. Costs of building and maintenance were shared 50% by the CMHC, 25% by the territorial government,

and 25% by the municipality. The municipality originally suggested duplexes (43 units), but the CMHC, planners and designers suggested row housing grouped 2 to 4 in a row. They were built by the private builder who submitted the lowest tender.

The Rental/Purchase Housing Program also started in 1972. It built housing for rental to families of low-to-moderate income with a purchase option. Tenant households pay rent (which includes all utilities), according to their gross income [31].

A rent supplement program became available in 1974. Under it housing units are leased on the open market by the Yukon Housing Corporation and then rented to low-income families who cannot afford accommodation in the private market. The advantage of the program is the flexibility it offers in an overbuilt housing market. During a housing shortage, however, the Yukon Housing Corporation might have difficulty in leasing on the open market.

All social housing units are administered, managed and operated by the Whitehorse Housing Authority under agreement with the Yukon Housing Corporation. In 1982 the Whitehorse Housing Authority administered 195 units, housing approximately 400 people. Of these 158 units were owned by the Yukon Housing Corporation and 37 were rented from the open market. This seemed to satisfy demand, since only two families were on the waiting list. About 25% of the social housing units are used by native people. Another 25% are taken up by people with a temporary housing need, mostly during the winter when the cost of living is more expensive. A further 25% is occupied by single-parent families [32]. Housing for Status Indians is subsidized by the federal government. Welfare recipients, including non-Status Indians on welfare are subsidized by the territorial Human Resources Department. About

50% of the social housing residents are low-income families where one member is working.

While some of the family dwellings include native senior citizens and their grandchildren, senior citizen housing is occupied almost exclusively by white people. Native people are less inclined to place their elderly in institutions or special senior housing [33].

The large majority (90%) of the social housing units are in multiple-family housing, rows or small walk-up apartment buildings. Most units are in relatively good condition, well taken care of by the Whitehorse Housing Authority, and blend reasonably well with the surrounding neighbourhoods, but they lack usable open space, are built to minimum standards, are badly insulated and lack the vestibule or enclosed porch necessary in colder environments to prevent the immediate loss of heat when the door is opened (Fig. 5.6).

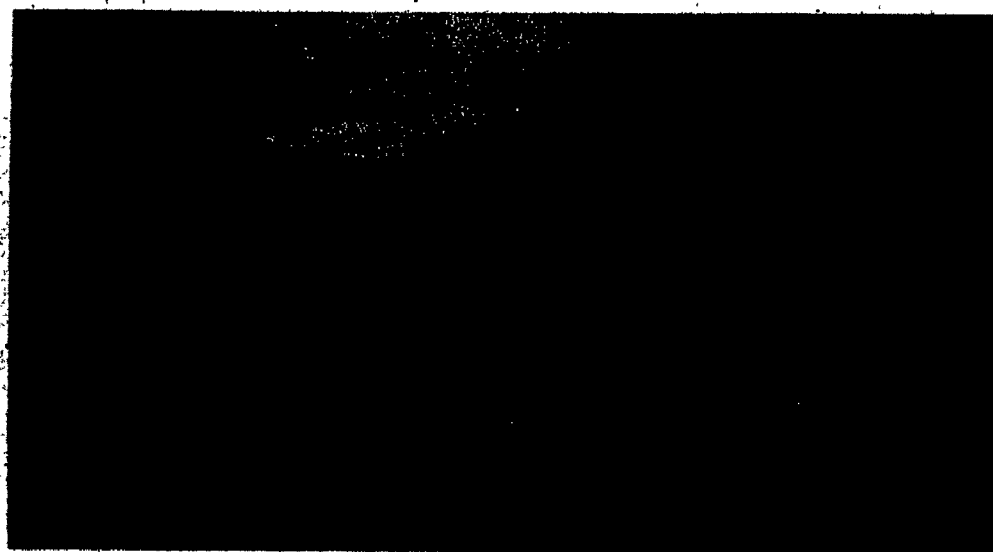
Most of the social housing units are located in pockets either downtown or in Riverdale, the most accessible and preferred residential areas. While they are sufficiently dispersed to prevent ghetto formation, social housing residents would prefer even more dispersal for reasons of anonymity. The favourite of every senior citizen is the new (1980) Greenwood Place, designed especially for senior needs, complete with elevator, alarm system, rails in hallways, wide doors, some wheel chair units and a porch at all entrances.

The social housing units house approximately 2.5% of the population. Low and moderate-income people also have the option of living in mobile homes and the more reasonably priced, condominium row houses.





Downtown



Riverdale

Figure 5.6 Social housing, Whitehorse

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## *Native housing*

A special case of social housing is housing provided for Status Indians. The majority (81%) of Status Indians in the Yukon live in subsidized housing supplied by the Department of Indian Affairs and Northern Development, 5% rent on the open market, and 12.5% own their own homes, mostly outside of Whitehorse [34].

Lotz (1961) found that 11.8% (34 households) of squatter households were Indians, and nearly half (46.4%) of social "problem households" were families containing at least one person of Indian ancestry. Their housing needs were taken care of during the 1970's with the establishment of the social housing programs.

The housing situation of the native people, with respect to important qualitative aspects, is inferior to that of whites [35]. The housing supplied for Band members (Status Indians) in the Indian Village has no piped sewer, septic tank, running water, or indoor toilet and baths. Due to outward movement from the Village during the mid-1970's overcrowding is not severe, but 52% of the housing needs replacement and 20% major repairs. The 1971 census showed that the average native household had 73% of the room space available to the average white household in the Yukon. Households were larger, so that each native person had, on the average, only 50% of the room space available to the white person (average room-space per person was 1.39 for whites and 0.69 for natives; average room-space per household was 4.27 for whites and 3.10 for natives). Only half of the native people had running water, sewage and central heating facilities.

Standards and guidelines for native housing design and space requirements were changed in 1979. The new Engineering and Architecture Branch of the Department of Indian and Northern Affairs working with Indian

groups produced a series of detailed design guidelines and housing design packages which included adaptable elements to local conditions [36]. The minimum net floor areas for individual rooms will follow the Residential Standards for Canada 1977. These improvements have not as yet been implemented in Whitehorse because of the delays in the relocation of the Indian Village.

### Energy conservation and land use

Contemporary housing problems include high costs, expensive utilities and lack of affordability of the dominant housing type - the single-family detached house - for a large segment of the population. The high housing costs are associated primarily with the physical inadequacy of the single-family detached house, modelled functionally and technically on temperate suburban developments. This type of housing due to the long winter and limited choice of fuels is very expensive to heat and service. This defect characterizes the majority of Canadian housing built after the Second World War. It is more costly in the north where there are 20% more days to heat than in Edmonton. Energy requirements for heating in Edmonton and Regina are 50% greater than in Toronto or Halifax and double those of Vancouver (Lang 1980:69).

The average Yukon household spent \$2,350 a year (1980), mainly for residential space heating and water heating. Household energy costs are high in part because of the remoteness and northern location (length of winter and

transportation costs for fuel), but largely because only the most expensive of energy sources are available. The more severe energy problems of the Yukon are attributed to high energy consumption and reliance on the most expensive liquid hydrocarbon fuels. The Yukon household must employ oil and electrical energy for home and water heating, while the Edmonton household, typical of Western Canada, can use natural gas.

Introduction of energy alternatives is obstructed by the small market. The only alternative to oil in the Yukon is wood. While wood is plentiful, heating with wood requires a change in lifestyle and attitude for many people; it requires more work and attention. Heavy use of wood could create an air pollution problem, as it already has in Riverdale. For these reasons wood though currently fashionable will not replace oil.

The only viable energy-saving strategy seems to be energy conservation focused on lights, water heating, shortened travel routes and especially space heating. The Hildebrandt report (1981) demonstrated that in 1980, 59% of the housing stock consisted of poorly insulated older detached housing, duplexes and mobile homes. These consumed over 75% of the fuel used in residential space heating (Hildebrand 1981:183).

A household's energy use is related to the type of residential structure. Building configurations affect space heating efficiency. Heat escapes through exterior walls, making the single-family detached house however well insulated or designed less energy efficient. A two-storey duplex or town house uses 30 percent less energy than a one-storey single-family house, and a medium-density apartment uses 40 percent less.

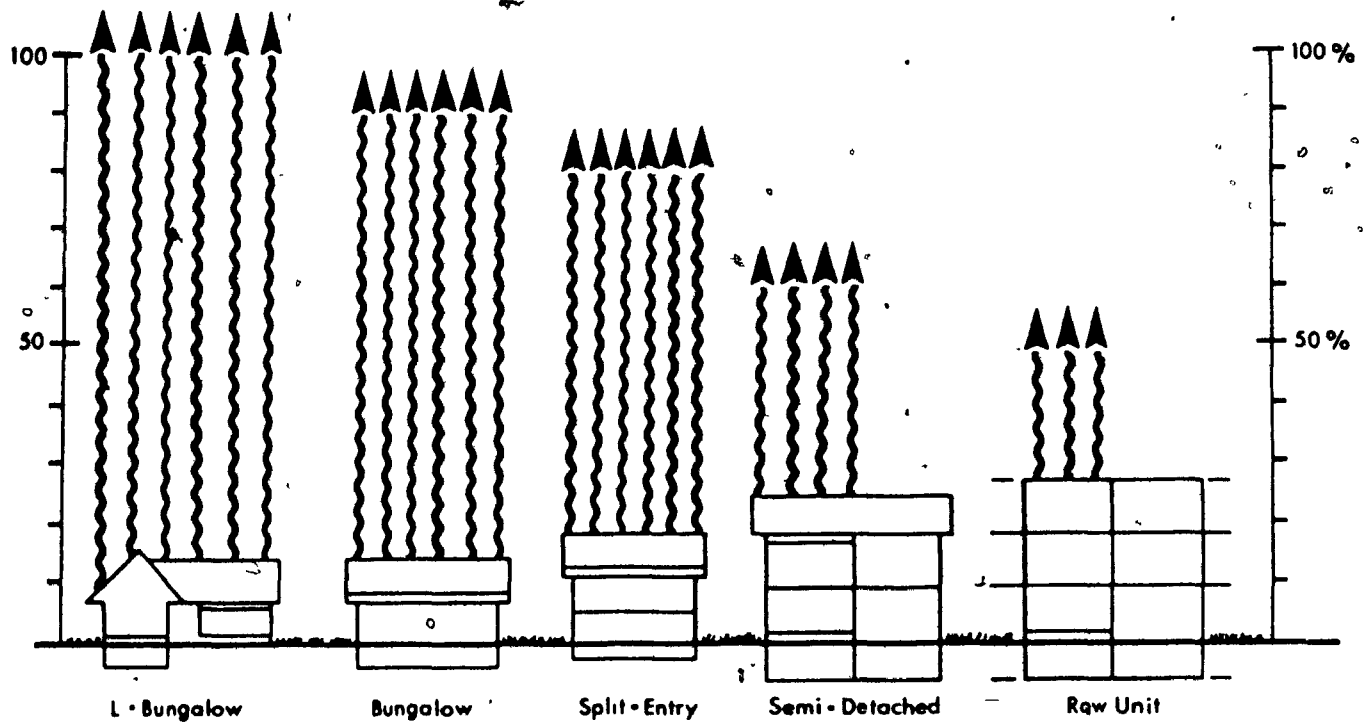
Dwellings sharing walls, by the reduction of outside walls per dwelling unit, experience less conductive heat loss. The townhouse, therefore, is an energy conserver relative to the detached single-family house

of the same size, saving 39%, and the multi-storey apartment building is even better. Figure 5.7 shows the effect of structural type on energy savings. Dwellings lose heat due to the flow of cold air through the house. A detached frame house exchanges the entire volume of its interior air with outside air an average of twice an hour. Because the instantaneous rate of air infiltration is sensitive to external wind velocity (Socolow 1975), houses should be clustered together. Clustered houses shelter each other from the wind. The entry and exchange of outside air is increased by the absence of a storm door or vestibule to form a cold air lock when the outside door is open (Socolow 1975).

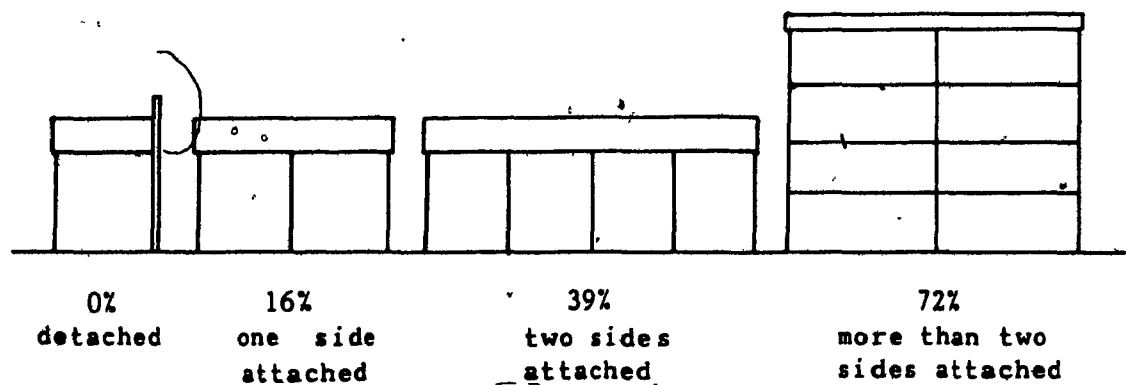
The thermal efficiency of buildings can also be substantially increased through the effective use of the natural environment in site design and house orientation. Site design and orientation are so closely related to the size and shape of the building lots and the layout of streets that improved design requires careful planning at the scale and stage of the subdivision. Major improvements cannot be achieved by dealing with one house at a time. Technical expertise on this subject is abundant (Olgyai 1965; Socolow 1975; Keplinger 1978; Schoenauer 1977; Culjat 1975; Chandler 1976; Harwood 1977; Erley and Jaffe 1979; Land and Armour 1980a, 1980b; Lang 1980; Regional Municipality of Ottawa-Carleton 1983).

Energy consciousness is a very recent phenomenon in Whitehorse. A great many people in the Yukon consider the ever-increasing prices for gasoline and domestic heat as a short-term problem which must be tolerated. The need for change is reflected in the demand for smaller, more energy-efficient homes [37]. Many people are ready to accept a smaller house but not a smaller lot or a multiple-family dwelling.

Relative heat loss for houses of various types and design



The effect of structural type and design on energy savings



Source: CMHC, 'The conservation of energy in housing', 1977; and 'Facing the energy future, better homes and sites', *Land*, v.3(3)1982:6.

Figure 5.7 Energy efficiency of alternative housing types

Housing forms like building techniques were borrowed from southern Canada, especially British Columbia. At the beginning of the century Whitehorse houses were more compact and smaller in scale, generally of log or wood frame. The early Riverdale and Porter Creek houses were still quite compact, without garages, carports, or basements. Later, especially during the housing boom, the style and floorplan of housing followed the British Columbia "cedar look" suburban developments. The closed-in entrance or vestibule and other design and form elements essential in colder climates were still largely ignored[38].

During the early 1980's with the overbuilt housing market and rising energy costs, public concern and government attention shifted to energy conservation. The Yukon Housing Corporation started a five year insulation program for the retrofitting of the corporation's housing stock. The federal government opened a Conservation and Renewable Energy Demonstration Program, attached to the Department of Tourism and Economic Development[39]. The federal government paid for a Yukon residential energy survey[40]. The Canadian Home Insulation Program subsidizing labour and material costs related to home insulation was available in the Yukon as in other parts of Canada. Lecture series on "Energy know-how" were sponsored by the Yukon government and the Energy Conservation Society for builders and the general public. All the federal and territorial government programs focused on methods of improving the energy efficiency of the existing housing stock which is important since most housing is that which exists today. However none of the programs is designed to conserve energy in future developments through land use planning. The 1981 federally-commissioned Yukon Energy Requirement Study recommended change in building codes and standards, zoning, and land use, but all specific energy-saving strategies concerning space heating dealt with upgrading and

retrofitting the existing housing stock. It did not make recommendations with respect to structural type or land use patterns (Hildebrand-Young 1981: 44, 157).

In Whitehorse efficient land use is preferable to all other strategies of energy conservation for several reasons. The energy-efficient single-family house can be built. Investment can be made in thicker walls and air-tight construction, more insulation, triple glazing, and efficient wood/oil combination heating system or a fireplace[41]. But the energy-efficient house is 20% to 30% more expensive to build than the standard single-family house. And Whitehorse has severely limited options of fuel substitution for space heating.

The market solution to the affordability problem in the South has been the smaller house on a smaller lot. These developments, rows of boxes one meter apart, are widespread in the contemporary suburbs in larger cities. They cater to the dream of a single-family house. This has not yet happened in Whitehorse. In Whitehorse it would not be the most efficient way to economize on energy or services, the major components of the high cost of operating a house.

A settlement's overall structure, shape and pattern, and the order and relationships among its physical elements and land uses constitute its urban form. Certain characteristics of urban form affect energy consumption, the length and operation of the sewer and water lines and transportation patterns. These are characteristics such as density of housing, mix of uses, local pattern of streets, siting and orientation and building form and type. They are all related to the use of land. Through changing the housing type, design and traditional land use patterns, considerable savings on building materials, labour, utilities and energy consumption can be achieved.



Energy conservation strategies in Whitehorse can be ordered with the highest expected payoffs coming first from land use[42]. (1) Land use patterns can be chosen to achieve economic and social goals with the minimum expenditure of energy, by medium-densities, planned unit development and cluster housing. (2) District heating or use of a collective heat supply can be provided once the land has been laid out for cluster housing or some other type of medium-density development; (3) Thermal efficiency can be increased in new construction by using more energy-efficient structural types and enclosed entryways. (4) Site design and effective orientation in relation to sun and wind can be achieved by planned unit development and energy-conscious planning in the phase of land subdivision. (5) Use of passive solar buildings is worthwhile for all types of construction. (6) Double or triple glazing, insulation and more efficient heating equipment can be applied to the existing housing stock.

In Whitehorse people are increasingly more energy conscious with regard to their dwelling, but their thinking about the problem does not involve land use. They are ready to give up size but have not considered alternate housing types. Consequently all government energy-conserving proposals concentrate on energy-efficient house design, insulation standards and heating with wood.

While the efficient use of land is a stated goal of all plans and policies, its interpretation is vague and its implementation not sufficiently radical. The technical solutions usually attempted are those which require the least commitment.

Whitehorse planning legislation is flexible and permissive, although the laws are not designed with energy conservation as an objective[43]. The newest subdivision plans still provide large amounts of land for single-family

detached housing and private builders are not taking advantage of the flexibility of provisions for planned unit development and cluster housing. The consumer has to be stimulated to accept change. Design control and professional experience is needed to produce medium-density ground-related (i.e. with direct access to the outdoors) housing which offers real energy savings and meets public acceptance by satisfying needs for identity, privacy, storage space and outdoor space[44].

In Whitehorse where all new developments are initiated by the government an opportunity exists for change. Many land use experts agree that the main obstacle to energy-efficient land use is neither technical nor legal but political (Hemphill 1980). Relatively tough measures require public backing, which is not forthcoming as long as people do not perceive that their housing problems are related to land use. Most people have not made the connection between the suburban land use pattern and the amount of energy they buy, the real cost of municipal services (sewer and water), or the cost of operating a house. The public is not aware either of the potential gains or the possible costs of promoting energy-efficient land use in Canada (Sewell and Foster 1980:30). Without public demand and in the face of potential opposition to higher-density compact land use policies, the municipal council and the territorial government are reluctant to proceed with energy conservation measures.

Energy-efficient land use is a strategic issue for which responsibility is not clearly defined, and on which opinions are sharply divided. Energy-efficient land use has not yet reached the political agenda.

## Summary

Due to the cyclical nature of the Yukon economy, certain housing problems in Whitehorse are very difficult to solve. Some adaptation to the changing economic situation and social and demographic changes associated with it have been made, however there is room for more adjustments. The ups and downs of the Yukon economy are followed by income changes and quick and unexpected changes in housing demand. During growth periods, a large influx of people both of higher-income and very low-income category (seasonal workers and transients) pressure the housing market with different needs and demands. The ones with stable and higher incomes are responded to first with the building of large numbers of single-family detached homes. The rest obtain housing through the trickle-down effect, social housing or mobile home living. Although by the early 1980's Whitehorse had a somewhat diversified and overbuilt housing market, it did not satisfy all needs and demands. While there was a surplus of large single family detached houses on the market, there was a shortage of other forms of housing. The need was for smaller units, cheaper to operate, tailored to households of smaller sizes, various ages or lower incomes. The market usually caters to the common denominator or modal group, the upper middle-income family with two children. Only when a growth period is long enough does the market move to serve other groups.

Demand for homes in Whitehorse has always focused on land. All new needs were expected to be satisfied by making more land available in a wide range of locations. While more and more land was developed for low-density residential use, provision was also made for some at medium density in pods and designated areas. Mixed use was still not permitted. Mobile home living

was drastically improved 'through subdivision standards, design and location,' but this population is not growing: people prefer to live in houses.

When there is a wide variety of land available, why are housing opportunities so limited? Supply of low-income housing does not respond rapidly to changes in demand, but the supply of high-income housing is highly elastic. A new demand generates a quick response (Harvey 1972:18-19). Market adjustments occur first in response to changes in demand by the more affluent groups.

"Thus the demand of high income groups for transport and housing are always responded to first" (Harvey 1972:21).

The market mechanism therefore perpetuates inequality and in fact promotes it. Government policies have the potential to offset this tendency, but in Whitehorse we see an example of how public land policy has reinforced the demands of the high-income groups in the housing market. Housing demand in Whitehorse is reinforced by high population turnover and the marketability of southern housing forms and design[46].

The market has not adjusted to changes in the economy. It ignores the very expensive household operation, construction and energy costs. The market has not produced sufficient affordable housing. Instead of being instrumental in the provision of more affordable housing, the territorial government develops more and more land to encourage home ownership for the ones who can afford it. Medium-density developments, public or private that have been built so far are not convincing: they do not possess the highly valued qualities of the single-family detached house to satisfy needs for privacy, identity, storage and outdoor space.

The government's role in the housing process has changed from direct provision of housing for government employees to social housing. Due to its

ownership of land and role in development it has influenced market housing through the provision of land and at a later stage by demonstration projects.

The municipal and territorial governments' approach to the provision of housing has been very slow to change. In contrast to the land availability question, housing has not occupied a high priority on the political agenda. Those who could afford to build a house wanted more and more of the cheap or free land of the Yukon. The ones who could not afford to build, with low effective demand in the market place were not politically vociferous.

Both the municipal and territorial governments moved very cautiously with every social housing program. Social housing was built or rented on a small scale at advantageous locations. Due to its late appearance and its small scale public housing in Whitehorse could avoid most of the problems associated with it elsewhere in Canada. The Yukon Housing Corporation has directed its efforts and resources to help lower-income groups, but it has not succeeded in widening their housing choices.

The avenues available for the housing of native people are still deficient in many respects. There are many unresolved problem areas related to the availability of funds for housing, the location, administration and management of housing as well as the quality of integration and acceptance by the community at large of the native way of life in transition. The provision of housing is complicated by the many levels of government and government departments involved in different aspects of native housing, their different jurisdictions and responsibilities and the fact that the provision of housing for native people was always dealt with in isolation rather than as a response to a need of an integral group of city residents.

Essential contemporary housing problems in Whitehorse are related to the high cost of conventional housing including capital costs of land

development and building and operating costs of utilities and households. This leads to a lack of affordability of the kind of housing most available for an increasingly large segment of the population.

The high costs of housebuilding are contributed to by the expensive building materials brought in from outside the Yukon involving transportation, freight, inventory costs and low volume marketing. Another important factor influencing housing costs is labour. Due to fluctuating demand there are frequent shortages of labour in different building trades which drive wages up. Also due to the small scale of building activity labour is not as efficient or productive as in other more populated urban areas of Canada.

Household operation in Whitehorse is far more expensive than in any more southern Canadian city due to the length of the winter. Most housing in Whitehorse is wasteful of energy due to inappropriate housing type, style and design elements.

While Whitehorse homeowners get two important breaks in their housing expenditure, cheaper land and lower taxes, little can be done about labour costs, materials and the severe climate. To reduce costs both to the individual and the government the only viable strategy seems to be a change in the traditional housing form and land use patterns. The potential impact of regulatory reform for the various stages of the land development process is well documented by Burchell and Listokin (1980).

It is not sufficient to provide land for multifamily housing or planned unit developments. The provision of land and housing has to be coordinated. Planning instruments in force including zoning, subdivision planning, development agreements and the building codes have to be more specifically directed toward the objective of correcting or guiding the housing market with both long-range and immediate interests in mind. The

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housebuilding industry in Whitehorse has to be reorganized, redirected, supervised, and innovations have to be introduced to provide the housing market with a wider range of choice. Whitehorse also has the human resources and is a fertile ground for new forms of housing delivery. Non-profit housing and housing co-operatives would fit in well with the frontier mentality of many people, but these forms of organization need technical information, financing, guidelines and training, all well worth the effort.

## Notes and References

Statistical data for this chapter was compiled from the following sources: "Baseline housing data for the Whitehorse area, 1977", Northwestern Associates Ltd.; "Yukon Rental Survey", 1977 to 1980, Yukon Economic Research and Planning Unit; "Yukon Economic Review", 1980, 1982, quarterly; Statistics Canada, 1971 Census, CSD Package-microfilm, Yukon and Northwest Territories, 500-429, tables: P001-LF06; 1976 Census, Dwellings and households, occupied private dwellings by structural type and tenure, Catalogue 93-802, Bulletin 3.3; 1981 Census, Census divisions and subdivisions, population, occupied private dwellings, private households and census and economic families in private households. Selected social and economic characteristics, Yukon, 93-x-947 (E-581); "Canadian Housing Statistics", 1971 to 1983, Canada Mortgage and Housing Corporation, Ottawa.

1. Long discussions with the following Whitehorse people contributed to the content of this chapter: R. Olson, architect, Whitehorse; D. Langtree, Whitehorse Homebuilders Association; B. Collins, Special Purpose Branch, Department of Economic Development and Intergovernmental Relations, Government of Yukon; R. Wigen, contractor developer, Whitehorse; R. Williams, D. Frost, T. Berger, real estate agent, Whitehorse; L. Turner, YHC. manager; J. Robb, artist, Whitehorse; D. Munroe, Director, Economic Planning and Statistical Unit, Government of Yukon.
2. J. Lotz, 1961; Whitehorse Metropolitan Area Plan, 1963.
3. 1961 Census; G. Buse, 1978; see also the 1961 Census, Cat. No. 93-523, 93-524.
4. Personal communications of R. Wigen, developer; D.W. Carr and F.W. Andersson, 1968, v.2.
5. Submission to the Federal Task Force on Housing from the City of Whitehorse, 1968, WCR, file 6000-15-2 (Housing) box 1981, YA, Whitehorse.
6. Recommendations for housing. A brief presented to the Federal Task Force on Housing by the Consumer Association of Canada, Whitehorse Division, 1968, WCR, file 6000-12-2 (Housing), box 1981, YA, Whitehorse.
7. Riverdale Park. A proposal for a medium-density development for Whitehorse, V.R. Wigen & Associates, 12 December 1967, WCR, file 6000-15-2 (Housing) box 1981, YA, Whitehorse.
8. Personal communication, S. Young.
9. McMillan, B.A. and Maher, P.M. 'A preliminary assessment into the viability of home manufacturing in the Yukon', 1976, report done for the Government of Yukon Territory; Personal communication, D. Langtree, Whitehorse Homebuilders Association, April, 1981.
10. *Whitehorse Star*, 15 February 1978, 1 March 1978, 22 March 1978, 3 April 1978; Green paper: Housing strategy for pipeline impact, 1977, Government of Yukon Territory.
11. 'The impact of high mortgage rates on Yukon households, 1982', Economic Research and Planning Unit, Government of Yukon.
12. Personal communications of real estate agents (see reference no. 1); also deduced from real estate transaction statistics published by the Economic Research and Planning Unit, Government of Yukon; see also *Whitehorse Star*, 22 March 1976, 26 March 1976, 24 May 1978, 1 May 1980.



13. Dwelling unit type and tenure, by Census Metropolitan areas, 1981. Canadian Housing Statistics, 1983. (Ottawa: Canada Mortgage and Housing Corporation, 1984).
14. The Yukon (Whitehorse) spatial price survey is based on the Canadian Consumer Price survey. The Consumer Price Index (CPI) relates only to population groups in urban centres of 30,000 or more. Consequently, there is no CPI published for the Yukon; the CPI expenditure patterns for Edmonton were used to calculate the Yukon Price Index. The Yukon price survey is designed to provide a statistical measure of the differences in prices of goods and services bought by consumers. A measure of differential in prices, among different communities at a given point in time, is an important indication of the relative cost of living. The price index measures price changes rather than actual price levels. An important component of the spatial price index is housing which is represented by two indexes: shelter and household operation. The shelter index components, are labour, material and land. The household operation index indicates the changes in price levels for heating, electricity, maintenance, utilities and taxes.
15. Data obtained from J. Bartakovich, Canada Mortgage and Housing Corporation, Statistical Services Division.
16. While Statistics Canada published data on the incidence of low income, the percentage of units below the low income cut-offs, this data is not available for the Yukon. The low-income cut-offs were based on certain expenditure survey data for the entire population. See more about the subject in the following 1981 Census reports: *Economic Families in Private Households - Income and Selected characteristics*, Catalogue 92-937; 13-207; and *Selected social and economic characteristics, Yukon*, Catalogue 93-x-947(E-581).
17. *Annual report of the Commissioner*, Government of Yukon Territory, years 1960 to 1972.
18. Treasury Board Living Accommodation Charges Directory, April 1975, Yukon Housing Corporation staff housing policy, YGR, file 4750, v.1, YA, Whitehorse.
19. Government housing 1955, YGR, file 635-6-30G, v.14, YA, Whitehorse. See also Lotz 1961.
20. Staff housing general, Yukon Housing Corporation, YGR, file 4750-1, v.1, YA, Whitehorse; Staff housing policy, Yukon Housing Corporation, YGR, file 4750, v.1, YA, Whitehorse; Yukon Housing Corporation, Annual Report, 1976-77.
21. Housing policy, memorandum re: housing rental, 8 January 1969, Accommodation phase-out plan, 18 June 1969; and Housing and accommodation - proposed policy statement, 11 June 1969, YGR, file 10-16-1-6, v.1, YA, Whitehorse; *Whitehorse Star*, 18 February 1976; See also Housing policy Yukon Territorial Government, 18 March 1969, YGR, file 10-19-2, v.1, YA.
22. Staff housing, administration, 1969, YGR, file 10-16-1, YA, Whitehorse.
23. Staff housing policy, Yukon Housing Corporation, YGR, file 4750, v.1, YA, Whitehorse; Yukon Housing Corporation, Annual report 1979-80, Staff accommodation, 1 February 1980, Public Service Commission, Government of the Yukon Territory, Canada Mortgage and Housing Corporation Library, Ottawa.
24. In 1981 the Yukon Housing Corporation leased only 13 units from the Federal Department of Public Works and private landlords and began implementing a decision to withdraw from providing staff accommodation from within the capital city. Persons renting single detached housing

- units may purchase the staff housing units they occupy. Government employees are encouraged to buy their own housing and are assisted in this by the government employee housing plan. For more details see the Yukon Housing Corporation Annual Reports, 1975 to 1982.
25. *Whitehorse Star*, 27 February 1953, 26 March 1954, 7 January 1955:4, 6 October 1955, 29 May 1956, 21 February 1957:5; See also Rae, 1968:340; *Government activities in the North*, Advisory Committee on Northern Development, years 1959 to 1967.
  26. Yukon Territory, Low Cost Housing Ordinance, 1961; Yukon Territory, Annual Report of the Commissioner, 1961; Canada, Department of Northern Affairs and National Resources, Annual Report, 1961-62, p.33; *Whitehorse Star* 12 December 1962; Rae, 1968:341; Government of Yukon Territory, "The Yukon Territory", 1968; Yukon Territory, Statistical Appendix to the Annual Report of the Commissioner 1970-71.
  27. *Whitehorse Star*, 27 February 1953.
  28. *Whitehorse Star*, 9 March 1961, p.1; 11 May 1961, p.7; Low rental housing, WCR, file 6000-15, part 1, YA, Whitehorse.
  29. Includes activities under the following sections of the National Housing Act: Federal-Provincial rental housing, sec. 40 (43 row units); Public housing, sec.43 and 44 (42 apartment units); Public housing (senior citizen), sec.6 (36 apartment units); Rent supplement program, sec.44 (about 40 units, varies every year according to need); Rental/Purchase Housing program, sec.44 (17 single family units). For more information on social housing see WCR, Development - file 6000-15, Part 1, 2, 3 and 4, 1969-1972, YA, Whitehorse; and Yukon Housing Corporation, Annual Reports, various years.
  30. 'Housing need and demand survey, Whitehorse', done for the Government of Yukon Territory, Department of Local Government, Housing Division, 1972, YA, Whitehorse.
  31. Yukon Territory, *Annual Report of the Commissioner, 1970-71*; Yukon Housing Corporation, Annual Reports, 1972 to 1982.
  32. Personal communications, B. Richie, Whitehorse Housing Authority, April 1983.
  33. 'Beyond sixty, a report on Yukoner's elderly', Government of the Yukon Territory, Department of health and human resources, 1978.
  34. Canada, Indian and Northern Affairs, 'Federal programs for status Indians, Metis and non-status Indians and Inuit, Yukon Territory, 1980', Intergovernmental Affairs Branch, Department of Indian Affairs and Northern Development, Ottawa-Hull, 1981; D'Aoust, S. 'Federal and provincial housing assistance programs available for rural and native clients, 1979'. Canada Mortgage and Housing Corporation Library, Ottawa.
  35. 'Social indicators for the evaluation of governmental policies for northern development, 1974', Advisory Committee on Northern Development, Document XND-163, Department of Indian Affairs and Northern Development, Ottawa; Personal communication, Indian Village inhabitants and village relocation coordinator, April 1983.
  36. 'Manual of building design' Indian Affairs 4. Housing design guidelines. Article 4. Housing space accommodation guide for reserve communities final draft 1979, Indian and Northern Affairs, Engineering and Architecture; See also ref. no. 34; Federal programs for Status Indians, Metis and non-Status Indians and Inuit, Yukon Territory, 1980.
  37. Personal communications, real estate agents, see ref. no. 1.
  38. Personal communication, R. Olson, architect, Whitehorse.

39. Personal communication, B. Collins, Energy Branch, Department of Economic Development and Intergovernmental Relations, Government of Yukon; See also *Potential*, Yukon's newsletter of efficient energy usage, v.1(1) 1983; and *Whitehorse Star* 23 May 1980.
40. Reid, Crowther and Partners Limited et. al. 'Yukon residential energy survey', Department of Energy, Mines and Resources, Policy and Program Development Division, Energy Conservation and Oil Substitution Branch, 1983.
41. Personal communication, D. Frost, real estate agent, Whitehorse, and D. Langtree, President, Whitehorse Homebuilders Associations, 1 April 1981.
42. R. Lang(1980) selected 50 planning measures from a growing array of energy conservation measures. Using his list I selected five basic strategies relevant to Whitehorse conditions.
43. See ref. 5,6,8 and 12 in Chp. 4.
44. For existing sources on improved medium-density housing development design see: Central Mortgage and Housing Corporation, 1977; Back, Rowan and Teasdale 1975; Walkley and Olson 1976; Mackay 1977; Kiff 1974; and Greater Vancouver Regional District 1975.

## CONCLUSION

In Whitehorse the state's involvement in urban planning in the form of land ownership and public development creates the conditions for comprehensive planning and development according to long-range utility and continuity. The government has the power to disregard entirely the exchange value of land as the determining factor in land development. Whitehorse's particular situation has given rise to a set of expectations based on familiarity with some of the local needs and conditions.

In a market economy and a society with a large measure of social differentiation, land allocation is based on economic competition. The stronger groups are able to acquire land in locations appropriate to their needs while the economically weaker groups must pay a higher price for their poorly located land (Darin-Drabkin, 1977:398). Public land ownership and development might permit solutions to this problem. In this framework, an urban land policy might supply the land needed for urban development in the appropriate locations at the right time and still keep the costs of utilities and land development schemes to a minimum.

In addition to its special planning situation, Whitehorse offers a different environment from southern Canadian urban centres. This city of approximately 15,000 people is located in the middle of a wilderness park. Many areas in the city and its immediate vicinity are easily usable for recreation in both winter and summer. The long, dark and cold winters necessitate heating for nine months of the year.

The population of Whitehorse also differs from that of most urban settlements in southern Canada. It is young and has a high turnover. The immigrants and transients are predominantly from southern Canada and of urban origin. These people feel deprived of certain privileges of space and they want to maintain or create these assets anew in the North in the context of a low-density frontier. But they are exposed to sudden changes in income, massive loss of jobs and seasonal unemployment.

While the population is relatively homogeneous from the point of view of ethnic origin and income, there are some lower-income groups such as the old, single parents and native people, whose diverse needs warrant special consideration. The majority of native people of Whitehorse, Status and non-Status Indians, are not assimilated nor integrated into the mainstream of white society. Their social, cultural and political interests are distinct. While their housing needs cannot be separated from the general needs of the city, their cultural, social and political needs, which are intertwined with the provision and administration of housing and settlement life, have to be met in a different way.

In addition to the above social equity concerns, there is the issue of the long disregarded and still unsettled native land claim. The land (including land in and around settlements), its management and resources is of vital importance to native people from the historical, cultural, legal, economic and moral points of view. These problems constitute serious conflicts which have to be dealt with during the urban planning process.

In the light of these local conditions and the expectations created by the public ownership of land coupled with state planning, the lines of inquiry were stated in question form (see thesis introduction). We attempted to search for the principles which direct development in the absence of a land

market and exchange value for land, and to describe the consequences of such development on present-day Whitehorse. These questions relate to the advantages and limitations of public ownership of land; its adaptability to local conditions; and in particular the adequacy of the provision of housing for all socio-economic groups. The findings are organized in three sections: (1) the principles which have guided land development in the Whitehorse context; (2) the consequences of a generous use of land in terms of efficiency and equity in the built environment; and (3) the obstacles to more effective public involvement in planning and housing.

### The principles which have guided land development in the Whitehorse context

The principles which direct development in Whitehorse are a result of decades of policy change and involve the work of the three levels of government. Due to the 35-year time span and the changing role and jurisdiction of the different levels of government a mere listing of guiding principles would risk oversimplification. The historical details can be found in Chapters 2 and 3.

During the 1940's and 1950's there were very few principles to guide development and urban growth. The municipality was limited in area and power. The federal government was in charge. Military and government housing areas were developed in the immediate vicinity of Whitehorse, taking up large tracts of land. To cope with a serious housing need followed by wartime construction and the consequent population increase, two types of development occurred. A

new planned and serviced subdivision was opened in close proximity to the city, while those who could not afford to live there, were permitted to stake land along the Alaska Highway. Land for residential purposes was cheaply available, leading to extensive land use without much planning.

In later years both the city and the territorial government acquired more land and more planning responsibility. Along with this responsibility, principles had to be developed to guide development. The provision of land for housing in order to encourage permanence was of prime importance in territorial policy. The territorial government adopted a policy of developing land in excess of demand and projected requirements.

A metropolitan area was formed to control urban sprawl. The territorial government stopped the proliferation of ribbon development along the Alaska Highway and limited rural settlement in the metropolitan area. Once the city's restricted boundaries were extended to incorporate all serviced and unserviced residential areas in the metropolitan area, the municipality and the territorial government were faced with a very large fragmented area with unequal services. The 1970's brought a serious concern for the future use of land, both inside and outside city limits, and led to the establishment of several policies for more financially efficient urban growth and development. The following decisions and principles were adopted. Municipal services were standardized, and the city and territorial government adopted the policy of bringing all residential area services up to that standard. Only developed land, -- or at least surveyed and subdivided land -- is available for sale. Single-family residential lots, mobile home and acreage residential lots are sold at the cost of development. Speculation in land was successfully prevented by selling only one or two contiguous lots to an individual and no more than five to a developer. Institutions such as the Yukon Housing

Corporation have priority of selection. Rural lands are sold with the agreement that they cannot be subdivided by their owner. The timing, amount, location and type of development is calculated on the basis of careful monitoring of the housing market. An important consideration was satisfaction of electoral demand, which showed an emotional attachment to large lots in relative isolation. New neighbourhoods and subdivisions were to be developed on large tracts of land, that is in zones of 100 to 500 lots, to take advantage of economies of scale in public resources. Development of new lots went on simultaneously in several areas to provide choice of location and lifestyle. Since the early 1970's diversity became a policy, including single-family, mobile home, acreage country residential and multiple-family lots.

The history of residential land development and planning over the last 35 years shows a slow adaptation process. Changes in attitude are the results of recognition of financial constraints and depletion of resources. While land as a basic substrate for housing is plentiful, servicing urban land is ever more expensive. A policy favoring compactness and infilling of existing residential areas was adopted, but the meaning of these principles is not clearly defined, leaving room for ambiguity. Control of development outside the city limits was imposed by the federal government only in the late 1970's as a consequence of native dissatisfaction with the disposal and transfer of land to territorial jurisdiction before the land claim settlement.

Most planning principles used in Whitehorse were borrowed from general planning principles developed in North America along the lines of the loose low-density layout of the Garden City movement. Many elements of New Town planning of the 1950's, such as curvilinear streets, large lots and



respect for the natural environment were employed in high or middle-income subdivisions.

Planning concepts generated in response to local socio-economic conditions include the provision of variable lot size. Since the mid-1970's this permits a wider range of income groups to build in the same neighbourhood. Accommodating different lifestyles in one residential area has become more acceptable, visible in the new developments such as Porter Creek, Crestview and Hillcrest. The integration of mobile home subdivisions in conventional residential areas and the possibility of transforming the mobile home site into a permanent home site are examples of an adaptation to a demonstrated need.

Generally policy encourages home ownership and helps to smooth the operation of the housing market. The territorial government seeks autonomy, with continuous requests for transfers of more land from the federal government, as a means to increase their power. Overall the direction of development has been increasingly community-oriented and has contributed to a progressively more equitable distribution of housing.

In the last 20 to 30 years new efforts have included squatter removal and relocation, urban renewal, containment of development to certain areas and adoption of certain standards, more flexible zoning and different forms of social housing. These programs have produced a gradual change in the physical and social structure of the city, notably a regrouping of the fairly segregated population. Residential areas were not restricted directly or indirectly to certain occupational, industrial or income groups. In fact a mix was encouraged.

Adaptation to the local environment is manifested by an increasing respect for the local topography, soil and vegetation. The downtown area

developed by the early 1950's was completely deforested and its delicate soil and vegetation cover removed. The dust problem and the starkness of the downtown area is attributable to the uninformed decisions of those early years. The planners of Whitehorse, recognizing the needs and demand of people to be "close to nature", have placed emphasis on preserving the natural environment in its original form. A change in public attitude toward the northern environment as an urban habitat is also evident. In 1981 an elaborate urban recreation plan was turned down by the ratepayers themselves. They found the plan, with its large swimming complex, golf course and tennis courts, extravagant. They wanted a plan with more northern character emphasizing and using local possibilities as opposed to southern recreation forms.

### The consequences of public development on public land

While the continuous availability of land has had a stabilizing effect on house prices, and there is a variety of land available, housing opportunities are still limited. The housing market as presently set up does not provide for the needs of lower-income and special groups. In addition, due to the cyclical nature of the Yukon economy, housing built during economic upswings does not match the needs of people during periods of economic downturn. The chief problems of the housing stock are low energy efficiency and unaffordability. These are exacerbated by the predominance of low-density development which generates high capital and operating costs. These problems

arise both from deficiencies of the private housing market and of government policies.

Major decisions in terms of the number of dwellings, type, size, quality and to some extent location, are made by the private market, facilitated by the conditions created by the government. Even though Whitehorse homeowners pay less for land and less in taxes than their counterparts living in southern Canada, the cost of housing remains steep because of the predominance of the single-family detached house, poor insulation standards, and factors related to climate and construction costs.

The overriding considerations of speculative building are profitability and marketability. Market housing does not assume the risk of offering innovative or less traditionally acceptable forms of housing. Without some limitation on low-density land or some financial incentive, the housing market will not provide compact affordable residential units such as cluster housing, mixed structural types or row housing. In fact by providing unlimited amounts of land for single-family housing public land policy in Whitehorse has reinforced the demands of high-income groups in the housing market. This demand is also reinforced by high population turnover and the marketability of southern housing forms and design.

The present day community plan and new subdivision plans follow traditional land use practices and provide large amounts of land for single-family detached housing. Land which has been reserved for medium-density residential use is not fully used by private developers. Both the territorial and municipal governments are ready to change such zoning whenever demand warrants. While in the new subdivisions and residential area extensions new and progressive planning principles were introduced and provisions made for their use, the results are not innovative. In a

market-oriented housing situation more inducement is needed for real change to occur.

Low-density land use contributes to the excessive costs of the utility systems. The bulk of municipal spending goes to provide land-related services such as street construction, sewage and water, and garbage disposal. These services in Whitehorse require large capital commitments and higher operating expenditures than in most other Canadian cities. In Whitehorse spending on physical infrastructure is heavily subsidized. A large share of the capital cost of land-related services is covered by government grants. While the present shape and structure of the city is partly attributed to topography and its early history, the continually forthcoming assistance for capital and operating costs of land-related services reinforces and encourages low-density land use.

While awareness of land responsibility for the use of resources -- land, energy, and money -- are growing, the interpretation of the relationship between finite resources and land use efficiency is still vague and wide open for discussion. With the understanding that efficiency cannot be only quantitatively measured since it is a function of social structure, my analysis of public land use-related expenditures and the continuing demand of the municipality for more grants points to waste. From an engineering standpoint there is no limit to the size, form or structure of the city. However, the law of diminishing returns begins to operate and the per capita cost of these services is rising.

The fact that social planning objectives have physical planning implications was ignored for a long time. From a socio-economic point of view most problems have been dealt with on a "day to day" and piecemeal basis. While there has been a constant concern with squatter relocation, social

housing, native housing and school planning, these concerns have only lately entered into the comprehensive planning of the city and its neighbourhoods.

Attempts to live with the local physical and socio-economic conditions have led to a succession of problem-solving efforts with varying results. While some problems are gradually and partially solved, others never get closer to a final solution. There are several serious problems such as poverty combined with ethnic conflict, the seasonality of many northern jobs and the uncertainty of economic development which mean that some problems of urban development go unsolved.

### The obstacles to more effective public involvement in planning and housing

Due to the limited experience with managing publicly-owned urban land there is a lack of knowledge of how to allocate land without the market mechanism. There is a danger that bureaucratically administered decisions about the allocation of publicly-owned land will not take into account the views of all socio-economic groups. The three basic difficulties are, (1) conflicts of local, regional and national political interests, (2) The failure to learn from local experience, and (3) the conflict between a short-term need for housing and a long-term integrated plan.

#### *Conflicts of local, regional and national political interests*

Public institutions or different levels of government with different functions may have their own vested interests even though private interest in

land has been eliminated. The outcome of a planning process is affected by the institutional structure of the responsible public agencies and their ability to coordinate their activities. Urban planning in Whitehorse is handicapped by the lack of meaningful cooperation among the three levels of government and the jurisdictional disputes between federal, territorial and municipal interests. Each level of government responds to a different geographical and political base and financial structure of justification, and therefore has different priorities with regard to urban planning, land development, housing, municipal finance, and the externalities generated.

The need for a city to be economically built and managed does not have the same significance for "higher" levels of government. In fact it is not a part of their land development and urban growth policy. While the municipality does take into consideration municipal finance, the other two levels of government have other priorities. The territorial government has worked out a land use policy but still does not have an urban growth policy. Its urban growth initiatives are more political in nature. For the federal government, the major concern is the very existence of northern towns. Although the cooperative nature of policy making concerning the use of land is much discussed, especially in recent years, intergovernmental conflict and conflicting decisions are part of the urban growth process. Basic land use problems centered on questions of efficiency and equity are obscured by the divergent and narrow municipal, territorial and federal views on land. Political and moral disagreements exist over which level of government should do the planning. This leads to further questions: which governments should ultimately control land? what land? how much of it? and what kind of control should be developed? Another impediment is the fact that the land use

planning capability of the different levels of government is still in formation.

The process of land transfer from federal to territorial jurisdiction is a highly questionable political process. The current land transfer provision is used by the territorial government to expand its control of more land in a piecemeal fashion. Requests for additional land have gone beyond the needs of urban growth. Under the guise of an arguable need, the territorial government wants to gain control over more and more land as part of its fight for more autonomy and power.

While planning in Whitehorse is under the direct political control of the territorial government, it is powerfully influenced by the municipal electorate. The planner's priorities are directly set by the elected politicians. Today's department administrators are the deputy ministers. They are the managers hired to ensure that the government policy, enacted by the politicians, is carried out. A serious limitation of the planning process is a lack of a clear set of objectives and recommended development alternatives. In urban planning terms the concepts of subdivision layout, lot size, building density and housing types are very slow to change.

Land use planning in Whitehorse remains a political process which functions within the constraints of the market economy, the level of socio-economic development and the rate of urbanization. In Whitehorse as in the rest of Canada private initiative is an important factor in development. Also urban land policies are formulated according to the level of general national planning.

### *The failure to learn from local experience*

While the ups and downs of the Yukon economy cause serious disturbances in the operation of the housing market, the territorial government until recently has cooperated well with the majority's housing needs. However the potential offered by the public ownership of developable land and public development was not fully used. There was too much reliance on the marketplace which is too slow to react and shys away from innovative ideas. The housing market offers a compromise including some elements of what the consumer wants but far from what is really needed and is economical to operate. The rigour of the local climate is still neglected in both land use planning and building. Reasons for this neglect in the past have included cheap energy sources, the high turnover of the population (insufficient time to acquire the experience to build for the local climate) and a housing market based on southern suburban values. While the land planning principles and the debate over them are preserved in the community plans and government reports, there is no mechanism to preserve the local private house building experience. The experience gained locally is gone with the changing population, as developers and builders leave the territory periodically with each economic downturn.

The constantly changing population has usually been ill-informed about local conditions, and little aware of the relationships between energy efficiency, land use, housing form and type. In the early 1980's energy conservation in the individual house has become very important. The problem of rising energy costs is heightened in Whitehorse by the lack of choice among energy sources and the high costs of transporting fuel. As in the past, the emphasis is placed on technology, retrofitting, insulation, air tightness, triple glazing and efficient oil-burning furnaces. Only in isolated instances



have the orientation, type and form of housing appropriate to the climate been taken into consideration.

Public land ownership of developable urban land is a planning tool. Limited planning objectives produce limited results. For example the potential of land use planning as a tool for improving energy efficiency has not been used. While the Whitehorse infrastructure requires an enormous amount of energy to function effectively, energy conservation has never been an objective at any level of land use planning. Since in the past energy, like land, was relatively inexpensive, the practice was to use land extravagantly at every scale -- inside the house, between houses or neighborhoods, in public and street spaces and in the town as a whole. The excessive inputs of land were rooted in the pricing of the inputs in the past, and are reinforced by the way costs are conventionally divided between the private and public sectors, and between operating budgets (cost of maintenance, taxes and public services).

While the efficient use of land is a stated goal of all plans and policies in Whitehorse, its interpretation is vague and its implementation not sufficiently radical. The motivation, goals and policies of the three levels of government do not foster the modification of traditional land use patterns to conserve energy and help produce more affordable housing. Convenience, privacy and mobility still play the central role in city and regional planning. The expectation of a detached single-family house is very strong. It is so strongly desired and so widely accepted that no politician will touch upon its inherent problems. Energy-efficient land use is a strategic issue for which responsibility is not clearly defined, and on which opinions are sharply divided. Energy-efficient land use has not yet reached the political agenda.

## *The conflict between short-term needs for housing and a long-term integrated plan*

If "development" means the establishment of self-sustaining economic activity, growth in the Yukon is not development, and the extensive spatial growth does not insure development. The principal industries established in the area do not foster the development of other industries. The economic growth encouraged by government policy is transitory, limited by the life of the natural resource-based industries. The only industry which grows by virtue of inside forces is the service sector. To serve the outside-induced growing economy, urban centres were developed with enormous expenses on social and physical infrastructure to attract the incoming labour force with the provision of comparable or better living conditions than those available in southern Canada. The fact that this growth is transitory and highly constrained by economic circumstances such as the resource base, access to markets, size and quality of the labour force and supply of capital was discounted. In fact, there is a belief on the part of the territorial government that good living conditions somehow will attract people to the Yukon, encourage permanence and contribute to the revival of the economy. Whitehorse as well as many urban centres in the north can no longer build and expand on the basis of short-term economic growth. They have to turn their attention to serving specific human needs congruent with the local physical and socio-economic conditions on a more long-term basis. Land policy is now seen as one of the means to achieve the goals of economic growth. But the danger of exaggerating the extent to which land policies may alter trends in population, employment and economic development should be recognized.

Due to the possibility of sudden changes in the Yukon economy, change in job opportunities and population fluctuations, long-range planning should

be an essential part of the planning process. However, the basic ingredients for such a process are still not available. Long-range planning will require a comprehensive data base focused on the land capability of the Whitehorse area to effectively guide urban development and growth, and concept plans focused on alternative development possibilities for dealing with the unpredictability of the Yukon economy.

Searching for an answer to explain the uneconomical land use pattern of the city, a Whitehorse planning consultant said:

"If the Federal Government believes it is in the national interest to develop the resources, to assert Canadian sovereignty over the region, and to provide national services to the people in the region, then it is essential to attract and hold the types of people who will provide the entrepreneurial or service capabilities that those roles demand ..... it may be worthwhile for the people of Canada to subsidize the provision of some services beyond the level that could be provided within the ability of the local people to pay" (Associated Engineering Services Ltd., Edmonton, 1973).

Because of the present environmental and energy concerns common to all North American suburban developments, land use efficiency everywhere becomes more critical. In the north the availability of a vast amount of uninhabited and apparently unused land no longer insures inexpensive settlement. Recognizing the need for northern settlements is it necessary to reproduce southern settlement forms there? Where are the limits of waste? How much public resource waste can be tolerated?

While planning under any form can not solve fundamental urban problems directly, planners can take upon themselves more responsibility and a more leading role. By channeling forces and taking a more effective stand on socio-economic issues, more public input in urban planning can improve the present arrangement between the private and public sectors. The suggestion of

authors (Bryant 1968, Hellyer 1969, Lithwick 1970, Dennis and Fish 1972, Spurr 1976, Strong 1979, Darin Drabkin 1977, Broadbent 1977 and Gunton 1983) for more public input in the land development process and more public ownership of land as a development tool is well motivated. However there is no guarantee that the result will be satisfactory. Public ownership of land permits the effective use of all the progressive land policy measures such as land use planning, zoning control, subdivision control, planned allocation of land for different purposes, infrastructure concentration, etc. To accomplish the above, participation in decision making in a responsible and open manner by all levels of government is needed. Difficult questions to be faced are: Who determines what the goals should be? How are priorities set? Who is to decide on the options? Whose preferences do the proposals reflect? How are groups served whose interests and needs are not represented through conventional channels? These questions will not be easily resolved.

The present conditions offered by public ownership of developable land, public development and private house building are healthy, but a different direction, guidance, control and support are needed for both land development and housebuilding.

## PRIMARY SOURCES

All primary sources are listed in detail in the Notes and references section at the end of each chapter. This is an organized summary of the documents used and their origins.

- Major Whitehorse city plans and reports:

- 1960 Queen's University, Kingston, Institute of Local Government, The City of Whitehorse, Report prepared for the Department of Northern Affairs and National Revenue.
- 1963 Canada, Central Mortgage and Housing Corporation, Architectural and Planning Division, Whitehorse Metropolitan Plan Report.
- Touche, Ross, Bailey & Smart, Chartered accountants, Montreal, Yukon Territory, Taxation study, 1968, commissioned by Canada, Ministry of Indian Affairs and Northern Development.
- 1970 Reid, Crowther, & Partners Limited, Consulting Engineering and Planners, Winnipeg, General development plan, Whitehorse Metropolitan Area (1970).
- Hardy, E. Consulting Limited, City of Whitehorse, Financial and related consequences for the City of Whitehorse of city enlargement and the new Municipal Ordinance, October 1972, commissioned by the City of Whitehorse (quoted Hardy report, 1972).
- 1973 Associated Engineering Services Ltd. Edmonton, City of Whitehorse, Yukon Territory, Utilities and roadways engineering analyses and capital works budget, 1974-1980, commissioned by the City of Whitehorse.
- 1974 Stanley Associates Engineering Ltd. Edmonton. Final report on Community Services Improvement Program, Yukon Territory, done for the Yukon government as part of the Capital Assistance Program.
- 1976 Stanley Associates Engineering Ltd. Edmonton, City of Whitehorse, Survey and Analysis; City of Whitehorse - General Plan.

1981 EPEC Consulting Western Ltd., Alaska Highway Corridor Study, City of Whitehorse, December, 1981 (part of the Official Community Plan).

1982 EPEC Consulting Western Ltd., "Residential land uses", manuscript data, part of the Official Community Plan.

- Whitehorse City Records. Records of the City of Whitehorse (1948-1977) consist of several volumes organized by subject. Major file groups consulted were: Legislature (file 1100), Planning (file 1200), and Development (file 6000). The city records are deposited in the Yukon Archives, Whitehorse.
- Yukon Government Records. The documents used pertain to the community planning and land development activities of the Department of Municipal and Community Affairs (formerly Department of Local Government) and the Yukon Housing Corporation. These files are stored by the Yukon Government, Records Services. They were viewed in the Yukon Archives with permission granted by the Commissioner of the Yukon Territory. The files are organized by subject. The groups of files used are as follows:

M-I Lands

2848-9000-GENL (old file 635-6-25-1 Whitehorse Area General)  
2848-9000-BLT (old file 635-6-25-2W Whitehorse Block Land Transfers)  
2848-9000-SQAT Whitehorse Squatters General  
2878-9300 (old file 635-6-20-G Riverdale General)  
2848-9700-GENL old file 635-6-18-1G Porter Creek General  
2848-9700-UTIL Porter Creek Utilities

Land

2840-0 Land Policy (old file 635-6-2G and 635-6-2-2, volumes 1 to 15)  
2840-1 Land Regulation General  
2840-2 Land Development  
2840-6 Transfer of Federal Lands to YTG  
2840-12 Land Sales - General

Residential areas land development, individual projects

Porter Creek: 2848-9700-GENL. (old file 635-6-18-1G); 2840-2-4; 2-6; 2-7; 2-24  
Riverdale: 2848-9300-GENL (old file 635-6-20G); 2840-2-2; 2-3; 2-4;  
Hillcrest: 2848-9400-GENL (old file 635-6-11G); 2840-2-17; 2-17-5; 2-17-8; 2-17-9.  
Downtown: Whitehorse Townsite - General 2848-9200-GENL, Municipal Services 2850, 2851-1 to 13;

Metro planning and zoning

2851-1-9 (old file 10-23-2-3)

Committees

2842-5 Federal/Territorial Land Advisory Committee  
2842-17 Municipal Affairs Development Coordinating Committee

Finance

2830-3 Departmental estimates - Municipal services  
2830-5 Capital Assistance Program  
2830-7 Municipal Incentive Grant Program  
2830-8 Municipal Finance - Stats. Canada  
2830-9 Community Services Controls Program Agreement  
2832-9 Proposed Public Utilities Commission - Whitehorse.

Studies

2820-2 Study - Community Planning  
2820-8-1,8-3 Study - Whitehorse North  
2820-7 Study - Whitehorse South

Administrative Series

1-23-3-15-2 Community Planning Committee  
10-16; 16-1-4 Staff Housing, YTG  
10-16-1-6 Housing Policy YTG 1969  
10-23-6 City of Whitehorse/ Municipality of Whitehorse  
10-23-2-2 Boundaries (Whitehorse)

Yukon Housing Corporation

4750 Yukon Housing Policy; Federal Staff Housing  
4751 Staff Housing - Whitehorse  
2-00-50 Staff Housing Policy  
2-01-50 Staff Housing General

- Current files. Documents currently in use, not as yet filed in any depository library were referenced as "current files". Such documents were obtained from the Department of Indian and Northern Development, Yukon Region, and the Department of Municipal and Community Affairs, Yukon Government.
- Yukon Legislative Assembly (records): Hansard, 1970-1973 and 1984.
- Canadian government documents and reports: some of these were in-house documents or less widely distributed public documents. Most of these refer to the native land claim settlement and the Whitehorse Village relocation project. These documents were viewed in the Program Reference Centre of the Department of Indian and Northern Affairs, Hull, Quebec.
- Statistical sources. Statistical data concerning population, housing and municipal finance were obtained from Statistics Canada, the Economic Research and Planning Unit of the Yukon Government, the Department of Indian Affairs and Northern Development (Northern Economic and Planning Branch), the Canada Mortgage and Housing Corporation (Statistical Services

Division) and various federal and territorial government documents compiled with a specific purpose.

- Personal communications. All personal communications are referenced in the "Notes and references" section of each chapter. However, the more significant ones are listed here. People who manifested a special interest in providing essential information or who read the draft and confirmed its content were: T. Penikett, Leader of the New Democratic Party, J. Cruikshank, anthropologist, J. Hoyt, former consultant to the Whitehorse Indian Band, J. Pierce, City Councillor and President of the Yukon Communities Associations, D. Gairns, former City Manager, G. Livingstone, former Director of Municipal and Community Affairs, Yukon Government, and R. Olson, architect.
- Newspaper sources: Whitehorse Star, 1942 to 1982.
- Legislation
  - Canada. Territorial Lands Act. Revised Statutes of Canada, 1970, c. T-6 (The Territorial Lands Act in 1950 repealed the Dominion Lands Act of 1872).
  - Canada. Yukon Act. Revised statutes of Canada, 1970, C.Y.-2 and Orders-in Council until 1979.
  - Canada. Territorial Land Use Regulations as amended, SOR/61-1 and 1971-580 (accompanies the Yukon Act).
  - Yukon. Area Development Ordinance, Ordinances of Yukon Territory as consolidated to December 31, 1976, c.A-4 and accompanying Commissioner's Order 1978/110.
  - Yukon. Community Assistance Ordinance, Ordinances of Yukon Territory consolidated to 1980, c.2.
  - Yukon. Lands Ordinance. Ordinances of the Yukon Territory consolidated to December 31, 1980.
  - Yukon. Assessment in the City of Whitehorse Ordinance, Ordinances of the Yukon Territory, 1977 (2nd)c.11.
  - Yukon. Municipal Finance Ordinance, Ordinances of Yukon Territory consolidated to 1981.
  - Yukon. Government Employee Housing Plan Ordinance, Ordinances of the Yukon Territory as amended in 1980.
  - Yukon. Municipal Ordinance. Ordinances of Yukon Territory consolidated to 1980 as amended. New Municipal Ordinance prepared in 1980, assented to November 30, 1981.
  - Yukon. Land Planning Act, Bill no.14, Legislative Assembly of the Yukon Territory, Second session of the 25th Legislative Assembly, assented to December 9, 1982.



- Townsite, lot plans and zoning maps were viewed and obtained from the Yukon Archives and City of Whitehorse.
- Photographs. All photographs with the exception of one were made by the author. The air photographs originate from the Canada Air Photo Library in Ottawa and were prepared by the Department of Energy, Mines and Resources.

## BIBLIOGRAPHY

- Adams, I.H. The making of urban Scotland (London: Croom Helm, 1978).
- Alexander, E.M. "Conflicting styles of life in a northern Canadian town", Arctic v.22(2) 1969:90-105.
- Archibald, W.R., W.J. Klassen and J. McDonald "The history, development and present direction of the fur industry in the Yukon Territory", a report presented at the 3rd Annual Western Fur Managers' Conference, 1977.
- Arnold, R.D. Alaska Native Land Claims (The Alaska Native Foundation, 1976).
- Beauchamp, K.P. Land management in the Canadian North, (Ottawa: Canadian Arctic Resources Committee, 1976).
- Beauregard, R.A. "Planning in an advanced capitalist state". In: Burchell, R.W. and Sternlieb, G. eds. Planning theory in the 1980's, a search for future directions (New Brunswick, New Jersey: Rutgers University, Centre for urban policy research, 1979).
- Beck, J.R., R. Rowan and P. Teasdale. House design requirements user -- generated program for low rise multiple dwelling housing in Canada (Centre de Recherches et d'Innovation Urbaines, Université de Montreal, 1975).
- Berger, T.R. Northern frontier, northern homeland (Ottawa: Supply and Services, 1977).
- Berry, B.J.L. "Notes on an expedition to plan land". In: Burchell, R.W. and Sternlieb, G. eds. Planning theory in the 1980's, a search for further directions (New Brunswick, New Jersey: Rutgers University Centre for Urban Policy Research, 1979).
- Bettison, D.G. The politics of Canadian urban development (The University of Alberta Press, 1975).
- Bird, R.M. and Slack, N.E. Urban Public Finance in Canada (Toronto: Butterworth & Co. Ltd., 1983).
- Boulowe, R. Land resource economics - the economics of real property (Englewood Cliffs, New York: Prentice Hall, 2nd. ed., 1972).
- Bourne, L.S. Limits to urban growth: who pays, who decides? (University of Toronto, Centre for Urban and Community Studies, Research paper no.68, 1975).
- Bradbury, J.H. "Toward an alternative theory of resource town development in Canada", Economic Geography, v.55(2), 1979:147-166.

- Bradbury, J.H. "Instant resource towns policy in British Columbia: 1965-1972", Plan Canada, 20(1) 1980:19-37.
- Broadbent, T.A. Planning and profit in the urban economy (London: Methuen, 1977).
- Brody, H. Indians on skid row (Ottawa: Canada, department of Indian Affairs and Northern Development, Northern Science Research Group, NSRG-70-1, 1971.)
- Brody, H. 1981 Maps and dreams. Indians and the British Columbia frontier (Vancouver, Toronto: Douglas and McIntyre, 1981).
- Bryant, R.W.G. "Land speculation, its effects and control". In: Gertler, L.O. ed. Planning the Canadian environment (Montreal: Harvest House, 1968).
- Bucksar, R.G. "The squatter on the resource frontier", Arctic, v.23(3) 1970:202-204.
- Bucksar, R.G. "The problem of squatters in the Northland", Habitat, v.13(1) 1970:24-27.
- Burchell, R.W. and Listokin, D. "The impact of local government regulations on housing costs and potential avenues for state meliorative measures", in Sternlieb, G., Hughes, J.W. and et al. America's Housing (New Brunswick, N.J.: Rutgers University, 1980).
- Burton, T.I. Outdoor recreation in the Yukon (Edmonton: The University of Alberta Department of Recreation, Administration and and Population Research Laboratory, 1977).
- Buse, G. "Growth communities of the north", Final report, (Edmonton: University of Alberta, Boreal Institute for Northern Studies, 1978).
- Carr, D. Wm., and Anderson, F.W. The Yukon economy: Its potential for growth and development, v.1 and 2 final report (Prepared by D. Wm. Carr and Associates Ltd., for Canada, Department of Indian Affairs and Northern Development and the Government of Yukon Territory, Ottawa, 1968).
- Carstensen, V. ed. The public lands: studies in the history of the public domain (The University of Wisconsin Press, 1968).
- Central Mortgage and Housing Corporation. A medium-density housing study (Ottawa: Central Mortgage and Housing Corporation, 1977).
- Chandler, T.J. Urban climatology and its relevance to urban design (World Meteorological Organization, Technical note no.149, 1976).
- Chretien, J. 1969 Statement of the Government of Canada on Indian policy (Ottawa: Queen's Printer, 1969).
- Clawson, M. "An overview from the American experience. Re: Some public lands problems in Canada". In: Nelson, J.R., Scace, R.C. and Kouri, R. eds

Canadian public land use in perspective (Proceedings of a Symposium sponsored by the Social Science Research Council of Canada Ottawa, 1973).

- Coates, K.S. "Best left as Indians: The federal government and the Indians of the Yukon, 1894-1950." Vancouver: Paper presented to the Canadian Historical Association Conference, University of British Columbia, June 1983).
- Cruikshank, J.M. 1974 "Through the eyes of strangers, a preliminary survey of land use history in the Yukon during the late nineteenth century." (Whitehorse: Yukon Archives, 1974).
- Cruikshank, J.M. "Alaska Highway construction: a preliminary evaluation of social impacts on Yukon Indians. Yukon case studies: Alaska Highway and Ross River." (Whitehorse: University of Canada North, Yukon, Research Division, 1977).
- Culjat, B. Climate and the built environment in the North, Ph.D. dissertation (Stockholm, Sweden: Institutionen for Arkitektur, KTH, 1975).
- Cumming, P. and Mickenberg, N.H. Native rights in Canada (Toronto: General Publishing Co., for the Indian and Eskimo Association, 2nd ed., 1972).
- Cumming, P.A. "Public lands, native land claims and land use." In: Nelson, J.G., Scafe, R.C., and Kouri, R. eds. Canadian public land use in perspective (Ottawa: Proceedings of a Symposium sponsored by the Social Science Research Council of Canada, 1973).
- Cumming, P.A. "Our land our people: Native rights north of 60°" In: Pimlott, D.H. et. al. eds. Arctic alternatives (Ottawa: Canadian Arctic Resources committee, 1973).
- Darin-Drabkin, Haim. Land policy and urban growth (Toronto: Pergamon, Press, 1977).
- Davies, S. ed. The form of housing, ( Toronto: Van Nostrand Reinhold, 1977).
- Denis, P.J. Whitehorse-esquisse de géographie urbaine, Masters Thesis (Montréal: Université de Montréal, 1955).
- Dennis, M. and Fish, A. Programs in Search of a Policy: Low Income Housing in Canada (Toronto: Hakkert, 1972).
- Derkowski, A. Costs in the land development process (Toronto: Housing and Urban Development Association of Canada, 2nd ed., 1976).
- Dickinson, D.M. "Northern resources: A study of constraints, conflicts and alternatives". In Peterson, E.B. and Wright, J.B. eds. Northern Transitions, v.I. Northern resource and land use policy study. (Ottawa: Canadian Arctic Resources Committee, 1978;253-318).
- Dosman, E.J. Indians: The urban dilemma (Toronto: McClelland and Stewart, 1972).

- Duerden, F. The evolution and nature of the contemporary settlement pattern in a selected area of the Yukon Territory (Winnipeg: University of Manitoba, Center for Settlement Studies, Research report no.3, Series 2, 1971)
- Duerden F. The development and structure of the settlement in the Yukon (Whitehorse: Department of Library and Information Resources. Government of Yukon, 1981).
- Derkowski, A. Costs in the land development process housing and urban development (Toronto: Housing and Urban Development Association of Canada, 1976).
- Ely, R. Land economics (Madison: Univ. of Wisconsin Press, 1969).
- Erley, D. and Jaffe, M. Site planning for solar access: a guidebook for residential developers and site planners (Washington: U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 1979).
- Erskine, R. "Architecture and town planning in the North." The Polar Record, 14(89)1968:165-171.
- Evans, G.M. "The development of government in Canada's North." In Keith, R.F. and J.B.Wright eds. Northern Transitions, v.II, Second National Workshop on people, resources and the environment, north of 60°. (Ottawa: Canadian Arctic Resources Committee, 1978:322-329).
- Faludi, E.G. "Designing New Canadian communities." Journal of the American Institute of Planners, 16(3) 1950:143-147.
- Feldman, L.D. and Graham K.A. "Intergovernmental relations and urban growth: A Canadian view" In: Politics and government of urban Canada, Feldman, L.D. ed. (Toronto: Methuen, 4th ed., 1981:171-200).
- Fletcher, R.H. study director, Maksymec & Associates Limited, Inventory report for resource community development; Alternative approaches to the planning and development of Canadian resource communities (Ottawa: Canada, Ministry of State for Urban Affairs, Urban Policy Analysis Branch, 1976, 1977).
- Gerecke, K. "The history of Canadian city planning." City Magazine, v.2(3-4)1976.
- Goetz, M.L. and L.E. Woffard "The motivation for zoning: efficiency or wealth redistribution?", Land economics, v.55(4)1979.
- Golany, G. New town planning: principles and practice (Toronto: John Wiley & Sons, 1976).
- Gottman, J. and R.A. Harpster eds. Metropolis on the move: geographers look at urban sprawl (New York: Wiley, 1966).

- Graham, G. "Yukon settlements: A string of beads along a road pattern." In: Human settlement and renewable resources north of sixty (Vancouver: University of British Columbia, Human settlement issues, Seminar proceedings, The Centre for Human Settlements, 1979).
- Greater Vancouver Regional District, Vancouver, B.C. A qualitative list for compact housing (Ottawa: Canadian Housing Design Council, Central Mortgage and Housing Corporation, 1975).
- Gunton, T.I. "Recent issues in Canadian Land Policy" Review Essay, Canadian Geographer, v.27(2), 1983:194-206.
- Habitat and energy in Canada, (Ottawa: Ministry of State for Urban Affairs, 1977).
- Hall, P. Urban and regional planning (Middlesex, England: Penguin Books Ltd., 1975).
- Hammond, R., McCullagh, P. Quantitative techniques in Geography: an introduction (Oxford: Clarendon Press, 1978).
- Harvey, D. Society, the city and the space economy of urbanism. (Washington: Association of American Geographers, Commission on College Geography, Resource Paper No.18, 1972).
- Harvey, D. Social justice and the city (Baltimore: The Hopkins Univ. Press, 1973).
- Harvey, D. "On planning the ideology of planning", In: Burchell, R.W. and Sternlieb, G. eds., Planning theory in the 1980's, a search for future directions (New Brunswick, N.J.: Centre for Urban Policy Research, Rutgers University, 1979).
- Harwood, C.C. Using land to save energy (Cambridge, MA: Ballinger Publishing Co., 1977).
- Healy, R.G. Land use and the states (Published for "Resources for the Future" series, Baltimore: Johns Hopkins University Press, 1976).
- Hellyer, P.T. chairman, Report of the Federal Task Force on Housing and urban development (Ottawa: Queen's Printer, 1969).
- Hemphill, M.L. "Portland Oregon's approach to energy and land use: a new comprehensive plan", in Energy conservation through land use planning: A synthesis of discussion at a symposium held in Montreal, March 1980 (Ottawa: Environment Canada, Lands Directorate, Working paper no.6, 1980).
- Hildebrandt-Young & Associates Ltd. Projected Yukon energy requirements 1980-1991. Prepared for Government of Yukon and Government of Canada. (Winnipeg: Hildebrandt-Young & Associated, 1981).
- Howard, E. Garden cities of tomorrow (Cambridge: MIT Press, 1965).

- Jenness, D. The Indians of Canada 7th ed. (Toronto: University of Toronto Press, 1977) Originally published in 1932 by the National Museum of Canada.
- Joly, L. L'élaboration d'une politique en matière d'aménagement pour les Territoires du Nord-Ouest (Montréal: McGill University, School of Urban Planning, supervised research project, 1982).
- Judd, D.A.W. "Urbanization and administration", in Essays on Mid-Canada (Toronto: Mid-Canada Development Foundation, 1970).
- Kain, John F. Urban form and the costs of urban services (Boston: MIT-Harvard Joint Centre for Urban Studies Program on Regional and Urban Economics, 1967).
- Kehoe, D., Morley, D., Proudfoot, S.B., Roberts, N.A. eds. Public land ownership for evaluation (Toronto: Lexington Books, 1976).
- Kiff, J. Space outside the dwelling unit. A review of selected Canadian housing user studies; Working paper no.7 (Ottawa: Central Mortgage and Housing Corporation, Architecture and Planning, 1974).
- Koroscil, P.M. The changing landscape of the Yukon Territory and the settlement of Whitehorse Ph.D. thesis (Ann Arbor, Michigan: University of Michigan, 1970).
- Koroscil, P.M. "Urbanization in the Canadian North: Yellowknife, N.W.T." Economic Geography 55(2) 1976:147-166.
- Koroscil, P.M. "Planning and development in Whitehorse, Yukon Territory." Plan Canada, 8(1) 1978:30-45.
- Kristof, F.S. "Planned unit developments, new towns and public policy", in Burchell, R.W. ed., Frontiers of planned unit development: A synthesis of expert opinion (New Brunswick, New Jersey: Rutgers University, Centre for Urban Policy Research, 1973).
- Kuo, Chun-Yan and Mathurin, D.C.E. Incomes of northerners in the Yukon Territory and Northwest Territories, 1970 (Ottawa: Indian Affairs and Northern Development, Policy and Planning Division, 1975).
- Lambert, C. Identification et intégration ethnique à l'intérieur d'une ville nordique, Whitehorse, Yukon, (Ph.D. dissertation, Montreal: McGill University, 1974).
- Lambert, C. Identification and ethnic integration within a northern city, Whitehorse (Ottawa: Department of Indian and Northern Affairs, Northern Research Division, Aug. 1974).
- Lambert, C. Ethnic identification and integration in a northern urban centre, Whitehorse, Yukon. Summary of final report under contract no. NSRG-71-10 for the Department of Indian and Northern Affairs (Montreal: McGill University, Program in the Anthropology of Development, Brief Communication no.36, 1975).

- Lang, R. "Energy conservation through land use planning in Canada: Overview and outlook", in Sewell, W.R.D. and Foster, H.D. eds., Energy conservation through land use planning: A synthesis of discussions at a symposium held in Montreal, March 1980. (Ottawa: Environment Canada, Lands Directorate, Working paper no.6, 1980).
- Lang, R. and Lounds, J. Information resources for municipal energy planning and management (Downsview, Ontario: York University, Faculty of Environmental Studies, Working paper no.1, 1979).
- Lang, R. and Armour, A. Source book: energy conservation in twenty Canadian cities. (Toronto: City of Toronto Planning and Development Department, 1980a).
- Lang, R. and Armour, A. New directions in municipal energy conservation: the California experience (Toronto: Ontario Ministry of Energy, 1980b).
- Lash, D.S. "Planning of recent new towns in Canada." The Engineering Journal, March 1958:43-53,58.
- Lawrence, N.A. Associated Engineering Services Ltd. Cold regions engineering and research needs. Discussion paper for the National Research Council, 1977.
- Lester, G.S. The territorial rights of the Inuit of Canadian Northwest Territories: A legal argument, Dissertation (Toronto: York University, 1981).
- Linn, H.D. and J.C. Stabler Economic, social and planning requirements for Northern communities (Saskatoon: Saskatchewan Geological Survey, Department of Mineral Resources, Miscellaneous Report No.78-1, 1978).
- Lithwick, N.W. 1970 Urban Canada: Problems and prospects. Research monograph no.1 (Ottawa: Canadian Mortgage and Housing Corporation, 1970).
- Lloyd, T. "The urbanizing north: Some comparisons", Oberlander, H.P. ed., Improving human settlements (Vancouver: University of British Columbia Press, 1976:31-43).
- Lorimer, J. and Ross, E. eds. The second city book. Studies on urban and suburban Canada (Toronto: James Lorimer and Company, 1977).
- Lorimer, J. The developers (Toronto: Lorimer, 1978).
- Lotz, J.R. The squatters of Whitehorse (Ottawa: Canada Department of Indian and Northern Affairs, Industrial Division, Area and Community Planning Section, 1961).
- Lotz, J.R. A general introduction to Whitehorse, Yukon territory (Ottawa: Canada Department of Northern Affairs and National Resources, Industrial Division, Area and Community Planning Section, 1961).
- Lotz, J.R. "The squatters of Whitehorse: a study of the problems of new northern settlements". Arctic, v.18(3) 1965:173-188.



- Lucas, R.A. Minetown, milltown, railtown: Life in Canadian communities of single industry (Toronto: University of Toronto Press, 1971).
- Lysyk, K.M., Bohmer, E. and Phelps, W. Alaska highway pipeline inquiry (Ottawa: Ministry of Supply and Services, 1977).
- Macpherson in Northern Transitions, v.2, Keith, R.F. and Wright, J.B. eds. (Ottawa: Canadian Arctic Resources Committee, 1978).
- Mackay, D. Multiple family housing (London: Thames & Hudson, 1977).
- Martin, C. Dominion lands Policy (Toronto: McClelland and Stewart Limited, 1973).
- Matthiasson, J.S. Resident perceptions of quality of life in resource frontier communities (Winnipeg: University of Manitoba, Centre for Settlement Studies, Series 2, No.1, 1970).
- McCann, L.D. "The changing internal structure of Canadian resource towns", Plan Canada, March 1978:46-49.
- Michelson, W. and Reed, P. Theoretical status and operational usage of lifestyle in environmental research (Toronto: University of Toronto, Centre for Urban and Community Studies, Research Paper no.36, 1970).
- Middleton Associates. Urban form and energy consumption (Ottawa: Ministry of State for Urban Affairs, 1979).
- Moore, G.T. "Knowing about environmental knowing: The current state of theory and research in environmental cognition." Environment and Behavior, v.11(1) 1979:33-70.
- Moore, P.W. "Zoning and planning, the Toronto experience 1904-1970", in Artibise, A.F.J. and Stelter, G.A. eds. The usable urban past, planning and politics in the modern Canadian city. (Canada: MacMillan, 1979:316-340).
- McFadyen, S. "Urban public land banking in Canada", in Urban land symposia proceedings. (The Canadian Council on Social Development, 1977).
- Nader, R. Politics of land, report on land use in California, (New York: Grossman Publishers, 1973).
- Naysmith, J.K. Toward a northern balance (Ottawa: Information Canada, Indian and Northern Affairs, North of 60° series, 1973).
- Naysmith, J.K. Land use and public policy in Northern Canada, Ph.D. thesis (Vancouver: University of British Columbia, 1977).
- Naysmith, J.K. Land use and public policy in Northern Canada (Ottawa: Canada, Department of Northern Affairs, Northern Policy and Program Planning Branch, 1977).

- Nelson, R.H. Zoning and property rights: An analysis of the American system of land-use regulation (Cambridge, Massachusetts: MIT Press, 1980).
- Neutze, M. The price of land and land use planning, policy instruments in the urban land market (Paris: Environmental Directorate, O.E.C.D., 1973).
- Nickels, J.B. ed. Studies of expected and effected mobility in selected resource frontier communities (Winnipeg: University of Manitoba, Centre for Settlement Studies, series 2, Research Report no.28, 1976).
- Nickels, J.B., Dexter H. and Ledger J. An interdisciplinary approach to scientific research on quality of life in the Canadian North (Winnipeg: University of Manitoba, Center for settlement studies, series 2, research report no.25, 1976).
- Nickels J.B., Sexton D.L. and Bayer C.A. Life satisfaction in a resource frontier community (Winnipeg: University of Manitoba, Centre for Settlement Studies, series 2, research report no.27, 1976).
- Novak, B.E. and Glouberman, S. Human settlement in the Canadian North (Montreal: Urbanorth Inc., 1976).
- Olgyai, V. Design with climate. Bioclimatic approach to architectural regionalism (Princeton University Press, 1963).
- Osgood, C. Contribution to the ethnography of Kutchin (Yale University Publications in Anthropology no.14, Yale University Press, 1936).
- Palmer, J. "The measurement of incomes in the Yukon and Northwest Territory", in Social accounts for the North (Ottawa: Department of Indian and Northern Affairs, North of 60° series, 1973).
- Perks, W.T. "Public lands and Canadian urbanism", Canadian public land use in perspective, Nelson, J.G. et al. eds., (Ottawa: Proceedings of a Symposium sponsored by the Social Science Research Council of Canada, 1973).
- Perry, C.A. "Neighborhood and community planning", v.7, New York, Regional Plan of New York and its environs, 1929.
- Perry, C.A. Housing for the machine age (New York: Russel Sage Foundation, 1939).
- Phillips, D.W. and Crowe, R.B. Climate severity index for Canadians (Downsview, Ontario: Environment Canada, 1984).
- Piper, J. "Saskatoon robs the bank", City Magazine, v.1 Oct. 1974:16-20.
- Pressman, N.E.P. "Social planning prerequisites for new expanded communities", in: Contact, special issue. New communities in Canada, v.8(3) 1976:170-187.
- Rapoport, A. Human aspects of urban form. Towards a man-environment approach to urban form and design (Oxford: Pergamon Press, 1977).

- Ravis, D.P. Advance land acquisition by local government. The Saskatoon experience (Ottawa: Community Planning Association of Canada, 1973).
- Rea, K.G. The political economy of the Canadian North (Toronto: University of Toronto Press, 1968).
- Rea, J. The political economy of northern development (Ottawa: Science Council of Canada, Background Study no.36, 1976).
- Real Estate Research Corporation. The costs of sprawl, environmental and economic costs of alternative residential development patterns at the urban fringe (Washington, D.C.: Government Printing Office, 1974).
- Redpath, D.K. Land use programs in Canada, Yukon Territory (Environment Canada, Lands Directorate, Ministry of Supply and Services, 1979).
- Rees, W. "Development and planning north of 60°: Past and future", in Northern Transitions, v.2 Keith, R.F. and Wright, J.B. eds. (Ottawa: Canadian Arctic Resources Committee, 1979).
- Regional Municipality of Ottawa-Carleton. Opportunities for energy conservation in Ottawa-Carleton, the municipal role (Ottawa: Regional Municipality of Ottawa-Carleton, 1983).
- Reps, J.W. Town planning in frontier America (Columbia and London: University of Missouri Press, 1980).
- Richman, A. and Chapin F.S.Jr. A review of the social and physical concept of the neighborhood as a basis for planning residential environments (Department of City and Regional Planning, University of North Carolina, 1977).
- Richmond, D.E. "Provincial-municipal tax and revenue sharing: Reforms accomplished, 1978 compared with 1971", in Feldman, L.D. ed. Politics and government of urban Canada (Canada: Methuen, 1981).
- Ridge, T.G. General principles for the planning of subarctic settlement Ph.D. thesis (Montreal: McGill University, 1953).
- Riffel, J.A. Quality of life in resource towns (Ottawa: Ministry of State and Urban Affairs, 1975).
- Roberts, E.N.R. Environment, community and life style: components of residential preference for cities. Ph.D. thesis (Toronto: University of Toronto, 1976).
- Roberts, N.A. "Canada, small scale government land development and large scale private developers", in Roberts, N.A. ed. The government land developers (Toronto: Lexington Books, 1977).
- Roberts, N.A. "The effect and impact of the Canadian public land development program" in Roberts, N.A. ed., The government land developers (Toronto: Lexington Books, 1977).

- Robinson, I.M. New industrial towns on Canada's resource frontier (University of Chicago, Department of Geography, Research Paper no.73, 1962).
- Rose, A. Canadian housing policies (1935-1980) (Toronto: Butterworths, 1980).
- Ross, G. Energy conservation in land use planning (City of Brampton Planning Department, Ontario, 1979).
- Rowal, D.C. The Canadian municipal system, essays on improvement of local government (Toronto: McClelland and Stewart, 1969).
- Saywell, J.T. "Housing Canadians: Essays on the history of residential construction in Canada." (Ottawa: Economic Council of Canada, Discussion paper no.24, 1975).
- Schoenauer, N. "Fermont: a new version of the company town", Architectural Education, February 1976.
- Schoenauer, N. Shape and orientation of new buildings. Design for energy, conservation in the Sub-Arctic with special reference to Fermont (Ottawa: Seminar on the impact of energy considerations on the planning and development of human settlements, October 1977).
- Sewell, W.R.D. and Foster, H.D. Analysis of the United States experience in modifying land use to conserve energy (Ottawa: Environment Canada, Lands Directorate, Working Paper Series no.2, 1979).
- Sewell, W.R.D. and Foster, H.D. Energy conservation through land use planning: a synthesis of discussions at a symposium held in Montreal, 1980 (Ottawa: Environment Canada, Lands Directorate, Working Paper no.6, 1980).
- Siemens, L.B. "Single enterprise communities on Canada's resource frontier", Contact special issue New communities in Canada v.8(3), 1976.
- Smith, L.B. Housing in Canada: Market Structure and Policy Performance (Ottawa: Central Mortgage and Housing Corporation, Research Monograph no.2, 1971).
- Smith, L.B. and Walker, M. eds. Public property: essays on the price, ownership and government of land (Vancouver: The Fraser Institute, 1977).
- Smith, L.B. "Canadian housing policy in the seventies", Land Economics, 57(3) 1981:341-352.
- Smith, P.J. "The principle of utilities and the origins of planning legislation in Alberta 1912-1975", in Artibise, A.F.J. and Gilbert, A.S. eds. The usable urban past. Planning and politics in the modern Canadian city (Toronto: MacMillan, 1979).
- Socolow, R.H. "Energy conservation in housing: Concepts and options", in Burchell, R.W. and Listokin, D. eds., Future land use. Energy.

environmental and legal constraints (New Brunswick: New Jersey: Center for urban policy research, Rutgers State University, 1975).

- Spurr, P. Land and urban development (Toronto: James Lorimer & Company, 1976).
- Stelter, A.G. and Artibise, A.F.J. "Canadian resource towns in historical perspective", In: Stelter, G.A. and Artibise, A.F.J. eds. Shaping the urban landscape. Aspects of the Canadian city building process. (Ottawa: Carleton University Press, 1982:413-434).
- Strong, A.L. Land banking: European reality, American prospect (Baltimore: Johns Hopkins University Press, 1979).
- Taylor, G. "A Yukon doomsday: 1944", Canadian Journal of Economics and Political Science, 2(2), 1945:432.
- Thibault, E. Regional socio-economic overview study, Yukon Territory (Ottawa: Information Canada, Task Force on Northern Oil Development, Report no.74-46, 1975).
- Urban Land Institute. New approaches to land development: a study of concepts and innovations (Washington, D.C., 1961).
- Usher, P. "Commentary on paper no.6, Land use in Canada's North", in Nelson, J.G. et al. eds. Canadian public land use in perspective (Ottawa: Proceedings of a Symposium sponsored by the Social Science Research Council of Canada, 1973:177-187).
- Usher, P.J. and Beakhust, G. Land use regulation in the Canadian North (Ottawa: Canadian Arctic Resources Committee, 1973).
- Vinson, T.S. The northern community: a search for a quality environment (New York: American Society of Civil Engineers, 1981 Proceedings of a conference on the Northern Community: A search for a quality environment).
- Vanstone, J.W. Athapaskan adaptation hunters and fishermen of the subarctic forests (Chicago: Aldine Publishing Company, 1974).
- Van Ginkel Associates Ltd. Building in the North. Responding to the environment, v.1; Experience and projects, v.2 (Canadian Arctic Gas Study Ltd., 1976).
- Van Ginkel Partners, Northern communities, requirements and problems (Ottawa: National Research Council, Working paper, Coordinating Committee on Cold Regions, Nov. 1977).
- Zaslow, M. The opening of the Canadian north, 1870-1914 (Toronto: McClelland and Stewart, 1971).
- Waikley and Olson, Architects. Privacy in compact housing, territory and individual control (Vancouver: Greater Vancouver Regional District Planning Department, 1976).

- Warner, I. "The last of the riverboats" In: Whitehorse Star, 1975, Sept. 22.
- Whyte, W.H. Cluster Development. American Conservation Association, 1971.

## ABBREVIATIONS AND METRIC CONVERSION

### Abbreviations

BLT	Block Land Transfer
CMHC	Canada Mortgage and Housing Corporation
CYI	Council of Yukon Indians
cf.	Refer to
DIAND	Department of Indian Affairs and Northern Development
EPEC	Environmental Planning and Engineering Consultants
NHA	National Housing Act
NWT	Northwest Territories
YA	Yukon Archives
YGR	Yukon Government Records
YTR	Yukon Territorial Government
WCR	Whitehorse City Records

## Metric conversion

### English and metric equivalents

#### Linear measure

1 foot (12 inches)	= 0.30480 metre
1 yard (3 feet)	= 0.914399 metre
1 mile	= 1.60934 kilometres

#### Square measure

1 square yard	= 0.836126 m <sup>2</sup>
1 acre	= 0.40468 hectare
1 square mile (640 acres)	= 258.99824 hectares

#### Measure of capacity

1 gallon (4 quarts)	= 4.5459631 litres
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