HUMAN SETTLEMENT IN CANADA

Issued under the authority of
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Foreword

This report is an attempt to sum up and to assess Canada's experience as an urbanizing nation. It is concerned with the "facts", and is full of useful statistics and illustrations about our performance, our problems, and our future possibilities. But important as these are, they do not and cannot convey the full reality of Canadian settlements . . . cities, towns, villages and hamlets.

Our settlements are literally part of us . . . the first consciousness that most of us have of them is our own home, with its family places, alone places, and hiding places. The idea that the "home" was connected to something larger probably first came in the form of a warning not to wander outside the yard, or not to cross the street. More positive and wonderful and terrifying experiences awaited us as we ventured to school, or "downtown", or on a journey to another centre.

Canadians have increasingly taken the opportunity to "journey to another centre." The mobility of our population is perhaps most responsible for an air of impermanence which is much more pronounced in today's settlements than in those of the turn of the century. Then, streets, even in small towns and villages, had a degree of coherence and style rarely found in the modern urban *mélange* of glass and steel and neon. It is not, however, the *style* and the outward appearance of our settlements that is of central importance to Canadians. These are mere representations of our underlying attitude toward them.

That attitude itself now needs to be re-examined and tested in the light of the new circumstances in which we find ourselves. Our settlements are our "life support systems". They must serve us well in meeting the economic and environmental uncertainties of the future. They must embody, not embalm our past, and energize, not enervate our present. Throw away settlements, urbanization without urbanity, cannot sustain us in our hour of leisure, or prayer, or dire need. We need settlements that we all recognize are here to stay, which give us anchor points in our ceaselessly shifting lives.

The Habitat Conference provides us with a rare opportunity to pause and to consider our past experience, to share it with other nations, to learn from their experiences, and together, to explore the lines of advance into the future.

The Honourable Barney Danson,
Minister of State for
Urban Affairs

Editor's Note

This report on the status of human settlement in Canada is published on the occasion of Habitat: United Nations Conference on Human Settlements (Vancouver, 31 May-11 June, 1976). The objective is to provide a factual account of human settlement in Canada today, together with an analysis of how this has come about, concentrating principally on the decade 1965-75. It does not propose new policy. Emphasis is placed on the role of governments though it is recognized that individual enterprise has traditionally provided the cutting edge of human settlement development in this country. It is hoped that the report will provide a "benchmark" against which Canadian achievement can be measured in the years following Habitat. Accordingly, the text includes a substantial amount of statistical data to facilitate future assessment. The orientation is thoroughly domestic; there is no analysis of international issues in human settlement nor are there extensive comparisons between Canada and other nations. The intended audience includes professionals and officials in the settlement field from other countries and a somewhat broader audience in Canada, including those in the general public who may wish to deepen their knowledge of certain subjects that are regularly treated in the popular media — e.g. housing policy, local government finance, land use.

Although the report attempts to present the state of human settlement in a factual manner, it is inevitable that bias intrudes, both in the analysis and in the emphasis accorded different topics. A draft version was reviewed by several federal departments and provincial governments and while their suggestions have been incorporated wherever possible, the final text is the sole responsibility of the Canadian Habitat Secretariat, an organization of the Government of Canada.

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1. Introduction

Man is a gregarious animal: for millennia he has gathered in settlements for protection, to enhance productivity, and to satisfy fundamental social needs. The concept of *human settlement* is as simple as it is familiar. Its difficulty is its breadth.

The settlement is mankind's most immediate environment — consequently it affects and is affected by virtually everything man does. This can blunt the usefulness of human settlement as a concept because the compass is too vast. The challenge is to find a fruitful middle ground between the narrowest interpretation of settlement study as concerned only with housing and community planning and the broadest interpretation which finds direct relevance in the totality of a nation's socio-economic activity.

The approach adopted in this report is to present a view of human settlement in Canada that is based on a rather traditional set of sectoral areas — i.e. shelter, infrastructure, community services, land, local government, social and environmental issues in the community, metropolitan regions, and larger settlement systems reaching to the national scale, including a discussion of inter-regional disparities and income maintenance policies. There is a concluding chapter on the future which develops many of the settlement consequences that are implied by a continuation of present demographic trends.

In their totality, these sectoral topics provide a comprehensive picture of Canadian settlement — one which certainly goes well beyond the familiar subjects of housing and community planning. It may still be asked — what does it all add up to? There is no simple summation; conclusions are implicit only in the full text. This is conceptually unsatisfactory in that no unifying theme emerges that can be unambiguously identified as *the* human settlements perspective. But it is historically accurate. Canada has not had and does not now have a human settlements policy that encompasses both the individual dwelling and the national distribution of population and economic activity. Settlement in Canada is the resultant of countless decisions by millions of individuals, tens of thousands of commercial enterprises, and scores of governments. Much is also determined by the inertia of past decisions; history weighs heavy on the form and pattern of human settlements.

Despite the absence of comprehensive governmental policies for human settlements, Canadian communities have provided a satisfactory environment for most inhabitants. In large part this is due to Canada's good fortune in having both national wealth and moderate population growth relative to the nation's resources. But challenges lie ahead. The limits of resource exploitation, particularly of fossil-based energy, are already being felt. There is an unprecedented concern over the threat that settlement poses to Canada's best agricultural land. The cost of housing in many of the nation's cities is frustrating the expectations of tens of thousands of would-be homeowners. Inter- and intra-regional disparities stubbornly persist, encouraging migration to the most prosperous provinces and to the largest metropolitan areas, resulting simultaneously in growth that is too fast in some places and too slow, or even negative, in others.

These are typical of the issues for which this report may serve as background. But it will not provide a prescription for the future. That responsibility rests with the Canadian people.

Note on Organization

The presentation of individual topics in the report is organized by spatial scale, beginning with the dwelling and concluding with issues at the national level. Nevertheless, Chapters 2 through 10 are largely self-contained and therefore can be read in different sequence with little loss of continuity. In particular, the demographic material in Chapter 10 might be read first since it pro-

vides a perspective on the age structure of Canada's population that is relevant to the analysis in many other sections.

1.1 A Profile of Canada

The following short sections provide a background sketch of the political, physical, and socio-economic contexts within which Canadian settlement takes place. Supplemented by a note on Canada's diversity and by the subsequent section (1.2) on the development of the national settlement pattern, some structure is provided for the nine sectoral chapters that follow.

Political

Canada is a federal nation, composed of ten provinces and two territories, the latter administered by the federal government. Canada attained nationhood on July 1, 1867 with the passage of the British North Canada (BNA) Act by the Parliament of Great Britain. There were four original provinces: Ontario, Quebec, Nova Scotia, and New Brunswick. Five others joined in the next 38 years and the tenth, Newfoundland, became part of Canada in 1949 (Table 1.1).

The BNA Act, although passed (and retained) by the British Parliament, was largely drafted in Canada. While the Act is not a complete constitutional document, it establishes the main terms of reference of Confederation, and in particular the division of responsibilities between the provinces and the federal government. Provincial governments when acting within their jurisdiction are as sovereign as the federal government when acting within its sphere.

Specific federal responsibilities include: defence, interprovincial and international trade, foreign affairs, criminal law, currency, and raising money by any system of taxation. The provincial legislatures were granted power over all matters of a local nature, for example: natural resources within the province, education, laws relating to property and civil rights, direct taxation within the province, and all municipal institutions. These regional, city, town and village institutions have been given responsibility by the provinces for implementing much of the provincial legislation as well as for maintaining such services as public utilities, local transportation, and schools. Local governments also have considerable responsibility for community planning and for the regulation of land use within settlements. Nevertheless, these local institutions do not constitute a third level of government in the strictest sense, since their existence and powers derive directly and exclusively from provincial authority.

As a result of the division of responsibilities set out in the BNA Act, the federal government, until recently, has had little direct involvement in settlement matters, with the exception of housing. However, rapid urban growth and an increasing awareness of the number and scale of federal programs having direct and indirect impact on the pattern and form of settlement in Canada led to the creation of the federal Ministry of State for Urban Affairs (MSUA) in 1971.

The governments of Canada and its provinces are parliamentary democracies, modelled on the British system with legislatures elected every four to five years from which are chosen the first ministers (typically the leader of the victorious party in the election) and

Table 1.1

THE PROVINCES AND TERRITORIES OF CANADA

Province or Territory	Date of admission to Canada	Present area (square miles)	1971 Population[1]
Ontario	July 1, 1867	412,582	7,703,106
Quebec	July 1, 1867	594,860	6,027,764
Nova Scotia	July 1, 1867	21,425	788,960
New Brunswick	July 1, 1867	28,354	634,557
Manitoba	July 15, 1870	251,000	988,247
British Columbia	July 20, 1871	366,255	2,184,621
Prince Edward Island	July 1, 1873	2,184	111,641
Saskatchewan	Sept. 1, 1905	251,700	926,242
Alberta	Sept. 1, 1905	255,285	1,627,874
Newfoundland	March 31, 1949	156,185	522,104
Provincial Totals		2,339,830	21,515,116
Northwest Territories	July 15, 1870	1,304,903	34,807
Yukon Territory	July 13, 1898	207,076	18,388
Canadian Totals		3,851,809	21,568,311

[1] Source: 1971 Census.

their cabinets. Local governments are also elected, but judges and regulatory officials are appointed by the federal or provincial governments.

Physical

Canada is by area the second largest country in the world, though in population it ranks only about thirtieth. The lands within its 3.8 million square miles of territory are extremely diverse, including vast prairies, high mountain ranges, more than 1.5 million square miles of northern wilderness and arctic tundra, an uncounted number of lakes (almost 300,000 square miles of fresh water surface), and more than a million square miles of productive forest.

The most southerly point in Canada (Middle Island in Lake Erie) is at latitude 41° 41′ N, south of the northern border of California. The most northerly limit of land is Cape Columbia on Ellesmere Island at 83° 07′ N. From east to west at the widest point covers a straight line distance of 3,223 miles — from Cape Spear, Newfoundland (longitude 52° 37′ W) to Mt. St. Elias in the Yukon (140° W.).

This immense area, which seems to afford extensive scope for settlement, imposes its own limitations. Much of the land is mountainous and rocky or is under an arctic climate. The developed portion is probably not more than one third of the total; the occupied farm land is less than 8%.

There is no permanent settlement in almost 90% of Canada (Map 1.1). Only the smallest province, Prince Edward Island, is completely occupied. Large parts of the interior of Nova Scotia, New Brunswick

MAP1.1

SOURCE: J. W. MACNEIL, ENVIRONMENTAL MANAGEMENT, BASED ON ANALYSIS BY R. GADJA (GEOGRAPHIC BULLETIN, 1960)

and the Gaspé Peninsula are vacant as is most of the interior of the island of Newfoundland where settlement is confined for the most part to a broken fringe around the coast. On either shore of the St. Lawrence River below Quebec City there is a narrow fringe of settlement with empty land behind.

Almost 60% of the population of Canada lives in an area between the American border and a 650-mile east-west line from Quebec City to Sault St. Marie. Within the area there is continuity of settlement but there are also large unsettled tracts. This block of continuous settlement, whose greatest north-south reach is 270 miles, makes up approximately 2.2% of the area of Canada. The eight largest cities within it (Montreal, Toronto, Ottawa, Quebec City, Hamilton, London, Windsor, Kitchener-Waterloo) account for over one-third of the Canadian population.

By far the largest tract of continuous settlement in Canada is in the Prairies provinces, with a southern margin along the United States border of some 900 miles. The settled portion occupies about 6.2% of the area of Canada and contains 15% of its population, about half of which is scattered in hundreds of small agriculturally-based towns and villages. Five large cities within the area (Edmonton, Calgary, Winnipeg, Saskatoon, and Regina) contain almost 8% of the national population.

There is continuity of settlement throughout the southern half of British Columbia, but in the form of narrow interconnecting strips following mountain valleys and coastal plains. Between the valleys, large areas are empty of permanent settlement. The settled strips occupy about 0.7% of the area of Canada and contain over 10% of its population. More than 5% of the national population is located in the Lower Fraser Valley, principally in the Vancouver metropolitan area.

Outside these urban-rural blocks of settlement there are numerous communities related to mining, forest industries, transportation, administration, defence, and fishing. Some examples of isolated settlements, whose 1971 populations were over 10,000 are as follows: Thompson, Manitoba, 19,000; Whitehorse, Yukon Territory, 11,200; Labrador City and Wabush, Labrador, 11,000; and Kenora, Ontario, 10,950.

Canada has two dominant environmental features that have been decisive in shaping the pattern of economic activity and consequently of human settlement. The first is climate.

The vastness of Canada's geography results in a wide variety of climates (Table 1.2). The Pacific coast enjoys cool and fairly dry weather in summer but mild, cloudy, and wet winters, largely free of snow near sea level.A vast area of interior Canada, extending eastward from the Rocky Mountains to central Quebec, experiences an extreme continental climate — bitterly cold winters, short but warm summers and scanty precipitation. The southern portions of Ontario and Quebec have a humid climate with cold winters, hot summers and generally ample precipitation throughout the year. Similarly the four Atlantic Provinces have a humid continental-type climate although in the immediate coastal areas there is a marked maritime effect. On the northern islands and around Hudson Bay, arctic conditions persist, with long frigid winters. Only a few months have temperatures averaging above freezing each year. Between the arctic and southern climates, a vast band of boreal Canada from the Yukon Territory to Labrador has a transitional climate with long and bitterly cold winters but appreciable summer periods.

Table 1.2

TEMPERATURE & PRECIPITATION DATA FOR SELECTED STATIONS

Location	Temperature (°C)				Average Annual Precipitation	
	January Mean	July Mean	Record High	Record Low	Total — all forms[1] (cm)	Snowfall (cm)
St. John's, Nfld.	− 4	15	31	−23	151.1	363.7
Halifax, N.S.	− 3	18	34	−25	131.9	210.8
Grand Falls, N.B.	−12	18	37	−43	102.2	265.2
Montreal, Que.	− 9	22	36	−34	99.9	243.1
Toronto, Ont.	− 4	22	41	−33	79.0	141.0
Winnipeg, Man.	−18	20	41	−45	53.5	131.3
Regina, Sask.	−17	19	43	−50	39.8	114.8
Calgary, Alta.	−11	17	36	−45	43.7	153.9
Kamloops, B.C.	− 6	20	41	−37	26.1	77.0
Vancouver, B.C.	+ 2	17	33	−18	106.8	52.3
Whitehorse, Yukon	−19	14	34	−52	26.0	127.8
Resolute, N.W.T.	−33	4	18	−52	13.6	78.7

[1] The contribution of snowfall is calculated from its melt equivalent.

Source: Adapted from *Canada Year Book* (1974); Table 1.7.

The second dominant environmental feature is fresh water. Canada's rivers account for almost 10% of the total flow of the rivers in the world. It is not surprising therefore that the history of settlement and industrial development in Canada has been influenced by its great waterways. One of the country's first industries, the fur trade, flourished because of the ready access to the interior provided by the St. Lawrence River, the Great Lakes and their tributary streams and the many other large and small waterways. Early exploration and settlement depended on this same natural means of access. The plentiful water supplies of the flat and fertile plains of southern Ontario and Quebec attracted an industrious farming people. The river-borne transportation of lumber and later the power of water-driven turbines were major factors in the development of the country's industrial base. Today, as much as in the past, water is a key to Canada's development, supplying renewable energy required for industrial growth, providing easy and relatively cheap transport for bulk raw materials, and playing a vital part in the processing of those materials.

Social and Economic

Canada is a nation of immigrants. At the outset of European colonization in the early 17th century there were estimated to be fewer than 200,000 native people. They too were "immigrants", having crossed into North America over 20,000 years ago, it is supposed, by a land bridge across what is now the Bering Strait. Spreading slowly south and east, the Indian people reached the Atlantic coast of Canada just centuries before the white man arrived.

Today the ethnic composition of the Canadian population is over 95% of European origin, with about 45% being immigrants and their descendants from the British Isles, and over 28% descended from France. Other European nations account for a further 23% with the largest shares originating in Germany (6.1% of Canada's total population), Italy (3.4%) and the Ukraine (2.7%)[1]. In 1971, over 15% of the population was foreign born. Of this first generation immigrant group, 28% were from the United Kingdom, 51% from other European countries, and 9% from the United States.

Canada has not attempted to eradicate cultural and linguistic differences among its people. There are two official languages, French and English, but in 1971 there were 320,000 Canadians who spoke neither of these. About 67% of the population speaks English only, 18% French only, and over 13% are fluently bilingual, including 27% and 21% in the provinces of Quebec and New Brunswick respectively.

In 1971 there were more than 6 million households[2] in Canada, an increase of 32% over 1961. The average number of persons per household dropped from 3.9 in 1961 to 3.5 in 1971. Family households[3] comprised 80% of the total in 1971. Of these, 91% included both a husband and wife. There were almost 480,000 single-parent families, about 80% of which were headed by mothers.

The marriage rate in Canada has varied little over the past 25 years, ranging from a low of 7.1 per 1,000 population in the early 1960's to 9.2 per thousand in 1972. This latter rate is higher than it might otherwise be since it is strongly influenced by the youthful age structure of the population (Chart 10.3). The divorce rate by contrast has increased sharply. Between 1966 and 1970 it averaged 85 per 100,000; in 1974 it had risen to 200 per 100,000. The frequency of marriage breakdown is one reflection of major changes in the nature of Canadian family life which include the rapid disappearance of the "extended family" (grandparents, parents, children and other relatives living in close proximity) and the increasing independence of women.

The nature and quality of Canadian communities are influenced more by affluence than by any other characteristic of the population. In 1971, average family income (in constant 1961 dollars) was $7,776, compared with $5,317 in 1961 and $4,016 in 1951 (Table 9.1). In 1971 only 30% of families had incomes below $5,000, while 20 years earlier over 77% fell below this level. For the poorest 20% of families, about one-third of income is earned as wages and salaries and almost half is received as payments by governments. The rest of the population receives no more than 5% of income in the form of government transfers. These and other characteristics of family income and expenditure are treated in greater detail in Chapter 9.

The Canadian economy is a mixture of public and private enterprise. There are major federal and provincial corporations in energy development and delivery, transportation, communications, and housing. The Gross National Product per capita in constant (1961) dollars has shown consistent growth since the Second World War. In 1951 it was $1,833, in 1961, $2,174, and in 1971, $3,134. Since 1974, as a result of a period of general economic recession, there has been little or no real growth in per capita GNP. Nevertheless wage rates have increased roughly on a par with prices. There are some Canadians however, particularly the elderly, whose incomes are relatively fixed and for whom recent high rates of inflation have been a very serious burden. In an attempt to control inflation which has co-existed with relatively high unemployment, the federal government,

1 Source: *Canada Year Book* (1974); Table 4.19.
2 A *household* is defined as consisting of a person or group of persons occupying one dwelling.
3 A *family* for census purposes is defined as a married couple with or without unmarried children or a parent with unmarried children living at home.

with the concurrence of the provinces, adopted in late 1975 a wage and price controls policy.

Between 1964 and 1973 the Canadian labour force[4] grew by 58% to 9.3 million, adding an average of 235,000 (net) per year. During that period the total participation rate increased from 54.1% to 57.5% as a result of the growing number of women in the labour force. (The female participation rate is now almost 40%.) Unemployment ranged from a low annual average rate of 3.6% in 1966 to 6.4% in 1971. The latest seasonally adjusted monthly rate (March 16, 1976) is 6.9%.

Meanwhile the composition of employment continues to shift from primary to tertiary activities. In 1964, 12.5% of employed persons were engaged in the primary sector (9.5% in agriculture); 40.1% were employed in manufacturing, construction, transportation, and utilities. The remainder, 47.4%, were in the service sector (e.g. trade, finance, education, the professions). By 1973, primary employment had decreased to 7.9% of the total (5.3% in agriculture) indicating a loss of 135,000 workers since 1964. The secondary sector decreased slightly in percentage to 37.6% of the employed labour force, while service employment increased by over 1.6 million to 54.5% of those employed.

A continuation of this marked trend implies an increasing concentration of economic opportunities and hence of population in urban areas. It is unlikely however that primary, and particularly agricultural, employment can drop much further. In fact, it increased slightly in both 1974 and 1975. Though gains in productivity per man-hour are anticipated with increased capital investment, it can be expected that demand for primary products will increase sufficiently to maintain the work force in this sector near its current percentage of the total.

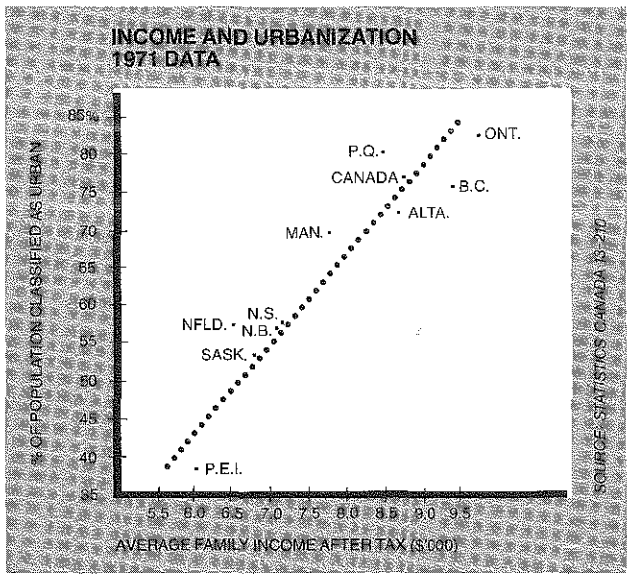
Diversity

Canada cannot be understood without an appreciation of its great diversity in physical, political, and socio-economic characteristics. The provinces range in area from just over 2,000 square miles (Prince Edward Island) to almost 600,000 square miles (Quebec) and in population from 112,000 (Prince Edward Island) to about eight million (Ontario). Yet each province is equal in constitutional, if not in economic status. Governments of the provinces encompass a wide range of political philosophies and have established quite different social and economic policies. As a further consequence of political diversity there is a wide variety of local government forms.

4 The *labour force* includes all those 15 years of age and older in the civilian (non-institutional) population who are either employed or actively looking for work. The *participation rate* is the percentage of the total civilian population aged 15 and over that is in the labour force.

Though over three-fourths of Canada's population was classified as urban in 1971, only two provinces, Quebec and Ontario, had urban percentages above the national average. The range was from 38% (Prince Edward Island) and 53% (Saskatchewan) to 82% (Ontario). Closely correlated with the urbanized percentage is average family income which in 1971 ranged from $6,083 in Prince Edward Island and $6,819 in Saskatchewan to $9,591 in Ontario (Chart 1.1).[5] Percentage figures can often conceal important differences in absolute numbers. Thus while Ontario is Canada's "least rural" province (by percentage), it has the largest number of farmers — about 360,000, equal to the total farm populations of Manitoba and Saskatchewan together.

CHART 1.1



Diversity in the composition of economic activity creates differences between provinces that are analogous to but not as extreme as differences between industrialized and non-industrialized countries. For example, 72% of the total value added by all goods-producing industries in Ontario (1971) was in manufacturing. In Saskatchewan the comparable figure was 12.9% compared with 47.6% of value added in agriculture. Alberta also had a relatively low percentage of manufacturing value added, 20.3%, as contrasted with 38.5% in mining (concentrated in the petroleum industry).

5 Source: Statistics Canada Catalogue 13-210. The figures are for after-tax income.

Very significant variations are also to be found in demographic measures. For example, in Newfoundland 48% of the population is under 20 compared with 38% in Quebec. These figures imply different structures of social service costs, particularly for education and health, and also suggest that Newfoundland has a much greater potential for natural increase in population. This is reflected in 1972 rates of natural increase which were 17.9 per 1,000 in Newfoundland, compared with 6.8 per 1,000 in Quebec and a Canadian average of 8.5. The divorce rate showed even greater variation, ranging in 1972 from 33 per 100,000 population per year in Newfoundland to 228 per 100,000 in Alberta.

Finally, it should be noted that while Canada is officially a bilingual country, only in two provinces, Quebec and New Brunswick, is more than 10% of the population able to speak both French and English. Over 98% of people in Newfoundland speak only English and in British Columbia over 94% are exclusively anglophone. In Quebec, about 3.7 million people, or 60% of the population speak French only[6]. This linguistic cleavage divides Canadians and deprives a majority of each language group of the cultural achievements of the other.

Despite the indices of diversity just enumerated — and many more will be revealed in the following chapters — there is much that Canadians hold in common. A uniform North American life style is increasingly in evidence everywhere: automobiles, super-highways, suburban sprawl, single-detached houses on large lots, huge suburban shopping plazas (filled with identical merchandise), a high level of household amenities (Table 2.1), and a remarkably uniform mass cultural diet purveyed on billboards, in magazines, on television, in the cinema, and on radio — whether in French or in English. Personal mobility, mass marketing techniques, and electronic communications threaten to erode progressively the social and cultural diversity of Canada's settlements and with it much of their unique charm. But there is some encouraging evidence — in movements to protect and enhance traditional cultures, in efforts to restore buildings to their appearance of 50 or 100 years ago, and in attempts to plan communities to be in greater harmony with their natural surroundings — that the Canada of the year 2000 will be as diverse in appearance (though not in socio-economic opportunity) as was the Canada of 1900.

1.2 Development of the Canadian Settlement Pattern

The human settlement pattern of every nation results from the interplay of geography, economics, politics, and technology. In Canada, geography encouraged settlement along the southern border, particularly along the Great Lakes-St. Lawrence waterway and in the southwestern corner of British Columbia. These locations provide hospitable climates, good agricultural soils, access to the sea, and proximity to great population concentrations in the United States. Geographic features have also conferred economic advantages, particularly on central Canada which has dominated the nation's commerce since Confederation. However, the dominance of Ontario, and to a lesser extent, of Quebec, resulted as much from explicit national policy and changing technology as from natural advantage. Indeed, the Maritime provinces were once the most urbane and prosperous region in Canada, buoyed by the industries of fishing and shipbuilding. But the replacement of sail by steam and the ascendency of manufacturing over primary production robbed the Atlantic region of an economic advantage that it has never regained.

Early Settlement

The first Europeans to establish a foothold in Canada were English fishermen who came ashore on the south coast of Newfoundland to salt and dry codfish. By 1583, England had formally laid claim to Newfoundland, retaining it as a colony until 1949 when it became Canada's tenth province.

French settlement in Canada was inaugurated in 1605 when Samuel de Champlain established his "Habitation" at Port Royal in what is now Nova Scotia. French influence subsequently spread up the St. Lawrence River where the settlements of Quebec, Trois Rivières, and Montreal became centers for a fur trade that was to cover half the continent. Despite the profits of this trade, France was not particularly successful in settling its North American colony. Agricultural development lagged and by 1759 — when New France fell to Britain — there were only 65,000 colonists compared to about 1.5 million in the English American colonies.

It was not until the 1820s that there was a major English migration to Canada after which agriculturally-based settlement became widespread in Ontario. In 1851, the time of the first census in Canada (still a collection of British colonies), there was a population of over 2.4 million (Table 1.3a) and an urban pattern had been established that persists to this day. Montreal had a population of 80,000; Quebec, 45,000; Toronto and St. John's, 30,000 each; Saint John, 23,000; and Halifax, 20,000.

Settlement After Confederation

Confederation in 1867 brought a determination to forge a Canadian economic unity to match the political union just achieved. Until that time, the regions that were to become Canada traded little with one another. Exchange took place in a north-south direction whether

6 1971 Census figures. *Canada Year Book* (1974); Table 4.18.

on the Atlantic coast, in central Canada, or on the Pacific. To create a national economy, the new government single-mindedly pursued a three part policy:

- to build a transcontinental railway;
- to settle the prairies; and
- to raise a tariff wall to protect the fledgling manufacturing industries of central Canada.

In 1885, the Canadian Pacific Railway (CPR) was completed, joining the nation coast to coast. There followed a proliferation of rail lines that saw track mileage expand from 13,150 in 1890 to 38,370 in 1917. By 1929 there were over 18,000 miles of main and branch lines in the Prairie provinces alone. The railway completed the major features of Canada's settlement pattern, establishing Vancouver, the western terminus, as the major city on the Pacific coast. West of Ontario, the railway was *the* transportation route-community settlement was rarely located anywhere but adjacent to it.

The settlement of the west did not follow imme-

Table 1.3

(*a*) GROWTH OF THE POPULATION OF CANADA, 1851-1971

Census Year	Population	Increase during intercensal period		Average annual rate of population growth
		No.	%	%
1851	2,436,297			
1861	3,229,633	793,336	32.6	2.9
1871	3,689,257	459,624	14.2	1.3
1881	4,324,810	635,553	17.2	1.6
1891	4,833,239	508,429	11.8	1.1
1901	5,371,315	538,076	11.1	1.1
1911	7,206,643	1,835,328	34.2	3.0
1921	8,787,949	1,581,306	21.9	2.0
1931	10,376,786	1,588,837	18.1	1.7
1941	11,506,655	1,129,869	10.9	1.0
1951[1]	14,009,429	2,502,774	21.8	1.7
1961	18,238,247	4,228,818	30.2	2.7
1971	21,568,311	3,330,064	18.3	1.7

[1] 1951 Census figures include Newfoundland for the first time.

Source: *Canada Year Book* (1974); Table 4.1.

(*b*) GROWTH COMPONENTS OF CANADA'S POPULATION, 1851-1971

Period	Total population growth '000	Births '000	Deaths '000	Natural increase '000	Ratio of natural increase to total growth %	Immigration '000	Emigration '000	Net migration '000	Ratio of net migration to total growth %
1851-1861	793	1,281	670	611	77.0	352	170	182	23.0
1861-1871	460	1,370	760	610	132.6	260	410	−150	−32.6
1871-1881	636	1,480	790	690	108.5	350	404	− 54	− 8.5
1881-1891	508	1,524	870	654	128.7	680	826	−146	−28.7
1891-1901	538	1,548	880	668	124.2	250	380	−130	−24.2
1901-1911	1,835	1,925	900	1,025	55.9	1,550	740	810	44.1
1911-1921	1,581	2,340	1,070	1,270	80.3	1,400	1,089	311	19.7
1921-1931	1,589	2,420	1,060	1,360	85.5	1,200	970	230	14.5
1931-1941	1,130	2,294	1,072	1,222	108.1	149	241	− 92	− 8.1
1941-1951[1]	2,503	3,212	1,220	1,992	92.3	548	382	166	7.7
1951-1961	4,228	4,468	1,320	3,148	74.5	1,543	463	1,080	25.5
1961-1971	3,330	4,105	1,497	2,608	78.3	1,429	707	722	21.7

[1] Includes Newfoundland in 1951 but not in 1941. Percentages are based on an unadjusted growth total of 2,158 thousand in 1941-51.

Source: *Canada Year Book* (1974); Table 4.2.

diately, as expected, upon completion of the transcontinental railway in 1885. Conditions were still too attractive in the western United States with the effect that Canada in fact experienced net out-migration every decade from 1861 to 1901 (Table 1.3b). But a number of factors converged beginning in 1896 to encourage a massive immigration to Canada which brought over three million new settlers by 1914, including a record 400,000 in 1913.[1] By 1928, wheat constituted 40% of Canadian exports and provided the first important interregional movement of goods in Canada's history. Meanwhile, the Prairie provinces increased their population from a mere 420,000 in 1901 to 2,354,000 in 1931, then 23% of the national total.

The third thrust of national policy was the erection of protective tariff barriers in 1879. At that time, only the industries of central Canada were sufficiently well-developed to benefit from the protection. In the Maritime provinces, the effect of the tariffs was to increase the cost of goods and, with the exception of the Sydney steel industry, this meant that industrial development would eventually take place elsewhere. But the policy was successful in Ontario and Quebec and confirmed their role as the industrial heartland of Canada. Largely as a result of manufacturing growth, the urban population of Canada increased as a fraction of the national total from less than 18% in 1871 to 42% in 1911 (Chart 1.2). This represented an urban growth of over 2.3 million or 350% in 40 years.

1 The immigration, which was destined for the west, was due largely to a steep rise in the price of wheat combined with a lowering of ocean freight rates and a reduction of rail freight rates on wheat and flour headed east for the Greak Lakes (The Crow's Nest Pass agreement of 1897), and to the fact that free land in the U.S. was filling up.

Urbanization

Rapid urban growth has continued to this day, making Canada one of the five or six most urbanized countries in the world. Table 1.4 traces this growth by decade since 1851, showing that it has averaged consistently two to four times the rate of total population increase. The greatest percentage growth (61%) occurred in the decade 1901-1911; the largest absolute increment (almost four million) was added between 1951 and 1961. Table 1.5 contains results from the 1971 Census, breaking down the population by province and by urban and rural proportions.

The definition of "urban" that is employed by the census includes all settlements of population 1,000 or more and suburbs adjacent to settlements of over 5,000 provided that the suburban density is at least 1,000 per square mile (1.56 per acre). Official urban population figures may therefore be misleading in that they include many settlements that are not at all urban in the normal sense of the word.[2] Accordingly, it is important to examine the Canadian population broken

2 Definitions of "urban" differ from country to country, but the majority do not apply the term to settlements under 20,000.

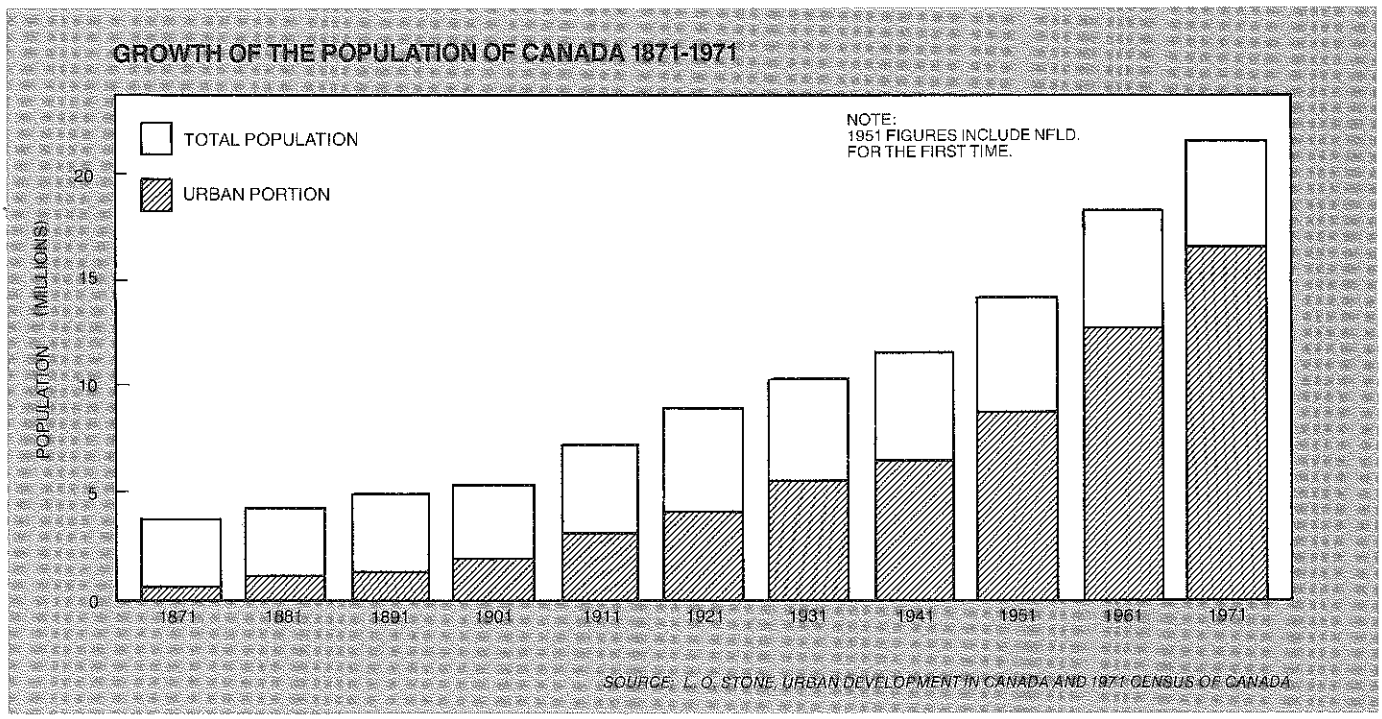


Table 1.4

URBAN GROWTH IN CANADA: 1851-1971

Year	Urban Population ('000)	Increase over the decade ('000)	Average annual rate of urban growth over the decade (%)	Average annual rate of total pop. growth over the decade (%)
1851	319			
1861	510	191	6.0	2.9
1871	675	165	3.2	1.3
1881	1,008	333	4.9	1.6
1891	1,440	432	4.3	1.1
1901	1,894	434	3.0	1.1
1911	3,013	1,139	6.1	3.0
1921	4,166	1,153	3.8	2.0
1931	5,448	1,282	3.1	1.7
1941	6,409	961	1.8	1.0
1951	8,742	2,333	3.6	1.7
1961	12,712	3,970	4.5	2.7
1971	16,411	3,699	2.9	1.7

Table 1.5

NUMBER AND PERCENTAGE OF THE POPULATION CLASSIFIED AS URBAN, AND RURAL, BY PROVINCE, 1971

Province or territory	Urban		Rural						Total population
			Non-farm		Farm		Total		
	No.	%	*No.*	%	*No.*	%	*No.*	%	*No.*
Newfoundland	298,800	57.2	218,775	41.9	4,525	0.9	223,305	42.8	522,105
Prince Edward Island	42,780	38.3	47,725	42.7	21,130	18.9	68,860	61.7	111,640
Nova Scotia	447,400	56.7	315,290	40.0	26,270	3.3	341,555	43.3	788,960
New Brunswick	361,145	56.9	247,845	39.1	25,565	4.0	273,410	43.1	634,555
Quebec	4,861,240	80.6	861,215	14.3	305,300	5.1	1,166,520	19.4	6,027,765
Ontario	6,343,630	82.4	995,840	12.9	363,640	4.7	1,359,475	17.6	7,703,105
Manitoba	686,445	69.5	171,390	17.3	130,410	13.2	301,800	30.5	988,245
Saskatchewan	490,630	53.0	202,280	21.8	233,335	25.2	435,610	47.0	926,240
Alberta	1,196,250	73.5	195,590	12.0	236,025	14.5	431,620	26.5	1,627,875
British Columbia	1,654,405	75.7	456,700	20.9	73,520	3.4	530,215	24.3	2,184,620
Yukon Territory	11,215	61.0	7,120	38.7	55	0.3	7,170	39.0	18,390
Northwest Territories	16,830	48.4	17,955	51.6	25	0.1	17,980	51.7	34,805
Canada	16,410,785	76.1	3,737,730	17.3	1,419,795	6.6	5,157,525	23.9	21,568,310

Source: *Canada Year Book* (1974); Table 4.11.

down by settlement size, as done in Table 1.6. There it is seen that 56.5% lived in centres of at least 30,000 in 1971. In the Atlantic region only 25% were in cities of over 30,000 even though the "urban" proportion calculated by the census was 56%.

The 1931 Census first recognized the phenomenon of the metropolitan region when it began to collect statistics on the "greater city". Now there are 22 *Census Metropolitan Areas* (CMAs) in Canada and in 1971 they contained over 55% of the population. By Statistics Canada's definition, a CMA is "the main labour market area of a continuous built-up area having 100,000 or more population. The main labour market area corresponds to a commuting zone where a significant number of people are able to travel on a daily basis to work places in the main built-up area." The present Metropolitan Areas[3] are listed in Table 1.7 together with their decennial growth rates since 1951. Between 1951 and 1971 the overall CMA population increased exactly in step with total urban growth (45% between 1951 and 1961 and 28% between 1961 and 1971) but certain areas, notably Calgary and Edmonton grew much faster than average, while others such as Saint John, Thunder Bay and Chicoutimi-Jonquière fell below the overall growth rate of the entire Canadian population.

[3] The Census Metropolitan Area is a demographic concept and should not be confused with metropolitan municipalities (e.g. Metropolitan Toronto) which are politically defined.

Table 1.6

URBAN POPULATION DISTRIBUTION IN CANADA 1971

	Canada	Atlantic region	Quebec	Ontario	Prairies	British Columbia
Percentage of regional population living in urban centres of:						
a) 500,000 and over	31.9	—	44.2	35.9	14.9	42.4
b) 100,000 – 499,999	15.6	9.2	8.7	17.6	31.7	7.5
c) 30,000 – 99,999	9.0	15.8	8.1	11.6	2.9	5.2
d) 10,000 – 29,999	8.1	10.3	7.9	7.9	5.6	11.1
e) 1,000 – 9,999	11.5	20.5	11.7	9.3	11.9	9.5
Total urban percentage of regional population	76.1	55.9	80.6	82.4	67.0	75.7
Five largest urban centres per region and their population						
		Halifax 222,637	Montreal 2,743,208	Toronto 2,628,043	Winnipeg 540,262	Vancouver 1,082,352
		St. John's 131,814	Quebec 480,502	Hamilton 498,523	Edmonton 495,702	Victoria 195,800
		Saint John 106,744	Hull 149,230	Ottawa 453,280	Calgary 403,319	Prince George 49,100
		Sydney 91,162	Chicoutimi-Jonquière 133,703	St. Catharines-Niagara 303,429	Regina 140,734	Kamloops 43,790
		Moncton 71,416	Trois-Rivières 97,930	London 286,011	Saskatoon 126,449	Nanaimo 38,760

Source: Adapted from Statistics Canada, *1971 Census of Canada, Population.*

Urbanization in Canada — as in other developed nations — can be divided into two phases which partially overlap. The first is the phase of rural to urban migration associated with a shift from primary production (principally agriculture) to secondary production (industrialization). The second phase is characterized by a shift from smaller to larger urban centres ("metropolitanization") and is associated with the growth of high-technology industries and of the tertiary or service sector of the economy.

The first phase of Canadian urbanization — rural to urban migration — may be nearing completion now, if only because the rural population cannot drop much further without affecting essential primary production. Between 1951 and 1971 there was an absolute decline of over one million in farm population, reducing it to a mere 6.6% of the national population. There are indications, however, particularly in Ontario, that rural population is no longer declining significantly. Instead, active farmers continue to be replaced by rural non-farm residents, most of whom work in the major cities.

Relatively few farmers derive all, or even a majority of their total income from farming alone. A recent study[4] based on 1971 data from Statistics Canada found that over 52% of the total income of farm families[5] in Canada came from wages and salaries and only 39% from net farm cash receipts. Despite this, the money incomes of farm families are still much lower than the Canadian average. In 1971, average family income in the urban population was over 40% higher than in the rural farm population,[6] a statistic that portends some further attrition in the number of active farmers, particularly among those who are now working on relatively poor land or with little capital investment. Their children are unlikely to continue the hard life with little hope of reward.

The decline of Canada's farm population is directly related to changing agricultural technology. Production has not decreased — indeed, it has grown steadily to the point where one well-equipped farmer can now feed about 50 people a year. The average size of farms has increased, and so have their capital value (Chart 8.2), and the energy inputs necessary for high productivity. In this sense, agriculture itself has become a quasi-urban industry in which only the well-capitalized can compete effectively.

Coincident with the increasing mechanization of agriculture was a rapid expansion in domestic processing and manufacturing. Wheat, which once accounted for 40% of Canadian export earnings, had by 1973 declined relatively to 5% of exports while manufactured end-products had increased to over 33%. Automobiles and parts and accessories accounted alone for

4 *Farm and Off-farm Income of Farm Families in Canada:* B. H. Davey, Z. A. Hassan; Canadian Farm Economics, Vol. 9 No. 6.

5 A "farm" is defined as any agricultural holding over one acre which yields sales of agricultural products of at least $50 per year. Remarkably, the study revealed that 38% of "farm families" reported no net income from farming! This indicates that the census figures probably substantially overestimate the "true" farm population in Canada.

6 Income does not include produce for self-consumption nor does it account for the fact that many rural families own their homes and other major assets free of debt.

over 20% of the total value of Canadian exports in 1973. Their production was concentrated almost exclusively in major urban areas of Ontario and to a much lesser extent in Quebec.

The reasons for the concentration of modern industrial production in major urban areas are easy to identify. The plants must typically be very large to take advantage of internal economies of scale. Large plants require large labour forces and, usually, the major transportation facilities and other supporting infrastructure that only a metropolis can provide. Once a metropolitan area is established as a production centre it becomes steadily more attractive because of its large local market, pool of special skills, and financial services. These factors have tended in recent decades to be much more important for industrial location decisions than, for example, lower land and labour costs. Consequently, the growth of a few metropolitan areas that enjoyed early advantages has been strongly self-reinforcing. This explains in large part the second phase of Canadian urbanization — the increasing concentration of population in relatively few dynamic metropolitan areas.

The future course is not quite clear however. There are indications that rates of metropolitan growth are slackening (Table 10.3). It is also clear that services, and not manufacturing, are providing most new jobs and these by nature are less affected than heavy industries by specific locational advantages. Services are tied to people, not to fixed capital installations. It is also possible, though by no means clear, that future technical advances in telecommunications and automation will make it less necessary and desirable to have large labour forces at the sites of industrial production.

These speculations are relevant only to the future *pace* of Canadian urbanization. It is highly unlikely that the gross pattern of urban, and particularly metropolitan, settlement will change substantially over the next 30 or 40 years. The pattern we see today in eastern Canada was laid down two and three centuries ago and has withstood — albeit with a changed hierarchy — periods of great technological and economic change. The national pattern of human settlement is remarkably resilient and is more nearly comparable with the land itself than with other works of man.

Table 1.7

POPULATION OF CENSUS METROPOLITAN AREAS (BASED ON 1971 BOUNDARIES) 1951-71

Census Metropolitan Area	1951[1]	1956	1961	1966	1971	Percentage Growth, 1951-61	Percentage Growth, 1961-71
Calgary	142,315	201,022	279,062	330,575	403,319	96.1	44.5
Chicoutimi-Jonquière	91,161	110,317	127,616	132,954	133,703	39.9	4.8
Edmonton	193,622	275,182	359,821	425,370	495,702	85.8	37.8
Halifax	138,427	170,481	193,353	209,901	222,637	39.7	15.1
Hamilton	281,901	341,513	401,071	457,410	498,523	42.3	24.3
Kitchener-Waterloo	107,474	128,722	154,864	192,275	226,846	44.1	46.4
London	167,724	196,338	226,669	253,701	286,011	35.2	26.2
Montreal	1,539,308	1,830,232	2,215,627	2,570,982	2,743,208	43.9	23.8
Ottawa-Hull	311,587	367,756	457,038	528,774	602,510	46.7	31.8
Quebec City	289,294	328,405	379,067	436,918	480,502	31.0	26.7
Regina	72,731	91,215	113,749	132,432	140,734	56.4	23.6
Saint John, N.B.	80,689	88,375	98,083	104,195	106,744	21.6	8.8
St. Catharines-Niagara	189,046	233,034	257,796	285,453	303,429	36.4	17.7
St. John's, Nfld.	80,869	92,565	106,666	117,533	131,814	31.9	23.5
Saskatoon	55,679	72,930	95,564	115,900	126,499	71.6	32.2
Sudbury	80,543	107,889	127,446	136,739	155,424	58.3	22.0
Thunder Bay	73,713	87,624	102,085	108,035	112,093	38.5	9.8
Toronto	1,261,861	1,571,952	1,919,409	2,289,900	2,628,043	52.1	36.9
Vancouver	586,172	694,425	826,798	933,091	1,082,352	41.0	30.9
Victoria	114,859	136,127	155,763	175,262	195,800	35.6	25.7
Windsor	182,619	208,456	217,215	238,323	258,643	18.9	19.1
Winnipeg	357,229	412,741	476,543	508,759	540,262	33.4	13.4

[1] Tabulation is based on those areas that were CMAs in 1971 which explains the inclusion of some that had less than 100,000 population in earlier years.

Source: *Canada Year Book* (1974); Table 4.9.

Appendix: Note on Statistics

"There are three kinds of lies —
lies, damned lies, and statistics."
— Mark Twain

The great German philosopher-mathematician, Wilhelm Leibniz, believed that all human decisions could in principle be reduced to an arithmetic calculation. Although he died in 1716, Leibniz' belief is still vigorously, though implicitly, pursued in the hope that human affairs can eventually be treated with the same objectivity, precision, and analytic power that is the hallmark of laboratory science.

The pursuit of objectivity, precision, and analytic power rests on the systematic reduction of the qualitative to the quantitative — from impressionistic observation to statistics. But merely to cover our prejudices, theories, and imperfect concepts with the cloak of numbers does not overcome their shortcomings, as Mark Twain has so perceptively observed. This caveat is not to deprecate the great usefulness of satistical data, but it is an essential qualification that must be borne in mind when reading this report. The text is replete with figures, perhaps too many for easy reading. But think of the numbers as merely another way of speaking. Rather than using such vague and incomparable terms as "several" and "many", percentages have often been supplied instead. Sometimes statistics are no better than the qualitative words they replace but rarely are they worse, provided they are not granted more credence than is deserved.

To judge adequately the quality of statistical data requires an intimate knowledge of the conditions of their collection and of the concepts underlying what is claimed to be measured. If statistics are to be used as a basis for important decisions or for academic research this knowledge is essential. It is not possible, however, to subject the figures used in this report to such searching scrutiny, though by making maximum use of Statistics Canada official data it is hoped that much of the verification has already been done. Nevertheless, there remain five principal difficulties, inherent in the use of social statistics, that apply with varying force to every number quoted in the text.

(1) *The quantification problem.* There are two sub-problems, *concept* and *measurement.* How, for example is the concept of "urban" to be reduced to a statistical measure. The census has chosen to define as "urban" any settlement over 1,000 population. Does this correspond to the common usage of the term? Measurement is always a problem. Even the counting of heads at census time is subject to error, yet in 1971 we were told that there were exactly 21,568,311 Canadians. In fairness, the census population count in Canada is one of the most accurate social statistics, which is fortunate since so many other numbers are derived from it.

(2) *The aggregation problem.* A principal virtue of many statistics is the fact that they summarize a mass of variable data in a single number, usually an *average* value. But such aggregate measures can be seriously misleading, particularly in a country as diverse as Canada. Land and house prices may appear on average to be very high because they are heavily influenced by abnormal values in a few large centers such as Toronto and Vancouver. Some idea of the complete distribution is necessary before conclusions can be drawn. Or it may be observed that education costs make up 42% of the total local government expenditure in Canada. This is true but possibly misleading if one is not also aware that New Brunswick and Newfoundland pay all education costs directly at the provincial level.

(3) *The comparability problem.* Most statistics offer only a "snapshot" in time. This is a particularly unfortunate problem with many of the numbers used in this report. Most are derived from the 1971 Census and may already be seriously dated, particularly those related to current dollars. Any quantity increasing at 10% for example, would have grown by 61% in the five years since 1971. Where inter-year comparisons of dollar figures have been made, there has been an attempt to correct for inflation by using so-called (1961) constant dollars which are adjusted for changes in the Consumer Price Index. When constant dollars are being used there is an explicit notation. Otherwise, money is quoted in its amount at the year referenced (current dollars) and must therefore be adjusted before making comparisons with 1976 amounts. Other serious problems of statistical comparability often arise when contrasting jurisdictions of widely divergent area (e.g. Quebec and Prince Edward Island), population (e.g. Ontario and New Brunswick), climate (e.g. Saskatchewan and British Columbia) or culture (e.g. Quebec and Alberta).

(4) *The incompleteness problem.* Very few statistical surveys are exhaustive. They depend instead on sampling procedures that may be more or less representative of the desired measure. House price statistics, for instance, are often based only on mortgages insured under the National Housing Act, despite the fact that these are not a majority nor perhaps are they representative of the total market, particularly in some regions of the country. Another example is the survey of consumer expenditure carried out in eight Canadian metropolitan areas in 1972 and reported in Chapter 9. The resulting data should be interpreted in a restricted context and not be assumed to apply to settlements of very different character.

(5) *The reproducibility problem.* This might also be called the consistency problem since it arises when-

ever one encounters independent estimates of what is purported to be the same quantity. These estimates almost never agree and are often seriously at odds. The figures for the total local government deficit in 1974 are a case in point. Published estimates range from $1,300 million to $730 million. The discrepancy is explained only when it is realized that Statistics Canada produces interim estimates of the deficit and that these have been steadily revised downward for 1974. Indeed, the final figures are still not released. The reproductibility problem is always present when there are conceptual or measurement difficulties. It is particularly serious in the case of urban and rural land use statistics since major policy decisions can turn on the figures that are quoted. For example; land in urban use can be defined most narrowly as that actually paved over — a relatively small area. Or it can be defined as land enclosed within urban municipal boundaries, in which case very substantial open spaces are included. The broadest definition would encompass the entire "urban shadow" or commuter zone on the assumption that the agricultural productivity of the land included is reduced by patchwork development on the urban fringe, by recreational use, and by purchase for hobby farms and rural estates. Depending on the definition used, the policy conclusions might be very different.

There is at least one other systematic problem, though it cannot be ascribed to a failure of method. It is the *blunder*, committed either in data transcription or in subsequent manipulation, or occasionally by use of figures in which one has little confidence.

If the report is read with these six caveats in the back of the mind, the statistics quoted should not seriously mislead. Indeed, it is hoped that they will substantially enhance its value.

Units of Measurement

With the exception of Table 1.2 (where temperatures are in degrees Celsius and precipitation amounts in centimetres), English units are used throughout the report. Table 1.8 will facilitate conversion to SI units (metric).

Table 1.8

CONVERSION OF ENGLISH TO SI UNITS

English Unit	Approximate SI Equivalent
1 inch	2.54 cm
1 foot	.3048 m
1 yard	.9144 m
1 mile	1.609 km
1 square foot	.0929 m^2
1 acre	.4047 hectare (ha)[1]
1 square mile	2.590 km^2
1 pound	.4536 kg
1 ton (2,000 lbs)	907.2 kg
1 Canadian gallon	4.546 litre
1 Btu	1055 J

[1] 1 hectare = 10,000 m^2

2. Shelter

By any standard Canadians are among the best housed people in the world. For example, in 1971, only 2.7% of all Canadian dwellings lacked piped water and the average number of persons per room was perhaps the lowest in the world at just over 0.7. Some 60% of all dwellings were single-detached houses. A similar percentage were occupant-owned. The level of household amenities was remarkably high (Table 2.1).

Yet housing is now perhaps the most contentious settlement issue in Canada. The cost of housing has been a very sensitive and visible index of the pressure of urban growth and of the desire for a "hedge" against inflation. Canadians, who for decades were accustomed to single-detached home ownership have recently seen serviced land in many metropolitan areas become prohibitively expensive in the face of unrelenting demand. The cost of all housing components, including mortgage interest rates, has increased dramatically.

Throughout most of the country, home ownership has been viewed as a social good, conferring stability on both communities and families. When, suddenly, it is no longer possible for many persons of average and even well-above-average incomes to become home owners it is natural to conclude that something is seriously awry.

In an April 1975 poll 78% of Canadians agreed that "there is a serious housing crisis in Canada." Three years earlier only 50% held this view.

However the belief that there is a crisis coexists with a number of contradictory pieces of evidence:

There is a housing shortage, yet . . . all but a relatively small number of unattached individuals have accommodation; at least 20% of the households have substantially more housing than they can really use.

The price of home ownership has skyrocketed, yet . . . the majority of the population who have joined the ownership "club" have no desire to see the value of their dwellings level off, much less fall; prices in the new housing market often reflect the rapid growth of these existing house values.

Rents are too high, yet . . . rents have generally risen more slowly than incomes over the past decade, and investors are finding it less and less worthwhile to engage in rental housing production, compared to other options.

A surplus of serviced land would bring prices down, yet . . . the demand of established neighbourhoods when faced with specific land development proposals is frequently that the "surplus" be created somewhere else, not next door.

It is becoming more difficult for young couples starting out to acquire their own (single-detached) house — the best they can afford is a row house or apartment . . . while this is widely perceived as a problem, the high costs of low density settlement — longer travel time from outlying suburbs to work, the need for better community amenities, and the growing burden of municipal taxes for services — are all issues as well.

The purpose of the sections to follow is to present the Canadian housing situation as it has evolved, primarily since the Second World War. Light will be shed on the issues and paradoxes that contribute to the present perception of the problem.

2.1 An Historical Note

The creation and financing of Canada's housing stock has been undertaken very largely by the private sector. Although the federal government entered the housing field in 1918 when it made money available to the provinces for re-lending to municipalities, the first general piece of federal housing legislation was the Dominion Housing Act passed in 1935.

The federal government's main role, through successive Housing Acts, has been to encourage housing demand and production and to supplement the market

for housing rather than to assume direct responsibilities that belong to other levels of government or that could be borne more effectively by private enterprise. The aim has been to encourage lenders to make loans on more favourable terms and to subsidize, through a variety of programs, housing for low and moderate income people. The provinces have complementary legislation providing for joint federal-provincial housing and land assembly projects. In addition, most provinces have enacted separate legislation on housing.

Table 2.1

ANNUAL ESTIMATES OF HOUSEHOLD FACILITIES AND EQUIPMENT (1975)

ITEM	Estimated Households 1975 (April)	Percentage of Households 1975 (April)	Percentage of Households 1973 (April)
Total households	6,703	100.0%	100.0%
Principal heating facilities			
Furnaces			
Oil	3,026	45.1	47.4
Gas	2,249	33.1	32.4
Wood or Coal	42	0.6	0.9
Other equipment			
Oil	429	6.4	8.0
Gas	141	2.1	2.6
Wood or Coal	74	1.1	1.6
Electricity	703	10.5	7.0
Cooking Fuel			
Electricity	5,701	85.1	81.7
Piped gas	620	9.2	10.6
Bottled gas	119	1.8	2.1
Wood or Coal	99	1.5	2.2
Kerosene, oil, or other	158	2.4	3.0
Fuel for piped hot water supply			
Electricity	3,311	49.4	48.1
Gas	2,267	33.8	32.8
Oil	876	13.1	13.1
Coal or wood	23	0.3	0.5
No hot water supply	219	3.3	5.5
Refrigerators and home freezers			
Electric refrigerators	6,653	99.3	98.6
Home freezers	2,804	41.8	37.4
Clothes dryers	3,460	51.6	47.7
Telephones	6,464	96.4	95.0
Radio			
All types, except car	6,589	98.3	97.7
FM receivers	5,074	75.7	67.2
TV sets			
All types	6,489	96.8	96.0
Black and white	4,544	67.8	79.2
Colour	3,581	53.4	33.2
Record Players	5,074	75.7	72.3
Automobiles			
One automobile	3,745	55.9	57.3
Two or more	1,541	23.0	20.6
Miscellaneous			
Window air conditioners	620	9.2	6.7
Automatic dishwashers	1,019	15.2	10.7
Adult-size bicycles	2,267	33.8	29.1
Snowmobiles	627	10.0	9.2
Tape recorders	2,325	34.7	31.6
Electric sewing machines	4,386	65.4	67.9
Vacuum cleaners	5,801	86.5	83.9

Source: Statistics Canada survey of Household Facilities and Equipment; April 1975.

2.2 Canada's Housing Stock

Most of this mixed public-private effort has been directed over the past 30 years to the creation of Canadian suburbia, characterized by low-density development, the single-family house, favourable mortgage terms, and the automobile. Over the last half of this period, the same building industry, the same housing and planning policies, and the same capital markets have also added greatly to the stock of high-rise apartments in and around the larger cities.

Quality

That Canada has a generally high-quality housing stock is shown in Table 2.2. The table does, however, conceal significant regional variations. For example, in the Atlantic provinces in 1971, 27% of occupied dwellings still lacked exclusive use of a bath or shower, compared with only 3.6% so lacking in Ontario. Similarly, in 1971, 8% of dwellings in the Prairie provinces still had no piped water though this represented a dramatic improvement from the 46% which lacked piped water as late as 1956. Approximately 500,000 dwelling units in Canada (about 8% of the total stock) lack basic facilities — an indoor toilet, running water, a bath or shower. Most are in rural areas or smaller centres.

Although this situation is due partly to a lack of municipal water and sewage systems outside the built-up areas, the other major factor is poverty. In 1971, over 25% of "low income" families[1] occupied dwellings without bath facilities. Poor people also tend to occupy old dwellings. Of households earning less than $4,000 in 1971, some 40% owned houses built before 1940.

Of course, many older buildings are not at all deficient. 1971 figures showed that some 30% of home-owning families with annual earnings in excess of $15,000 occupied houses built before 1940. With some renovation and good maintenance even wood frame houses can last well over a hundred years, as many in eastern Canada already have.

The 1971 census showed that demand for new housing in the decade 1961-71 remained well ahead of population growth. While population increased by 18%, the total number of dwellings increased by 32%. This is attributable largely to a substantial rise in personal income (Table 9.1), to the increased rate of family formation as children of the post-war "baby boom" reached maturity, and to the increase in numbers of one- and two-person households in both younger and older age groups.

The number of "crowded" dwellings (defined as those containing more people than rooms) dropped

Table 2.2

SUMMARY OF HOUSING CHARACTERISTICS

Item		1951[1]	1961	1971	Percentage increase 1951-61	Percentage increase 1961-71
Total occupied dwellings	No.	3,409,295	4,554,493	6,034,510	33.6	32.5
	%	100.0	100.0	100.0	—	—
Type of dwelling[2]						
Single detached	No.	2,275,615	2,978,501	3,591,770	30.9	20.6
	%	66.7	65.4	59.5	—	—
Single attached	No.	237,655	404,933	679,590	70.4	67.8
	%	7.0	8.9	11.3	—	—
Apartments and flats	No.	885,565	1,151,098	1,699,045	30.0	47.6
	%	26.0	25.3	28.2	—	—
Tenure						
Owned	No.	2,236,955	3,005,587	3,636,925	34.4	21.0
	%	65.6	66.0	60.3	—	—
Rented	No.	1,172,340	1,548,906	2,397,585	32.1	54.8
	%	34.4	34.0	39.7	—	—
Size of dwelling						
Average rooms per dwelling	No.	5.3	5.3	5.4	—	—
Crowded dwellings[3]	No.	641,820	750,942	569,495	17.0	−24.2
	%	18.8	16.5	9.4	—	—

[1] Excludes the Yukon Territory and Northwest Territories.

[2] Excludes mobile dwellings.

[3] Dwellings in which the number of persons exceeds the number of rooms.

Source: *Canada Year Book* (1974) Table 14.3.

[1] "Low income" is a statistical concept which varies over time and with family size. In 1971 the "low income" cutoffs ranged from $3,355 per annum for a family of two to $5,368 for families of five or more. The threshold incomes are meant to imply that those urban families falling below them must spend at least 70% of total income for food, shelter, and clothing. Base figures were established in 1961 and were adjusted for changes in the Consumer Price Index each year. The measure is acknowledged to be crude and somewhat arbitrary. In recent years relative measures have been used: a family is considered to be "low income" when its income is somewhere between 50%, and 56% of the national average with adjustments made for community size.

dramatically over the 1961-71 decade, from 16.5% of total stock to only 9.4%. While this reflects in part an increase in the size of new houses, it is due also to the smaller size of families. Again, regional variations are significant. The smallest proportions of crowded dwellings in relation to total housing stock were in Ontario and British Columbia, where fewer than 7% of all dwellings had less than one room per person in 1971. The largest proportions were in the Atlantic Provinces and Quebec, ranging from 12% in Nova Scotia and Quebec to 24% in Newfoundland.

Tenure

Even in Canada's largest urban agglomerations (those over 500,000), almost half of all dwellings were owner-occupied in 1971. For cities under 100,000 the owner-occupied portion rises above 60% while in rural areas it is over 80%. Nationwide, about 60% of dwellings were owner-occupied in 1971, down 5% from 1961. However, the trends in these percentages are more dramatic. In the period 1961-71 the number of tenant-occupied dwellings grew by 55% against just over 20% for the owner-occupied stock. It must be remembered however that these growth rates apply to very different base figures and that the total number of new dwellings added each year amounts to only 3% to 4% of the existing stock. Thus the ratio of owned to rented premises changes very slowly, even over decades.

To "own" a house is not necessarily to own it outright, free of debt. In 1971, over half the single-detached non-farm dwellings were mortgaged. The proportion was only one-third in rural areas, compared with two-thirds in the largest urban centres. There was considerable variation from province to province in the proportion of mortgaged dwellings. Newfoundland had by far the lowest proportion, 17% (reflecting the processes of inheritance and self-help building) while Alberta led with 60%. Among metropolitan areas the extremes were registered by St. John's (45%) and Montreal (75%).

Dwelling Type

Table 2.2 summarizes the composition of the national housing stock over the census periods 1951-61-71. The growth of this stock derives in turn from the composition of dwelling starts over the years. These are graphed in Chart 2.1 covering the period 1965-75. There are considerable differences from province to province, the percentage of single-detached starts being roughly inversely related to the degree of urbanization. In 1971, for example, over 80% of starts in Saskatchewan were single-detached as contrasted with just over 30% in Ontario.

Even within the largest urban centres there is considerable variation in the composition of the housing stock, reflecting in part the preferences of different cultures. In Montreal and Quebec City, single-detached dwellings make up only 25% and 35%, respectively, of the total stock, while in Winnipeg, Vancouver, Calgary, Edmonton and Hamilton over 60% of the stock was single-detached in 1971.

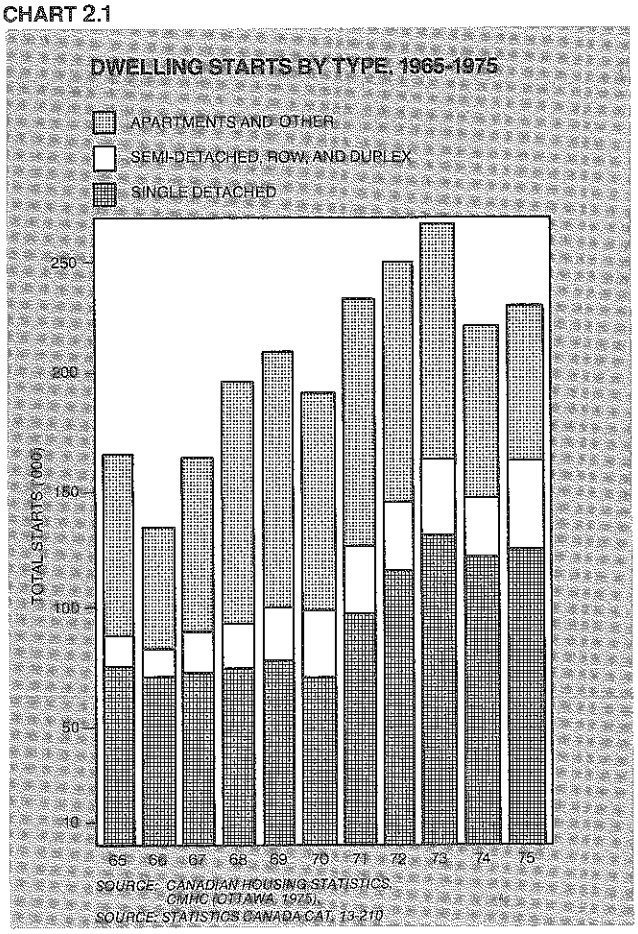
2.3 The Cost of Shelter

The price of a Canadian house has been rising dramatically for the last several years, rising somewhat more rapidly than personal disposable income and faster than the general price level. In some cities, the price of an average house has doubled since 1971.

This is in marked contrast to the decade before 1971, during which house prices rose more rapidly than the general price level but less rapidly than personal disposable income.

The cost of rental accommodation has not, until very recently, risen nearly so rapidly. But unfortunately, it is extremely difficult to obtain accurate data on current rent levels. The Consumer Price Index rent component (Table 2.3), the only index available that reflects experience over a long period of time, is recognized as seriously understating the rise in average rents. From

CHART 2.1



1961 to 1971, the census showed that actual rents paid by persons increased by 75%, compared with the 22% increase in the rent component of the consumer price index.

The main impact of this housing-cost inflation has been on the one-third of Canadian families who do not already own a home.

Most unattached individuals (75% of whom in Canada do not own homes), irrespective of their income, do not typically seek home-ownership; it is often not appropriate to their needs, and their concern is largely with the rental market. Families, on the other hand, are involved in both the rental and ownership markets. The Canadian families that do not own homes are mainly city dwellers and frequently the head of the household is under 35. Because the most rapidly rising housing prices and rents are also found in cities, the severity of the housing problem for urban tenants is disguised by aggregate figures.

For those with low incomes, the concern is almost exclusively with rent levels, because the price of a new house is far beyond their means. The price of houses is considered a problem by middle-class families. Their expectations regarding purchase of a home are very high, particularly when they compare their own position with the illusions they harbour about their parents a generation ago. The rapid rise in house prices has put high quality houses beyond their means, or has meant that purchases have had to be postponed. Although the poor are clearly the most disadvantaged in today's housing markets, the anxiety over house prices can only be understood by recognizing the large number of families of moderate income whose expectations now appear unattainable.

Components of Cost

New housing has three principal cost components: land, construction (including labour and materials), and financing. The first two combine to determine the selling price. The third, in the form of interest payments, combines with the mortgage principal and local taxes to determine the monthly carrying charges associated with ownership. The three factors also apply, though not in the same manner, to rents.

In Canada the prices associated with the three components are largely determined by the forces of supply and demand in the markets for land, labour, materials, and capital. Where prices have risen well above costs one is therefore led to look for a significant excess of demand over supply in one or more of the component markets.

Recent Canadian urban experience has resulted in each of a number of factors being proposed as *the* source of the current cost crisis. General inflation, mortgage rates, land costs, and construction wages are often blamed. Big developers, unscrupulous landlords, and land speculators are accused. Those municipalities refusing to approve some new developments and delaying others with too much red tape are suggested villains. Households themselves are claimed to be the cause of the problem because of their numbers, high personal incomes, high expectations, and their desire to live in large densely populated cities.

The facts summarized in Table 2.4 provide a perspective on the debate. The table is derived from a study completed in December 1975[1] using a combination of government data (for the 1964 figures) and research by the author of the study. Even allowing for a substantial margin of error, the statistics suggest that much more than general inflationary trends are at work in the residential housing markets, particularly in such cities as Toronto, Vancouver, and Ottawa.

Many explanations have been offered. Governments tend to assign a large portion of the blame to mono-

[1] *Costs in the Land Development Process* A. Derkowski; Housing and Urban Development Association of Canada; December, 1975.

Table 2.3

CONSUMER PRICE INDEXES — SELECTED HOUSING COMPONENTS AND ALL-ITEMS, 1966-1975 (1971 = 100)

Period	Rent	Property Taxes	Mortgage Interest	New Houses	Fuel and Utilities	Housing	All-Items
1966	85.1	75.2	60.3	70.7	81.6	79.5	83.5
1967	87.9	78.2	63.2	75.7	84.6	82.9	86.5
1968	91.7	83.4	68.8	81.0	88.0	86.7	90.0
1969	95.3	90.7	78.6	87.2	90.1	91.2	94.1
1970	98.4	97.3	89.1	92.9	94.3	95.7	97.2
1971	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972	101.2	101.6	108.7	110.6	103.9	104.7	104.8
1973	102.6	103.5	120.9	125.1	114.0	111.4	112.7
1974	105.4	104.0	136.7	138.4	129.6	121.1	125.0
1975	111.1	111.2	156.8	146.2	146.6	133.2	138.5

Source: *Canadian Housing Statistics* (1975).

TABLE 2.4

COSTS OF SERVICED LOTS AND
NEW SINGLE-DETACHED HOMES IN SELECTED CITIES
(1964-1974)

Item	Toronto	Vancouver	Ottawa	Hull	Montreal	Calgary	Regina
1974 Population ('000)	2,741	1,137	471	155	2,798	444	151
Population growth '64-'74 (%)	30%	29%	26%	26%	18%	43%	22%
1974 Basic new detached house price	$65,000	$50,000	$54,500	$31,000	$30,455	$30,000	$30,000
House price increase '64-'74 (%)	260%	208%	195%	114%	93%	97%	104%
1974 Average lot price	$23,000	$22,000	$19,000	$10,500	$ 7,855	$ 9,250	$ 6,000
Lot price increase '64-'74 (%)	313%	545%	285%	117%	88%	210%	127%
Lot price as a % of house price (1964)	31%	21%	27%	34%	26%	20%	18%
Lot price as a % of house price (1974)	35%	44%	35%	34%	26%	31%	20%
Lot price as a % of annual family income (1964)	75%	55%	63%	78%	61%	43%	39%
Lot price as a % of annual family income (1974)	143%	142%	108%	75%	55%	61%	44%
Minimum development approval time (months)	18	9	18	2	2	3	3

Source: *Costs in the Land Development Process; A. Derkowski* (December 1975)

polistic land owners who have holdings sufficient for many years' expansion, but who delay development. In Ottawa, for example, there is sufficient land currently approved for subdivision to accommodate several years' anticipated growth.

But there also is considerable evidence to indicate that government regulations in the development process severely restrict the rate of supply of serviced land. When this happens in high growth areas, prices are bid up to the point where only the very wealthy can afford to buy.

Most of the regulations have been created to improve the quality of housing, not to influence housing supply or demand. While the effect of each review process may be small, the collective impact is significant. The process contributes to the cost of development through the delays, risks, and legal services that it occasions. In addition, the requirements of the regulations often set such high servicing standards that it becomes impossible to provide inexpensive housing that will comply with them.

In Toronto, Ottawa, Vancouver and many other large Canadian cities there is a reluctance on the part of local government to accept new developments. The tortuous approval process thus becomes an instrument of restraint. The reluctance is the product of many factors. A general anti-growth sentiment is being voiced in almost every city. Development is slowed to permit an assessment of how the citizens wish their city to develop. Restrictions on new developments increase the value of existing properties and city councils are influenced more by owners than tenants or prospective new residents. New developments demand heavy social capital expenditures, particularly for schools, roads, and sewers, and existing residents are unwilling to pay higher taxes to finance these expenditures.

Local councils are often reluctant to approve developments in which the assessed value of the new units would be below that of the average of the entire community. Services provided by local governments — police and fire protection, recreation, street construction and maintenance, and garbage collection — benefit each housing unit equally. Educational expenditure benefits a housing unit in proportion to the number of resident children. In order that a new resident pay his share, the tax-assessed value of his home must be as high as the average. For family housing, the assessed value must be above the average due to the educational benefits enjoyed. Municipalities, therefore, often pass zoning laws to ensure that new developments have large lots, and so necessitate expensive housing. Those with the greatest housing needs — low and moderate income families — thus find little housing that they can afford.

The situation in the Province of Quebec is quite different. There, anti-growth sentiment is not strong, population growth is slow, and the development approval processes are simpler. At least partly as a result, serviced land is plentiful around Montreal. This abundance has kept lot prices low, and indeed they declined relative to average income during the decade 1964-74. The increase in the price of new housing in Montreal is among the most moderate in Canada.

Of even greater concern to most Canadians than the basic price of new housing is the cost of financing a mortgage. Unlike the processes described above which vary greatly from region to region, the mortgage rate is substantially the same across Canada.

In 1966 the interest on mortgage loans from private lenders was between 7.5% and 8%. In 1974 and 1975 rates varied between 11.5% and 12%. An increase of four percentage points on a $20,000 mortgage leads to an increase of $56.33 in the monthly payment ($676 per year) and over the lifetime of the mortgage increases the total outlay by $16,900. For a $50,000 mortgage, not uncommon in Toronto where average selling prices for houses exceed $60,000, an increase in the interest rate from 8% to 12% raises the monthly payment by $140.83 and the homeowner's total cost over the life of the mortgage increases by $42,250.

The effect of increased mortgage rates is unfortunately compounded by the increase in the selling prices of houses. Consider the case of Vancouver where in 1964 the average new home sold for about $16,500. Assume a down payment of $3,500 leaving a mortgage of $13,000, say at 8%. In 1974, the average new house price had risen over 200% to about $50,000. With a down payment of $10,000, the prospective buyer assumes a mortgage of $40,000 at 12%. In 1964 the monthly payment would have been $101. In 1974 it was $425 (taxes not included). Carrying costs increased 320%.

One principal reason for high interest rates, for every type of borrowing, is inflation. Money lent at a rate lower than the general rate of inflation yields a negative return on investment. One hundred dollars lent at 10% per annum yields $110 at the end of one year. But if in that year, the buying power of money is reduced by 12%, the $110 is actually *worth* only $96.80. The lender has lost $3.20. Thus the private mortgage rate tends to stay above the anticipated rate of inflation.

Affordability

Despite these enormous cost increases, it remains true that the majority of Canadians pay a low or at least a reasonable proportion of their income for shelter (Table 9.4 — In Canada, to have to spend over 25% of gross income for shelter is considered "excessive".) Moreover, nearly 600,000 households of the one million considered to be below the poverty line[2] in 1972 owned their own homes, and 85% of these were free of mortgage debt.

Recent Ontario studies[3] indicate, however, that only 30% of Ontario families could pay the carrying costs of home purchase in 1974 with less than 25% of their gross family income. In 1967, 70% of families could afford the "average" new home on less than 25% of gross income.

[2] For the definition, see page 17.

[3] *Issues and Alternatives 1976, Housing;* Ontario Economic Council, (Table 4).

Rent

As the prospects for home ownership decline for increasing numbers of Canadians, the demand for rental accommodation is escalating. The supply has failed to keep pace in many metropolitan areas. In 1974 only Sudbury and St. Catharines-Niagara among Canadian Metropolitan Areas had vacancy rates above 3%, the level considered sufficient to dampen upward pressure on rents. Vancouver, on the other hand, had an essentially zero vacancy rate. In Toronto and Montreal, vacancies hovered around 1% of total stock.

As a result of the serious imbalance between demand and supply, rents have increased dramatically. In 1971, over a half million households paid over 35% of their income for rent. Rent control is frequently suggested as a response. However, controls do not touch the cause of the problem which is an insufficient supply of rental units relative to the demand for them. Controls may even exacerbate the problem: new construction may be reduced, because controlled rents reduce the rate of return on a project; buildings may not be maintained; rental apartments may be converted to condominium apartments; tenants protected by controls tend to stay in their present housing, making access for others more difficult. And if the price of rental accommodation decreases relative to other prices, demand increases; at the same time supply is reduced. A black market may develop if tenants become willing to pay "key money" to obtain a lease on a controlled unit.

Despite the evident pitfalls of rent control programs, they are an essential part of Canada's wage and price controls policy, and every province now is committed to some form of control or review. Under most such schemes, rents are permitted to rise sufficiently to ensure "adequate" maintenance and an "adequate" return to landlords. New buildings receive an exemption from controls for a certain period, or their owner is permitted to charge rents that allow an adequate return. In these ways it is hoped that the supply problems can be avoided.

2.4 Housing Programs

Historically, shelter has been provided by the private market in Canada; the public and private sectors shared the task of providing infrastructure and services. Since the 1930's the government has taken a growing but nevertheless small role in providing shelter for those on low incomes. Especially since 1945, governments at all levels have established a public framework for shelter, infrastructure, and services within which the private enterprise system operates. This framework consists of systems for housing approval and inspection, for establishment of production goals, and for ensuring adequate supplies of capital for housing, infrastructure, and services.

The general approach of governments at all levels has been to intervene in the private market to the extent necessary to protect the consumer, to give stability to the investor, to meet the needs of the newly formed households and of the disadvantaged, and to ensure good community planning and design. Within this context there remains essentially private ownership of land for development, of development and building firms, and of individual dwelling projects.

In 1946, Central Mortgage and Housing Corporation (CMHC) was created to administer the National Housing Act (NHA). CMHC is a Crown corporation with independent authority to do business with provinces, municipalities, builders and households. CMHC has undertaken direct construction, made loans jointly with private financial institutions, insured mortgages against losses for private lending agencies, and has loaned funds directly to home buyers in areas not adequately serviced by private lenders. It is presently involved with a wide range of programs beyond those associated with market rate lending: lower income housing, residential rehabilitation, area improvement, and community-building.

In addition, each province has its own housing agency, normally a Crown corporation. And in the last few years, municipalities have become more and more involved in the active provision of housing and in the assembly and servicing of publicly-owned land for this purpose.

Following is a brief review of several typical housing programs of the federal government, illustrating the evolution of CMHC from an insurer of mortgage loans to a key participant in the implementation of social policy.

Mortgage Insurance

The National Housing Act established a federal loan insurance program in 1954.

CMHC determines the criteria for eligibility of borrowers, and the maximum size of the loans. Financial institutions provide the mortgage funds and the borrowers pay an insurance premium. The rate of interest on these loans is established in the financial markets. Mortgages are available to builders to finance new construction of detached and multiple unit housing and are available to households to finance the purchase of an existing house.

Large amounts of money have been loaned under the insurance program. In 1975 over $1.3 billion was advanced. At present about a quarter of all residential financing is insured under the program.

The principal direct beneficiaries of the mortgage insurance program have been middle-income families: the rents on new multiple unit buildings and the down payments and monthly carrying costs of new NHA financed houses are normally beyond the means of the poor. The presumption has always been that the needs of the poor would be met by a filtering process: as persons with higher incomes move out of existing houses or apartments and into new housing, the price of the older housing would fall and become accessible to lower income households. The filtering process has, in fact, never been able to provide sufficient accessibility, partly because of the tendency for substantial amounts of the older housing stock to be demolished in the process of urban commercial and industrial growth.

Programs for Low Income Households

Several important amendments were made to the National Housing Act in 1964 and subsequently. The major programs adopted reflect an increased concern with equity. The programs have been designed to provide housing for specific groups and, in particular, for low income families and elderly persons. Some examples:

- A *public housing* program provides loans to provinces or municipalities to cover capital costs of constructing or acquiring rental units, up to 90% of the value. The federal and provincial or municipal governments share equally the operating costs of these projects. Occupant rents under the program are on a sliding scale, based on income. The program is intended to serve the lower third of the income range in each locality.

- A *subsidised rental housing* program covers non-profit corporations. Housing for low-income tenants that is owned by private non-profit organizations, co-operatives, or municipal authorities can be financed through 100%, preferential rate mortgages, with 10% capital grants. Non-profit and co-operative housing generally serve the lower portion of the middle third of the income distribution.

- The *Assisted Home Ownership Program* (AHOP), begun in 1972 and recently modified, is intended to help modest-income families acquire a home without spending more than 25% of their gross income on monthly mortgage payments and municipal taxes. Interest-free loans are made to borrowers to cover the difference between private mortgage payments and what these would be at an interest rate of 8%. House price limits for eligibility are set in accordance with local market conditions. An insured private loan may be obtained for 95% of the lending value of the house. The remaining 5% of the lending value may be in the form of cash, land, labour, provincial grant, or any combination of the four. Furthermore, the monthly payment may be reduced by a grant of up to $750 per annum in cases when the income of the buyer is too low to support the payments on the basis of preferred interest rate alone. Either new or existing housing is acceptable under the legislation.

Rural and Native Housing

A major part of the substandard housing remaining in Canada is occupied by native groups in rural areas. Federal and provincial governments have begun to implement a joint five-year program to eliminate, replace or rehabilitate the worst of the housing in rural areas, with native peoples as the priority group.

CMHC's Rural and Native Housing policy, announced in March 1974, attempts to marshal the resources of the NHA for the benefit of rural and native people and specifically to build or acquire and rehabilitate 50,000 housing units for native people in the next five years.

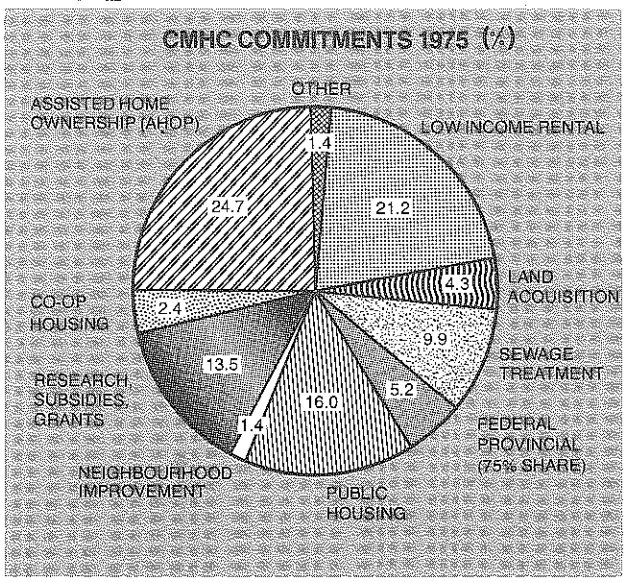
The policy is to encourage the people concerned to plan, build, and manage their own projects as much as possible, so that they will acquire not only housing but new skills and economic security as well.

Finance

Financial commitments by CMHC under all NHA programs are shown in Chart 2.2. The chart is based on public funds of $1.6 billion authorized in 1975. The total investment in housing in Canada was $8.0 billion in the same year. Of this, $6.3 billion was for new dwellings.

The construction industry accounts for about 60% of total capital investment in Canada and of this somewhat more than a third goes to residential construction. The economic importance of construction and particularly residential construction is significantly understated by direct investment figures. This is because construction leads to demand for other commodities and services; e.g. furniture, appliances, insurance. Thus when housing starts decline there is a lagged effect on many service and manufacturing industries. This is not to suggest that changes in the number of housing starts should be manipulated as a fiscal tool to dampen economic activity during inflationary times or to accelerate activity during a recessionary period.

CHART 2.2



3. Infrastructure

Infrastructure consists of those physical facilities through which buildings and communities are supplied with energy, water, waste disposal, transportation, and communications. Infrastructure consists of power stations and transmission lines; of water mains, sewers, and garbage dumps; of roads, tracks, and telephone wires.

Massive public infrastructure has become a prerequisite for settlement in Canada. The day is past — albeit not long past — when each dwelling supplied its own basic services: a kerosene lamp, a well in the backyard, an outhouse, a septic tank.[1] The urban Canadian home in 1976 is affixed to a network of public facilities designed to deliver mass services of uniformly high quality.

Infrastructure is the skeleton around which communities grow. Its planning and siting is therefore decisive in determining the form and pattern of human settlement in Canada. Yet infrastructure continues to be largely the concern of planners and engineers. The interest of most citizens is aroused only when faced with immediate projects. Often the reaction of residents' groups is negative: expressways must be stopped; airports must not be built; garbage must not be buried nearby. Such concerns are legitimate and often local opponents succeed in altering or cancelling the plans of government. But infrastructure facilities are public resources and typically cover wide areas and serve tens of thousands of people. Sometimes the interests of this larger consistuency must be served at the expense of a minority whose property is expropriated or who are forced to accept the noise and pollution of a large airport or highway nearby. Nevertheless, minority interests must be adequately safeguarded through legal and administrative measures, such as public consultation processes and improved access to the information on which infrastructure location decisions are made.

The sections that follow deal very briefly with the infrastructure that is directly connected to the dwelling — power, water, waste disposal. Communications and transportation are discussed in Chapter 4.

3.1 Energy

Canada is second only to the United States in energy consumption per capita. International figures compiled in 1971 showed that Canadians consume annually an average of 240 million Btu[1] per capita and that total consumption had increased at an average rate of 7.3% per year since 1961. The comparable U.S. figures were 275 million Btu's per capita and a growth of 5.7%; for Sweden 154 and 8.8%, and for Japan, 83 and 17.7%. Table 3.1 shows the composition of total Canadian energy use and energy form in 1961 and 1971. The substantial dependence on oil explains the traumatic effect of the petroleum price increases in 1973. In the short run, conservation is the only response to much more expensive energy. In the long run, new supplies can be developed — e.g. nuclear (which now comprises only 5% of Canada's total electrical supply or roughly 0.7% of total energy supply), oil sands, and solar. But these supplies will not be cheap. Moreover, both nuclear power and the development of frontier energy sources pose environmental hazards that could severely limit their contribution.

Approximately 45% of all energy consumed in Canada is directly related to settlement. Of this amount, slightly more than half goes into transportation (within and between settlements) and a little less than half is used in households and on farms. Of household use,

[1] In 1961 policy under the National Housing Act was amended so as to forbid NHA loans to houses in urban areas served by septic tanks.

[1] The Btu is a unit of energy. It is defined as the amount of heat required to raise the temperature of one pound of water by one Farenheit degree. To boil a quart of cold water (42° to 212°) requires about 380 Btu.

Table 3.1

(a) ENERGY USE IN CANADA — 1961 AND 1971

Category	1961 Consumption: (10^{12} Btu)	1961 Percent of Total Consumption	1971 Consumption: (10^{12} Btu)	1971 Percent of Total Consumption	Average Annual Growth rate (%): 1961-1971
Industrial	885	29.5%	1,419	27.3%	6.0%
Commercial	270	9.0	733	14.1	16.9
Household/Farm	723	24.1	1,055	20.3	4.6
Transportation	759	25.3	1,257	24.2	6.5
Energy Supply/Others	363	12.1	733	14.1	10.6

(b) ENERGY CONSUMPTION IN CANADA BY FORM — 1961 AND 1971

	1961 Consumption (10^{12} Btu)	1961 Percent of Total Consumption	1971 Consumption: (10^{12} Btu)	1971 Percent of Total Consumption	Average Annual Growth rate (%): 1961-1971
Electricity	378	12.6%	727	14.0%	9.1%
Oil	1,593	53.1	2,853	54.9	7.9
Natural Gas	576	19.2	1,361	26.2	13.6
Coal	453	15.1	255	4.9	–4.3

Source: *Detailed Energy Supply and Demand*, Statistics Canada.

approximately 70% is for space heating, implying that about 15% of all energy consumed in Canada is used to heat homes. The difference in housing stock, period of construction, as well as insulation quality and climatic differences would explain in large part the substantial variations in energy use between Canadian cities. Saskatoon, for example, devotes twice as much energy per capita to its housing sector as St. John's.

Most dwelling units in Canadian cities are heated by oil or gas although electricity is making inroads (Table 2.1). Thermal conversion efficiencies of oil and gas furnaces are about 65%. Although electric heaters convert almost 100% of electrical energy to heat, the generation of electricity from fossil fuels in thermal power stations achieves an efficiency of only 30%. In the provinces of Nova Scotia and PEI, where almost all electrical energy is fossil fuel-generated, recent increases in the price of oil and coal have placed an extremely heavy burden on home-owners.

There is a significant difference in the amount of energy required to heat detached, attached and apartment dwelling units. Canadian data compiled in 1975[1] indicate that a single-detached bungalow consumes about 40% more energy per square foot for space heating than a large apartment in a low rise building. Nevertheless, considerable savings could be made merely by insulating better. It is estimated[1] that one-third of the energy required to heat a new single detached house could be saved by more effective insulation than is now required.

It is relatively easy to measure and understand the energy requirements of individual buildings. What is much more difficult, but perhaps more important, is to identify the relationship between energy consumption and the form and patterns of human settlement. Questions such as the following must be considered:

- What type of built environment allows for the most judicious use of energy (high-rise apartments, row housing, or single-detached dwellings)?
- What uses of urban land will best conserve energy stocks (separate, single-use functions or a mixture of land uses within a geographic area)?
- What pattern of regional urban settlement will tend to lower the level of existing energy use (densely developed urban nodes interconnected by transit or the existing patchwork of low density suburbs)?
- What mode of transport and type of vehicle technology will best fulfill the goal of energy conservation (the private auto, the bus on an urban arterial, the subway or commuter train, a form of light rapid transit)?

Transportation is obviously a key to the relationship

[1] CMHC unpublished notes.

between energy consumption and settlement form. The suburban development of Canadian cities would scarcely have been possible if not for private automobiles that were relatively inexpensive to own and operate. Cars account for 80% of all urban travel in Canada and for about 14% of all energy consumed in this country, including 25% of petroleum consumption. The auto has fostered a form of urban development which, because of its low density, has made rapid transit (subways, commuter trains) impractical for all but relatively small areas of Montreal and Toronto. The substitution of the automobile for public transit has led not only to a much less efficient use of energy; it has also deprived many of those who do not have convenient access to cars of adequate transportation. Indeed, the "transportation poor" make up about one-half of Canada's urban population — those too old to drive or too young to drive, homemakers without a second car, and many of the handicapped.

There are already indications that the costs of operating private cars are discouraging further urban sprawl. For example, some communities at the edge of Toronto's commuting radius have found their real estate markets contracting as prospective buyers opt to reduce travel cost by locating closer to their jobs. And in many cities, there is a significant trend back to central city living, often in refurbished older houses and apartments. This trend may not be due principally to an effort to reduce travel cost and energy consumption, but it has the same effect.

Because of rising prices and diminishing supplies, it is unlikely that the growth of petroleum consumption will continue at the level of recent years. Neither can hydro-generated energy be much increased, because the number of unexploited sites is limited. And while nuclear power has the potential to assume a major share of Canadian energy needs, it is proving to be both expensive and controversial. This has led many to look seriously to alternative energy sources, particularly those based on wind and direct sunlight. The potential is undeniably great. In a single day, the earth intercepts thermal energy from the sun equal to roughly 100,000 times the world's currently installed electric power capacity. Averaged over a year, the sun delivers to the average housetop in Canada about 100 times as much energy as the house receives through electric wires. Unfortunately this energy is diffuse and intermittent. It is not readily converted to electricity in large quantities — though the potential exists. On the other hand, solar energy is easily used to provide space and water heating and these constitute 70% to 80% of the residential energy load in Canada. At present, basic solar heating technology would add perhaps $5,000 to $10,000 to the cost of a single dwelling depending on the sophistication of the system.[2] Partly as a result, solar heating has not proliferated, but the day is near when it could.

In the meantime, Canadians can better insulate their homes, they can pipe waste heat from power plants, incinerators, and industrial processes into homes and buildings (as is common in northern Europe), and they can accept more concentrated urban forms both to diminish the total energy required for heating and to encourage the use of energy-efficient modes of transportation.

3.2 Water

Fresh water is a resource that most Canadians take utterly for granted. Canada is blessed with abundant supplies — about one-seventh of the fresh water surface in the world lies within its boundaries. Every year about 8,000,000 million tons of water fall on Canada in the form of rain and snow.

But more than potential supply is required if pure water is to be delivered without interruption to settlement. Many a Canadian homesteader laboured long to dig a well that went dry. Today governments at all levels spend hundreds of millions of dollars annually to develop new water supplies and to purify water that has been polluted by human activity. In 1974, water treatment in urban Canada cost over $330 million. Nonetheless, 10 of Canada's 20 largest cities still do not treat all their sewage, and some have no treatment whatsoever.

Most of the sewage treatment facilities in Canada since 1961 have been financed with the assistance of CMHC. As a means of supporting urban development, and to help control water and soil pollution, the Corporation makes loans and grants to provinces and municipalities for treatment plants, sanitary trunk sewers, storm-water trunk sewers, and for water supply projects. The loans cover up to two-thirds of the cost of the project and are for terms of up to 50 years. Twenty-five percent of the loan and of accrued interest may be forgiven. Privately financed projects are eligible to receive grants of up to one-sixth of project cost.

The sewage treatment program is demand responsive; it is not tied to a comprehensive strategy. Nevertheless, by providing assistance for sewer and water supply, the federal government helps municipalities to increase the amount of serviced land. With more land open for development, it is possible to increase the supply and thereby lower the price of new houses.

There is now very little untreated sewage in Ontario and the Prairie provinces. But in Quebec, the Atlantic provinces and to a lesser extent in British Columbia, a considerable amount of raw sewage is still discharged. Montreal, for example, now treats only 10% of its

[2] Once installed, a solar heating system requires only minimal maintenance expenditures. When an oil furnace and a solar heater are compared over their probable lifetimes (about 25 years), it is already likely that the solar unit is cheaper.

sewage and continues to dump the rest — about 400 million gallons daily — into the St. Lawrence River.

Despite the generally good level of water and sewage infrastructure in Canada, research is still underway to develop improved methods. Perhaps the most innovative is the CANWEL system (Canadian Water Energy Loop) now in the final stages of development by the Ontario Research Foundation for CMHC.

The basic objectives are to develop a self-contained waste treatment system that will reduce the demands of a high density population on municipal infrastructure yet will avoid all forms of pollution. A demonstration sewage treatment plant with a capacity of up to 20,000 gallons per day has been built to permit the overall process to be evaluated. Raw sewage from a local housing subdivision is brought to the plant for treatment, and an extensive experimental program is being conducted to optimize the process, collect design data, and prove the product quality, process reliability, and economy.

It is not intended in the beginning that the waste water that is renovated by CANWEL be used for drinking — though that remains a possibility after adequate testing. The first objective is to produce water that is pure enough for undiluted surface discharge and that may be considered suitable for washing and other domestic utility purposes.

CANWEL could reduce the need for sanitary sewers and central treatment plants. Downtown redevelopment could then take place without tearing up and enlarging existing sewer systems. Expensive trunk sewers leading to sewage treatment plants would become unnecessary if buildings or neighbourhoods had their own CANWEL systems. Pollution would also be minimized. The sludge left over from the CANWEL treatment will be burned in an incinerator attached to the system, together with domestic garbage. It is estimated that the energy generated by incineration will be sufficient to meet about 85% of domestic hot water requirements.

Municipalities, aside from saving money through reduced demand for sewers also would save by reducing the need to transport domestic garbage and to find disposal areas. And housing, particularly in isolated areas or areas where land servicing has been too expensive, could rely on CANWEL to be largely self-sufficient for water and sewage purposes.

3.3 Solid Waste

A prodigious amount of solid waste is generated in Canada each year. In 1974 it was about 34 tons per capita. But 65% of this was produced by the mining industry and another 30% by agriculture. Industrial, commercial, household, and other uses totalled just 5%. Nevertheless, garbage generated within the household and by non-industrial businesses has been increasing steadily over the years so that it now averages about 1,200 pounds per capita annually.

Solid waste disposal has thus become a serious problem for a great many Canadian towns and cities. Not only is removal very expensive — $236 million was spent on collection and disposal by municipalities and private contractors in 1974 — but there is also an increasing scarcity of suitable sites for dumping or landfill within reasonable distance of the larger cities. Incineration to reduce the volume of wastes is increasingly being adopted, accounting for 15% of municipal waste disposal in 1974, and in some cases providing for the extraction of useful heat energy from the burning waste.

It should be noted that disposal costs now make up less than 20% of the total cost of waste removal. The balance is for collection. But these percentages could change in the future as readily available disposal sites dwindle, forcing adoption of techniques, such as incineration and resource recovery which substantially reduce the volume that must be disposed of but which incur higher capital costs than current landfill methods.

The Solid Waste Reduction Unit (SWARU) in Hamilton, Ontario, has pioneered technology for the recovery of both energy and valuable metals from urban garbage. This non-polluting incinerator can handle about half the household refuse generated by a population of 500,000. The process reduces the garbage volume by 95%, leaving a relatively inert material for landfill. Though this form of solid waste treatment is still more expensive than most landfill operations — because of high capital costs for the plant — it is becoming more competitive as the price of energy increases relative to other goods and as available dumping sites become more and more remote from centres of population.

Recent interest has also been shown in facilities to recover resources as an alternative to disposal or incineration. The Ontario Ministry of the Environment is presently building a 200 ton per day experimental resource recovery plant at North York in Metropolitan Toronto as the first step in a 15-year program to establish resource recovery plants in all major regional centers in Ontario.

Ultimately, much the best method of treating solid waste is to greatly reduce the amount generated at source. Several provinces have adopted legislation to control the growth of solid wastes specifically related to beverage containers and are likely to extend controls into other areas of packaging in the not-too-distant future.

3.4 The Serviced Lot

Most Canadians are familiar only with the "terminals" of community infrastructure. The tap yields water; the drain, the toilet, or the garbage man removes

waste; and the switch brings forth power. These services are brought together in the residential lot.

To see what a typical lot in a Canadian city provides at what cost, it is instructive to consider representative statistics for Halifax.[1]

The typical lot has a 60-foot frontage and is one of four per acre. It sells for about $10,000 and all services are installed and pre-paid by the developer. The land itself costs only $1,000; the rest of the price is in services of various kinds together with about $1,700 in profit for the developer. Carrying charges — for taxes and for capital tied up in land and services — total about $600. The municipality levies $500 for the use of the trunk sewer. Various consultants — planners, engineers, surveyors — charge an additional $850 for their professional services. There is an "overhead" of $400, still leaving over $5,000 for the cost of physical services associated directly with the lot. These include rough grading ($300), sanitary sewer ($800), storm sewer ($1,500), water main ($800), road and lanes ($1,100), sidewalk ($100), electrical mains ($100), landscaping ($100), and other miscellaneous (about $300).

These services are quite standard for single-detached housing developments throughout urban Canada. But there are enormous differences in price. In Vancouver for example, a similar lot would cost $22,000, with $4,500 going to the raw land, $1,750 to carrying charges, $1,700 to municipal levies (including almost $1,000 for park acquisition), $4,200 in profit, and $8,300 for the servicing costs themselves.

In Montreal, on the other hand, the standard lot in 1974 cost under $8,000. Moreover, in Quebec, services are provided by the municipality, not the developer, and are paid for over several years by "local improvement taxes." This means that the buyer pays only about $2,400 for the lot at the time of sale. This covers the raw land, carrying charges, consultants' fees and profit. The balance is amortized in taxes, a very reasonable form of payment over time.

It is not entirely fair to compare lot prices under different jurisdictions. The quality standards are not uniform. For example, in Quebec and the Atlantic provinces, sewage is usually not treated. And the quality of such items as landscaping and sidewalks will vary. Yet the price differentials cannot be explained by these variables alone. More important is the persistent imbalance between supply and demand, particularly in Toronto, Vancouver, and Ottawa, where for reasons discussed in the section on housing, controls on the delivery of serviced land imposed by both developers and public authorities have apparently contributed significantly to the escalation in its price.

[1] Compiled by A. Derkowski in 1974 and reported in *Costs in the Land Development Process*, Housing and Urban Development Association of Canada; 1975.

4. Services

Community *services,* such as health care and police protection, have a supporting physical *infrastructure* — hospitals, police cars, jails. Similarly, infrastructure provides essential community services. The distinction to be drawn is between activities that involve people directly (services) and those that offer more or less passive support (infrastructure). Thus, health, education, social welfare, police and fire protection are clearly services. Transportation and recreation are blends of service and infrastructure.

Some services are closely associated with the community at large and are in fact characteristic of it; for example, transportation and recreation. Other services, while physically located in the community, are part of much larger systems and are relatively uniform over wide areas reaching to the national scale. Health care and education are the best examples. The latter are essential to a high quality of national life and therefore of community life as well. But they are vast subjects in themselves and are only discussed briefly in the context of settlement as much.

4.1 Transportation

The settlement geography of every country reflects the profound influence of transportation routes on the location of major centres. Population has concentrated traditionally where one mode of transportation meets another — a railhead, a port, an airport.

Moreover, the individual settlement tends to be shaped by its transportation network and the prevailing transportation technology. When travel was limited to foot or horse-drawn carriage, cities were compact. Imperial Rome, the largest city in ancient Europe, covered only about eight square miles. In the nineteenth and early twentieth centuries, when rail-based urban transit (both train and streetcar) was dominant, city growth was strongly oriented along the rail lines, creating radial patterns of settlement. The next dominant technology, the private automobile, had a very different effect. By making possible almost unlimited flexibility in the choice of origin and destination, the car encouraged a spreading out of the city, filling previously inaccessible land with highways and suburban development. This resulted in that peculiarly mid-twentieth century form of settlement — urban sprawl.

But the factors that once encouraged sprawl have now turned and are appearing to limit it. Sprawl depended on inexpensive automobile operation, a situation that is further eroded with every rise in the world price of oil. And sprawl was encouraged by an abundance of inexpensive and easily serviced land. Rather suddenly, land is no longer inexpensive to service and it has become prized for its agricultural potential. The result is a climate of public opinion that is increasingly aware of the economic and environmental costs of low-density urban development.

In Canada, almost 60% of all transportation activity occurs within urban areas. 80% of this urban travel takes place in more than eight million passenger cars. Transportation is a major urban land user. The proportion of developed land devoted to urban transport facilities and routes varies from a remarkable 40% in some downtown areas to 15% or 20% in the suburbs. Most of this land serves the private auto (Chart 5.2).

The economics of different transportation technologies are summarized in Table 4.1, illustrating the clear superiority — on the basis of cost per passenger mile — of large buses and subways as compared with the private automobile. But costs per passenger mile are obviously not decisive in determining the mode of transportation chosen.

The comfort, convenience, speed, and flexibility of the automobile have made it the overwhelming choice of Canadians since the Second World War. Public transit companies were not able to compete on this basis and until very recently have declined steadily. However, a

Table 4.1

URBAN TRANSIT TECHNOLOGY: COMPARISON OF AVERAGE COSTS[1] IN 1973

System[2]	Capital Cost of Vehicle: Vehicle: $/Unit	Capital Cost of Vehicle: Vehicle: $/Seat	Cost in ¢ Per Mile of Vehicle Operation: Vehicle Operation Including Maintenance & Parking	Depreciation of Vehicle & way	Maintenance Cost of Way & System	Total Cost	Average Vehicle Occupancy	Total Cost per Passenger Mile
Autos:								
Scooter — 2 seats	500	250	2	2.1	0.1	4.2	1.0	4.2
Small Auto —4 seats								
without parking	2,500	625	4	4.2	0.3	8.5	1.5	5.7
with parking	2,500	625	10	4.2	0.3	14.5	1.6	9.1
Large Auto — 6 seats								
without parking	5,000	833	6	8.5	0.5	15.0	1.5	10.0
with parking	5,000	833	12	8.5	0.5	21.0	1.6	13.1
Bus Transit:								
Limousine bus (23 passengers)	20,000	850	90[3]	12.0	20.0	122.0	15.0	8.1
Small Bus (35 passengers)	35,000	1,000	80[3]	15.0	20.0	115.0	20.0	5.8
Large Bus (50 passengers)	45,000	900	75[3]	20.0	20.0	115.0	30.0	3.8
Para-Transit								
Taxi	3,000	1,100	53	11.0	14.0	78.0	2.0	39.0
Dial-a-bus-van	9,000	630	90	10.0	30.0	139.0	8.0	16.2
Subway	235,000	3,000	60	60.0	30.0	150.0	50.0	3.0

[1] This table of average costs displays some of the significant differences between systems; but it disguises some variations within a system. The subway cost of 3¢ per passenger mile, for example, can only be achieved with high efficiency and high utilization. Costs between 10¢ and 30¢ are experienced on some subway type systems.

[2] Systems have widely different characteristics are seldom directly competitive.

[3] Present bus designs are most efficient in the larger sizes.

Source: N. D. Lea and Associates, Brochure, 1973.

growing adverse public reaction to further road building and increasing concern over urban sprawl, fuel costs, and the air pollution and congestion generated by private cars has led to a new emphasis on public transit.

Provincial governments have responded with programs of capital and operating assistance to urban public transit systems. Ontario, for example, pays 75% of transit vehicle costs and 50% of system operating deficits. Many provinces provide substantial support for projects that demonstrate new technology, better uses of existing technology, and ways of staggering peak period travel. Direct provincial support of urban transportation planning is also common, largely as a result of requirements that sound planning be a prerequisite for provincial financial assistance.

But the hegemony of the private car is not easily broken. Canadians have accumulated an enormous capital investment in cars and roads. Almost 80% of households own at least one automobile; 23% own two or more. Automobile ownership and use also generate enormous public revenues. In 1973, passenger car licenses netted over $266 million across Canada. But this was almost insignificant when compared to the provincial revenue from fuel taxes which totalled $1.41 billion on sales of over seven thousand million gallons.

The investment in roads is no less impressive. In 1972 the total expenditure on roads under municipal jurisdiction was just over $1 billion, about evenly split between construction and maintenance. Another $1.47 billion was spent on inter-city roads under the jurisdiction of federal and provincial governments. The total highway infrastructure in Canada amounted to over half a million miles in 1971 of which 40% was under municipal jurisdiction.[1]

[1] This is almost certainly an underestimate if one is to include local streets and all unimproved roads. An accurate count of road mileage in Canada does not exist at the time of writing.

By any measure, the automobile and its supporting infrastructure are linchpins in the Canadian economy. Indeed the importance of the industry is very much understated by the figures just quoted. Of great significance is the production of new cars and parts — Canada's largest industrial sector, employing about 90,000[2] and accounting for approximately one-fifth of all Canadian export earnings. The national economy is therefore extremely sensitive to the health of the automotive sector, a fact that must be considered as methods to reduce reliance on the automobile become widespread. Any significant reduction in the use of private cars will have to be spread over many years. More likely is a modification of technology by the industry itself. Greater fuel economy can be achieved, smaller cars encouraged, fewer pollutants released, and new sources of power developed. Technologies as pervasive as the automobile must change by evolution. The social and economic costs of very sudden modification are more than Canadian society could afford or would tolerate.

The same principle applies to public transit technology though it has not always been followed. The Province of Ontario, for example, invested millions in a system based on a physical principle — magnetic levitation — that departed radically from previous transit technologies. The development was eventually abandoned and the experience has left most decision makers skeptical of any proposal not firmly grounded in existing technical experience.

At present, therefore, modifications to existing transport systems are providing the most significant improvements in service. For example:

- exclusive or priority bus lanes are now in place in several central city areas;
- traffic segregation schemes have been implemented to improve pedestrian and cycling environments;
- methods of spreading peak period traffic over a longer time by staggering work hours have been instituted in Ottawa and have been tested by many individual employers across Canada;
- Canada has pioneered the development of demand-responsive transit. Dial-a-bus experiments in Stratford, Ottawa, and Toronto in Ontario, and Regina in Saskatchewan, have received attention throughout North America;
- federal and provincial financial aid and research has been directed at providing special facilities and services for handicapped people.

4.2 Security

It has long been a source of pride to Canadians that people are still safe in their homes and on the streets of the nation's largest cities. There is satisfaction in comparing crime rates in Canada and the United States, though the much less favourable comparison with Europe, for example, is rarely made. While it is true that the rate of violent crime[1] in Canadian cities is considerably less than in U.S. counterparts,[2] there has nevertheless been a steep increase in the Canadian rate over the past decade. Violent crime in Canada represents less than 10% of all criminal code offenses, and about 7% of total offenses. (Crimes against property — e.g. theft, break and enter, fraud — account for almost two-thirds of criminal code offenses.) Nevertheless, violent crime is the source of greatest public concern.

The number of cases of murder/manslaughter reported in Canada has risen from 277 in 1965 to 589 in 1974, representing an increase in the rate per 100,000 population from 1.4 to 2.6.[3] During the same period the rate of all violent crimes increased 90% from 229 per 100,000 to 567 per 100,000.[4] Robbery registered the sharpest increase, 170%, from a 1965 rate of 28 per 100,000 to a 1974 rate of 76 per 100,000. Common assaults are by far the most prevalent violent crimes, and account for about three-quarters of the total reported. Robbery (involving a threat to a person) is the next most common, accounting for over 13% of the 1974 total.

There are substantial regional variations in the incidence of violent crime. In 1974, the offence rate per 100,000 was 404 in the Atlantic provinces, 389 in Quebec, 586 in Ontario, 671 in the Prairie provinces, and 828 in British Columbia. Corresponding rates of violent crime in the three largest metropolitan areas were (1974): 527 per 100,000 in Toronto, 558 in Montreal, and 964 in Vancouver. Vancouver continued to lead in total criminal code offenses with a rate of 11,042 per 100,000. Toronto's rate was 6,667 and Montreal's 5,708.[5]

It has been common to associate crime with urbanization, perhaps a vestige of the notion that cities are inherently sinful. In fact, statistics do support some correlation between crime rate and size of settlement. This is illustrated in Chart 4.1 which also indicates the general upward trend for all size groups.[6] It is interesting to note that while cities over 250,000 do have the

[2] This includes employees in auto assembly and parts manufacturing but does not include the large numbers employed in automotive support services; e.g. car dealers, mechanics, station attendants.

[1] Violent crime includes murder, manslaughter, rape (and other sexual offenses), robbery (where a threat to a person is used), and assault,

[2] In 1974, the aggregated U.S. rate of violent crime (reported by police) was about 460 offenses per 100,000 population. The comparable Canadian rate was just under 100 offenses per 100,000. In 1965, the U.S. rate was 200; Canada's was 38.

[3] Source: *Statistical Handbook — Selected Aspects of Criminal Justice;* Ministry of the Solicitor General; March, 1976.

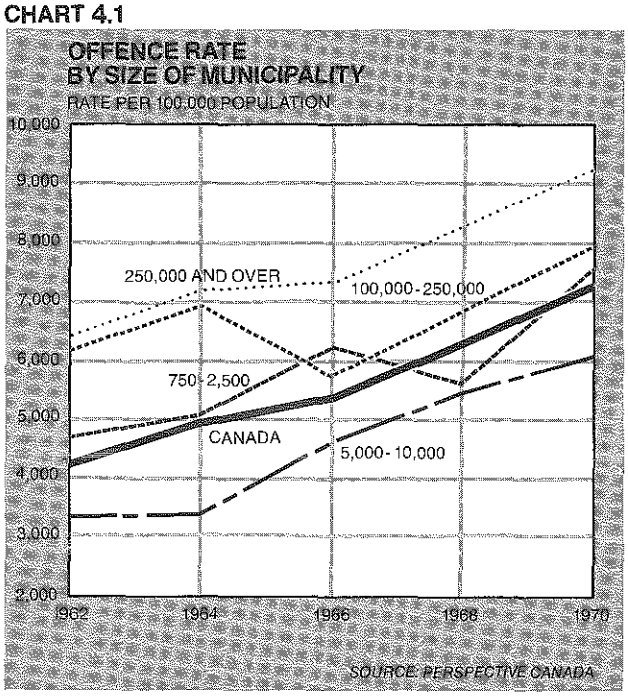
[4] The discrepancy with the rate of "100" reported in footnote 2 is due to a different definition of violent crime. In order to compare with U.S. figures, most assaults were omitted from the rate in footnote 2. That lower rate reflects only the most serious crimes of violence.

[5] Source: *Statistical Handbook;* Ministry of the Solicitor General; 1976.

[6] The rates in Chart 4.1 include all offenses, not just violent crimes.

highest rates, towns in the range 5,000 to 10,000 have rates lower in aggregate than communities of between 750 and 2,500. Moreover, the rate for this latter group in 1970 exceeded the 1962 rate of the big cities over 250,000.

CHART 4.1



These trends make it difficult to draw conclusions about the effect of population concentration on the incidence of crime. Obviously in large cities where people, property, and wealth are concentrated there are far more opportunities to commit crimes and to escape detection. But it would appear that economic, social, and demographic factors, not explicitly related to the size or form of human settlement, are the most significant determinants of criminal behaviour and its increasing prevalence. It is argued, for example, that the changing age distribution of the population is responsible for some of the recent increase in the rate of reported crime. If the percentage of young people in the population were to diminish, it is suggested that crime rates would drop, since they are now disproportionately concentrated in the 15-30 year-old age group. Moreover, this group forms a larger proportion of urban than of small town and rural populations.

Beside crime, the other principal threat to the physical security of Canadian communities is fire. In 1972 there were about 79,000 fires reported (excluding forest fires) resulting in a property loss of $254 million. The most common cause was "smoker's carelessness" accounting for 28% of all fires, though only 7% of property loss. Most tragic, of course, is loss of life. Each year more than 800 die in fire, making it the fifth leading cause of accidental death in Canada.[7] By comparison, in 1974, 6,745 died in auto accidents, while only 589 were victims of murder and manslaughter. In fact, the murder rate in Canada is only about one-sixth the suicide rate, and one-thirtieth the rate of deaths from all accidental causes.

The security of Canadian communities is enhanced in two principal ways — by design and by active protection. Passive protection is provided by lighting, by locks and alarms, by design of public spaces to thwart concealment, by fire proofing, sprinkler systems, fire doors and so on. A great deal of architectural and engineering ingenuity goes into these systems, and like so many things that work well, the effort is rarely noticed until a breakdown occurs.

Active protection is afforded largely by police and fire departments. Their maintenance requires major expenditures by both provincial and local governments. Local governments spent almost a billion dollars on protective services in 1974, about 8% of their gross expenditures. The Montreal Urban Community, for example, employed a police force of 5,300 in 1974 with a budget of $104 million. Provinces spent another $885 million on protection in 1974, much of which went to maintain provincial police forces in Ontario and Quebec. (Canada-wide, there are about two police officers for every 1,000 population). Large towns and cities in Canada generally employ their own police. Other settlements, except in Ontario and Quebec, rely largely on contracts with the Royal Canadian Mounted Police for which the federal government pays half the cost.

4.3 Health

The level of health of the Canadian population is generally high, as reflected in a life expectancy at birth (in 1971) of 69.4 years for males and 76.5 years for females. There were slight regional variations; for example, female expectancy in the Prairie provinces was 77.6 years as against 75.5 in Quebec. But these differences have decreased steadily over the years.

Trends in *residual* life expectancy at various ages imply that progress since 1931 has been greater for women than for men and that relatively small gains have been made in lengthening the lives of those who survive to middle or old age. This is a pattern typical of the effect of general social and economic development on the health of populations. Indeed, on a worldwide basis, national health as measured by life expectancy at birth or infant mortality can be well predicted by income per capita.

[7] The five leading causes of accidental death in Canada are auto accidents, falls, drowning, industrial accidents, and fire.

Health and Human Settlements

Good community infrastructure — particularly for water and sewage — hygienic behaviour, and the almost universal availability of medical services have combined to effectively eradicate most serious communicable diseases in Canada (although venereal diseases are a notable exception). Thus the principal causes of death have increasingly become related to the aging process itself. Circulatory disease now accounts for about 45% of all Canadian deaths, cancer for 20%, and all other non-accidental causes for about 25%. The percentages for cancer and heart disease have increased partly because communicable disease has declined and no doubt partly because of environmental contaminants and living habits whose precise effects are still hard to gauge. There have also been dramatic increases in diagnosed emotional disorders such as neuroses and depressions (Chart 7.1).

The relationship of these trends to changing patterns of settlement is not known. Urbanization, and all its effects on physical and mental health, has not been assessed in any comprehensive way. Nevertheless, it is obvious that modern life, particularly modern urban life, is much more sedentary than it was in the early decades of this century. Everywhere people are confronted with devices that thwart incidental exercise: automobiles, elevators, escalators. Fortunately, there are indications of a public reaction to these trends. Individual participation sports such as cross-country skiing, cycling, and jogging are beginning to involve significant numbers of people. And pressures are increasing for the provision of exercise facilities in urban work places.

There is a similar concern for environmental health issues, particularly those associated with the effluent of industrial processes and automobiles. As a result, the Canadian public has grown cautious in its evaluation of new products and technologies. Particularly worrisome is the prospect of a proliferation of nuclear power stations near large concentrations of population. While recognizing that the probability of serious accident is extremely low, there remains the problem of radioactive waste disposal and the constant threat of sabotage.

Health Service

Canada is for the most part well served by hospitals, physicians, nurses and public health personnel. In 1972 there was an average across Canada of one active physician[1] for every 768 people. In British Columbia the ratio was 1 to 663, in Newfoundland 1 to 1,167, and in the Yukon Territory 1 to 1,250.

Health care is universally available through government-operated insurance programs that bring a complete range of medical and hospital services to people regardless of income. These programs are of course very expensive. Between 1966 and 1972 health expenditure per capita by governments in Canada increased by 175% from $81 to $224. As a percentage of GNP, this represented an increase from 2.4% to 4.7%. The provinces have constitutional authority for the administration of health services and meet about two-thirds of total health costs in Canada. In 1974 this amounted to over $6.5 billion or about 25% of provincial spending. The federal contribution goes principally to pay half the costs incurred under the national programs of hospital and medical care insurance. Underlying these vast public expenditures is a philosophical commitment to the right of quality health care regardless of income.

4.4 Education

Education, like health, is vital to individuals and to society as a whole. Acquisition of basic skills and knowledge, continuing self-development through advanced learning, extension of the economic potential of individuals, transmission of cultural values, increasing equality of opportunity — these are some of the broad concerns of education, and they frequently interact and reinforce each other.

From the beginning of European family settlement in Canada, the provision of schools has always been a priority. Today when parents move to a new city and are selecting a neighbourhood, the quality of the local school is often the decisive factor in their choice. The national commitment to education is reflected in the 7.4% of GNP expended on it in 1973, an increase from 4.3% of GNP in 1960.[1]

Education is the constitutional responsibility of the provinces and accounts for about one-fourth of their budgets; in some cases more. But a great deal of responsibility for education is vested by most provinces in local jurisdictions.[2] Over 40% of total local government expenditure in Canada is for education. This spending is largely financed by a combination of provincial grants and local taxation. Federal involvement is confined to grants for post-secondary education, vocational training and manpower retraining.

One significant direct effect of the education system on the form of Canadian communities is related to the local tax structure. Local taxes are used to finance about 30% of the cost of elementary and secondary education in Canada. The great majority of this revenue is raised by a tax on real property. For communities with a high percentage of school-age families this requires a relatively high property tax rate. Thus there is a tendency for local government to discourage family

[1] Excluding interns and residents; this and subsequent figures are derived from the *Canada Year Book* (1974).

[1] The increase is only partially explained by the changing age structure of Canada's population. Between 1961 and 1971 the school and university age group (5-24 years of age) increased by 24%, but real expenditure on education went up more than proportionally.

[2] New Brunswick and Newfoundland pay all educational costs at the provincial level and Nova Scotia is moving to do likewise.

housing in favour of developments that generate revenue but require little expenditure, e.g. high rise apartments, industrial parks, or very expensive single-detached houses that are beyond the means of most young couples.

More positively, the substantial investment of communities in their educational facilities can be — and in many cases is being — used for other than normal school purposes. There is no reason, except the costs of some extra maintenance, why schools cannot be fully used as community centres in off-hours, year-round.

4.5 Public Assistance and Welfare Services

At the time of Confederation, matters of social welfare were not considered sufficiently important for national policy to merit mention in those sections of the British North America Act that dealt with the division of federal and provincial powers. The situation is very different today. To ensure that the basic needs of every Canadian are met has become a priority of every level of government.

Many of the most serious problems of human settlement in Canada and throughout the world are the result of poverty and inequality of opportunity. While it is true that affluence has created its own problems — e.g. waste and industrial pollution — and while it is true that even wealthy communities may be badly planned and sterile, by far the most debilitating and degrading environments in human settlements are those left to very poor people. In this sense poverty is not synonymous with low income, but rather with an inability to provide the basic requirements of a decent life — food, shelter, clothing, fuel, household supplies. For these least fortunate citizens, all three levels of government have established extensive programs of public assistance and welfare services.

At the federal level there are two major thrusts: (1) income supplement programs that are targeted on specific groups in the population (not all poor by any means) — e.g. the aged (Old Age Security, Guaranteed Income Supplement, Canada Pension Plan), the unemployed (Unemployment Insurance), and mothers of young children (Family Allowance); and (2) cost-sharing agreements to supplement public assistance programs in provinces and municipalities (the Canada Assistance Plan).

In the fiscal year 1975/76, federal payments to persons totalled $7,722 million, of which almost 90% went to Old Age Security, Guaranteed Income Supplement, Family Allowance, and Unemployment Insurance. Transfers to persons constituted 22.8% of the entire federal budget (Table 9.5).

The Canada Assistance Plan (CAP) was enacted in 1966 to complement other income security measures. It has three objectives: (a) to assist the provinces in developing comprehensive programs to help all persons who are in financial need, (b) to encourage the provision of assistance at levels adequate to permit recipients to maintain a decent standard of living, and (c) to support the development of welfare services which will encourage and assist recipients to become self-supporting.

Under agreements with the provinces and territories, the CAP provides for federal contributions of 50% of the cost of assistance to persons in need of certain health and welfare services. "Assistance" includes any form of aid for the purpose of providing basic requirements: e.g. food, shelter and clothing; maintenance of children in the care of provincially approved child welfare agencies; items necessary for the safety, well-being, or rehabilitation of a handicapped person; and maintenance in a home for special care such as a home for the aged. "Welfare services" include rehabilitation, casework, counselling and assessment, adoption, day-care, and similar services supplied to persons in need or to persons for whom the service is essential if they are to remain self-supporting.

The only eligibility requirement specified under the Canada Assistance Plan for persons applying for assistance under provincial programs is that of need, which is determined through an assessment of budgetary requirements as well as of income and resources. Rates of assistance and eligibility requirements are set by the province so that they can be adjusted to local conditions and to the needs of special groups.

Federal government payments to the provinces under CAP totalled $749 million in the fiscal year 1975/76, representing just over 10% of federal transfers to other levels of government (Table 9.5 (c)).

At present, federal and provincial officials are preparing legislation that would replace the Canada Assistance Plan, extending the scope of cost-sharing beyond the poor and disabled and assessing a user charge on those with the ability to pay. The proposed Social Services Act would place new priority on the needs of the aged and handicapped, in particular to enable as many persons as possible to remain in their own homes rather than being sent to institutions.

In addition to government-supported welfare and assistance programs there are hundreds of private and volunteer agencies in Canada that serve the social needs of communities. Many of these groups are financed by voluntary contributions (the United Way raised almost $65 million in 1975) and are staffed by people giving freely of their time.

4.6 Recreation and Culture

In the past, cities generally advertised the economic advantages they could offer. Although they still do, stress is now increasingly being placed on public amenities — parks, sports facilities, live theatre, museums.

The demand for activities to fill leisure time has been

increasing steadily in Canada. Though the average work week has not decreased substantially since 1951 (by only about one hour for office workers and four hours for industrial workers), people are living longer in retirement and spending more years in schools — thus adding to non-work time. Increasing disposable income is undoubtedly another major factor in demand. And a changing age structure, with more young adults, has also been influential.

It has recently been estimated that urban Canadians spend about two-thirds of their spare time at home, about a fifth outside the city altogether, and the remainder (only about 15%) within the city, but outside the home. At home, television viewing is the leading activity. Almost 70% of the population spends more than eight hours a week watching TV, with 15% spending over 30 hours.[1]

Recreational Facilities

Public open space is the most basic recreational amenity in Canadian cities. An average of 10 acres per thousand of population is generally considered to be a desirable standard. Across Canada, the urban average is 18 acres per thousand, but this disguises wide regional variations. There are also wide variations within cities. In poor areas, open space is most often an empty lot where a building recently stood. In wealthy parts of town there are golf courses, backyard pools, tennis courts, and parklands.

It is very difficult to expand the supply of open space in most cities; indeed there is a constant challenge just to maintain what already exists. Since it is a public good, conferring a rather intangible benefit, recreational land has difficulty holding its own in the urban land market. Left unprotected, much of it would immediately be purchased for residential or commercial development.

On the other hand, a great deal can be done with small recreational acreage if it is distributed properly. Cross-country ski trails (doubling as walking paths and bike trails in summer) require only a ribbon of land. A great deal of urban land could also be used much more imaginatively than is usually the case. Abandoned rights of way for rail routes or power lines can become linear parks. Vacant lots can be converted to mini-parks, if only temporarily. Landfill sites and quarries can be used creatively to build small ski hills and toboggan runs. Flat rooftops, with minor design changes, can support gardens, tennis courts, running tracks, and skating rinks. The possibilities are limited only by the imagination.

One of the finest examples of the imaginative use of an existing facility for recreational purposes is the Rideau Canal in Ottawa. Built originally for military transportation, the Canal is now filled with small boats in summer and with thousands of skaters in winter.

Cultural Facilities

It is not easy to analyse the adequacy of cultural facilities in Canadian communities. Only the largest cities can support first class galleries, museums, and professional artistic companies. Moreover, the opportunities that these offer are taken by a relatively small segment even of the urban population. Most of the Canadian cultural diet is received over television and radio. These media are able to bring programs of all kinds into virtually every home, however remote, and have thus substantially universalized Canadian culture. In the process, it has fallen under heavy influence from the United States with the effect that commercial radio and television in Canada, Quebec partially expected, can scarcely be distinguished from its U.S. counterpart. The publicly owned Canadian Broadcasting Corporation is left with the specific responsibility of supporting programs that are distinctly Canadian. CBC radio has been particularly successful in this regard and is considered the equal of any broadcasting organization in the world.

The long term social effects of the electronic media have been the subject of much debate and some concern over the past two decades. In the view of Marshall McLuhan they have made the world "a global village". They have certainly disseminated, perhaps implicitly, an urban-centered culture and have thus added, significantly one suspects, to the attraction of cities. It is ironic that radio and television, which make the culture of Toronto and Montreal available in the smallest villages, thus in theory obviating one of the inducements to migrate, have probably had the opposite effect.

Financing

The majority of cultural and recreational activities in Canada are financed through the private market. This includes most of the cost of media — newspapers, radio, and television (other than the CBC) — where revenues are provided largely by advertisers. And while governments may maintain parks and playing fields, the greatest expenditures go for the purchase of equipment by individuals. A survey in 1972[2] indicated that Canadian families of two or more persons committed 3.6% of their total expenditures to recreation (excluding, however, associated costs such as transportation). This amounted to $440 per family, or about $125 per capita per year.

Public expenditures on recreation and culture are made largely by local governments and in 1974 amounted to about 5.5% of total outlays or some $30 per capita. For example, in the fiscal year 1974-75,

[1] *Perspective Canada;* 1974; p. 101.

[2] *Canada Year Book* (1974), Table 6.9.

Metropolitan Toronto spent $87.7 million on recreational facilities and programs and $33.6 million on cultural facilities and programs. This was 6.8% of total Metro spending, and amounted to $58.57 per capita. Toronto already had the most extensive cultural facilities in Canada, at least as measured by floor area per capita of museums, art galleries, and exhibition halls. There were 70 square feet per 100 population. Only four other Canadian cities — Ottawa, Quebec City, Calgary, and Halifax — had even half as much.[3]

[3] *Urban Indicators;* MSUA; 1976.

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Central Mortgage and Housing Corporation:
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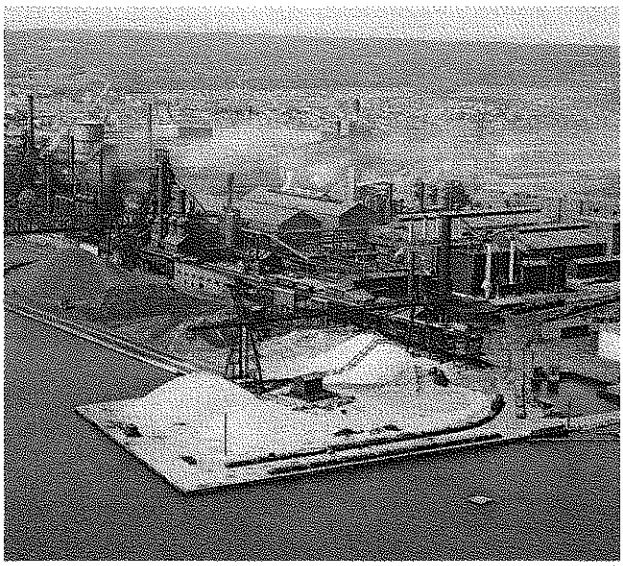

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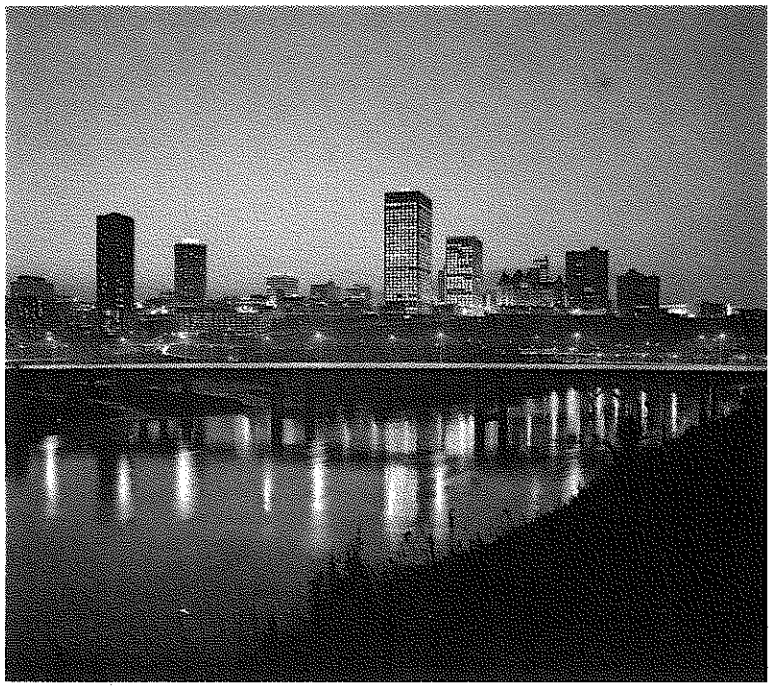

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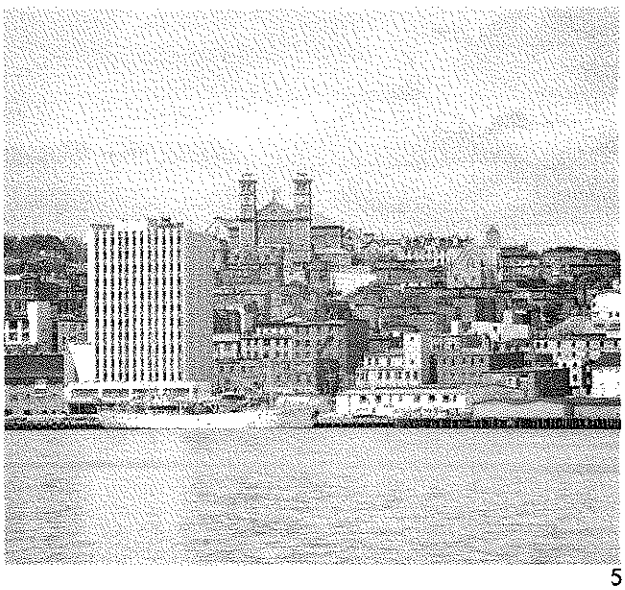

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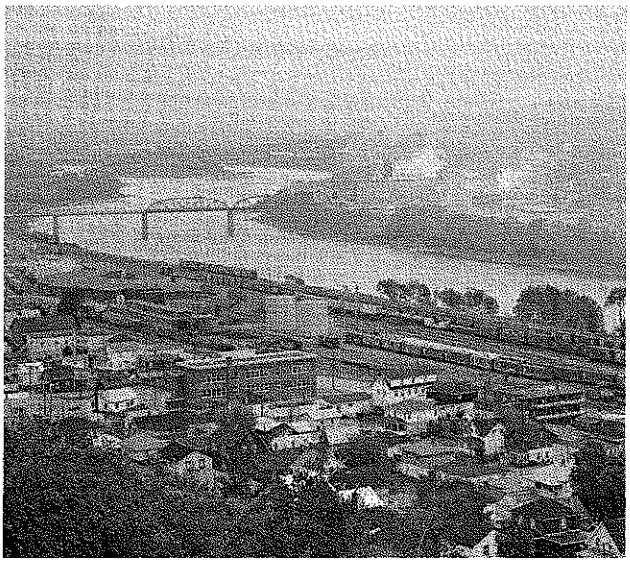

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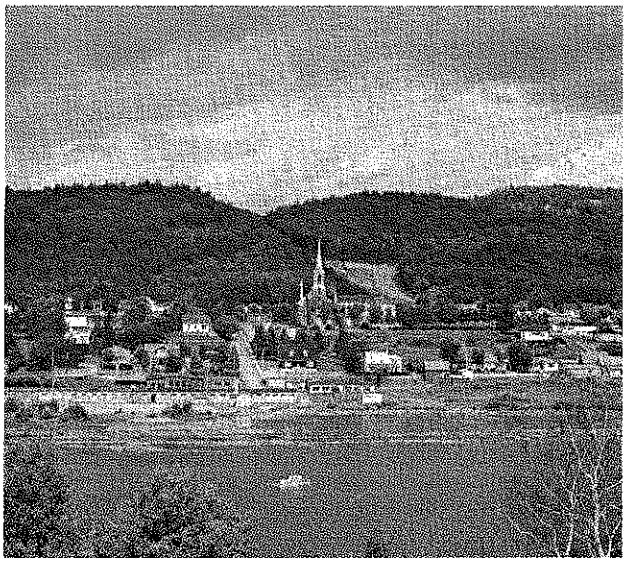

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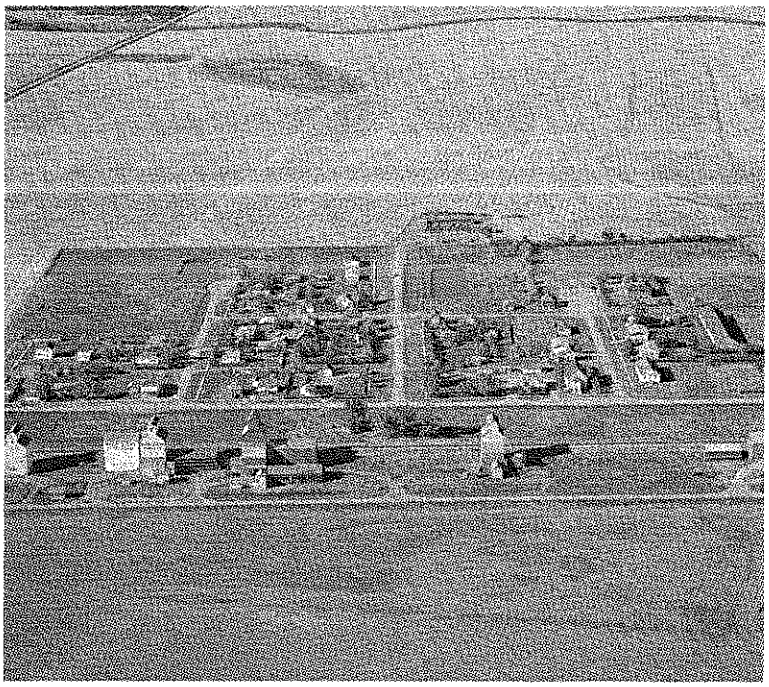

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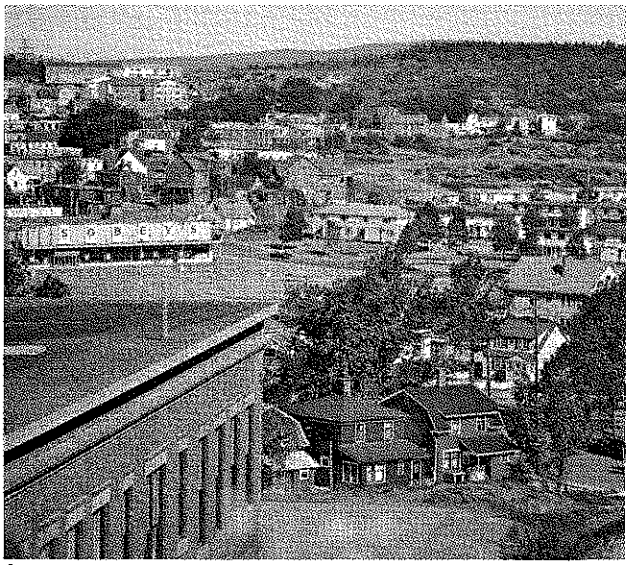

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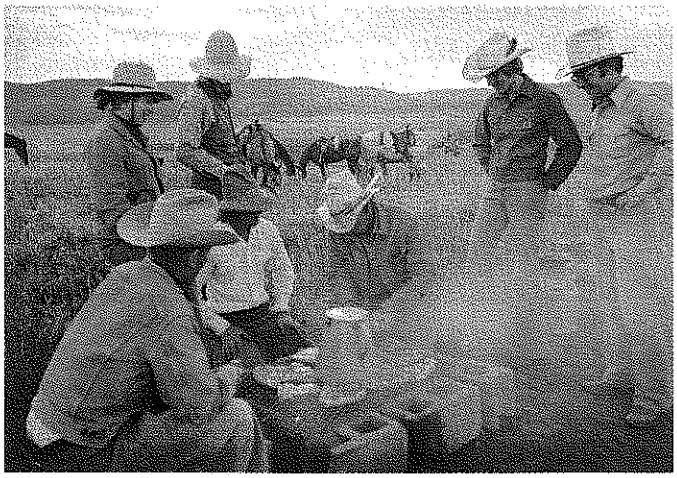

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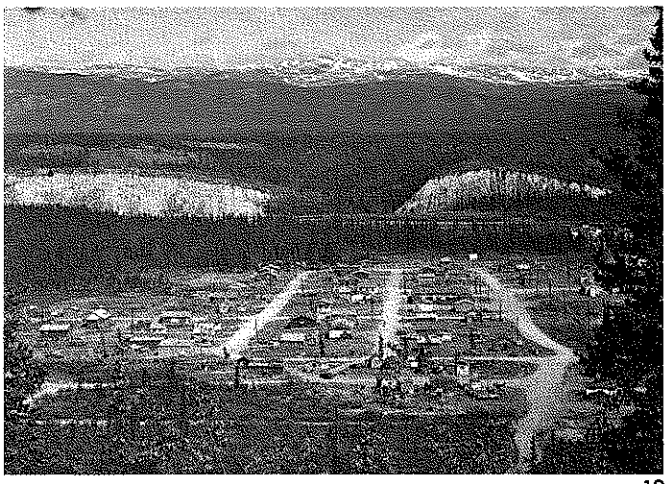

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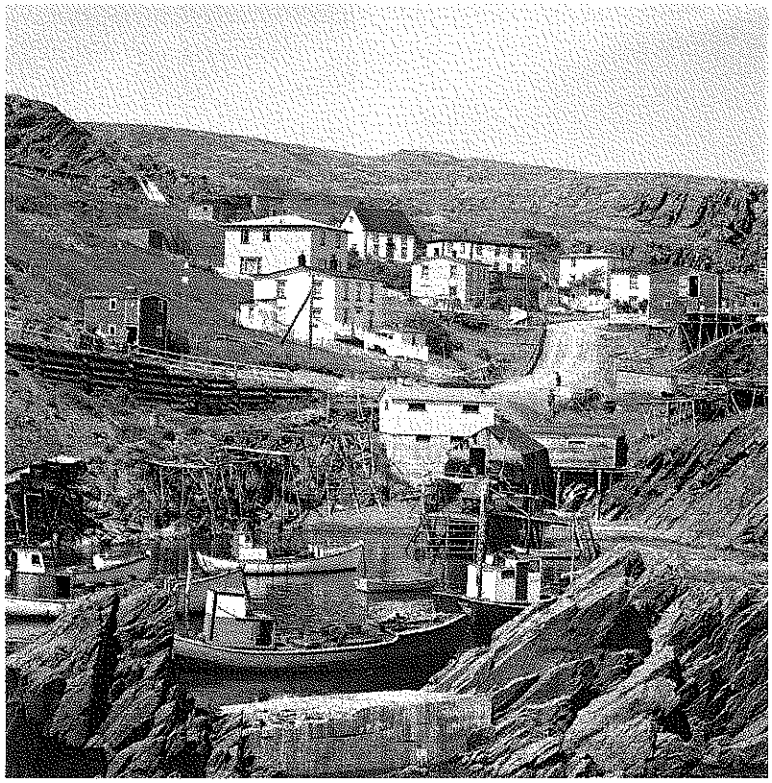

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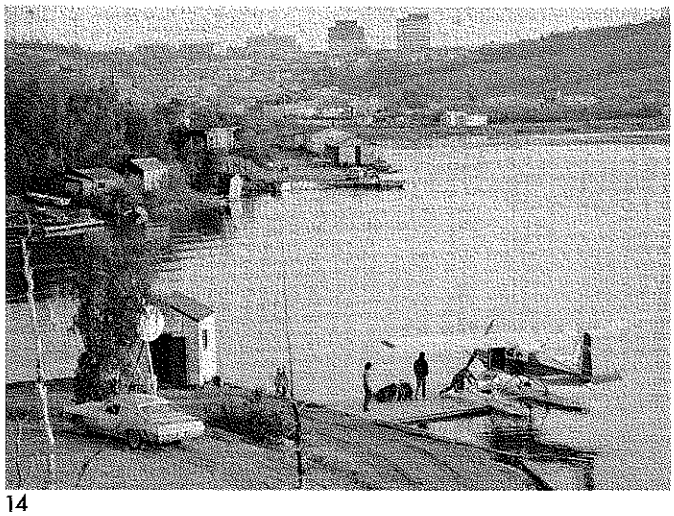

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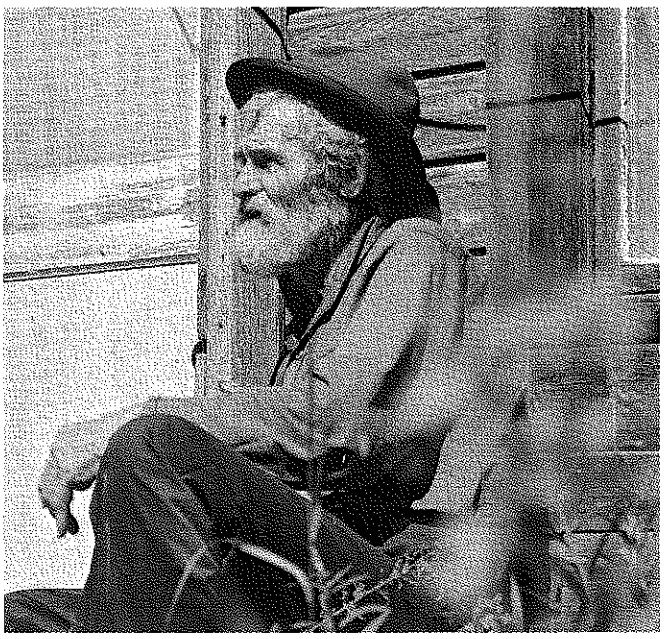

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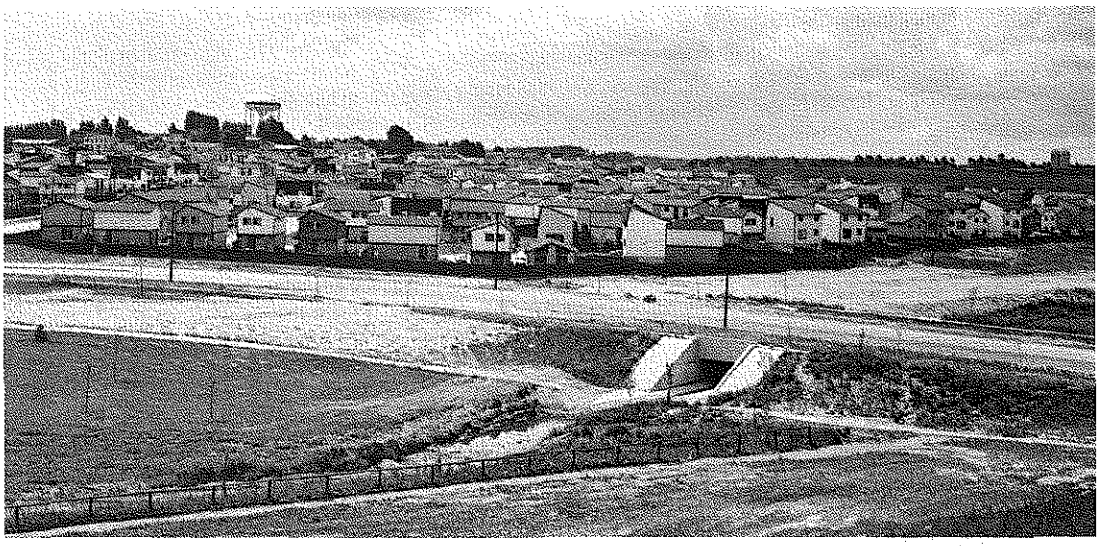

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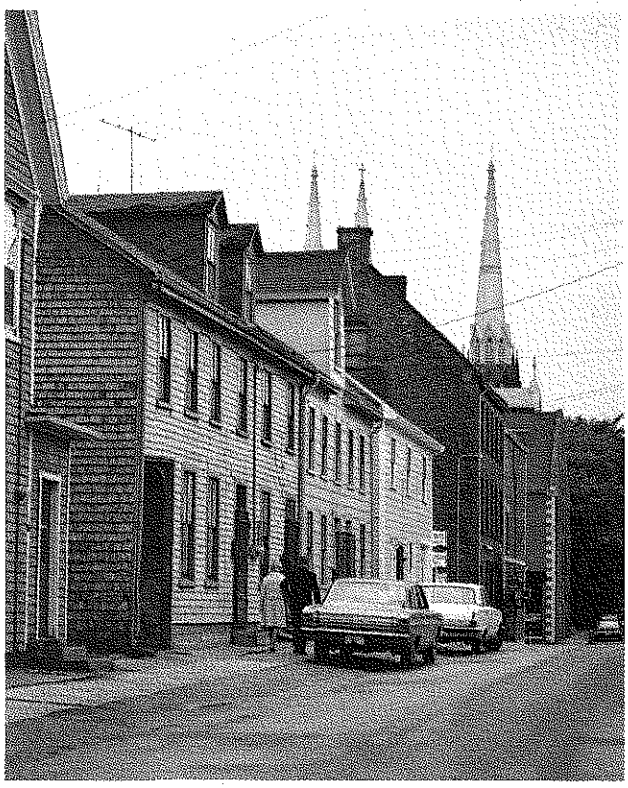

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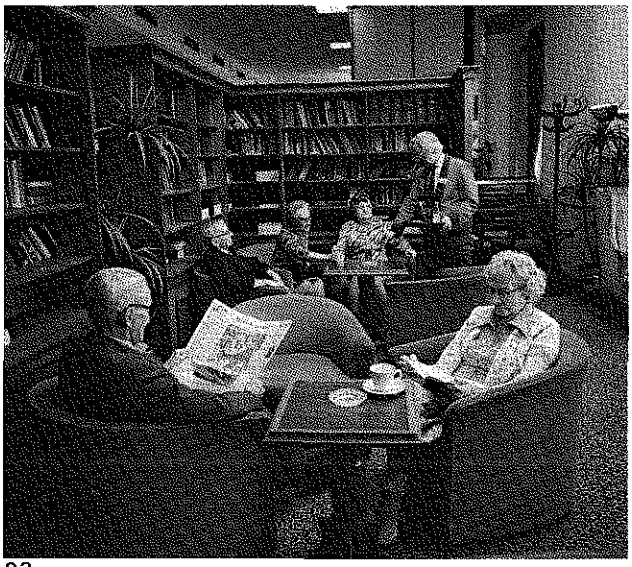

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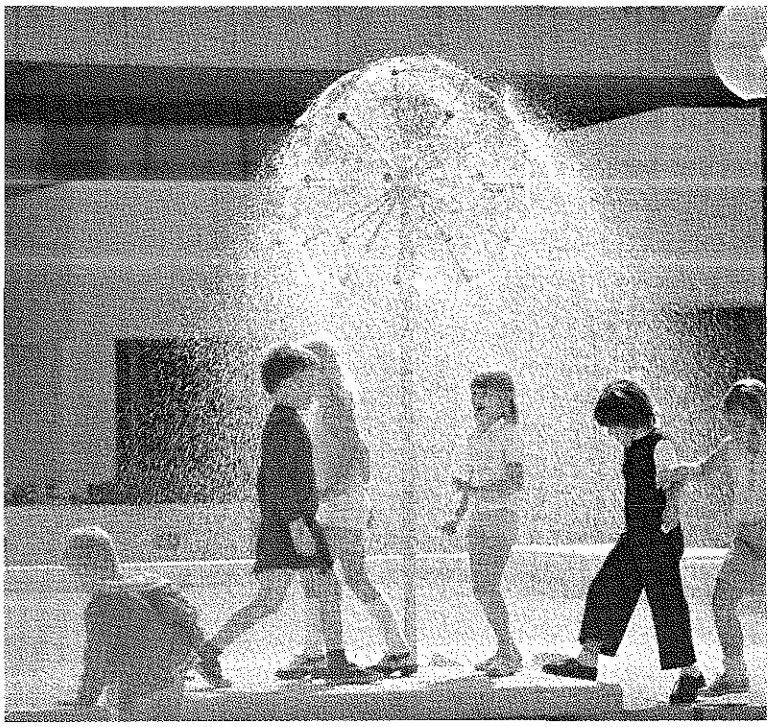

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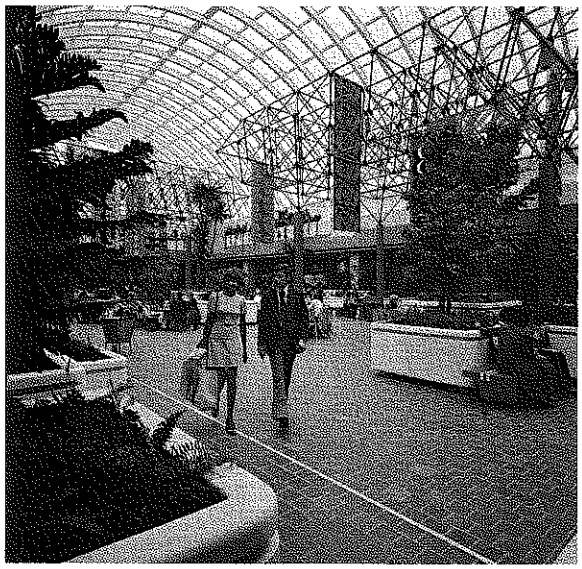

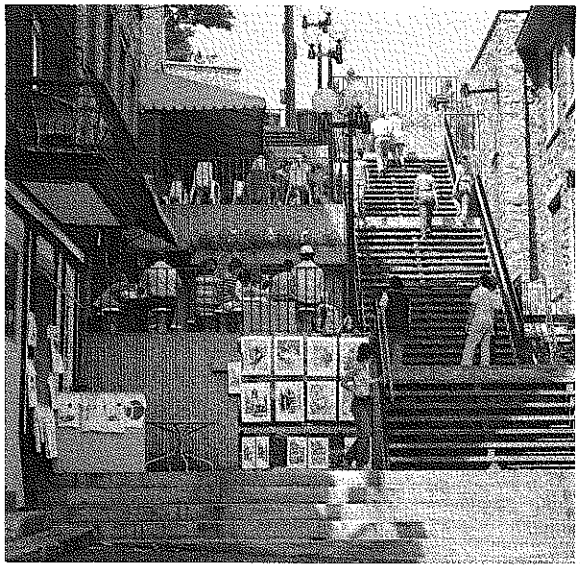

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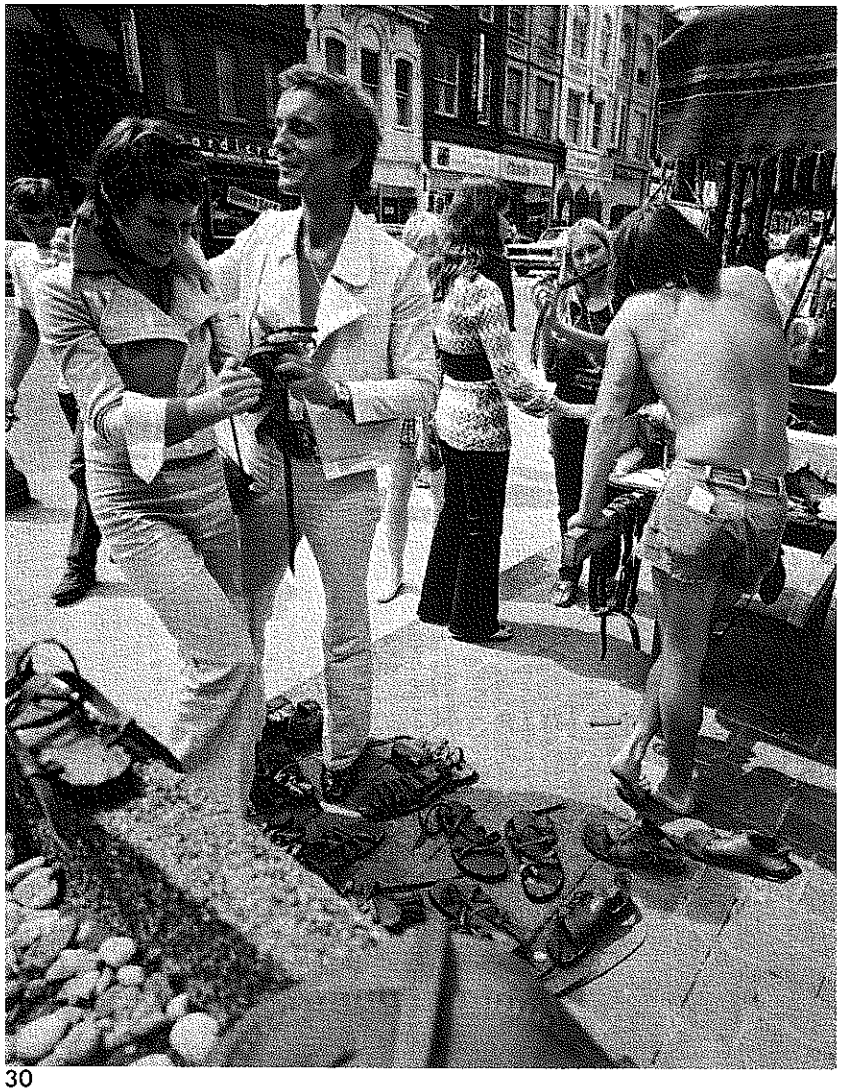

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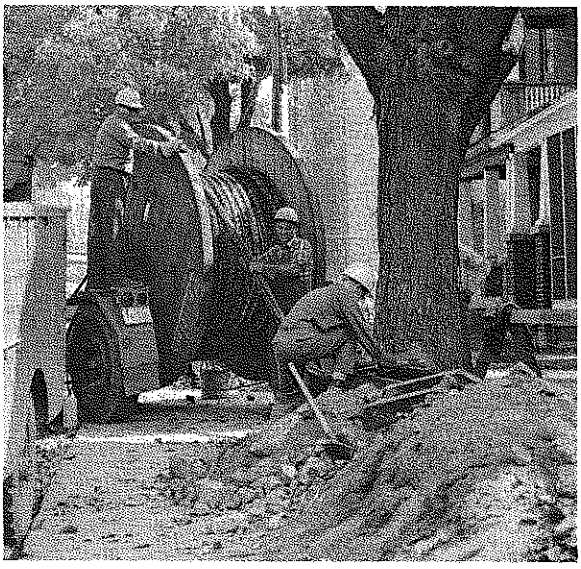

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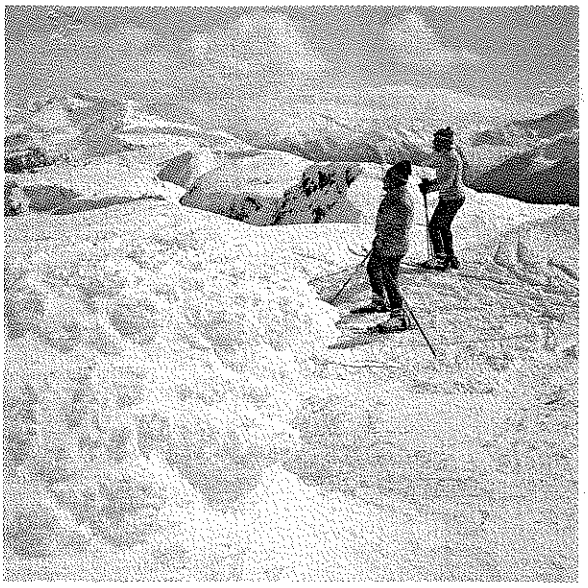

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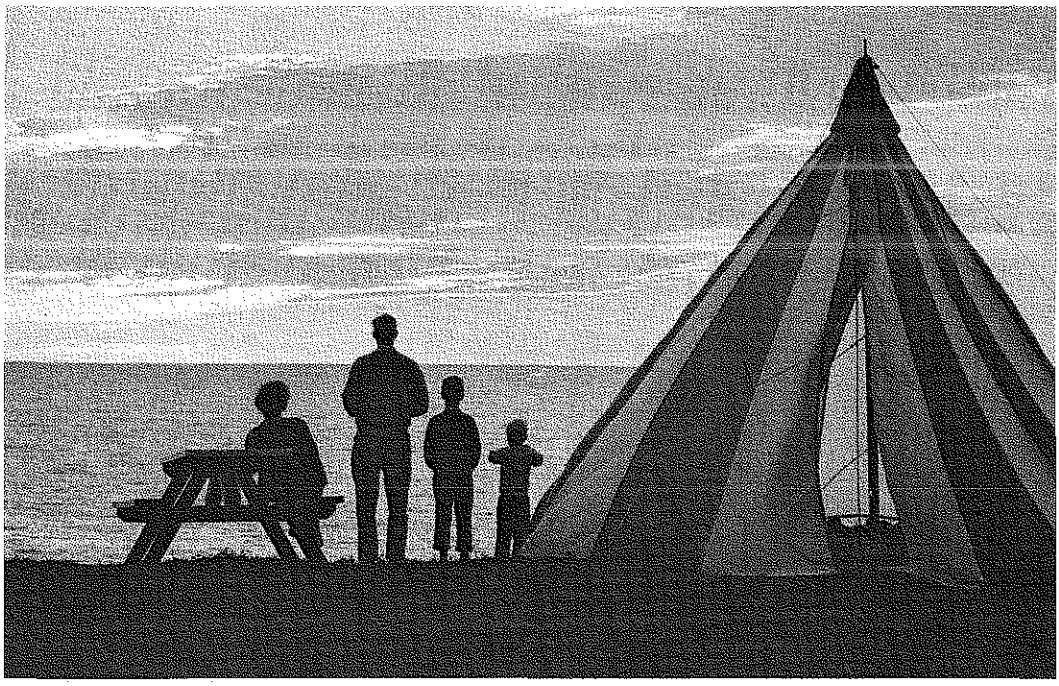

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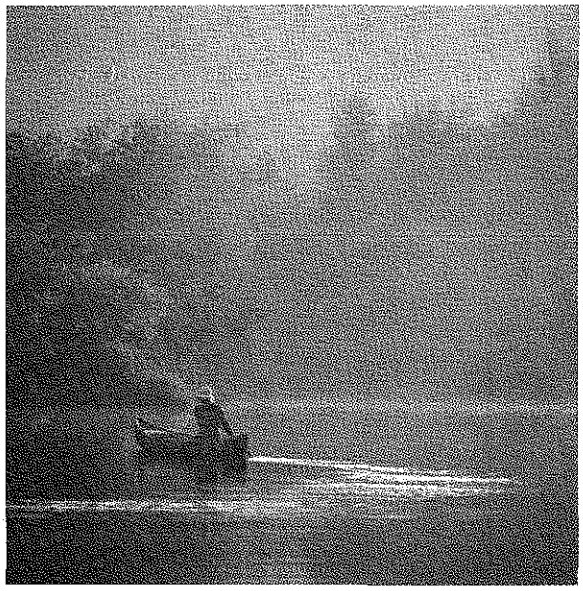

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5. Land

Canada occupies 6.2% of the world's land mass. But the figure is deceptive: only a little over 10% of Canada's area is suitable for the permanent settlement of large numbers of people. The Northwest Territories and the Yukon, for example, constitute 41% of Canada's land area but have a population of only 60,000. Subtracting the territorial area leaves 2.1 million square miles[1] but this figure too is deceptive. As Map 1.1 shows, the Canadian population is concentrated in a relatively thin band of climatically favoured land along the southern border. Of Canada's 124 cities of 10,000 or more population, 102 are found within 200 miles of the United States.

It has been estimated that in 1871 about 390 square miles were devoted to urban use in Canada. At that time the urban population was a mere 700,000. By 1971, direct urban land use had increased over 10 times to about 4,000 square miles and supported a population of 16.4 million.[2] Nevertheless, urban use still accounted for less than .05% of Canada's land area, excluding the Territories.

However, much of this land enjoys unique properties which set it apart from the vast hinterland. Urban land almost always possesses natural advantages — proximity to water routes, favourable climate, and easily worked soil of high agricultural quality. And as settlement develops, the land acquires further value by virtue of its limited supply, intensive use, and potential for generating large revenues.

With increasing value inevitably comes conflict. Higher prices create pressure to convert land to new uses. Within the existing city they encourage commercial and office use as well as high density residential development. In the past this has meant rental tenure, though now condominiums offer downtown apartment living combined with ownership.

On the fringe of the city, high prices encourage the conversion of agricultural land to more intensive urban uses, a process that is usually irreversible. Between 1966 and 1971, a yearly average of 228,000 acres of improved agricultural land went out of production in Ontario. Although only a small percentage (probably less than 7%) of this land was lost to direct settlement, a great deal has come under urban influence, being converted to rural residential estates, hobby farms, and a host of recreational uses.

Food production is steadily growing in world importance and the day can be foreseen when it will be morally imperative to farm all potentially productive land. If in the meantime excellent agricultural land in Canada continues to be overtaken by urban sprawl, a priceless future resource will have been squandered.

The dilemma is familiar. The current price of land reflects, approximately, the present value of the future stream of income from the land that is *anticipated* by prospective users bidding in the land market. At present, anticipated income from urban uses for the land close to cities far exceeds the income expected from agricultural use. But the market mechanism can by myopic since it has no way of predicting major and abrupt future changes in relative prices. These can depend on wholly unforeseen political factors (e.g. the oil price increases) or on disasters (e.g. a sustained crop failure and famine). Some kinds of activity — the service industries for example — can respond quite quickly to severe and unexpected changes in the economic climate. Other activities are less flexible. When land is serviced and built upon, its use cannot be reconverted to agriculture. On the other hand, if farm land is left dormant or is used for recreational pur-

[1] Figures do not include fresh water area. The total area bounded by Canada is 3,851,809 square miles, of which 3,560,238 (92.4%) is not under water.

[2] The estimate was derived by aerial survey for the Canada Land Inventory; it does not include the substantial amount of undeveloped land within many metropolitan areas. Other estimates of land area in urban use range as high as 9,100 square miles, but these presumably include undeveloped land within urban boundaries.

poses, it can easily be reconverted to food production if conditions warrant.

More than the private market, however, is involved in the competition for agricultural land. The choice of land for urban growth is normally made by local governments on the basis of urban planning criteria. These are determined largely by cost considerations and have nothing to do with the *long run* relative values of agricultural and non-agricultural land. Judged against the immediate cost of urban growth, agricultural land is usually ideal. Responsibility for the loss to society of destroying good farm land has not been borne to any great degree by the political bodies making decisions on the future location of growth. The interests of particular municipalities, and of particular land owners, as they are accommodated by Canada's mixed public and private market economy, are thus on occasion in conflict with the broader interests of the whole society.

Besides the consumption of farm land, other land use issues have been dominant in the past and continue to be important, often vitally so in particular locales. Strip development — gas stations, fast food stands, car lots — continues to offend aesthetic sensitivities. Policies that devote land to automobiles — freeways, parking lots — are both defended and attacked. Zoning regulations are a perennial local issue. High density versus low density residential use is constantly debated. Foreign and non-resident land ownership is often decried. And the protection of wildlife refuges and areas of unusual or fragile ecology is a common concern.

5.1 The Pattern of Urban Land Use

The typical urban region may be visualized as a set of roughly circular concentric rings, each characterized by quite different mixes of land use. In practice, geographic constraints and a multitude of other factors cause cities to depart from a neat pattern. But in virtually all cities there is a core area or central business district (CBD) where land values are very high and overall residential population density is typically, though not always, relatively low (Chart 5.1). For cities the size of Montreal or Toronto, the CBD may have a radius of up to a mile. Outside this core, residential density usually rises rapidly (note the exception in Ottawa) then falls off into the suburban ring which in Montreal extends about ten miles from the centre and in Toronto somewhat farther. Densities range from about 40,000 per square mile to 1,000 per square mile. Beyond the edge of the built-up city is the urban fringe, the frontier in which urban and rural land uses come into contact and conflict. This fringe may extend five miles or more in radius and is characterized by patchwork, quasi-urban development often unconstrained by the regulations of city government, though township (or county) and provincial regulations still apply. Beyond the fringe is an area sometimes called the "urban shadow". It may extend 50 miles from the CBD, but most residents commute to work in the city.

CHART 5.1

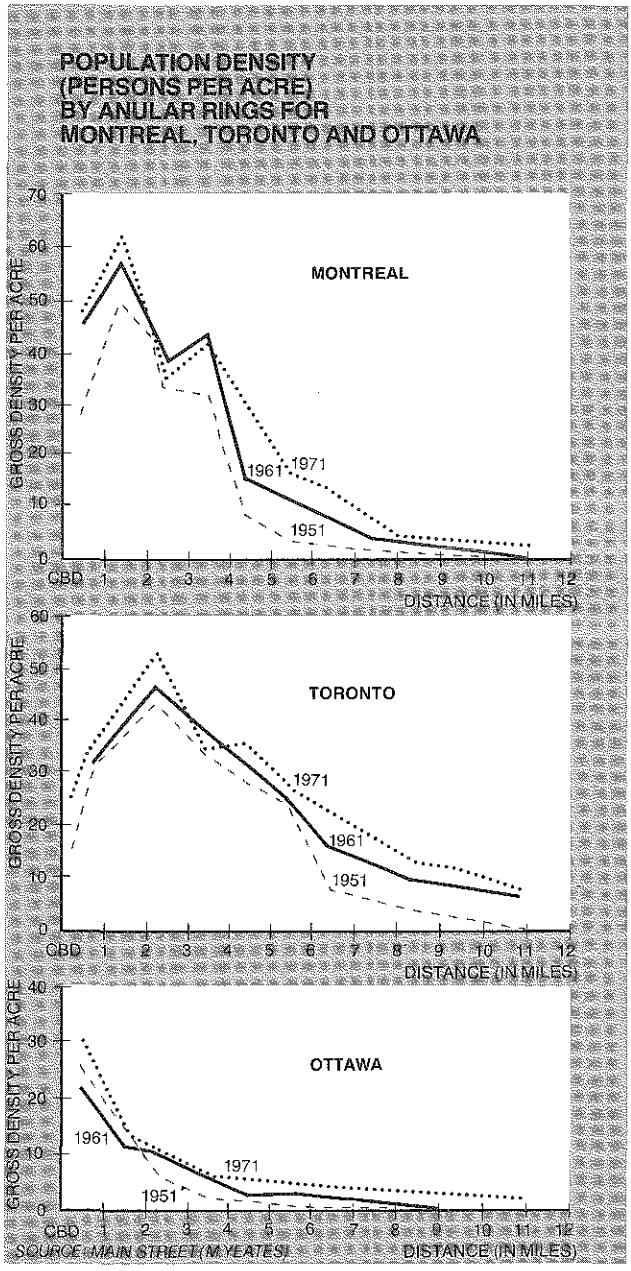
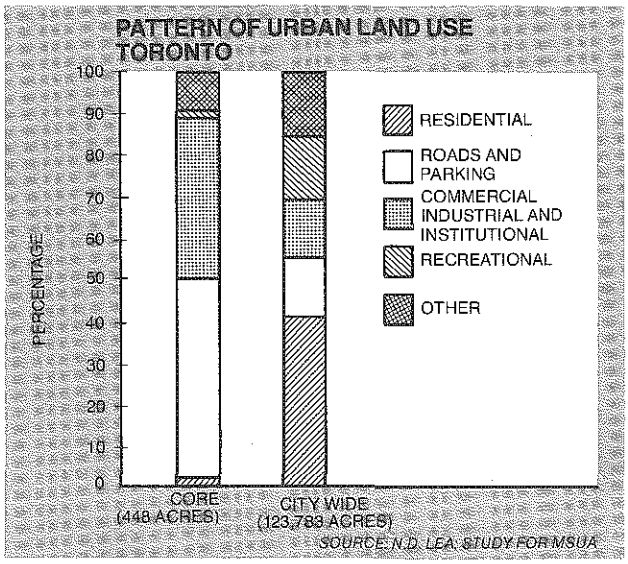


Chart 5.2 compares urban land use in the core of Toronto with the distribution by use throughout the city. City-wide, about 40% of the developed area is devoted to residential use, about 15% to recreation, 15% to roads and parking, and 15% to commercial, industrial and institutional uses combined. The remain-

ing 15% is devoted to utilities, sidewalks, driveways and miscellaneous uses. These percentages are typical of land use in other metropolitan areas, though there are great variations among different sectors within each city. It is notable that almost 40% of land in the Toronto core is devoted to the automobile (roads and parking). In view of the very high value of CBD land this represents a substantial implicit subsidy to those who bring their private cars into the central city.

CHART 5.2



5.2 Land Tenure

Almost 90% of the land and freshwater area in Canada is owned by the federal or provincial governments. Half is provincial land (one-fifth of which is in provincial parks and forests). Of the slightly less than 40% held by the federal government, 97% is made up by the Yukon and Northwest Territories. Canada's national parks cover 1.3% of the total land and water area (50,000 square miles). About 400,000 square miles are held in private hands. The percentage of privately-owned land varies greatly from province to province, from a low of 4.4% in Newfoundland to 92% in PEI. Excluding the Territories, 17.2% of Canadian land is in private hands. The largest part of this is in agricultural use. Saskatchewan and Alberta contain between them half the private land in Canada.

The owner of a parcel of land acquires with it the right, except where explicitly excluded by law, to use, exclude from, dispose of, and enjoy the land. In Canada, ownership rights have been substantially qualified in the public interest. The use of land by owners can be limited by direct government orders in the form of injunctions and prohibitions. Specific restrictions may require the owner to grant rights to water, and certain public rights of trespass. In PEI, non-residents cannot purchase more than 10 acres without provincial approval. In Newfoundland and British Columbia, land has been set aside by legislation exclusively for agricultural use. And throughout Canada there are regulations that set lower limits on the size of land parcels that can be sold. These minimum size "severance laws" apply usually to agricultural land and are intended to prevent subdivision into lots that are too small for economic farming. They do not, however, prevent subdivision into large rural estates nor into so-called hobby farms.

5.3 Public Land Use Controls

The use rights associated with the ownership of land in Canada, particularly in settled areas, may be further limited by broad regulatory powers exercised by provincial and local governments. The most widespread regulatory powers applied to settled land are *official plans, zoning regulations,* and *development controls.*

The official plan is a public document that attempts to relate development to stated community objectives. Plans may guide local or provincial officials in the initiation or approval of development proposals but they have no formal legal status. Zoning bylaws, on the other hand, are legally binding regulations that predesignate the sole purposes for which land may be used (e.g.: commercial, agricultural, industrial, residential) and consequently they have a major influence on land value. Used in conjunction with an official plan, zoning can be a powerful tool for implementing development policy. Used alone — as has occasionally been the case in Canada — zoning can be an arbitrary device for conferring privileges on some people and penalties on others.

Development control is more flexible than zoning, in that it permits each application for development to be judged on its own merits rather than on its conformity to a preconceived set of regulations. Because of its discretionary nature, development control has drawbacks: it is open to abuse by public officials and the approval procedure tends to be lengthy even for simple development applications. Nevertheless there are many situations for which development control is the best method of land use regulation. In old urban areas that are undergoing redevelopment or in rural-urban fringe areas, development control provides a flexible tool for the control of land use changes that cannot be predicted in detail and which, therefore, cannot be adequately incorporated into a zoning bylaw. Despite these advantages, most provincial governments have been reluctant to grant municipalities the discretionary powers implicit in development control, except on a interim basis. Only Alberta, Saskatchewan, and Newfoundland permit municipal development control as a matter of course.

The power to expropriate is the ultimate public con-

trol over privately held land. In Canada, expropriation is typically used to acquire land for public projects such as highways, parks, airports, or land assemblies. In the past, expropriation was common in publicly designated Urban Renewal areas where it was often the source of bitter public controversy. Governments also expropriate land for service rights-of-way on behalf of private developers unable to acquire them in the market. Though expropriation powers are very broad, they are restrained by the requirement to pay fair compensation to the party dispossessed, and by the fact that the power to expropriate rests ultimately with elected officials who can be held politically accountable for their decisions.

The powers of regulation and expropriation are of course not the only ways through which governments may influence the use of land. Taxation can have a major effect — for good or for ill — as described in subsequent sections. The subsidy is another inducement that is often used to maintain particular agricultural land uses. In an urban setting, subsidies are employed to attract commercial and industrial investments in selected locations. Even more direct is the establishment of municipal industrial parks with favourable leases and full services. However, the most important single instrument with which to influence land use is the location of infrastructure — highways, interchanges, subway stations, sewer and water lines. These determine feasible patterns of development and are thus crucial in establishing the market conditions under which most urban land allocation in Canada takes place.

The federal government exercises little direct control of land (other than by expropriation)[1] except on those Crown lands — largely in the Territories, in National Parks, and in the National Capital Region — to which it holds title. Elsewhere, the control of land and its use rests with the provincies and through them with municipalities. Nevertheless, the federal government is a major land-owner in urban Canada, occupying approximately 210,000 acres in metropolitan areas (37% of which is in Ottawa-Hull). This affords considerable leverage to influence the form of urban Canada. (Included in federal holdings are 43 square miles in the metropolitan cores). The government is committed to a policy of federal urban land management that will contribute to overall urban objectives, e.g. the improvement of the environment of central city areas.

5.4 Some Important Issues and Responses

The popular notion of unhindered private ownership and use of land in Canada is a fiction, as the array of public methods of intervention outlined above indicates. Nevertheless, there remains a substantial measure of individual freedom in the use and disposition of privately held land. In the public mind, the significance of these private rights has been emphasized by: (1) the steep rise in the price of urban land for residential development (Table 2.4); (2) wasteful patterns of land use in urban settlements, e.g. sprawl, strip development, and parking lots; and (3) the continuing conversion of agricultural land to urban use. All three phenomena are seen to derive from private land ownership and the consequent view of land as a commodity to be traded rather than as a public resource. Pressures are therefore developing for even greater public sector involvement in all land matters.

Land Cost

Many of the factors proposed to explain the recent escalation in the price of serviced land were discussed in Section 2.3. There it was suggested that an inadequate supply of serviced land, caused in part by a widespread reluctance to grant development permits, was largely responsible. But it is more common to assume that land speculators are the principal culprits. The speculator is anyone who buys a commodity and holds it in the expectation of a future increase in price. The land speculator typically purchases farmland on the urban fringe, at or near agricultural prices, and eventually sells it at urban prices when the city expands. In the meantime the speculator must tie up capital, pay taxes on the land, and assume the risk of the city developing in other directions. But the profits from successful speculation can be enormous and, in the public view, unearned.

Because of well-publicized profits, it is commonly assumed that the speculator is *responsible* for the high cost of urban land. The assumption is largely incorrect, except insofar as a small number of speculators are able to obtain a large share of the suitable land around a city and thereby exercise some monopoly power over supply. This has probably happened in many parts of Canada but the resulting price increases are not due to speculation *per se* but rather to the monopoly restrictions of supply. The "competitive" speculator, whether farmer, developer, or professional person with money to invest, faces a market over which he has negligible control and in which the price of land is determined by forces of supply and demand in the urban economy.

Despite the fact that the pure speculator has not been shown to be responsible for the increase in land prices,[2] his activities have nevertheless attracted the attention of governments. The "windfall" character of land speculation profits makes them susceptible to taxation without danger of adversely affecting the market. Indeed, the

[1] Some CMHC programs (e.g. Land Assembly, NIP, New Communities) carry conditions that have direct land use implications.

[2] There is an indirect psychological effect. The speculator is the embodiment of inflationary expectations and his widely touted successes induce others to enter the field at almost any cost. The effect of the intensified demand is to fulfill the expectations that led to it and a vicious circle is thereby established.

profits on property resale are now subject to capital gains taxation and one province, Ontario, has introduced (1974) a special Act to discourage speculation. The Act imposes a tax of 20% on the increase in value realized on the sale of certain designated land and buildings. It applies only to: (a) vacant land sales where no substantial improvements have been made or are about to be made; (b) to transactions in houses which are not the vendor's principal residence; and (c) at a reduced rate on transactions in apartment buildings owned for less than 10 years.

The collections under the Act have been small, which may indicate that those activities subject to the tax have been curtailed. Large-scale developer speculators can escape the tax however by holding the land and eventually building on it; small-scale speculators do not have the financial capability to do this. In the long run the Act may lead to an even larger proportion of the supply of housing being produced by a few large development firms.

Land Banking

Public land banking — the acquisition by government of land for development in advance of need — is often suggested as the most appropriate means to moderate land and housing prices. With the government as land supplier there is no necessity to extract profit from land sale, except to reinvest it directly for public purposes, e.g. the provision of serviced lots. And if government holds sufficient land, it can exert a significant influence on the market as a whole.

The success of land banks depends critically on their scale. In some western cities (e.g. Saskatoon), a great deal of land was acquired publicly in the 1930's, as a result of bankruptcies. Now virtually all land in these cities is contained in public banks and prices have been kept relatively low for years. In Toronto, on the other hand, the amount of publicly owned residential land is negligible. The small amount available has, of necessity, been dstributed by lottery. There is no perceptible effect on prevailing prices.

Unfortunately, the acquisition of large tracts of land by government in cities where the need is greatest (those in which land prices are already prohibitive) would be enormously expensive unless the land was remote from the current edge of urban expansion. And the large-scale entry on the market of a purchaser as wealthy as a government tends to drive raw land prices higher. The land thus acquired could only be offered at a reasonable price through a substantial subsidy to the eventual lucky purchasers. Difficult problems of equity are thereby raised.

But once a public land bank has succeeded in dominating the urban land market, the advantages can be considerable. For example, among the bnefits of Red Deer's land acquisition and development program are claimed to be the following:

- Expansion does not involve city borrowing since the cost of servicing is recovered each year and is reinvested in more lands and services.
- The program meets the approval of builders, who don't have to tie up capital in land or services and are assured of adequately serviced lots at no greater price than is paid by their competitors.
- City ownership of land provides more generous open space, parks, and school sites as well as improved design layout.
- Since the city has large land holdings, it can design 150 to 200 acres of land at one time, thereby introducing innovations which could not be achieved by applying regulations or bylaws to smaller scale projects.
- Land speculation in residential development has been all but eliminated.
- Development has been focused on filling in the vacant fringe areas of the city, thereby providing a clear demarcation between urban and rural areas.
- Land is not taken out of agricultural use until needed for development.[2]

Wasteful Land Use

The wasteful use of urban space is an issue in every Canadian city and is particularly vexing when land costs are high and agricultural lands continue to be converted to urban use. Though suburban sprawl is acknowledged to be wasteful, not only because of the land it consumes but also because of high servicing costs and the energy intensive (automobile) transportation it requires, Canadians are not yet willing to move *en masse* to high density downtown neighbourhoods. Though the costs of sprawl may eventually force such a move, in the meantime public concern has focused more on tracts of downtown land on which dilapidated structures sit idle or near-idle or for which the owners seem unable or unwilling to find any more constructive use than a parking lot. Moreover, the owners of such land often reap a socially created value increment when governments expropriate it or private developers pay a large price to put the land to the kind of positive use that its location within the urban area demands.

Such practices draw their strength from municipal property assessment procedures based more on what occupies the land than on the land itself. Thus taxes on downtown parking lots are only a fraction of those charged against the high-rise office beside them. And in tax terms the owner of a slum property enjoys a lower levy than one who erases blight from his property and replaces it with a sound development.

[2] *Canadian Land Banks; K. C. Parsons,* H. L. Budke; ASPO Planning Advisory Service; Chicago, Oct. 1972 (opinions those of Dennis Cole, former Red Deer planning director).

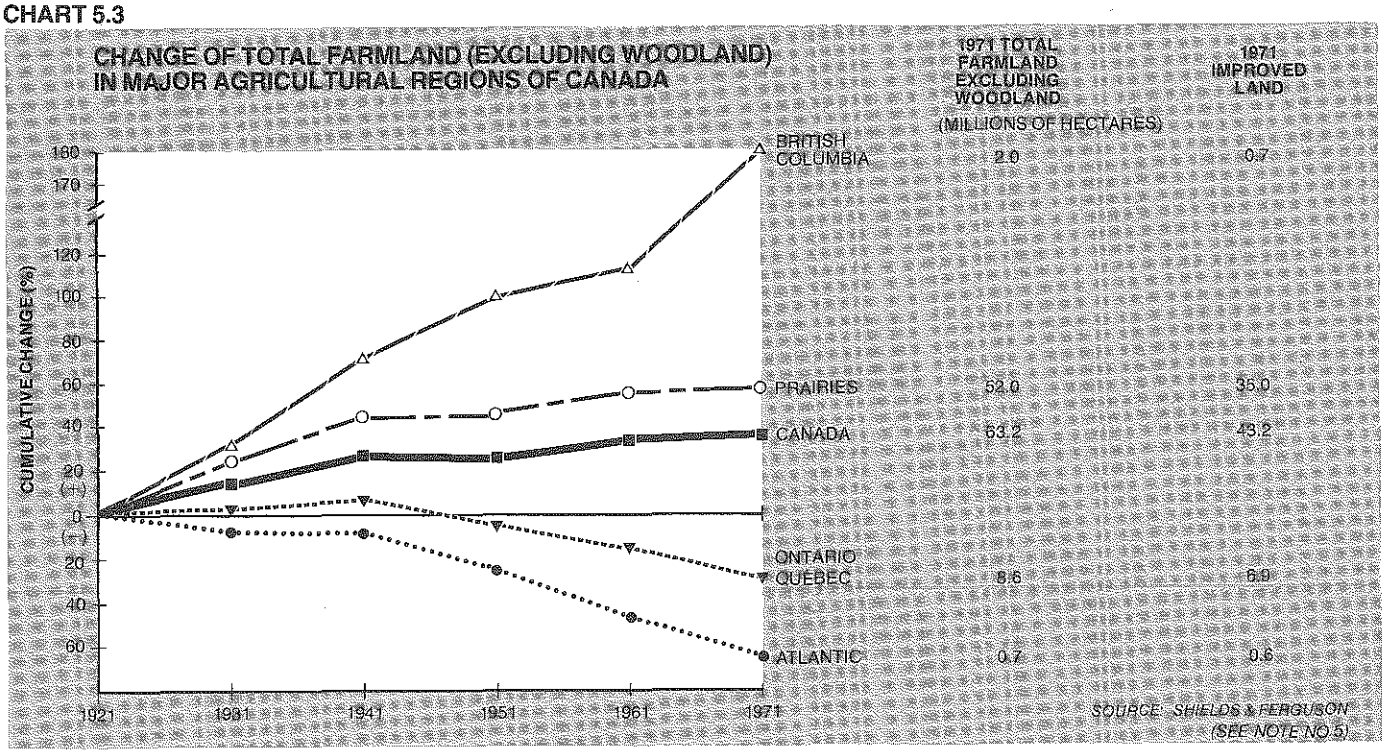
Conversion of Agricultural Land

Many Canadians have recently become alarmed by what they see to be a serious loss of the nation's best farmlands to urban expansion. Canada-wide, the total acreage of improved farmland (cropland, improved pasture, summer-fallow) has in fact remained essentially constant between 1961 and 1971 at 108 million acres.[3] This is about 8% of Canada's land area excluding the Territories. But there were substantial regional changes. Between 1966 and 1971, improved acreage declined by 24% in New Brunswick with a loss of 152,000 acres. In Ontario, the decline was 9.5% or 1,140,000 acres. On the other hand, British Columbia increased improved farmland by 9% or 141,000 acres and Alberta increased 4%, adding 1,184,000 acres. Historical trends since 1921 are shown in Chart 5.3.

The land areas devoted to direct urban uses in Canada are not really comparable to the agricultural areas. Urban area in 1971 has been estimated at anywhere between 4,000 and 10,000 square miles (depending on how undeveloped land within urban boundaries is classified) equivalent to from 3% to 6% of improved farm acreage. Between 1961 and 1971, it is thought that about 370,000 acres of agricultural land (not all of it improved) were converted to direct urban use. Even if this figure is considerably in error — and estimates from different sources do vary widely — it is nevertheless far less than the amount of improved land added in Alberta; or for that matter, lost in Ontario. Moreover, it is interesting to observe that the provinces with the greatest *percentage* losses of farmland between 1966 and 1971 were New Brunswick (24%) and Nova Scotia (20%). In neither case was urban expansion a significant factor. By contrast, the two most rapidly urbanizing provinces, Alberta and British Columbia, both registered substantial net increases in improved agricultural land.

But it cannot be concluded from these figures that the land conversion problem is an illusion. It is necessary to examine the *quality* of the agricultural land that is being lost. The majority of urban growth in Canada is taking place in three of the nation's most fertile areas: south-central Ontario, the St. Lawrence lowlands in Quebec, and the Lower Mainland in British Columbia. Together, these three areas contain 24 million acres of the finest agricultural land in Canada. Much of it is unique because of mild climate, good rainfall, and excellent soil. There can be no doubt that significant tracts of this land are threatened by the expansion of settlement.

CHART 5.3



[3] Unimproved agricultural land adds another 61.5 million acres.

In the Niagara Peninsula of Ontario for example, the acreage devoted to tender fruit trees and vineyards has been declining for years. Between 1951 and 1966, about 520 acres per year were taken out of production. Over 80% of the losses were to direct and indirect urban uses. By 1966 only 21,500 acres of fruit trees and vines remained. These would disappear completely in about 40 years if losses continued at the 1951-66 rate.

The reasons for the conversion of land are not hard to determine. An acre of the best farmland might sell for $700 if it were to be used for growing crops. But if the same acre was to become part of a residential development, the offered price might be $50,000 or more. In such an economic climate, the land can be saved only by a prohibition of non-agricultural use (as the Province of British Columbia did in 1972) or by the purchase of the land by government to create a public trust.

In a 1969 survey in the Niagara fruit belt, local farmers were asked their opinions on preservation of the land there. Their replies summarize the issues eloquently.

About one-third of those interviewed said they did not care about future patterns of development in the area. "The smart fellow today is selling his farm and going to work, and that's what I intend to do. In the long run it is always the farmer who gets the dirty end of the deal."

Approximately 40% felt that saving the fruit belt would be a good thing, but that the present economics of fruit growing and the high land prices do not justify such action. "It should be saved. On the other hand, you can't blame the farmer for wanting to sell if the price is right — 90% of farmers will quit if they get a decent price."

Fewer than 30% felt that the fruit belt could and should be saved. "The area has good soils and a favourable climate. It is the only place in Canada where fruit will grow well. Save it; future generations are being deprived of something they can never regain."

Another documented example of prime land conversion occurred in the city of Edmonton. Between 1966 and 1973, about 16,000 acres of Class I and II agricultural land[4] were taken by urban development.[5] By contrast, less than 2,400 acres of poor land (classes IV, V and VI) were converted. This is common and most unfortunate. If Edmonton expanded eastward, it would have consumed only poor agricultural soils. It chose not to.

Acreage statistics are rather meaningless however, without some perspective on their crop producing potential, since it is the loss of food production capability that is the source of public concern.

Canadian wheat farming produces an average of about .7 tons per acre. Thus the class I and II land lost in Edmonton between 1966 and 1973 could be expected to produce at least 11,200 tons of wheat per year. This should be compared with total Canadian wheat production in 1973 of 17.1 million tons which is over 1,500 times the potential of the urban land lost in Edmonton. When it is further realized that Canada produced only 4.6% of the world wheat crop in 1973 (the USA and USSR between them produced 42%), one sees that the impact of Canadian urbanization on global food production is rather insignificant. But this cannot be said if the same process is multiplied again and again around the world.

It can legitimately be argued that every acre lost is one acre too many in a world where millions are malnourished or starving. Viewed from this perspective, it is seen that the 11,200 tons of wheat "lost" to Edmonton each year could provide dietary essentials for 16,000 starving people.[6] In human terms this is anything but insignificant.

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[4] Classes refer to agricultural soil capability as established by the Canada Land Inventory. Classes I and II are equivalent to the best cropland in the country.

[5] *Land Resources Production Possibilities and Limitations for Crop Production in the Provinces;* J. A. Shields, W. S. Ferguson; Chapter 4 in *Oilseed and Pulse Crops in Western Canada;* J. A. Harapiak, ed.; Saskatoon (1975).

[6] Based on a daily ration of four pounds of wheat per capita. Wheat is not a complete food and would have to be supplemented to constitute an adequate diet.

6. Local Government

Local government in Canada comprises all government entities created by the provinces and territories to provide services at the local level. Broadly, these entities have the following functions, most of which are shared with senior levels of government: education, welfare, protection, transportation, recreation, environmental health, public health, environmental development, and community services. Education is normally administered by school boards at the local level, separately from the other functions.

The British North America Act made local government a responsibility of the provincial legislatures, a responsibility subsequently extended to the territories when their governments were constituted in the present forms. The unit of local government, is usually the municipality which is incorporated as a city, town, village, township or other designation depending on the province. The powers and responsibilities of municipalities are delegated to them by their respective provincial or territorial legislatures.

Rapid urbanization during the past two decades and the demand for high quality services have placed considerable strains on local government. At the same time, the small populations of most municipalities (94% of Canada's 4,200 municipalities have populations under 10,000) have hindered attempts to provide services that require economies of scale for efficient operations. The provinces have taken steps to assist local governments to meet these challenges. An increasing number of special agencies or joint boards and commissions have been created to provide services for groupings of municipalities. Several provinces have also established amalgamated levels of local government to provide services that can be better discharged at a regional level (Chapter 8).

The forms of municipal organization differ considerably from province to province, reflecting wide variations in history, geography, and settlement pattern. Quebec, which possesses one of the more complex and interesting structures, serves as a good example.

The more densely settled areas of the province, comprising about one third of its area, are municipally organized; the remainder is governed by the province as "territories". The organized area is divided into 74 county municipalities which look after matters of general interest within the county. Cities and towns are excluded from the county system for political and administrative purposes except for certain joint expenditures. The remaining municipal corporations and the unorganized territory within counties fall under the county system. The counties have no direct powers of taxation; funds to finance the services falling within their jurisdiction are provided by their municipalities. On January 1, 1973, there were 1,590 municipalities comprising 68 cities, 199 towns, 279 villages, 499 parishes, 155 townships, 14 united townships and 376 municipalities without designation. Major municipal consolidations began in 1965 with the fusion of the 14 municipalities on Ile Jesus into the new city of Laval. At the beginning of 1970, the province established the Montreal and Quebec Urban Communities and the Outaouais Regional Community in which integration of services will be brought about gradually.

6.1 Local Government Finance

The ways in which governments gather revenues and allocate expenditures are measures both of their responsibilities and their priorities. Thus an examination of finance at the local level is essential to an understanding of human settlement.

Each of the three levels of government in Canada has certain powers to raise revenues and commit expenditures. There is no constitutional limit to federal taxing authority. Provincial governments on the other hand are restricted by the British North America Act to "direct taxation within the province" though this has

Table 6.1

PERCENTAGES OF TOTAL GOVERNMENT REVENUE ACCRUING TO DIFFERENT LEVELS BEFORE AND AFTER TRANSFER PAYMENTS

	1953		1962[1]		1974[1]	
	Pre Transfer %	Post Transfer %	Pre Transfer %	Post Transfer %	Pre Transfer %	Post Transfer %
Federal	67.7	63.8	55.9	46.8	51.5	40.7
Provincial	16.9	19.5	26.5	20.6	33.8	28.6
Local	13.4	16.7	17.2	25.8	10.3	19.4
TOTAL ($ millions)	$6,895		$12,491		$56,971	
Percent of GNP	26.7%		29.1%		40.4%	

[1] The percentages for 1962 and 1974 do not sum to 100, because revenues collected under the Canada and Quebec Pension Plans and revenues transferred to hospitals under government hospital insurance plans are not credited to the usual three levels.

Source: Statistics Canada, *National Income and Expenditure Accounts:* 1926-1974.

not proved to be a significant limitation. Direct taxes include those on personal income, retail sales, and real estate. Local governments in Canada derive all their authorities, fiscal and otherwise, from the provinces and are therefore wholly dependent on the provinces for permission to levy taxes.

The proportion of total revenue received by each level of government in Canada is shown in Table 6.1 for the years 1953, 1962 and 1974. For each year there are two columns. The first gives the percentages of total revenue prior to any transfers from one level of government to another, the second the percentages after transfers. The proportion of total revenue accruing to the federal government has declined substantially over the past 20 years, both before and after transfers. The provinces have increased their shares correspondingly. The pre-transfer (or "own source") revenue of local government increased as a proportion of total revenue from 1953 (13.4%) to 1962 (17.2%) and thereafter has declined steadily, to 10.3% in 1974. The after-transfer position of local government was more favourable. It was 19.4% of total government revenue in 1974 as against 13.4% in 1953. Nevertheless, there has been a decline in percentage since 1962.

The percentage figures do not reveal increases in the absolute size of revenues received by each level of government. An important economic trend of recent decades has been the rise in government revenue as a fraction of Gross National Product — from 26.7% in 1953 to 40.4% in 1974. Thus between 1962 and 1974, when local revenue was declining relative to provincial, absolute collections (before transfers) rose by over $3.7 billion or 175%. Post-transfer collections rose by over 240%. As a result, post-transfer revenue of local government was 7.8% of the GNP in 1974. (The federal and provincial shares were 16.4% and 11.5% respectively).

These figures take on a proper perspective only when contrasted with expenditures. Table 6.2 is a companion to 6.1, giving the percentage of total government expenditures in Canada by each level. Transfers between governments are treated as expenditures by the receiving level and are *not* included in the expenditures of the donor level. This table shows that local government spending in 1974 was 8.5% of GNP, indicating a deficit after transfers from the provincial and federal levels, of almost $1 billion.[1]

Table 6.2

PERCENTAGES OF TOTAL GOVERNMENT EXPENDITURES[1] BY DIFFERENT LEVELS

Level	1953 (%)	1962 (%)[2]	1974 (%)[2]
Federal	62.3	48.1	41.1
Provincial	18.2	20.0	28.9
Local	19.5	25.4	21.8
TOTAL ($ millions)	$6,812	$13,197	$55,043
Percent of GNP	26.4%	30.7%	39.1%

[1] Transfers from one level of government to another are counted as expenditures by the *receiving* level only.

[2] Percentages for 1962 and 1974 do not sum to 100 because of hospital and pension plan expenditures — see note with Table 6.1.

Source: Statistics Canada: *National Income and Expenditure Accounts, 1926-1974.*

[1] This is a preliminary estimate only. It is expected that the final accounting will indicate a much lower deficit, perhaps as little as $500 million.

Aggregated across Canada, local government has been in a net deficit[2] position for at least the past 25 years. Despite substantial fluctuations, there has been an upward trend to these deficits since 1950 as shown in Chart 6.1. More significant however is the deficit as a percentage of revenue. This measure, also plotted on Chart 6.1, showed a steady pattern of decline until about 1962 (when it was only 4%) after which it has bounced erratically between 2.5% and 8.5%, still far less than the 22% suffered in 1954. Thus while local governments across Canada have complained bitterly about the growing imbalance between revenues and expenditures, the deficit has not grown in relative terms.

The growth and composition of local revenue is displayed in Chart 6.2 for the years 1969-1974. Three revenue components are shown: property tax; "other" own-source revenues (e.g. sales of services, fines, permits, grants in lieu of taxes); and transfers from federal and provincial governments. Two trends are significant: (1) the relative growth of transfer payments (from under 44% of local revenue in 1969 to over 50% in 1974); and (2) the relative decline in the property tax collection (from over 43% of total local revenue in 1969 to under 36% in 1974). Thus while total revenue increased by 63% over the five years, "own source" revenue increased only 41% and property tax by even less — 32%.

Local governments have argued that these trends indicate a significant decrease in local autonomy, particularly when it is noted that about 90% of transfer payments are "conditional", i.e. earmarked by the donor for specific purposes.[3] Federal conditional transfers (which are very small) are in such areas as environment (e.g. sewage infrastructure assistance), housing,

CHART 6.1

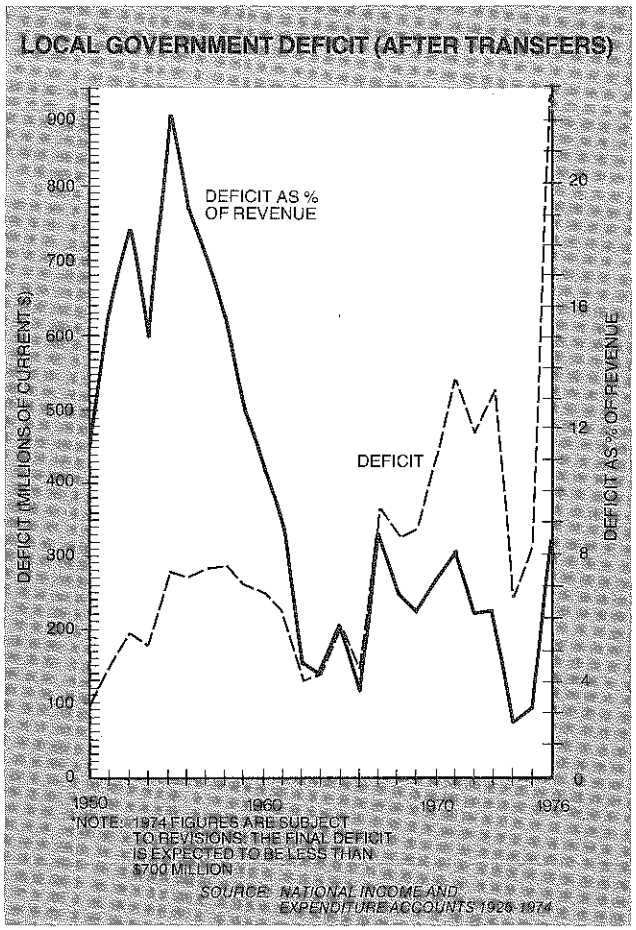
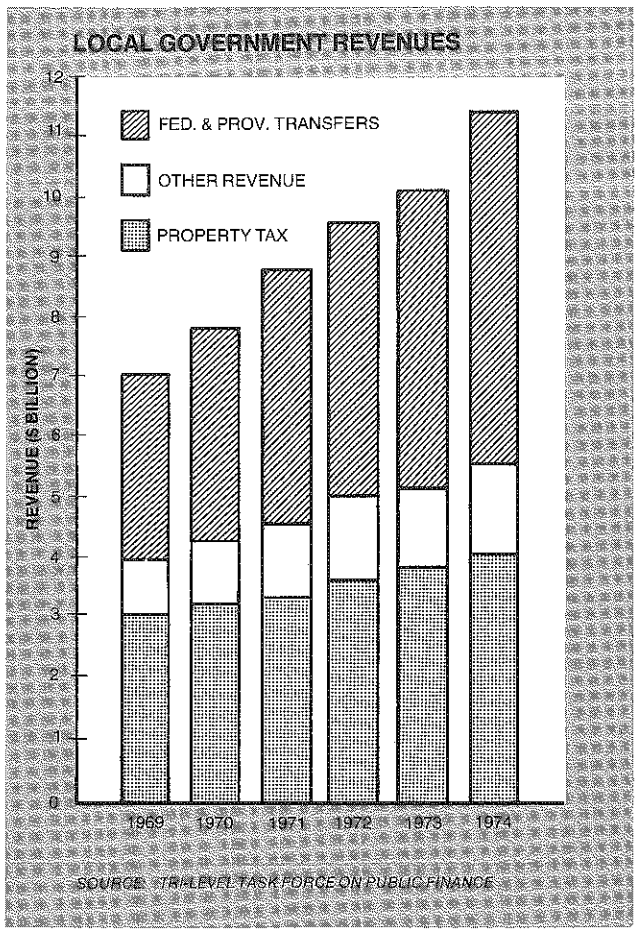


CHART 6.2



[2] The deficits incurred by local governments are primarily the result of financing capital works projects by borrowing. (In Canada, local governments are not permitted to borrow to finance current expenditures). Therefore, the deficits are "legitimate" and do not indicate a failure on the part of local governments to meet their day to day operating expenses.

[3] It should be noted that locally raised revenue has declined as a percentage only because of greatly increased provincial transfers. Local governments *could* have raised more tax revenues but haven't had to and have naturally been reluctant to. Provincial policies of fiscal restraint are likely to force major local tax increases in 1976 however.

and recreation. Provincial conditional transfers are overwhelmingly for education ($3.96 billion in 1974 or 60% of all money given by the provinces to local government). Other large provincial transfers are for transportation services, and for public health and welfare. Approximately 97% of transfers to local governments come from the provinces directly, though some of these funds derive from shared cost programs between the federal and provincial governments.

There are very substantial differences between provinces and between cities in the composition of revenues. For example, in 1974 only 37% of local revenue in Newfoundland was received as transfer payments (the province assumed education and welfare costs directly) while in Prince Edward Island the corresponding figure was 85%. Ontario coincided with the national average of 51%. And of course cities differed among themselves and from their provincial averages. In 1974, Moncton was able to raise 55% of its own revenue (against a New Brunswick local government average of 42%); Winnipeg raised over 74% (Manitoba average was 62%); Edmonton 61% (Alberta average was 46%). While these figures fluctuate substantially from year to year, they suggest that the largest cities in each province tend to be more self-sufficient in revenue than the provincial averages.

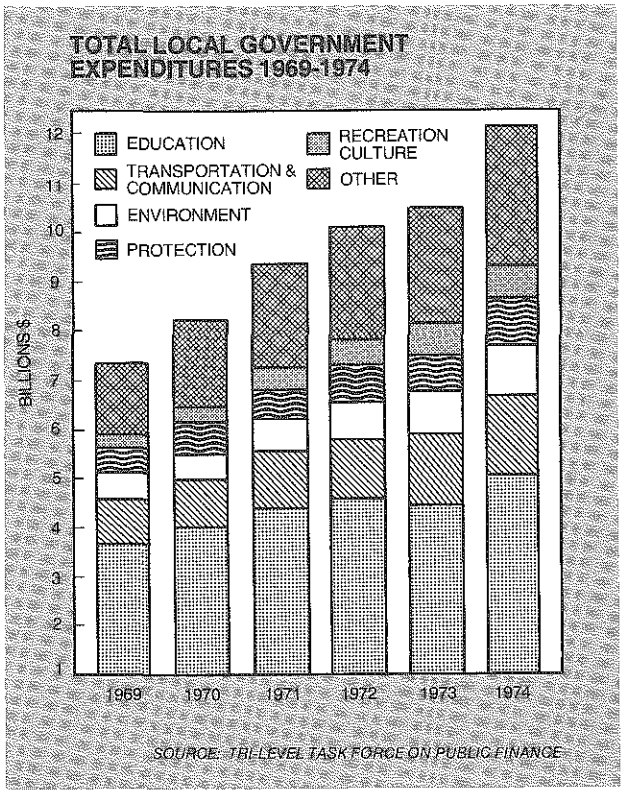
The composition of expenditures reflects the responsibilities of local government and the allocation of public priorities. Chart 6.3 is a companion to 6.2 and breaks down aggregate local spending in Canada to show the amounts devoted to education, transportation, protection, environment, recreation and culture, social services, and "others" (e.g. public health, debt servicing, general government). Though education is by far the greatest direct local expenditure in Canada, it should be recognized that about two-thirds of its costs are met by transfers from the provinces. Health costs, on the other hand, do not figure prominently in local budgets, consuming less than 5%. Responsibility for health care delivery rests almost exclusively with the provinces, and in 1974 accounted for 25.5% of gross provincial expenditures, the largest share of any sector.

An important, but sometimes overlooked expenditure category is interest payment on municipal debt. This totalled $834 million in 1974 or 6.8% of aggregate local spending. Provincial variations ranged from 11.4% in Quebec (making debt servicing the third highest local expenditure after education and transportation) to 3.8% in Saskatchewan.

6.2 Notes on Three Cities

A serious shortcoming of the above data is the level of aggregation which conceals substantial variations among cities of different sizes, in different political jurisdictions, and in different socio-economic circumstances.

CHART 6.3



To demonstrate some of these differences there is presented below a set of tables (6.3, 6.4, 6.5) containing some key local government revenues and expenditures in three very different Canadian cities: Moncton, New Brunswick (1974 population, 52,000); Metropolitan Toronto[1] (population 2.2 million); and Winnipeg Unicity (population 578,000). The periods covered are the years ended December 31, 1972, to 1974.

In 1974 Moncton had gross expenditures of $17.4 million, which constituted about 15% of total local spending in New Brunswick and slightly less than 2% of consolidated provincial-local expenditure in New Brunswick. Metro Toronto spending was $1,843 million, constituting over 36% of local expenditure in Ontario and almost 15% of consolidated provincial-local spending. The single tier government of greater Winnipeg spent $298 million in 1974 which was over 57% of local spending in Manitoba and just over 20% of consolidated provincial-local expenditures. The data have been corrected to eliminate all intra-local transactions except the sale of goods and services.

[1] Including the Municipality of Metropolitan Toronto, the City of Toronto, and the Boroughs of East York, Etobicoke, North York, Scarborough, and York.

Table 6.3

GROSS REVENUES, EXPENDITURES, AND BALANCE (PER CAPITA)[1]

REVENUE/ EXPENDITURE	1972 Revenue ($/capita)	1972 Expenditure ($/capita)	1973 Revenue ($/capita)	1973 Expenditure ($/capita)	1974 Revenue ($/capita)	1974 Expenditure ($/capita)
Moncton	177.18	243.16	200.34	309.04	227.57	336.33
Metro Toronto	730.44	720.55	748.60	772.64	858.37	867.58
Winnipeg Unicity	472.61	491.07	503.90	529.27	581.48	583.83
DEFICIT (SURPLUS)[2]	**Percent[3]**	**$/capita[4]**	**Percent**	**$/capita**	**Percent**	**$/capita**
Moncton	37.2	65.98	54.3	108.07	47.8	108.76
Metro Toronto	(1.4)	(9.89)	(1.5)	(11.96)	1.0	9.21
Winnipeg Unicity	3.9	18.46	5.0	25.37	0.4	2.35

[1] Data in Tables 6.3, 6.4, and 6.5 are based on concepts and classifications found in *The Canadian System of Government Financial Management Statistics* (Statistics Canada 68-506).

[2] Local government deficits are associated with borrowing for capital works projects, not to meet current commitments (see text).

[3] Deficit (surplus) per capita as a percentage of revenue per capita.

[4] Expenditure per capita minus revenue per capita.

Source: Tri-Level Task Force on Public Finance (1976).

Table 6.4

PRINCIPAL REVENUES BY SOURCE

	1972 Percent[2]	1972 $/capita	1973 Percent	1973 $/capita	1974 Percent	1974 $/capita
PROPERTY TAX[1]						
Moncton	38.9	68.47	45.3	90.83	39.2	89.11
Metro Toronto	37.5	274.01	34.7	271.94	34.3	293.99
Winnipeg Unicity	41.4	195.48	41.4	208.60	42.0	243.96
TRANSFERS[3]						
Moncton	44.6	79.04	37.4	75.00	44.5	101.24
Metro Toronto	31.1	226.98	32.6	255.86	33.2	284.84
Winnipeg Unicity	27.8	131.23	27.9	140.52	25.8	150.06

[1] Real estate and personal property tax.

[2] Percentage of gross revenue deriving from source.

[3] Conditional and unconditional payments by senior levels of government, principally the province.

Source: Tri-Level Task Force on Public Finance (1976).

Table 6.5

	1972		1973		1974	
	Percent[1]	$/capita	Percent	$/capita	Percent	$/capita
EDUCATION						
Moncton[2]	—	—	—	—	—	—
Metro Toronto	35.3	254.33	35.3	273.02	34.0	295.12
Winnipeg Unicity	41.7	204.91	39.8	310.50	39.1	228.75
ENVIRONMENT[3]						
Moncton	22.9	55.75	23.7	73.15	12.7	42.87
Metro Toronto	6.4	45.81	6.2	43.95	6.7	58.24
Winnipeg Unicity	8.4	41.48	8.4	44.56	7.4	43.34
PUBLIC TRANSIT						
Moncton	0.4	0.88	0.3	1.00	0.3	1.12
Metro Toronto	7.7	55.68	7.2	55.84	7.8	67.34
Winnipeg Unicity	6.4	31.26	5.9	31.35	6.0	34.10
POLICE						
Moncton	8.5	20.57	7.3	22.49	8.9	29.94
Metro Toronto	4.3	31.20	4.7	36.55	4.9	42.82
Winnipeg Unicity	4.4	21.37	4.4	23.28	4.8	28.12
SOCIAL WELFARE						
Moncton[4]	—	—	—	—	—	—
Metro Toronto	5.0	36.10	5.1	39.21	5.1	44.39
Winnipeg Unicity	2.0	9.65	1.6	8.54	1.4	7.90
RECREATION & CULTURE						
Moncton[5]	18.3	44.48	18.1	55.96	8.9	30.08
Metro Toronto	5.6	40.21	6.1	47.29	6.8	58.57
Winnipeg Unicity	4.8	23.67	4.5	23.92	5.3	31.05

[1] Percentage of Gross Expenditure allocated to each activity; e.g. in 1972 Toronto spent 35.3% of its budget on education.

[2] Province of New Brunswick assumes total cost of education.

[3] Water, Sewage, Garbage.

[4] All welfare costs are assumed by Province of New Brunswick.

[5] Capital spending is included. A project undertaken in Moncton in 1972-73 explains the unusually large entries in these cells of the table.

Source: Tri-Level Task Force on Public Finance (1976).

6.3 The Property Tax

A tax on real property (i.e. land and structures) is by far the most important locally collected revenue, accounting for about a third of municipal revenue in Canada and as much as three quarters of "own-source" revenue.

The amount of tax on a property is determined by the *assessed* value of the property, and the *mill rate* of the tax. The assessed value is established by a trained assessor but is inevitably only an imperfect and somewhat arbitrary reflection of the market value of the property. The market value depends on a multitude of factors including the prevailing levels of supply and demand, the neighbourhood, and proximity to public amenities. These factors change with time, often rapidly, whereas the intervals between reassessment are often as long as 10 years.

The annual tax is determined by multiplying the assessed value by the mill rate and dividing by one thousand. Thus at a rate of 35 mills, the tax on a property assessed at $10,000 would be $350.00. This

makes it easy for local government to calculate the revenue effect of increasing the mill rate. Since total community assessment changes relatively little each year — only by the assessment of new properties or by the reassessment of those that undergo improvements — it is possible to budget accurately for expenditures by changing the mill rate by a calculated amount.

Many criticisms have nevertheless been levelled against the property tax, perhaps the most serious being that it is regressive: it takes a larger share of the income of poor families than of the wealthy.[1] Numerous statistical studies have sought to demonstrate this. One such is a 1973 investigation in Manitoba reproduced in Table 6.6.

Table 6.6
INCIDENCE OF THE PROPERTY TAX
(Manitoba Study 1973)

Income Class[1]	Tax as % of Income[2]
less than $ 2,000	18.3[3]
$ 2,000 — $ 4,999	6.3
$ 5,000 — $ 7,999	4.1
$ 8,000 — $11,999	3.8
$12,000 — $19,999	3.2
more than $20,000	2.2

[1] Income based on income tax returns.
[2] Assumed that all tax on related property is passed on to tenants.
[3] For those on very low monetary incomes, the dollar figures often do not reflect an accurate picture of assets. A homeowner can be relatively "asset rich" despite a low cash income. Thus cash income can be a misleading datum from which to calculate the property tax impact.
Source: Manitoba Budget Address (1975).

Theorists, however, are not at all agreed that the tax is regressive in its total impact. They quarrel with the definition of income used in the studies (e.g. based on income tax return data) and with assumptions made on who actually bears the tax. Is it true, for example, that the tax on rental property is ultimately and inevitably passed on to the tenant?

Others argue that the public benefits received as a result of spending the tax revenue tend to reverse the regressive effects of its collection. The family that pays a higher proportion of income in tax also tends to receive a higher proportion in public benefits. This is particularly true for education where the immediate benefit accrues largely to young child-rearing families who also tend to be in the lower income groups. The elderly, on the other hand, also pay a relatively high proportion of income in property tax (or indirectly through rent) but receive no direct benefit from education spending. The equity of the tax is simply not clear.

Nevertheless, several provinces have moved to reduce perceived regressive tendencies by granting exemptions and reimbursements to low-income groups. Ontario and Manitoba, for example, were the first to introduce "property tax credit" systems whereby provincial income tax is reduced by a formula based on property tax paid less a fraction of taxable income.

It is also claimed that the property tax discourages improvements to properties since these lead to immediate upward assessments. Thus the urban landlord who allows his apartment to decay is rewarded by the tax system relative to one who renovates and improves. This has led many to argue that the property tax should be assessed more on the value of the land ("site-value" taxation) than on improvements to it.

Arbitrary or inequitable assessment procedures have also been the source of much criticism. Different kinds of improvement are frequently assessed at different percentages of market value. It is often claimed that multiple-unit dwellings receive higher relative assessments than single-detached houses. Perhaps this is because it is more palatable politically to tax rented premises for which it is believed the levy can by passed on "invisibly" in rent, and because tenants have traditionally been less involved than home owners in local political decisions. This and other presumed inequities have suggested to many that assessment should be proportional to current market value. To achieve this it is necessary that enough sales take place each year in a neighbourhood so that a structure of relative assessments can be maintained that is proportional to relative market values.

It is evident that communities whose discretionary revenue is based on property tax will seek to maximize their total assessment, other things being equal. This leads to competition for commercial sites, particularly in the early phases of municipal development when servicing costs per capita are high and residents who might oppose industrial neighbours are few. Such competition for tax base between adjacent municipalities can lead to poor land use decisions and is almost never optimal from the viewpoint of the entire urban region. This is not an argument against property tax as such; it is an argument for metropolitan area tax rate equalization. Such was a principal objective when in 1972 Manitoba created a single-level metropolitan government in Winnipeg.

Finally, use of the property tax encourages only those developments that "pay their way". Communities that can control development may be loath to accept low-income family housing because of its low assessment relative to probable cost, particularly for education. The tendency is therefore to segregate income groups and to increase the wealth of already wealthy neighbourhoods, though there are certainly factors other than the property tax at work in this particular vicious circle.

[1] This is allegedly because the poor spend a larger fraction of their income on the taxed object; the dwelling.

6.4 New Sources of Local Revenue?

The presumed shortcomings of the property tax and the increasing absolute gap between local expenditures and locally generated revenue have led most municipal officials in Canada to demand new revenue sources. They insist that these sources must be tied automatically to economic growth and inflation — as income and sales taxes are, but as property taxes have tended not to be. Increased transfer payments are not adequate, it is said, unless they are unconditional and based on a guaranteed formula. For example, a province might *collect* an income or sales tax for its municipalities, but on the understanding that the rate could not be changed without municipal agreement. Such fiscal autonomy, local officials say, is essential if they are to plan long-term programs or respond to the wishes of their electorates.

Manitoba has reacted to these arguments by agreeing to grant 2% of the provincial income tax and 1% of the corporation tax to municipalities in lieu of the former unconditional grants. But these unconditional transfers formed only 5.4% of local revenue in Manitoba in 1974. Generally, the provinces have been reluctant to grant municipalities further autonomous fiscal capacity, preferring instead to increase slowly the volume of unconditional transfer payments. This reluctance derives in part from the principle that direct taxes (e.g. on income and retail sales) should be controlled by wide-area jurisdictions so that they cannot easily be escaped. A failure to maintain such control at the provincial or federal level might result in the intensification of regional disparities. If, for example, Metropolitan Toronto were to replace all of its provincial transfer payments with an income tax sufficient to recover the revenue, the rate of this tax could be lower than that of most other Ontario municipalities seeking to do the same thing. This is simply because Toronto incomes are higher, relative to local government costs, than elsewhere. The lower Toronto income tax rate would thus encourage affluent citizens to move to the city, thereby increasing Toronto's wealth and making possible an even lower tax rate. Though formulas could be developed to mitigate this kind of effect, they would have to be applied at the provincial level, leading back to a situation not unlike the present.

At work here is a fundamental tension between responsibilities at different levels — the local and the provincial or national. This tension can never be fully resolved since the objectives of each level are legitimate and will always be partially opposed. But it is a creative tension with each side challenging the assumptions and arguments of the other. In an effort to place the debate on a more objective footing, the three levels of government established a Task Force on Public Finance which, among other things, has attempted to develop a base of commonly accepted data. The Task Force is expected to report in 1976, laying the groundwork for a new view of Canadian public finance.

7. Community

In this chapter are gathered together a number of topics that do not fit well within the traditional sectors adopted in earlier sections. Beyond shelter, services, land, and local government, is the community itself, taken as a whole. The discussion is tied to the theme of the quality of community life as reflected in its material, environmental, and social aspects. There follow sections on public participation in community decisions, on resource-based and single industry settlements, and finally on native communities in Canada.

7.1 The Quality of Community Life

The "quality of life" is a phrase of recent popular usage in Canada and around the world. Though it could be defined in many ways, the phrase is typically comprehensive and refers to all the conditions, external to the individual, that combine to make life pleasant and fulfilling. In this sense the quality of life in general and of community life in particular is determined by three principal components: the material, the environmental, and the social. Each is examined below.

The Material Component

The material basis of Canadian life is supplied by the private market and by governments through the provision of goods and services. Private enterprise has been remarkably successful in delivering a vast array of consumer goods and personal services which are of high quality and reasonable price. An indication of their proliferation is shown in Table 2.1. The accumulation of such abundance has depended increasingly on consumer credit — bank loans, charge accounts, credit cards. The total balance outstanding in 1973 (excluding residential mortgages) was $17.6 billion, up by almost 40% over 1971, and by 126% over 1966. These increases were substantially above retail price inflation and in fact probably contributed significantly to the latter. The "good life" is often a heavily indebted life.

The production of the material basis of Canadian life — public and private goods and services — generates the employment and wealth needed to acquire them. Except for international trade, the system is closed. But the acquisition of material affluence generates other costs, both social and environmental.

The Natural Environment Component

The phrase "quality of life" is sometimes understood as the "quality of the natural environment" — clean air and water, peace and quiet, and a countryside that shows few of the scars of human activity. While such an identification is perhaps too narrow, it indicates the importance that is attached to a healthy natural environment. Awareness of the effluent from increasing levels of production, consumption, and population concentration began to create public alarm in Canada about a decade ago when fears were raised that the resiliency or carrying capacity of important ecosystems (e.g. the Great Lakes) might be exceeded. In 1971 a federal department, Environment Canada, was created with responsibility to spearhead the attack on pollution and to ensure the proper management and development of Canada's natural resources. Provinces have set up analagous agencies, and one, the Ontario Water Resources Commission, has provided an international model for such organizations.

There are now programs at the federal and provincial levels to control water and air pollution, to set air and water quality objectives, to discourage noise pollution, to control contaminants of various kinds, and to manage the disposal of solid waste. In addition, Environment Canada announced recently that all projects undertaken by or for the federal government and judged to have possibly significant environmental consequences would require a prior assessment of environmental

impact. Each of these measures has important implications for the planning and management of human settlements. Assisted by a new public sensitivity to environmental fragility, the control programs have begun to reverse the trend of environmental deterioration in most settled areas of Canada though there are other projects, particularly related to energy development, that pose threats to the environment of vast areas in northern Canada.

It is perhaps unfortunate that the environment has come to be viewed primarily as an asset to be protected, in a glass cage as it were. This has led to some negative attitudes among those who see their enterprise thwarted by environmental restrictions. Natural systems can also be turned to positive and planned uses. For example, through the program of "shelter-belt" planting of trees, the landscape of Canada's prairies has been changed dramatically in the last 30 years. The impact has been more than aesthetic, having had significant effects on temperatures and on the control of soil erosion. Only recently are Canadians rediscovering the value of designing settlements to take advantage of natural features and to conserve natural resources. Such advantages were of necessity taken by the earliest settlers, often taught by native people. But a century of affluence and concomitant growth of larger urban populations has eroded the relevance and the memory of these early lessons to the point where new approaches have to be found and earlier values have to be learned again.

The Built Environment Component

The concept of environment, particularly as it relates to human settlement, is much broader than indicated above. The human environment comprises as well what man has built.

Affluence and relatively recent construction are perhaps principally responsible for the generally sound physical quality of the built environment in Canadian settlements. Where there are exceptions, poverty is almost always to blame.

Canadian architecture, however, is by world standards undistinguished. It has stressed function over form and has been constrained to design for a mass commercial market, both in residential and business construction. The exceptions are principally to be found in the old towns and cities of eastern Canada. Unfortunately, these old structures, among them many of the country's most beautiful buildings, are often threatened with demolition. And governments until very recently, have been unwilling to support the protection and rehabilitation of private properties having significant heritage value.

The lead federal agency in the heritage field is the National and Historic Parks Branch of the Department of Indian and Northern Affairs. The Branch operates, in cooperation with provincial governments, a computerized inventory of historic buildings from coast to coast. It also enters into cost-sharing agreements with provinces, municipalities, and non-profit organizations for the acquisition and restoration of architecturally or historically significant buildings. In addition, the Branch has recently entered the field of major historic area restoration through its participation in the Halifax Waterfront Buildings project and in Artillery Park in Quebec City.

Very recently the Branch has initiated a major new program in cooperation with the provinces under which a Canadian Register of Heritage Property will be established, to which buildings that meet agreed criteria will be nominated by the provinces. Such buildings will be eligible for combined federal-provincial financial assistance towards structural restoration when needed and will be protected through the enactment of appropriate provincial/territorial legislation where this does not already exist.

Complementary to government activity is Heritage Canada, an independent organization founded in 1973 with an endowment of $12 million from the federal government. Concerned with the conservation of buildings, sites, and scenic areas which for various reasons cannot be embraced under government programs, the organization depends financially on private donations and income from the endowment.

There is some reluctance to restore large numbers of old buildings to serve only as museum pieces. Many of these structures are well located and are as solid as the day they were built. They provide an opportunity for restoration to new functions — as shops, restaurants, offices. Building recycling has become popular with private owners and is often seen by local governments as a way to revitalize decaying sections of old city cores. Such is the case in Halifax where three levels of government have joined with a private developer to refurbish a number of waterfront buildings. They now contain thriving commercial enterprises and have brought new life and beauty to a part of the city that had declined for decades.

The recycling of buildings need not be limited to commercial properties of historic importance. Much more significant, in terms of numbers affected, are the thousands of old residential buildings, usually in city cores, that are merely in need of repair. Each year, about 25,000 dwellings in Canada are abandoned or destroyed. Though many are beyond redemption, many others need not be, particularly if properly maintained as they age.

It is not surprising therefore that the renovation of old houses has recently become very popular in those Canadian cities that combine an ample supply with prohibitively high prices for new homes. In Toronto, the renovation of old buildings by affluent residents (called

"white painters") who have grown tired of the suburbs or of high-rise apartments has become a major movement. And in every major city there is an increasing number of boutiques, restaurants, and professional offices located in renovated central-city buildings.

This trend can be applauded insofar as it conserves resources, brings life back into city cores, and beautifies neighbourhoods. But the blessing is mixed. These buildings were homes for low-income tenants unable to afford anything better than old and neglected central-city accommodation. Forced to move, their alternative accommodation is often worse in price, quality, location, or all three.

The conversion of neighbourhoods by this process is not inevitable. In the Don Vale area of Toronto, a group of long-term residents who were determined to maintain the character of the neighbourhood decided to undertake renovations themselves. They formed the Don Area Co-operative Housing Association (DACHI) and were able to obtain 100% mortgage loans, repayable over 50 years, under CMHC's Co-operative Housing Program.

DACHI and the "white painters" are one current phase in an evolution of urban renewal which began immediately after the Second World War when a major effort was undertaken to replace run-down neighbourhoods, many of which had been deteriorating since the Depression. Social planners operated on the plausible assumption that the best way to promote social change, changes in family life, reductions in crime and disease, was to provide a new physical environment. Old houses were fire hazards; they were hard to heat and maintain. They were often owned by profiteering absentee landlords. If they were cleared away and replaced with comprehensively planned new houses, owned and rent-controlled by public authorities, people would have a new leg-up in life.

There followed a national policy of "Urban Renewal" that implicitly emphasized clearance and redevelopment from scratch — the so-called "bulldozer era."

In some areas, however, existing residents organized themselves to fight the renewal process, especially the expropriation powers which blanketed renewal areas. In the Strathcona neighbourhood of Vancouver, for example, there was conscious agreement to call a halt to the renewal process following local pressure, and a new, resident-oriented planning process was initiated.

In 1972, the Strathcona Rehabilitation Project signalled a new era in government-supported renewal programs. The federal government, the Province of British Columbia, and the City of Vancouver co-operated to fund the project under which grants and interest-free loans totalling up to $3,000 each were made available to individuals who were willing to rehabilitate their homes to agreed standards. Additional grants financed the improvement of neighbourhood infrastructure and public amenities.

Two features distinguished the Strathcona project from earlier programs: (1) the provision of grants directly to individual homeowners (rather than to the municipal government); and (2) the involvement of local residents in the development and implementation of the rehabilitation plan. (The Strathcona Property Owners and Tenants Association participated as an equal partner with the three levels of government throughout the project).

The Strathcona experience served in effect as a pilot for two national programs; Neighbourhood Improvement (NIP) and Residential Rehabilitation Assistance (RRAP) through which federal assistance for the rehabilitation of residential areas is now channelled.

NIP is subject to a federal-provincial agreement which designates municipalities within the province that are to be eligible for assistance. The local government then proposes the neighbourhoods within the municipality. In all cases, local residents must be involved in the development and implementation of the neighbourhood plan.

RRAP is intended primarily for low-income people and is closely associated with both the Neighbourhood Improvement Program and non-profit housing projects. Through RRAP, families may borrow up to $10,000 to restore their homes to acceptable standards of health and safety. Up to $3,750 is forgivable, according to income. Where loans are made to landlords, they must agree to rent controls. Loans are available in NIP areas, for non-profit housing projects wherever they may be, and in special areas designated by federal-provincial agreement. Loans made under the program are conditional on the province or municipality enforcing occupancy and maintenance standards to ensure that the property will not fall back into disrepair.

The Social Component

Interpersonal relationships form the most important element of the quality of life. Many successful communities have neither material wealth nor a particularly healthy physical environment, but there are few, if any, in which the quality of interpersonal relationships is poor.

Good communities can harbour jealousies, pettiness, even the occasional outburst of violence or hatred, but they cannot harbour widespread indifference. The residents must care what happens next door or down the street. They should be able to recognize one another in a different part of town or be able to attend a community function without feeling awkward and duty-bound.

Judged by these standards, Canada has lost many of its "good communities." The mobility of the Canadian population has undoubtedly done much to bring this about. Community ties, so long in the making, are

broken with every move of more than a few blocks. In 1971, almost half of all Canadians aged five years and over were not living where they had in 1966. Of these, about half had moved to a different municipality, and just under one-fifth moved between provinces or left the country. The 1971 Census revealed that two-thirds of heads of households in Canada had lived less than 10 years in the dwelling they then occupied. Almost one-fifth had been in the same place less than one year. Similar figures had been reported in 1961. The rural statistics were almost reversed, however. Two-thirds of household heads in the farm population had occupied their homes for *over* 10 years. In no metropolitan area had more than 40% of households remained in the same dwelling more than 10 years. By this measure, the people of Calgary and Edmonton were most mobile with only one in four "staying put" more than a decade.

Mobility breaks the continuity of communities. It also separates families. The "extended family," with aunts, uncles, parents, grandparents, and cousins all living in close proximity, has become a rarity in Canada. A few decades ago it was the norm. Then the extended family was a sub-community that could be depended upon to provide companionship, advice, child-care, and comfort in time of stress. But it was a conservative institution that exercised an unyielding moral authority on its younger members. For many, this was a stifling and parochial influence whose disadvantages outweighed the benefits. Nevertheless, the extended family did perform an essential function that modern communities, despite day-care centres and counseling services, have not been really able to fulfill.

The traditional concept of a community assumes that members are neighbours. This is still the case in the rural areas and small towns of Canada, but it is no longer a common quality of urban communities. Urban residents form communities more on the basis of personal affinities (colleagues, shared interests, friends from across town or even out of the province) than on geographic proximity. Personal mobility by car or aircraft makes this possible. As a result, the local neighbourhood at the block level is often inhabited by people who scarcely know one another. This is a tendency which seems to increase with personal income.

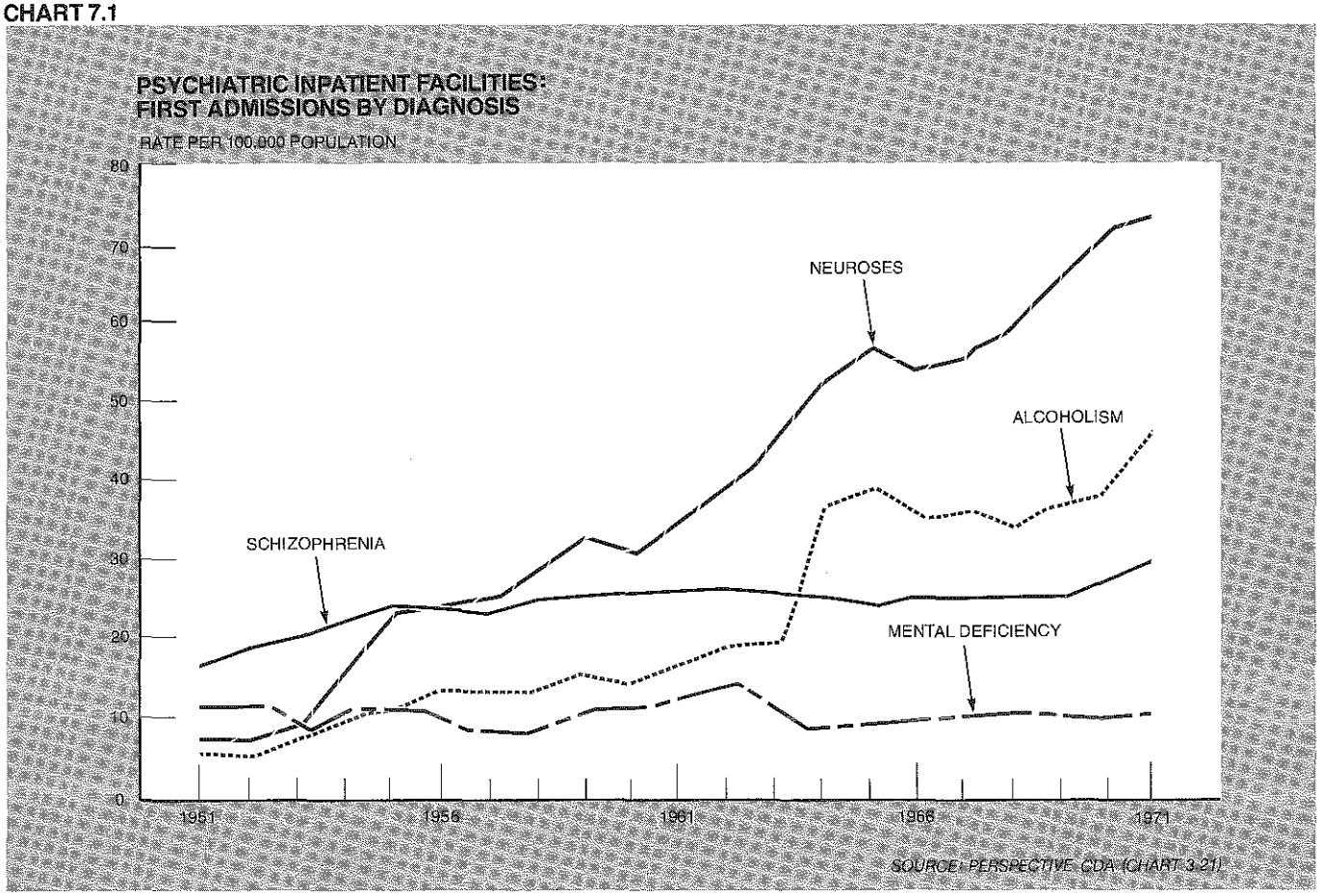
In normal times, urban residents go their independent ways, rarely interacting with more than a few of their local neighbours. Concern for their neighbourhood tends to focus on such personal matters as maintaining the appearance and value of their property and seeing that the children have a safe route to a good school. Occasionally these qualities are threatened by forces outside the neighbourhood — by an airport, by school closings, by a new city highway, or by a variety of decisions that might either lower property values or raise taxes. At such times the neighbourhood will close ranks and form a genuine community, united in opposition. Sometimes, links forged in this way outlive the particular cause, but eventually the constant influx and outflow of residents erodes the bonds and re-establishes anonymity.

For the tenants of high-rise apartment buildings there are rarely even neighbourhood "causes" to become involved in. Communities based merely on spatial proximity are very rare. For this and a number of other reasons, including the difficulties of supervising children's play, it has been suggested that high rise living is a cause of emotional and physical disorders. This has not been shown conclusively by empirical studies, however. Indeed, a recent study for the Ministry of State for Urban Affairs[1] based on Toronto data concluded that: "We have found no evidence for the supposition that high-rise living is any worse than living in a single-family house for the mental or the physical health of these urban Canadians." The study went on to report that people living in tall apartment buildings (in East York) were more likely to have office jobs and tended to have higher incomes. Not surprisingly, there was a higher proportion of young adults in apartment buildings than in houses. About 40% of the high-rise residents were under the age of 30 compared with only 14% of those living in houses. More than half of those in apartments had been there for less than two years. Both the apartment and single-family home dwellers surveyed were generally satisfied with their dwellings. Apartment residents had about as many friends as people living in single-family homes, though they were less concerned with the friendliness of the neighbourhood than house dwellers.

Despite an outpouring of research and literature it has not been possible to arrive at definitive theories of social behaviour in human settlements. There are some disturbing statistical trends; for example, in the suicide rate and in the diagnosis of alcoholism and various neuroses (Chart 7.1) but one can only speculate on their relationship to such phenomena as urban crowding, mobility, "future shock", and alienation or a sense of impotence in the face of vast and impersonal modern institutions. It is probable that the social forces unleashed by the process of modernization have had decisive effects on Canadian communities and on our individual psyches. What is difficult, perhaps impossible, is to relate human behaviour, through a model of cause and effect, to our architecture, our technologies, our institutions, or indeed to any of the objective characteristics of modern communities. These characteristics are themselves the results of earlier behaviour. Everything is determined by a web of feedbacks in which the concept of separable cause and effect has little meaning.

1 *High-Rise, Low-Rise: The Effects of High Rise Living;* B. Wellman and M. Whitaker; Discussion Paper B-29-74, MSUA (1974).

CHART 7.1



7.2 Public Participation

Closely associated with the social component of the quality of life is the right and the ability of individual citizens to influence the public decisions that affect their lives.

Until quite recently this was not a major issue in Canada. Local government was close to the people and had considerable ability to accommodate local wishes. Powers vested with the provincial and federal governments were not perceived to have much impact on day-to-day community life. Every four or five years (more often in most local jurisdictions), the people as a whole could express at the ballot box their views on the performance of government. When government influence was less pervasive than it is today, and when the pace of events was roughly comparable to the interval between elections, people seemed satisfied to delegate authority to representative legislatures and to deal with specific local problems on an *ad hoc* basis as they arose.

Prior to the 1960s, therefore, public participation in Canada was limited to the traditional methods — elections, membership and activities in political parties, submissions to Royal Commissions, various board hearings, and briefs to government by established interest groups.

The *direct* involvement of citizens in the governmental process is a relatively new phenomenon. Some now see participation in every aspect of the decision-making process as a right of individuals; others see individual citizens as merely subject to decisions made by those to whom authority has been delegated, through election or appointment. Many middle-of-the-road advocates of public participation view the role of citizens as that of critics, developers of alternative solutions, and helpers in the process of implementation. They see that the immediacy of the citizens' vantage point on most problems and solutions makes their co-operation necessary and desirable if effective solutions are to be found and applied.

At the federal level, "participatory democracy" became a major theme following the 1968 election and has evolved into a two-pronged approach: financial support to citizens' organizations and inclusion of citizens' views in government programs.

There are numerous examples of federal government programs in which public participation is a key element. In both the Local Initiatives Program (LIP) and the Local Employment Assistance Program (LEAP), large numbers of projects are wholly initiated, directed and administered by the participants.

Many federal departments have developed public consultation procedures. Some programs under the NHA such as Neighbourhood Improvement (NIP) require it. Indian and Northern Affairs consults native people on aspects of policy development and funds native groups to support research on land-claims issues — a remarkable policy, since the claims are usually made *against* the federal government. Parks Canada of the same department has extensive public participation programs in connection with the planning and development of every proposed new National Park and with any major changes in existing Parks. The Secretary of State Department promotes and finances citizen participation in many aspects of Canadian life through its Citizen Participation Branch.

These programs and policies demonstrate the federal government's commitment to participation. At the same time, fiscal restraint has caused the recent abolition of the Company of Young Canadians (a social action agency) and Opportunities for Youth (which sought to provide student jobs) and a substantial reduction in the LIP budget. While the funding of participatory programs is apt to be severely restricted in the near term, public participation is likely, over the longer term, to remain an important element in Canadian society.

Increased concern for public participation has not, of course, been restricted to the federal level. At the provincial, regional, and local levels there has been a proliferation of activity of which the following is a brief sampling.

- Participation has been a major element in Prince Edward Island's Comprehensive Development Plan, particularly through the Rural Development Council.
- In Alberta, the Land Use Forum has encouraged widespread discussion of land use issues.
- *Les Conseils Régionaux de Développement* (CRD) are citizen coalitions in the nine regions of Quebec, with full advisory status to the provincial government.
- Winnipeg's single-level city government provides for Residents' Advisory Groups of citizens in each electoral district (Chapter 8).
- The Greater Vancouver Regional District planning process had involved a wide network of citizen committees, particularly in establishing goals for the Region (Chapter 8).

In addition to these rather formal governmental mechanisms there are hundreds of non-governmental organizations throughout Canada that have been successful in making their views known to government. Some, like the Community Planning Association of Canada, are well-organized at the national, provincial and local levels and are directly concerned with human settlement issues. But the majority are local groups, sometimes formed to meet a single issue. To be successful in changing policy these groups must be well-organized, representative of broad community sentiments, and determined to stick with an issue for months or years. The Strathcona Property Owners and Tenants Association in Vancouver was one such organization whose success in stopping neighbourhood demolition has already been described. Another was the "People or Planes" (POP) group in Toronto whose insistent lobbying was an important factor in the suspension of plans to build a new airport at Pickering.

Nevertheless, there remains a large component of the population which never joins organizations, attends meetings, or raises protests. The views of this "silent majority" are only imperfectly reflected in attitude surveys and electoral processes. In fact, local elections, where one might expect high voter interest because of the immediacy of the issues, have attracted surprisingly low turnouts. In a study which covered metropolitan areas between 1969 and 1974[1] it was discovered that only about 40% of eligible voters actually participated in municipal elections. In Toronto, Ottawa, and Vancouver the turnouts were about 36%, and in Montreal 47%. St. John's had the highest participation at almost 60%. These figures are to be contrasted with federal election rates which are typically between 75% and 80% of eligible voters.

7.3 Resource-based and Single-industry Communities

Accounts of human settlement in Canada are usually based on urban and small-town life in the well-populated parts of the country. It is easy to forget the 600 or more communities scattered across Canada, many north of latitude 50°, that owe their existence to a single resource industry: mining, smelting, lumbering, paper milling, energy production. Not all of these single-industry towns are small. The pulp and paper town of Corner Brook, Newfoundland, had a population in 1971 of over 26,000. Nor are they all in the north. Glace Bay in Nova Scotia and Thetford Mines in Quebec are well within heavily settled regions.

In many ways single-industry towns are no different than other Canadian communities. Though it is popularly believed that northern resource towns in particular suffer an unusually high incidence of alcoholism, violent crime, and marriage breakdown, there is no conclusive evidence to substantiate this. These problems do of course exist, but when the populations of northern communities are compared with southern groups

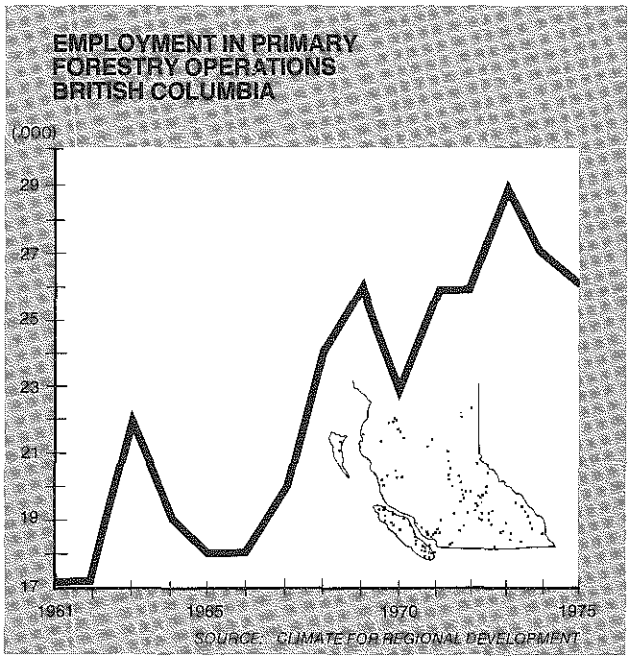
1 *Urban Indicators*, MSUA, 1976, Chart #16.

matched for age and occupation, no significant differences are found. On the other hand, the population turnover in isolated resource communities is very high. When pressures, particularly within families, become unbearable, people simply leave.

Resource or single-industry towns do differ from other settlements in Canada in one crucially important respect — their dependence on a single activity which may either be transient (e.g. the mining town whose ore body must eventually run out) or be subject to severe fluctuations in price or demand. A second characteristic which affects most, but not all, resource communities is isolation. The problems of isolation can be reduced in a variety of ways: by frequent vacations, through radio and television, by air connections in case of emergency, and occasionally by commuting from a large center to a work site for periods of a few weeks at a time.

It is far more difficult to avoid the economic uncertainties that bedevil resource towns. Chart 7.2 illustrates the volatility of employment in British Columbia's forest industry. Communities that depend primarily on lumbering and processing for their livelihood are shown in the map insert. When the wood products market slumped in 1974, there were about 16,000 direct layoffs in the forest industry.[1] The delayed indirect effects on local retail and service employment would add significantly to this. The forestry and mining sectors, which together dominate the economy of the province, are very vulnerable to world market conditions since over three-quarters of the output is exported.

CHART 7.2



The way in which such economic forces determine the genesis, development, and problems of isolated resource-based communities in Canada is presented in the following scenario which describes a *hypothetical* but representative community.[2]

A Scenario

The town is located in northern Saskatchewan, some 650 miles north of Regina. The nearest centres of any size are La Ronge and Uranium City. Only La Ronge is accessible by road. Until recently, the area had been occupied only by a small number of migratory Indian trappers and fishermen. In 1964, the World Mineral Corporation discovered a high grade nickel deposit in the area.

Because a world nickel shortage was in prospect and because prices were high, it was decided to establish mines and a concentrating plant as quickly as possible. In December 1965 the company was commissioned to operate with an annual throughput of 500,000 tons of ore. Construction was to proceed at maximum speed.

The present population of the town is 4,200. The work force is 1,500, of which 1,200 work for the World Mineral Corporation. The remainder are employed in building and construction, retail services, and government. Roughly 60% of the company's employees are married men. There are few unmarried women in the town and only a small number of the married women are employed. About 50 native families live in an unincorporated village about one-half mile west of the town.

Physically, the town is attractively planned and is situated in a hilly and well-treed area. The climate is cold and dry. The average annual precipitation is 15 to 20 inches.

The town has its own airstrip for light aircraft. There is a narrow gauge railroad, but this is used only for hauling mine concentrates and freight. A two-lane, all-weather road connects the town with La Ronge. There is daily bus service to and from La Ronge. Regular postal and telecommunications facilities are available. The television station in Prince Albert established a satellite transmission station in the town in 1971.

The town is fully serviced, with sewerage, water and electricity, and has a 75-bed hospital. Elementary and secondary schools have been established, and a community college based in La Ronge provides some opportunities for further education. The town has a reasonable range of commercial facilities. There is one major shopping centre and a variety of other service enterprises. A private hotel, with a large beverage room, was built in 1969.

1 *Climate for Regional Development*, DREE, 1976 (p. 107).
2 Based on a scenario in *The Quality of Life in Resource Towns*, J. A. Riffel, MSUA, 1975.

Recreational facilities are quite complete. They include a small lending library, a movie theatre, a community centre, and a number of service clubs. Most of the sporting activities are out-of-doors, but the town has covered skating and curling rinks and is building an indoor swimming pool.

The town has full municipal status, with the elected town council having powers of taxation, etc.

Labour turnover problems beset the town in its early stages. During the construction and development phase, the annual rate of turnover exceeded 200%. The cost of this turnover was high — the company estimated $1,200 per employee not including lost productivity. Attracting and maintaining a stable work force was a pressing issue. Reasons for this high rate of turnover were the isolation of the town, its inhospitable climate, inadequate housing, inadequate services and facilities, the predominance of single men and the absence of female companionship, inadequate educational and medical services, few opportunities for employment for married women, difficult working conditions, and limited opportunities for promotion.

During the development phase, the company and the province were acutely aware of these problems but both were preoccupied with bringing the mine into operation. Not until the initial development of the mine and townsite was completed in 1970 were they able to attempt solutions to the problems of turnover.

Early in 1971, the province and the company began to take remedial action. Transportation links with the south were improved and television was made available. Temporary housing for single men was replaced by a variety of better quality housing and the company offered employees attractive incentives to purchase their residences. Community services were upgraded with the building of a shopping centre. The company began to recruit married men, and tried to find employment for their wives.

In 1972, world nickel prices dropped sharply, and the company had to cut back its work force by 500. When prices began to rise in mid-1973 it faced a shortage of labour which persisted for about a year. By late 1974, the labour shortage was largely overcome and the rate of turnover began to show a marked reduction. The current rate is 60% compared with the more than 200% of the construction and development period.

The large ore potential of the area would seem to ensure a long-term life for the mine. Nevertheless, the town has an atmosphere of impermanence and of a built-in "boom and bust" cycle. The vulnerability of the town is apparent — rumours about high-grade easily-mined ore bodies in Africa set people to thinking about their own future. The only certainties are uncertainty, dependency and vulnerability.

Future Prospects

For many of the smaller resource towns, which exploit limited resource bases, transience and vulnerability are part of the price to be paid for development of the resource. But increasingly, attempts are being made to provide the larger single-industry communities with economic alternatives. Yellowknife, for example, was founded as a gold mining town but now derives most of its employment from government and from its role as a regional service centre for the western arctic. Tourism is an alternative available to some others that have good road access and an attractive wilderness environment.

There are also new trends in the design of northern resource towns that promise great improvement in their physical and social environments. Formerly, most were laid out in the southern suburban pattern — single-family detached bungalows, long driveways, large open spaces. Innovative planning and architecture were rare, partly because of the high costs which discouraged departures from well-known practices and partly because it was thought that residents wanted to retain as much as possible the "feel" of their southern communities.

Two recently built northern towns — Fermont, Quebec and Leaf Rapids, Manitoba — are better adapted to their environment. Each has a town centre housed under a single roof containing all the public and commercial facilities in the community. The Fermont centre occupies part of a five storey, 650-yard-long building that serves as a windscreen for much of the town site. Both towns have retained as many trees as possible to provide wind shelter and have compact layouts that make it a short walk from any residence to the town centre.

The designs being pioneered in Fermont and Leaf Rapids have clear environmental advantages over their predecessors. But the towns will succeed or fail as communities depending on their social advantages. It is hoped that the town centres, by concentrating and integrating all public activity under one roof, will bring people together in a variety of roles and thus create the high level of human interaction on which good communities depend.

7.4 Native Communities

For thousands of years prior to the arrival of the white man in North America, Canada was inhabited by Indian and Inuit (Eskimo) people. Canada's native people differ greatly among themselves in physical characteristics, language (there are, for example, 10 major linguistic groups among Canadian Indians) and customs. But they have in common an affinity with the land and nature which from the onset of European settlement in the 19th century has led to conflict with the white man's concept of social and economic develop-

ment. The conflict has been unequal and the results often tragic for native people, who as a group have lagged behind in acquiring the material advantages of Canadian society.

In Canada, there is no simple definition of a "native person". There are three distinct groups: Indians, Inuit, and Métis. The Indian people can further be differentiated into two administrative categories: "status" (or registered) and "non-status". Status Indians, presently numbering approximately 280,000, have special rights and privileges embodied in various treaties, Section 91 of the British North American Act, and the Federal Indian Act of 1876 and its subsequent revisions. Status can be gained or lost in many ways. For example, any female, Indian or not, who marries a status Indian thereby also acquires status, whereas a status female automatically loses status if she marries anyone who is not a status Indian.

The present day Métis and non-status Indian population, numbering between 500,000 and 750,000, is descended from Indian people (many of mixed white-Indian ancestry) who, at the time when treaties and other arrangements were being made with the white man, either chose individual compensation in lieu of the privileges eventually granted status Indians, or were ignored. The Métis and non-status Indians have no special relationship to the federal or provincial governments and are, except for a general identification with lower socio-economic living conditions, often indistinguishable from other Canadians.

About two-thirds of all status Indians in Canada live on some 9,800 square miles of reserve land set aside by the Crown for the use of Indian bands. There are now 566 bands, each a separate political entity with a Council and executive. The band has considerable autonomy to conduct their local community affairs and to determine land use within the reserve.

The reserve lands, which in total would cover about 35% of the area of New Brunswick, are scattered throughout Canada in 2,214 parcels ranging in size from a fraction of an acre to about 300,000 acres. Almost 35% of this land is located in or quite near urban areas and consequently is of high actual or potential value. Nevertheless, the reserve lands, which tend to remain static, do not provide an adequate long term economic base for an Indian population that is growing much more rapidly than the national average (the numbers almost doubled between the 1951 and 1971 censuses).

In addition to the reserve lands, there are vast areas largely in northern Canada, to which native people — Indian, Inuit and Métis — now lay claim. The land claims issue has become acute in recent years with the rapid growth of mineral and power development in the north. Those who see their traditional hunting grounds and way of life threatened by giant engineering projects find themselves once again in conflict with the white man's development. This time, however, there are many who recognize in the land an economic potential sufficient to finance the future development of native people in ways the native people may choose themselves.

The social and economic conditions of native people in Canada are often very unsatisfactory, both in absolute terms and relative to the rest of the population. While the most reliable statistics apply specifically to Indian reservations, conditions are believed to be similar in other segments of the native population.

In 1971 about 70% of the Indian population was rural-based. Of this, less than 6% was engaged in farming. The number living in cities of over 100,000 has been increasing steadily from less than 7% of the total Indian population in 1961 to 16% in 1971. Incomes of reserve Indians have also been rising although in 1971 their average family income was less than half the national average. Unemployment on reserves is also very high, ranging from 50% to as much as 95% at certain times of the year.

The poverty that often continues to accompany native life perpetuates very poor settlement conditions. In 1975, of almost 23,000 houses on reserves, 20% were judged to need replacement and almost 30% were in need of major repair.[1] These percentages have improved little in recent years despite $200 million spent by the federal government since 1960 on native housing. The services provided in the houses are also low by the standards of the rest of Canada. Only 36% of reserve houses have running water, compared with a national average (1971) of 96%. And only 31% had telephones against a Canadian average of 95%. Indian housing was inadequate, averaging 1.26 persons per room compared to 0.7 persons per room in the rest of Canada.

Moreover, many government-provided native houses, particularly in the far north, have proved to be not well suited to the northern environment or to the lifestyles of the occupants. The houses are not kept in good repair because of overcrowding and a lack of construction and maintenance skills. Many are inadequately heated and fires from overheated stoves are a constant danger.

The federal government is determined to improve these inadequate conditions and is currently involved in a series of discussions with the National Indian Brotherhood to build a needed 20,000 new houses and repair another 9,000 over the next five years. The joint undertaking with status Indians is expected to provide adequate housing through a community-based housing development and financial resource mobilization program. The joint effort and shared responsibilities prom-

1 *Biennial Indian Housing Survey, 1973-1975;* Department of Indian and Northern Affairs.

ise to improve the relationship between the federal government and native people.

Essential though these efforts are to rehabilitate the physical environment of native settlements, they will be of no avail if not accompanied by social and economic development. The culture of poverty must be eradicated through more employment, more education, better health, and a renewed sense of pride.

There is a growing indication of a developing pride in native culture and heritage. The land-claims debate is a sign of a new awareness and determination. Increasing numbers of native people are completing high school and entering universities, thus providing an increased capacity for leadership. And it should also be recognized that particular native groups and countless individuals have for decades lived as full citizens in Canadian society. By their example, these "successful" native people have exposed a fundamental dilemma. They have prospered largely by acquiring technical skills and by adopting the values and the culture of the white man. Yet there is much in the traditional sharing ways of the Indian and Inuit that is of basic value and relevance in a world faced with shortages and environmental hazards. Canadians are today being challenged to forge a society in which material progress and technical development are compatible with the sensitivity and respect for the land that underlies Canadian native philosophy.

8. Settled Regions

The discussion of human settlement in this Report has begun with the most immediate environment — the home — proceeded to local infrastructure and services, land, local government, and then to issues that involve the community as a totality. The progression to successively larger spatial scales is evident. The discussion of two special kinds of Canadian community, resource-based and native settlements, expanded the scale to a far-flung network of settlements. The purpose of the present section is to explore further the nature of human settlement in Canada beyond the neighbourhood, small town, or urban municipality. Three topics are covered: forms of metropolitan area government; management of growth in metropolitan regions (typically extending well beyond the metro government boundaries); and systems of settlement that range from clusters of rural communities to the vast urbanized regions that have come to dominate much of Canada's economic and social life.

8.1 Metropolitan Government

At the time of Canada's first census in 1871 Montreal was the only Canadian city of over 100,000 population. Sixty years later, there were seven. By then a new phenomenon had appeared — the metropolitan area, or the "greater city" as it was called in the census of 1931.

The years since 1931 have seen the emergence of 15 additional Census Metropolitan Areas (CMAs). Their suburban municipalities were, by and large, reluctant or unable to be annexed to the central city. But the divided authorities found themselves increasingly hard pressed to provide transportation, water supply, sewage disposal, police protection and other services which usually function more efficiently under centralized administration.

In attempting to meet these challenges, local governments eventually began to combine service units within several large cities. The logical next step was to establish some form of area-wide government.

In 1953, the Province of Ontario became the first in Canada to set up a metropolitan government when it caused Toronto and its twelve suburban municipalities to federate into a new governmental unit, Metropolitan Toronto.[1] The metropolitan council of 25 was composed of 12 City of Toronto representatives, one representative from each suburban municipality (each of whom held an elected position within his municipal government) and a chairman. (The first was appointed by the province; subsequent chairmen have been elected by the council).

Powers placed under metropolitan administration were assessment, debenture borrowing, public transportation, administration of justice, police (since 1957), air pollution control, and electronic traffic light integration. Metro organized the distributional framework for the shared responsibilities of water supply, sewage disposal, the metro road system, licensing (since 1957), education, parks, welfare, housing and redevelopment, and planning. Administration of taxes, health, fire protection, libraries, local streets, parking and garbage collection were left to the local municipalities.

In 1968, in response to changing population distribution within Metro, the provincial government reorganized the metropolitan system. The 12 suburban municipalities were consolidated into five boroughs, and suburban representation was increased from 12 council members to 20. There were also slight changes in the allocation of responsibilities.

Although many citizens initially protested the loss of autonomy when suburban amalgamation ended a long tradition of community responsibility, there has re-

[1] It is important not to confuse Metropolitan Toronto (a municipality) with the Toronto Census Metropolitan Area (a region defined by demographic criteria). The Toronto CMA contains Metropolitan Toronto as well as most of its commuter shed.

cently been pressure for total amalgamation. Some boroughs feel they lack the facilities to provide high levels of services, and city groups complain that the suburbs receive larger shares of provincial subsidies and grants. To examine these and other concerns that have developed since 1968, the province appointed in 1975 a Royal Commission on Metro Toronto. The Commission, which has received many public submissions, is expected to make its recommendations for modifications in the Metro system by the end of 1976.

Following the example of Toronto, Winnipeg adopted a two-level metropolitan form of government in 1960, but replaced it with a single tier government ("Unicity") in 1972. This new government was designed to provide greater efficiency in operation and planning by adopting a common tax base, a common administrative structure, and totally integrated services. At the same time, it fostered closer contact between the citizen and elected representatives, by providing greater opportunity for individual involvement. An elected central council of 50 replaced the former 16 local municipal councils. The city core constituencies were redrawn into pie-shaped wards to include parts of both the inner city and the suburbs.

The city is now divided into 50 wards, each based on a population of 10,000. The councillors of three to five wards judged to be a community form a *community committee* which has the power to supervise local administration, adjudicate zoning applications, and initiate area planning. The community committee is viewed as a sub-committee of the central council. Attached to each community committee is a *resident advisory group* which is elected at an annual meeting of area residents. The City of Winnipeg Act specifies that each resident group is supposed to advise and assist the elected members of community committees in the performance of their duties although nothing more explicit in terms of powers or responsibilities is laid out.

Three basic principles underlie this design for greater citizen involvement. First is the idea that participation can be induced through a change in institutional structures. This derives from the belief that apathy on the part of the citizen can be caused by the inaccessibility of government and that corrections in the machinery can increase involvement. Second, there is a commitment to conventional practices of political representation implied in the relationship between the community committee and the resident advisory groups. The councillors on the committee and their administrators are the decision-makers. The residents only advise. The third principle, embodied in the idea of small wards, is that a neighbourhood scale of representation is essential for a productive relationship between representative and citizen.

Many other forms of wide-area local government have been tried in Canada, with great variations in structure and powers from province to province. The Regional Districts of British Columbia, formed in 1965, are particularly interesting because they encompass large rural as well as urban areas. The entire province has been divided into 28 districts ranging in size from 80,542 to 282 square miles and in population from 1.1 million (Greater Vancouver) to 3,700. Each Regional District has a council with members elected from the municipalities and rural areas within it. The council receives its authority from the province but then is free to undertake projects and responsibilities that affect all or part of the region. Examples include sewage treatment facilities, public transit, recreation centres, and the compulsory responsibilities of regional planning and hospital planning. Local municipalities and rural electoral areas retain substantial autonomy and can therefore opt in or out of most Regional District programs. This flexible system permits many small municipalities and even unincorporated areas to band together for the provision of shared services and facilities that none could afford acting alone.

The Greater Vancouver Regional District (GVRD) comprises 17 communities (including one village and three rural electoral areas) and has assumed responsibility for regional parks, water supply and distribution, solid waste and sewage disposal, air pollution control, labour relations, planning and capital financing of hospitals, housing, and regional planning. Operations are financed largely from property taxation. In 1975 the GVRD budget was $27.8 million, of which 33% was spent for sewerage, 28% for hospitals, 24% for water, and 15% for all other functions.

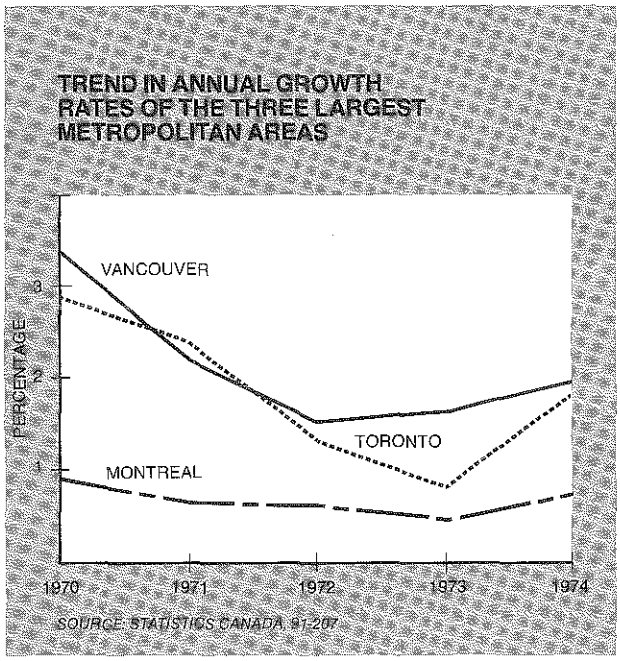
In summary, the principal advantages of metropolitan or regional government include a generally improved quality and availability of municipal services; a scale which enables more comprehensive urban planning; and a greater access to capital markets. (The larger metropolitan units can borrow money more easily and on more favourable terms than their component municipalities). On the other hand, metropolitan governments add the financial and administrative costs of a further layer of bureaucracy and by introducing a division of powers at the local level can cause a multitude of delays when jurisdictions overlap or are in dispute.

8.2 Metropolitan Growth Management

The census of 1971 established that 55% of Canadians were living in 22 Metropolitan Areas (CMAs), each with a population over 100,000 (Table 1.7). The three largest, Montreal, Toronto, and Vancouver, accounted for 30% of the nation's total population. Since 1971, estimates indicate that the Census Metropolitan Areas are no longer increasing their share of population and, more surprising, that growth *rates* in the three largest cities, particularly Toronto, have de-

clined significantly during three of the last four years (Chart 8.1).[1] Nevertheless, even a 1% growth rate in cities as large as Toronto or Montreal will add almost 300,000 people in a decade, a number exceeding the present populations of half the Canadian Metropolitan Areas. The Toronto rate also fails to show the growth of many smaller centres such as Barrie and Guelph that are within the commuting orbit of Toronto, but not included in the CMA.

CHART 8.1



Between 1966 and 1971, metropolitan Toronto actually lost more people by internal migration that it gained by the same process. Eighty-six per cent of net growth in those five years was due to foreign immigration. In Vancouver, by contrast, 60% of growth between 1966 and 1971 resulted from natural increase and migration from elsewhere in Canada. Because of geographical constraints, virtually everyone moving to the Vancouver area is included in the CMA whereas growth in the Toronto region can be dispersed to the north, east, and west. Thus Metropolitan Area statistics are apt to understate the real attractiveness of the Toronto area as a whole.

The objectives of metropolitan growth management vary greatly from one part of Canada to another. They respond to three different situations: (1) rapid growth that may overtax the resources of the receiving city and lead to high land and house prices, urban sprawl, poorly planned development, and environmental deterioration; (2) slow growth that is often associated with economic stagnation and which inevitably leads to a declining influence in the Canadian urban hierarchy; and (3) growth of a regional "primate city" which further enhances its dominance and thus intensifies regional disparities. All three situations occur in Canada — for example, rapid growth in Vancouver, Calgary and Edmonton; slow growth in Saint John, and Thunder Bay; and dominance in Montreal, St. John's, and Winnipeg.

The perception of a growth "problem" depends to a large extent on overall provincial objectives. Saskatchewan, for example, is concerned that Regina and Saskatoon should not decline relative to Calgary, Edmonton, and Winnipeg, but is at the same time committed to stabilizing small towns and rural areas which over the years have been the main source of growth for Regina and Saskatoon. Manitoba faces a similar dilemma with Winnipeg as a primate city exerting a pull on the rural population, but nevertheless experiencing so little net growth that it has lost its former position as the dominant prairie city.

In Ontario, the historic patterns of growth have led to the dominance of the Toronto region and the southwestern part of the province which together contain almost 80% of the provincial population. This growth has not only resulted in severe regional disparities in Ontario but has also put great pressure on agricultural land, home prices, and the natural environment. Similar problems are being experienced in the greater Vancouver area in British Columbia which suffers the additional disadvantage of geographical confinement by the mountains, the sea, and the United States border. Quebec, by contrast, has a very low provincial rate of growth (population increased by only 3% between 1971 and 1975) combined with a dominant though slowly growing metropolis. The Montreal Metropolitan Area includes 45% of the province's population but contains 70% of the secondary industry and accounts for about two-thirds of the value of all goods and services produced in Quebec. As a consequence, personal disposable income per capita in Montreal is almost 10% above the provincial average.[2] Despite this advantage, Montreal has been losing ground relative to other North American cities, and in particular to Toronto. Between 1961 and 1973 the Toronto Census Metropolitan Area grew by 40%, compared with only 25% for Montreal. Quebec is faced with the difficult task of maintaining or strengthening the national and international position of Montreal while seeking to diminish the social and economic disparities between the Montreal area and the rest of the province.

[1] In 1974 an extraordinary rate of foreign immigration pushed the growth rates up again, but not to their 1970 levels.

[2] *Climate for Development — Quebec Region;* DREE; 1976.

The Atlantic provinces have a relatively well-balanced system of settlements and have not experienced any major problems of rapid or dominant metropolitan growth. In fact, only 56% of the Atlantic population of 2.06 million was classified as urban in 1971. Of this, less than 40% lived in Metropolitan Areas compared with the Canadian average of 72% of urban population living in CMAs. The overriding problem in the Atlantic provinces continues to be a low level of economic development compared with the rest of Canada. To the extent that this is related to a relatively low metropolitan population most of these provinces would welcome more rapid urban growth, though not exclusively in the present CMAs of Halifax, Saint John, and St. John's.

Since 1970, several explicit strategies for metropolitan growth management have emerged in Canada. One of the most ambitious has resulted from the Livable Regional Program undertaken by the Greater Vancouver Regional District (GVRD) with the support of the Ministry of State for Urban Affairs. Faced with a projected growth of 300,000 (25%) between 1976 and 1986 the GVRD embarked on an extensive public consultation process to determine what action people felt was necessary to maintain or enhance the Region's "livability". The GVRD planners recognized that they could not influence the total growth of the area — this was seen to be a matter for provincial and national policies. They were concerned instead to establish for sub-areas, population targets that would be as compatible as possible with future job opportunities, good land use, housing availability, and potential transportation routes. The targets eventually proposed in the 1975 Report[3] call for a diversion of about one-third of anticipated growth from the presently indicated trends. The Livable Region Program has established only a planning framework, albeit a unique one in Canada because of the level of citizen participation. To meet the objectives set forth will require action by senior levels of government, particularly the province, and close co-operation among all members of the GVRD.

The Province of Alberta is also challenged by rapid metropolitan growth. Between 1961 and 1971 Edmonton and Calgary registered the highest growth rates among Canadian CMAs (Tables 1.7 and 10.3). In 1973, the provincial government announced a policy of decentralization intended to encourage the growth of smaller centres by offering locational incentives to industries, lower rates on home mortgages, and improved amenities. There are also plans to establish an "energy corridor" from Fort McMurray to Hardy, bypassing Edmonton. The corridor would include refineries, petroleum pipelines, a major highway, a railway, and power lines. It is hoped that such a concentration of infrastructure would attract sufficient employment to eastern Alberta to stabilize the population of the many small communities of the region that have been in decline for years. A second objective of the corridor development is to disperse the petroleum processing industries, thereby to avoid the serious environmental consequences of their continued concentration in Edmonton.

Regional plans and the regulations and economic investments to support them are not the only elements in a growth management strategy. Often metropolitan areas are faced with the need to accommodate new population that is already "on the doorstep". There are three responses which have received considerable attention: (1) *laissez-faire,* perhaps best when land is plentiful, growth moderate, and competition among developers keen; (2) achieve higher densities in already built-up areas largely by "in-filling" the empty space between residential buildings (Canadian average urban densities, even in Montreal and Toronto, are typically only half of those in European cities[4]) and (3) establish new satellite communities.

The first of these three has been by far the most common response in Canada; the second has been rarely used, though there are many who now espouse "in-fill". Planned new communities have been a rarity as well except in the Toronto area where several have been created by private developers. However, public involvement in new community planning is gaining wider acceptance. The public new town is a natural extension of the public land bank, which has been accepted in practice by most provinces. As early as 1956 the Alberta government passed an Act to Provide for the Development and Planning of New Towns (now the New Towns Act, 1969). In 1972 the City of Edmonton began the development of the 5,600-acre Mill Woods community, which has a target population of 125,000. Although it is only a few miles from the city centre it has been planned to create a balanced community, with a town centre and places of employment. In 1972 the province of Ontario began the development of the 1,600-acre Saltfleet community southeast of Hamilton, which has a projected population of 70,000. And in 1973 the federal government amended the National Housing Act to include a New Communities Program, through which CMHC may provide assistance for new communities either by way of cost-sharing arrangements between federal and provincial governments or by way of loans with certain forgiveness elements to the provinces or their designated agencies. The federal commitment is dependent upon the province satisfying CMHC that measures will be taken to allow the public to receive economic benefits that may accrue in respect of the lands and services disposed of to the private sector in the new community.

[3] *The Livable Region 1976/1986* (March 26, 1975).

[4] Paris, for example has an overall average density of almost 65,000 per square mile. Peak densities in Montreal are about 40,000 per square mile.

For purposes of the Program a "new community" is defined as an area of planned urban growth having all the facilities of a self-contained community. Spatially separated from an established community, it may be independent in its economic base or integrated with an existing urban centre. In addition, the new community must provide a provincial response to one or more of the following objectives:

- to promote means of accommodating urban growth other than by the continued expansion of existing major centres;
- to provide a mechanism for the establishment of new regional growth centres; or,
- to facilitate the balanced development of resource-based new communities.

8.3 Systems of Settlement

The concept of "system" is appropriate whenever interdependence is perceived among separately identified parts. In societies, as in nature, all things are elements in a hierarchy of systems which has no clear beginning or end. For practical purposes, the individual or perhaps the household is assumed to be at the root of any hierarchical system of settlement. There follows the neighbourhood (a system of households); the municipality; the metropolitan area (in some cases); the regional system of villages, towns, and cities; and finally the national settlement system. The effect of "lower" systems in the hierarchy will always be present at all higher levels, though the influence will usually be slight and felt only in the long run. A rural village in Saskatchewan, for example, will have negligible influence on the national settlement pattern today, but in concert with a thousand other villages may change the shape of things substantially over a decade.

Governments in Canada have rarely been conscious, in policy terms, of settlement systems beyond the urban metropolitan level. Yet these systems exist: for example, the Windsor-Quebec axis (Map 8.1) and its subsystem, the "Golden Horseshoe" from Oshawa to Niagara Falls, or the systems of service centres and small villages that dot the prairies. Such systems may be explicitly recognized in plans but they are not yet seen as units to be governed, except indirectly. This is probably because settlement systems above the metropolitan or county level have no explicit political boundaries. A partial exception is the Regional District scheme in British Columbia.

Beyond the metropolitan level, settlement systems are abstract entities with blurred boundaries and often poorly understood interactions. Each academic speciality tends to bring its own interpretation. Geographers recognize such physical features as rivers or mountain ranges as bounding systems of settlement within vast areas; economists identify a hierarchy of market centres; and sociologists examine systems of settlement within which people tend to confine themselves in their interactions. A great deal of research is devoted to the theory of settlement systems in Canada and to their definition in terms of flows of information, resources, and commodities.[1]

Nevertheless, it is rare to find policy decisions that have been based primarily on a system theory of settlement. One recent study on which policy could be based describes a theory of prairie settlements[2] according to which several centres, each differing in size and in the role they serve for rural residents, go together to form a system. Only the *system* of places makes a full-fledged community. The system consists of one "farm city" (population 2,000 or so), along with three or four "hometowns" (populations near 500 with about 20 business each) and eight or nine "stop-off centres" (populations 300 with perhaps 5 businesses each), all contained, together with the "open country" population, within a 25- to 30-mile radius of the "farm city". The system is seen as analogous to an urban area with the "farm city" playing the role of "downtown", the "hometowns" functioning as suburban shopping plazas, and the "stop-off centres" as neighbourhood convenience stores. This model was tested in west-central Saskatchewan where it was found that each school-administration district contained systems remarkably like the one just described.

Unfortunately, when the population served by any element in such a system drops to the point where the businesses and personal services (e.g. doctors, repairmen) cannot remain, the element disappears, thus imposing a hardship on those who are left and creating a vicious circle of further out-migration. Policies that seek to increase individual farm incomes do not solve this problem except insofar as they encourage the retention of population sufficient to keep the local businesses functioning. Similarly, a policy that concentrates only on the development of growth centres (say, cities over 10,000) will not be of great help to the far-flung rural population which depends on smaller service centres within reasonable driving distance. Neither, of course, is it possible to support every community equally. By understanding the pattern of settlement as a collection of systems, the essential role of each community is properly appreciated. Policy can then be developed to ensure that the individual community continues to fullfill its special function in the system.

Canada has four major urban settlement systems; the Windsor-Quebec City axis (Map 8.1); the Atlantic Urban-Industrial Core (Map 8.2); the Edmonton-Calgary axis; and the southwest corner of British Columbia (including greater Vancouver and southeastern

[1] A review of recent findings and a guide to the literature may be found in *Canadian Urban Perspectives;* L. O. Gertler and R. W. Crowley (to be published).

[2] *The Prairie Community System;* M. S. Merideth; Canadian Farm Economics, Vol. 10, No. 5; October 1975.

Vancouver Island and extending across the border to Seattle-Tacoma in the State of Washington). Each system dominates a provincial or inter-provincial region — economically, socially, and politically.

The Windsor-Quebec axis is nationally dominant. Based on 1971 data[3], the axis contained over 53% of Canada's population, received 60% of national income, had 72% of manufacturing employment, contributed over 75% of total value-added in Canada, and had almost 40% of farm cash receipts even though it contained only 13% of the nation's improved farm acreage.

The boundaries of the axis shown in Map 8.1 enclose an area of 67,570 square miles of which about 2,150 square miles or 3.2% was occupied by continuous urban uses in 1971. The overall average urban density was 8.7 persons per acre, slightly less than one-third of the average densities in Montreal and Toronto. The axis stretches 715 miles from north-east to south-west giving an average linear population density of just under 17,000 per mile. By contrast, the Boston-Washington axis in the United States has a linear extent of 450 miles and an average population of over 100,000 per mile.

Historically, the growth of the Windsor-Quebec axis is explained by its strategic location along the St. Lawrence river and Great Lakes, by favourable climate and an abundance of good soils, and later by its proximity to the industrial heartland and huge markets of the United States. Once it was established, the growth of the axis has been self-generating.

The increase in population between 1941 and 1971 is shown in Chart 8.2 a and b. It is notable that in the Ontario portion of the axis there has been no significant change in the total rural population, a result of the steady rise in the non-farm component which has already offset an equally steady decline in farm population. Indeed the decline is understated by the statistics since many of those listed by the census as "farm" families (because they live on "census farms") in fact derive a majority of their cash income from urban employment.

The axis is a microcosm of the interaction among economic development, urbanization, and agriculture.

[3] Source: *Main Street;* M. Yeates; MacMillan of Canada Ltd.; Ottawa, 1975.

MAP 8.1

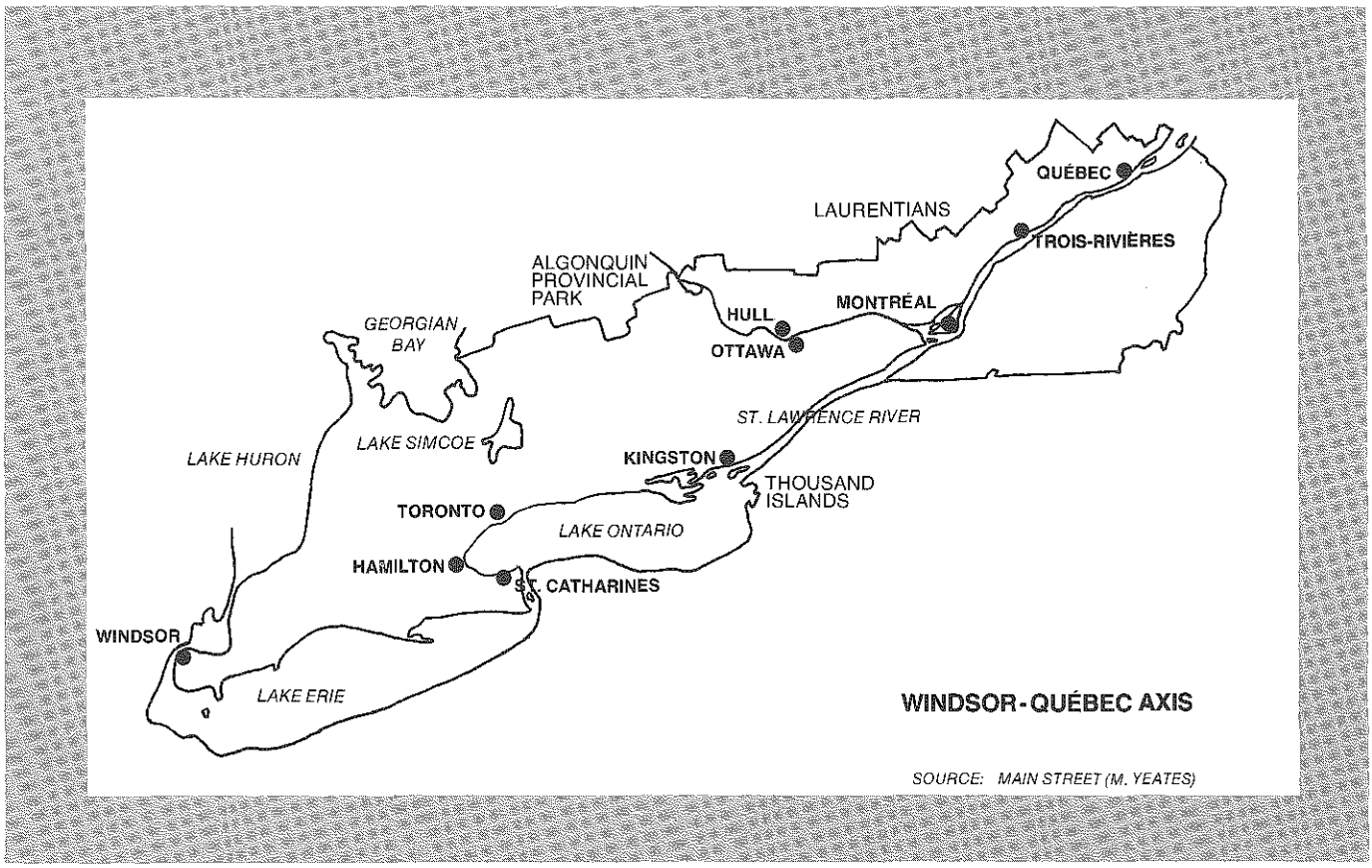
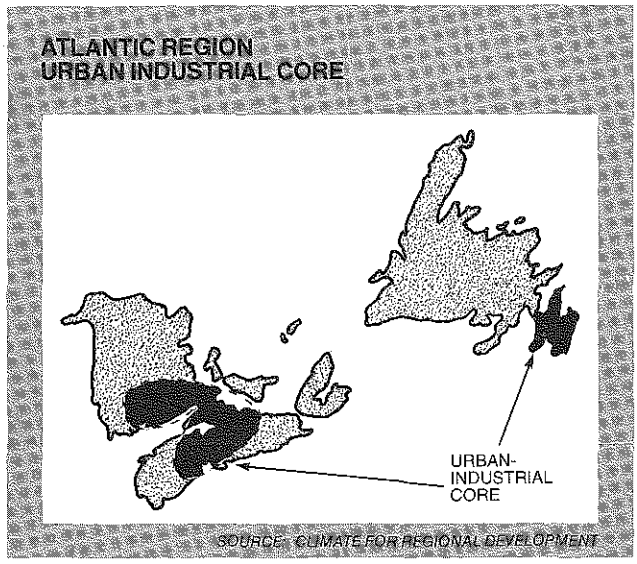


CHART 8.2

Chart 8.2 c displays the steady decline in farm acreage since 1941. This is in dramatic contrast with the rise in total capital value of farms, particularly in Ontario (Chart 8.2 d). Between 1966 and 1971, farm area (improved and unimproved)[4] in the axis decreased by about 4,100 square miles or approximately 10%. This has alarmed many who see in the trends a serious loss of potential cropland to urban uses. However, only 12.5% of the decrease was associated with census subdivisions defined as urban in 1971. Moreover, the *total* urbanized area of the axis covered only 2,150 square miles in 1971 and this had been accumulated since colonial times. Based on an estimate of 135 acres of rural land consumed per 1,000 increase in urban population,[5] it can be concluded that only a little over 265 square miles were lost to urban encroachment in the axis between 1966 and 1971. This is less than 6.5% of the total land taken out of production. The remainder, much of it converted to recreational use or in the hands of the growing rural non-farm population, is not permanently lost to agriculture. Though most is marginal for farming purposes, the land could quickly be put back into production if demand warranted. The situation is quite different in the fruit lands of south-central Ontario where proportionately large tracts of excellent farmland have indeed been lost to urban growth, as discussed earlier.

The Atlantic Urban-Industrial Core (Map 8.2) is an excellent example of a regionally dominant urban settlement system. Included in the darkly shaded area on the

MAP 8.2



[4] Unimproved land includes woodlots, swamps, and overgrown areas lying within farm boundaries.
[5] Estimate developed by Yeates in *Main Street* (p. 101-112)

map are Halifax-Dartmouth, Truro, and Amherst in Nova Scotia; Moncton, Fredericton, and Saint John in New Brunswick; and St. John's in Newfoundland. The general level of economic development within the Core compares favourably with the rest of Canada, in stark contrast with the periphery (light shaded areas on the map). For example, in 1974 the Core had an unemployment rate of 5.6%, compared with the Canadian average of 5.4% and a rate in the periphery of 13.1%. Income per capita in the Core was 87.5% of the national average, in the periphery it was only 64.6%. In Halifax-Dartmouth, per capita income is now roughly on a par with that in Montreal, Quebec City, Winnipeg, and Victoria and employment growth is close to the rate in Calgary and Edmonton.[6]

This dichotomy in growth between the urban-industrial core and the rural primary-based periphery poses a difficult policy dilemma. Should development initiatives continue to reinforce the growth potential of the dynamic centres of the Atlantic Region, in the expectation that effects will gradually improve the situation in the periphery, or should priority be given to the most needy areas — even though, in the foreseeable future, they may hold little potential for self-sustaining growth?

[6] Source: *Climate for Regional Developments;* DREE (1976).

9. The National Scale

Human settlement in Canada is usually seen as a local phenomenon, with political responsibility vested in the provinces and through them in a variety of local governments and agencies. The emphasis has not always been so. In the colonial period, settlement was used strategically to further the military and mercantile purposes of the French and British governments. Physical occupation of the land, in carefully chosen locations, was part of a grand design of economic and military consolidation. Even since Confederation there have been purposeful national policies of settlement, notably on the prairies. The building of transcontinental rail lines and liberalized immigration policies were also part of a national strategy that had clearly perceived settlement implications.

But in the decades after the 1930s, "settlement" receded in importance as a national policy instrument. The most favourable land was already settled and modern transportation and communications made it unnecessary to permanently settle a region in order to occupy it. National and provincial human settlement policy became more concerned with sectoral questions; particularly housing, infrastructure, and community services. It was not until the late 1960s that the federal government once again recognized the need for comprehensive national policy on human settlement. The reawakening was signalled by the publication in 1970 of *Urban Canada: Problems and Prospects* a report commissioned by the Minister responsible for Housing. Shortly thereafter (June 1971) the Ministry of State for Urban Affairs (MSUA) was created with a mandate to develop means by which the federal government might influence the evolution of the urbanization process in Canada; to integrate urban policy with other policies of the federal government; and to foster co-operative relationships in the area of urban affairs with the provinces, and through them with their municipalities.

The new Ministry did not find the federal field unoccupied. Most departments, through their normal activities, were exerting a significant influence on Canadian settlements. CMHC, Transport, Public Works, Manpower and Immigration, Indian and Northern Affairs, Environment, Defence, Agriculture, and Regional Economic Expansion all had obvious impacts on urban and rural settlements. Less direct, but perhaps even more profound influence was wielded by the Departments of Finance and Health and Welfare; the former because of its control of fiscal arrangements with the provinces, the latter because of the enormous transfer payments to individuals which it administers.

The Urban Affairs ministry was set the task of ensuring that the urban impact of all federal activities supported overall urban policy. The scope for settlement policy development at the federal level is of course limited in Canada because of provincial jurisdiction over municipalities, land use, local services, and settlement planning. This has meant that MSUA has had to devote much of its energies to federal-provincial co-ordination. There are now established in several major cities "tri-level" committees (the federal government, the province, and the municipal government) which meet regularly to discuss issues of mutual concern.

The principal policy initiative of the Ministry over the past two years has been to gain federal and tri-level support for the development of a Canadian Urban Strategy. Five objectives have been proposed: (1) to achieve a more balanced pattern of urban growth, both nationally and regionally; (2) to better manage the growth of metropolitan areas; (3) to improve all aspects of the urban environment; (4) to revitalize small communities; and, (5) to improve, through tri-level arrangements, the co-ordination of federal, provincial, and municipal policies and programs that might have an impact on the urban system or on specific urban centres.

The Ministry is a co-ordination and policy development agency — it does not administer any major federal programs. With 1975-76 estimated expenditures under $23 million (of which only 30% was available for contributions to projects outside the Ministry) it is clear that MSUA can have only limited direct impact on urban Canada. Neither is it easy for such a relatively small agency to co-ordinate the urban-related activities of a government which in the fiscal year ended March 31, 1976, spent almost $34,000 million. Recently, steps have been taken to integrate more closely the activities of MSUA and CMHC (a Crown Corporation), so that the broad mandate of the Ministry can be allied with the substantial program delivery capability of Central Mortgage which for 1976/77 has budgeted $1.8 billion for loans and transfers under its programs.

9.1 Key Processes

At the national scale, three processes are decisive in determining the nature of settlement in Canada: (1) the rate of growth of the population and its changing distribution across the land; (2) the distribution of employment opportunities; and (3) the distribution of personal income throughout the population.

All three processes are subject to policy intervention. In colonial times, the growth (through immigration) and distribution of population were consciously manipulated by government, but little thought was given by government to employment or to income distribution. By contrast, the twentieth century has seen a steady shift toward greater government management of employment and income, partly through economic policies that date from Lord Keynes and the aftermath of the Depression, and partly through some uniquely Canadian social policies, most of which have been introduced since the start of the Second World War, e.g. Unemployment Insurance (1940), Family Allowance (1944), Old Age Assistance (1951), Hospital Insurance (1961), Guaranteed Income Supplement (1966), Canada Assistance Plan (1966), Medical Care Act (1966), and Special Employment Plan (1971). Many federal social programs are shared with the provinces — notably the Canada Assistance Plan (for social welfare), Hospital Insurance, and Medicare. In addition, the provincial governments have established their own social policies which share with the federal programs the objective of distributing more equitably the benefits of Canadian socio-economic development.

But serious disparities among both regions and individuals still persist. Regional disparities have a two-fold impact on settlement — first by the migration they encourage from the poorer to the more prosperous regions, and second by the lower overall quality of housing, infrastructure, and services in less advantaged areas. Disparities among individuals — particularly between the poorest 20% of Canadian people and the rest of the population — have a devastating effect on the quality of settlement. It is within this group that virtually all the inadequate housing is concentrated, where levels of education and health are lowest, and where the incidence of social problems is highest.

Though it is recognized implicitly that individual differences in monetary incomes cannot be eradicated, governments at all levels have nevertheless committed themselves to ensuring that no Canadian lacks the means to secure a basic standard of living. These efforts (described in Section 9.3 below) have on the whole been successful and are perhaps more than any other factor responsible for the generally high quality of Canadian communities.

With minimum levels of individual welfare provided for, governments at both the federal and provincial levels are turning their attention once again to the questions of the growth rate and spatial distribution of population. The objective is no longer to occupy virgin territory; rather it is to manage the process of urbanization, inter-regional migration, and foreign immigration so as to achieve a "better balanced" national distribution of population. The phrase "better balanced" can only be interpreted qualitatively. At the national level it would imply that people not continue to concentrate in a few provinces (Ontario, Alberta, and British Columbia) as this can aggravate existing regional disparities. And at the provincial or regional level, "better balance" requires the management of metropolitan growth so that the urban and rural environments are protected and sub-regional disparities are reduced.

9.2 Regional Disparity

It is customary to subdivide Canada into five major regions; *Atlantic* (Nova Scotia, Prince Edward Island, New Brunswick, Newfoundland), *Quebec, Ontario, Prairies* (Manitoba, Saskatchewan, Alberta), and *British Columbia.* Frequently, the Prairies and British Columbia are combined in a single region called simply the *West.* The Yukon and Northwest Territories form a sixth region, but because of their small population (53,000 in 1971), they have negligible influence on most aggregated social and economic indicators. Though the regions have no formal political identity (except those that are also single provinces) they constitute a division of Canada that has a great deal of geographical, social, and economic significance.

The roots of regional disparity in Canada lie in the evolution of the national economy from a "staple" base (originally fish, fur, and timber; later adding agricultural produce and minerals) to a manufacturing and service base. This evolution eroded the position of the once prosperous Atlantic region and enormously strengthened the economy of central Canada. Over 70% of the "value-added" in goods-producing indus-

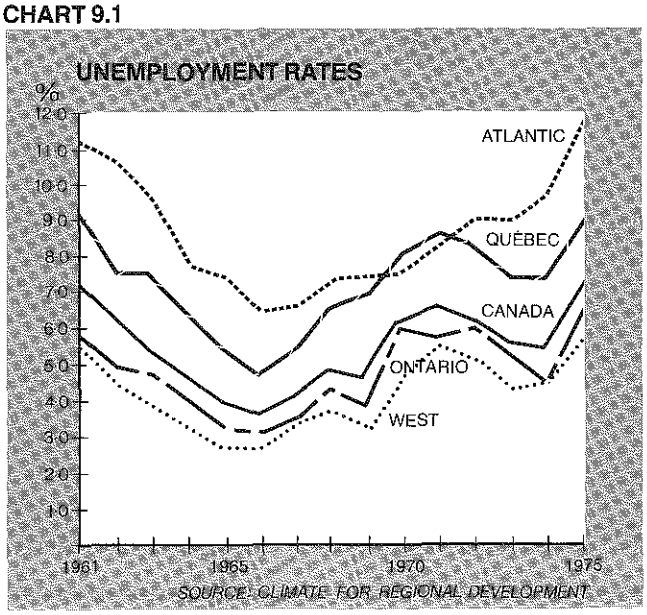
tries in Ontario is in the manufacturing sector compared with only 14% in the primary sector. The percentages in Quebec are similar; 65% manufacturing, 17% primary. By contrast, only 36% of value-added in the Atlantic provinces is in manufacturing. In the West, less than 30% of value-added is in manufacturing; over 50% is in primary products (petroleum, wheat, minerals and forest products).[1] The western provinces, particulary Alberta and British Columbia, have been fortunate in having so rich an endowment of natural resources that they have achieved a level of economic development comparable with or exceeding the national average. But industrial diversification prior to resource depletion will be essential if most parts of the Western region are to maintain high levels of income and employment.

Table 9.1 presents average family income by region[2] in current and in constant (1961) dollars for 1951 through 1971.[3] As a percentage of the national average, Ontario and British Columbia both improved already strong positions since 1961. Every other region lost ground. On the other hand, absolute real growth was substantial in all regions, ranging from 40% in Quebec to 53% in B.C. Thus in 1971 even the Atlantic region had an average family income ($5,949) above that of Ontario 10 years earlier ($5,773). Moreover the Atlantic provinces had substantially improved their relative position compared with 1951 when family income was only 71% of the national average. Nevertheless, the absolute difference in average income between Ontario and the Atlantic region increased from $1,617 in 1961 to $2,659 in 1971, a change of 64%.

Incomes also vary directly with settlement size. With few exceptions, the larger the city the higher the average family income. For example, in 1971 every metropolitan area with a population over 250,000 had a mean family income above the overall Canadian average. By contrast, in all regions of the country incomes in the non-urban population were below the national average and ranged from 92% of average in British Columbia to 64% in the Atlantic region.[4]

The unemployment rate is another key indicator of regional disparity. This is plotted by region in Chart 9.1, covering the period 1961-75. There is no tendency for the rates to converge over time. What is dramatically clear, however, is the extent to which cyclical fluctuations affect all regions almost simultaneously and roughly proportionately. Between 1971 and 1975, employment growth was exceeded by labour force growth in all regions except the West. In the Atlantic region, for example, employment grew by 15% (compared with

CHART 9.1



only 12% in Quebec), but the labour force increased by 19%, thus adding to already high unemployment.

It is commonly felt that in regions of the country where incomes are low, the cost of living tends also to be low. Unfortunately, the reverse is more nearly the case. The cost of food and most manufactured items is typically much higher in Atlantic cities such as St. John's and Charlottetown than in Toronto or Edmonton. These differences are partially offset by the cost of shelter, particularly in Toronto, but overall evidence suggests that the cost of living in the Atlantic provinces is the highest among the regions of Canada.

There are also very significant sub-regional disparities in Canada. The contrast between the Atlantic Urban-Industrial Core and the periphery has already been noted. Similar contrasts are found between northern and southern Ontario, between the Montreal region and the Gaspé peninsula, or between communities in the north and south of the western provinces. In 1973, for instance, disposable income per capita in Manitoba was $3,410, just a shade below the national average. In stark contrast, the disposable income of native people living in the northern two-thirds of the province was under $800 per capita, including all welfare support.[5]

Government efforts to reduce regional and sub-regional disparities in Canada have rarely in the past been motivated by an explicit desire to reduce migration from one area to another and thereby to moderate

[1] Source: *Climate for Regional Development,* DREE, 1976.

[2] Concepts of "income" and "family" vary considerably. The usage here corresponds to the annual Surveys of Consumer Finances — see *Canada Year Book* (1974); p. 223.

[3] The use of "constant dollars" (adjusted for changes in the Consumer Price Index) is essential for comparability between time periods. For example: average income in "current dollars" in 1971 was $10,368, an increase of 95% over 1961. The "real" increase was only about 46%.

[4] *Canadian Urban Perspectives;* L. O. Gertler and R. W. Crowley.

[5] Source: *Climate for Regional Development;* DREE; 1976.

Table 9.1

(a) AVERAGE INCOME OF FAMILIES IN CURRENT AND CONSTANT DOLLARS BY REGION, SELECTED YEARS, 1951-71

Region	1951	1957	1961	1967	1971	% growth 1961-71
			Current dollars			
Atlantic Provinces	$2,515	$3,422	$4,156	$5,767	$7,916	91%
Quebec	3,523	4,517	5,294	7,404	9,919	87
Ontario	3,903	4,997	5,773	8,438	11,483	99
Prairie Provinces	3,261	4,355	4,836	6,908	9,309	92
British Columbia	3,669	5,238	5,491	7,829	11,212	104
Canada	3,535	4,644	5,317	7,602	10,368	95
			Constant (1961) dollars			
Atlantic Provinces	2,858	3,629	4,156	4,997	5,949	43
Quebec	4,003	4,790	5,294	6,416	7,436	40
Ontario	4,435	5,299	5,773	7,312	8,608	49
Prairie Provinces	3,706	4,618	4,836	5,986	6,978	44
British Columbia	4,169	5,555	5,491	6,784	8,405	53
Canada	4,016	4,922	5,317	6,591	7,776	46

(b) AVERAGE INCOME OF FAMILIES IN EACH REGION AS A PERCENTAGE OF THE AVERAGE FOR CANADA, 1951, 1961 AND 1971

Region	1951	1961	1971
Atlantic Provinces	71.1	78.2	76.5
Quebec	99.7	99.6	95.7
Ontario	110.4	108.6	110.8
Prairie Provinces	92.2	91.0	89.8
British Columbia	103.8	103.3	108.1
Canada	100.0	100.0	100.0

(c) PERCENTAGE DISTRIBUTION OF FAMILIES, SHOWING AVERAGE AND MEDIAN INCOMES, SELECTED YEARS, 1951-71

Income group in constant (1961) dollars	1951	1957	1961	1967	1971
Under $1,000	6.3	3.6	3.3	2.2	2.6
$ 1,000-$1,999	12.5	10.2	7.9	5.4	4.7
2,000- 2,999	19.2	13.0	10.8	8.8	7.9
3,000- 3,999	23.2	16.7	13.7	9.8	7.2
4,000- 4,999	16.2	17.5	16.6	11.7	8.1
5,000- 5,999	8.4	13.1	15.0	13.0	9.0
6,000- 6,999	5.4	8.4	11.3	11.9	10.4
7,000- 9,999	6.0	12.2	14.9	22.7	26.3
10,000 and over	2.8	5.3	6.5	14.5	23.8
Total	100.0	100.0	100.0	100.0	100.0
Average income	$4,016	4,922	5,317	6,591	7,776
Median income	$3,517	4,371	4,866	5,936	7,005

Median income refers to the middle or central value when incomes are ranged in order of magnitude. Median income is lower than average income in these tables since it is not as affected by a few abnormally large values in the distribution.

Source: *Canada Year Book* (1974); Tables 6.1, 6.2, 6.3.

urban growth pressures in more prosperous regions. Neither have such efforts been described as attempts to improve settlements in the poorer parts of Canada. Programs to reduce disparity were — and are — motivated by equity considerations as well as by the belief that human resources are seriously under-utilized in the less developed parts of the country. But increasingly both the provinces and the federal government have recognized that the reduction or elimination of regional disparities is the linchpin in any strategy to achieve a more balanced national pattern of settlement.

The first — and still most important — phase of the direct response to regional disparities is the federal government's equalization program begun in 1957. Under this program the federal government makes unconditional transfer payments to those provinces that fall below the national average capacity to raise revenue from their own sources. Ontario has never received payments under the program, nor have Alberta and British Columbia since 1962. The other seven provinces have been net recipients since the program's inauguration in 1957 when payments totalled $138 million. It is estimated that equalization transfers in 1975-76 will total $2,045 million or about 7% of the federal budget. The payments have become the largest single source of revenue in the budgets of the poorer provinces. For example, in 1975-76, Nova Scotia is estimated to receive about $255 million ($320 per capita) from equalization. This was just over one-third of total provincial revenue.

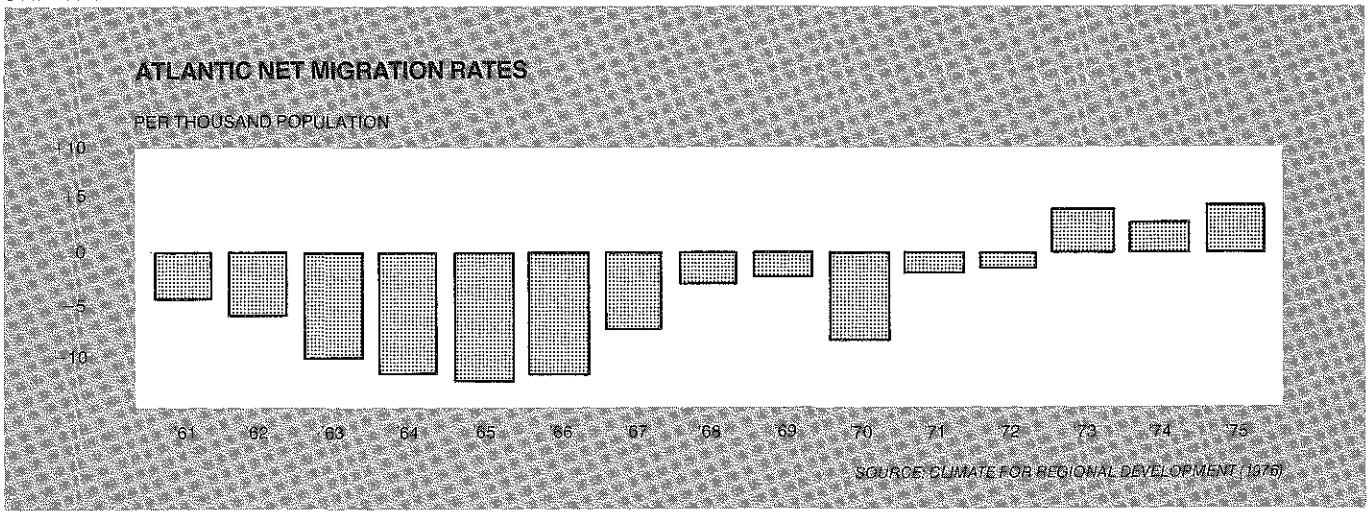
The second major phase of the federal attack on regional disparity was launched with the creation of the Department of Regional Economic Expansion (DREE) in 1969. The department's specific objectives were to: (1) reduce unemployment in regions having rates perennially higher than the national average; (2) reduce under-employment and low-productivity employment in regions where these were prevalent; and (3) increase labour force participation rates in regions where they were abnormally low. DREE was given authority to assist provincial and municipal governments to improve community infrastructure in special areas, and to implement related social adjustment measures in those affected areas. Authority was also obtained to assist private enterprise wishing to locate, expand or modernize manufacturing and processing facilities in designated areas (Regional Development Incentives Act — RDIA).

The three main elements of the department's operations from 1969 to 1973 were, in increasing order of importance: rural development, incentives to industry, and infrastructure development for urban centres. Twenty-three cities were designated as major activity centres or growth points in regions judged to have inadequate employment opportunities.

Five years after the department's inauguration, a major DREE policy review in 1973 concluded that:

- regional disparities are too insurmountable a problem to be dealt with effectively by one agency acting alone; rather, a comprehensive approach is required whereby the totality of government policies and programs is made, as far as possible, complementary to regional development objectives;
- the regional development issue in Canada is too complex to be addressed by national programs; rather, selective and flexible measures are required to take advantage of identified development opportunities or to overcome development constraints; and

CHART 9.2



- the policy concern should not be with regional disparities *per se* but, rather, with encouraging each region of Canada to realize its potential for economic and social development. This change in perspective differs significantly from the earlier approach which tended to be oriented toward the problems of an area rather than toward its potential.

The formal means to act on this new philosophy are embodied in General Development Agreements (GDAs) signed with the provinces. The agreements provide a statement of broad objectives to be pursued, the types of support to be provided, and the mechanisms by which joint decisions can be taken. Specific actions are spelled out in subsidiary agreements under a GDA.

In the Province of Newfoundland, for example, subsidiary agreements are aimed at upgrading the forestry industry, improving the highway network, upgrading the primary and secondary fishing industries, marine research, and improving urban infrastructure in St. John's.

As of March 31, 1976, a total of 50 subsidiary agreements had been signed with the provinces, calling for a federal commitment of $800 million (to be spent in most cases over a number of years) and a combined investment of more than $1,500 million in federal, provincial, and private sector funds.

It is impossible to measure precisely the effectiveness of DREE programs in reducing regional disparities. Even where little change has been noticed, as for example in unemployment rates, it can be argued that matters would have been worse in the absence of a program. It must also be remembered that the dollar value of DREE grants ($380 million in 1975-76; 1.1% of the federal budget) is small relative to total investment in any region. Nevertheless, it has been estimated that between 1969 and 1975, the expenditure of about $500 million under the Development Incentives Program assisted projects worth a total of $2,400 million and resulted in the direct creation of 120,000 jobs.[6] There are also indications that since 1971, incomes in the Atlantic Region have risen steadily as a proportion of those in Ontario.[7] Perhaps partly as a result, the historic pattern of out-migration from the Atlantic provinces has very recently reversed (see Chart 9.2 which includes both foreign and domestic migration).

Many provinces have also formulated policies that focus on the development of less advantaged areas and groups. Both Manitoba and Saskatchewan, for example, have attempted to strengthen their rural areas and small urban centres so that residents will not be forced to leave the province or to migrate to the largest cities in order to receive a fair share of the social and economic benefits of Canadian life.

[6] DREE Annual Report (1974).

[7] *Climate for Regional Development;* Chart p. 34.

9.3 Income Distribution

Throughout the world, poverty is the greatest enemy of good settlements. Canada is no exception. But Canadians are fortunate in having national wealth sufficient to eradicate absolute poverty; i.e. individual incomes so low that even a minimum of food and shelter cannot be afforded. However, the mere possession of national wealth is no guarantee that it will reach those most in need. The distribution of income to achieve a basic level of social justice requires strong government policy and the support of those who must share their wealth with the less fortunate.

Table 9.1 summarizes the distribution of family income[8] in Canada as it has evolved between 1951 and 1971. Table 9.2 provides, as a basis of comparison, analogous statistics on Gross National Product. The historical data illustrate the steady rise in average incomes over the period. Family incomes rose in current dollars by 50% from 1951 to 1961, and by 95% from 1961 to 1971. In real terms — after allowing for inflation — they increased by 32% over the first decade, and by 46% over the second. Behind these increases

Table 9.2

GROSS NATIONAL PRODUCT 1951, 1961, 1971

Year	Current $ (millions)	Constant (1961) $ (millions)	% Real Growth	Real GNP per capita (1961) $	% Growth in real GNP per capita
1951	21,640	25,673		1,833	
1961	39,646	39,646	54	2,179	18.6
1971	93,307	67,585	70	3,134	44.1

Source: *Canada Year Book* (1974).

were such factors as the rising incomes of individuals, and the increasing number of married women taking jobs outside the home. In 1951, wives contributed only 4% to 5% of the total family income; by 1971, their contribution was estimated to be nearly 14%. At the same time the contribution of children and other relatives decreased rather than increased.

Particularly significant is the fact that in 1971, only 7.3% of families received less than $2,000 compared with 18.8% in 1951. It is important to remember that these are "constant" (1961) dollars, adjusted approximately for inflation according to changes in the Consumer Price Index. Thus they represent roughly comparable levels of spending power.

There were even more dramatic changes at the other end of the income spectrum. In 1971, almost one-quarter of Canadian families had incomes above

[8] "Family" is defined as a group of individuals sharing a common dwelling unit and related by blood, marriage or adoption. "Income" refers to money income received from *all* sources prior to any taxes or withholding. Income in "kind" such as self-consumed farm produce is not included.

$10,000. Twenty years earlier, fewer than 3% exceeded $10,000. The effect of two decades of prosperity was to shift the entire income distribution into much higher brackets. There is no evidence, however, that money incomes actually become more equally distributed. The distribution of family income by quintiles[9] is presented

Table 9.3

DISTRIBUTION OF FAMILY INCOME BEFORE TAX IN CANADA

Year	Bottom Fifth	Second Fifth	Third Fifth	Fourth Fifth	Top Fifth
1951	6.1%	12.9%	17.4%	22.4%	41.4%
1957	6.3	13.1	18.1	23.4	39.1
1961	6.6	13.5	18.3	23.4	38.4
1967	6.4	13.1	18.0	23.6	38.9
1969	6.2	12.6	17.9	23.5	39.7
1971	5.6	12.6	18.0	23.7	40.0
1972	5.9	12.9	18.3	23.7	39.1

Source: Statistics Canada.

in Table 9.3 showing that about 6% of total family income in Canada is received by the poorest 20% of families, about 18% by the middle 20%, and 40% by the most wealthy 20% of families. These fractions have not changed significantly in over 20 years. Yet when compared with other countries, Canada's income distribution is one of the most balanced. Only the nations of Eastern Europe have a consistently larger fraction of income accruing to the poorest 40% of the population.[10]

It should be emphasized that findings about income inequality are based on an analysis of money income only. It is possible that if the distribution of goods and services that are free of charge or at reduced cost (e.g. education, health services, subsidized housing) were taken into account and the analysis done on some broader income concept, the results would be different. This is all the more likely in view of the greatly expanded role of public sector spending over the past 20 years.

The data in Tables 9.1 through 9.3 demonstrate that Canada has been able to improve the economic conditions of its poorest citizens as a result of large increases in national productivity and hence of real income. Hard allocation decisions have not had to be made since everyone has enjoyed a constant share of a rapidly growing "pie". However, government is playing an increasing role in administering the allocation. This is illustrated by the percentage of family income that derives from direct government transfer payments (e.g. Old Age Security, Unemployment Insurance, Family Allowance, welfare payments of various kinds). In 1951, such transfers constituted only 5.6% of total family income; in 1971 they accounted for 10.3% of incomes which, moreover, had increased by 94%. Over the same period, income derived from salaries and wages declined only slightly from 80.8% of the total to 78.7%. There was however a substantial drop in income derived from self-employment, from 9.4% to 6.3%. For the poorest 20% of families, transfer payments increased as a proportion of income from 26.6% (1951) to 46.2% (1971) while wages and salaries declined as a source from 48.2% to 33.6%. This does not of course mean that poor people were working less; it shows merely that the impact of government transfers had increased more than proportionately to wages and salaries. In the four higher income quintiles the role of direct transfer payments is almost insignificant. Even in the second lowest quintile, transfers accounted for less than 5% of family income in 1971. In each of the three higher quintiles, transfers were less than 0.5% of income. The thrust of government policy is clear — income maintenance is concentrated almost entirely in the poorest 20% of the population. For the remainder, wages, salaries, and self-employment account for about 95% of total income.[11]

Table 9.4 presents an example of the expenditure side of the Canadian family economy (based on 1972 survey data collected in eight cities) broken down into three of the five quintiles; the poorest 20%, the middle 20%, and the most wealthy 20%. It is noteworthy that even in the lowest quintile, less than 54% of total spending was allocated to the three essential items — food, shelter, and clothing. In the highest quintile, these three accounted for 34%; shelter was remarkably low at only 12.8%. These figures must be interpreted with care. They mask substantial variations within a quintile (the poorest 10% may be considerably worse off than the next 10%), as well as variations among the cities in the sample. The shelter component could be particularly sensitive to city choice. Moreover, Table 9.4 presents an urban sample and thus may not be representative of rural and small town patterns.

It is apparent from Table 9.4 that personal taxes (principally the income tax) account for a rapidly increasing share of expenditure as family income rises. In 1971, just under 3% of Canadian families received over $25,000 and were assessed at an average income tax rate of 27.8%. This wealthy group accounted for 11% of total family income in Canada and paid 20% of all income tax. It might appear from such figures that the

[9] To determine the quintile distribution, all families are ordered from the poorest to the most wealthy. The aggregate income of the poorest 20% of families is then expressed as a percentage of total family income in Canada; similarly with the next poorest 20% and so on. It should be noted that the incomes of unattached individuals, particularly women, are considerably more unequally distributed than those of families.

[10] Source: *Quantitative Analysis of Modernization and Development;* F. G. Harbison et al; Princeton University Industrial Relations Centre; (1970).

[11] Source: *Canada Year Book* (1974); Table 6.4.

Table 9.4

PATTERNS OF FAMILY EXPENDITURE BY INCOME QUINTILES

(1972 Survey Data in eight cities)

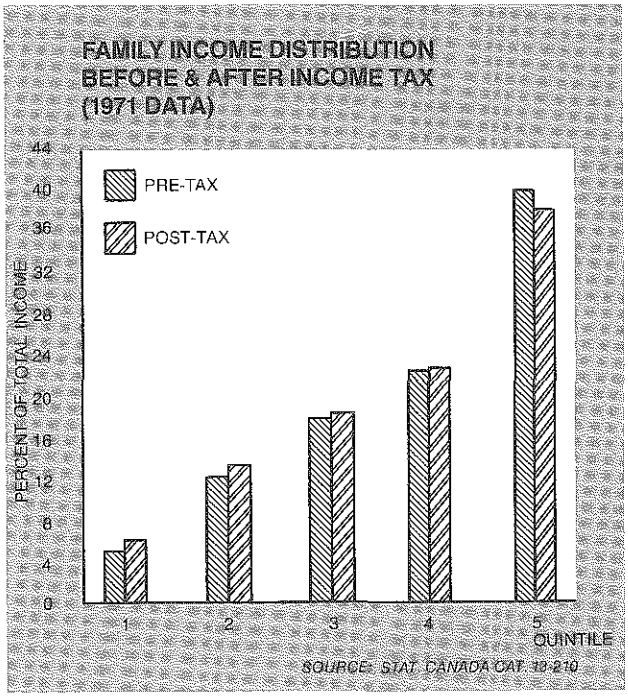
Item	Lowest quintile	Mid Quintile	Highest Quintile
Family Characteristics			
— average net income (pre tax)	$5,358	$11,789	$22,992
— homeowners (%)	34.2	55.7	72.6
— wife works fulltime (%)	3.9	17.6	31.6
Average total expenditure	$5,685	$11,543	$20,556
— Food (%)	24.3	17.4	14.1
— Shelter (%)	22.9	15.9	12.8
— Clothing (%)	6.6	7.2	7.4
— Travel & transportation (%)	9.6	13.8	11.7
— Personal taxes (%)	6.8	15.6	23.5
— All other current expenditures (%)	29.8	30.1	30.5

Source: Adapted from Canada Year Book (1974); Table 6.10.

personal income tax would have a major impact on the distribution of income, but as Chart 9.3 shows, this is not the case. In the after-tax distribution, the poorest quintile increased its share by less than one percentage point, from 5.6% to 6.4% while the wealthiest 20% of families saw their share of total income drop by fewer than three points, from 40% to 37.8%.[12]

Income redistribution is not of course the primary objective of the personal income tax. The tax bears the brunt of national revenue generation, accounting for about 40% of gross federal revenue. From this revenue are financed the direct transfer payments to individuals and to provincial governments which in their totality have been decisive in assisting the less wealthy regions of Canada and the most disadvantaged citizens to receive the benefits of national development.

CHART 9.3



Appendix

Throughout the report frequent references have been made to federal, provincial, and local government expenditures in various sectors. Quoted in isolation, these figures lack perspective and may be confusing. As a corrective, the expenditures by sector of each level are collected together in the following set of tables (9.5 a,b,c; 9.6; 9.7) which summarize the latest data available.

Table 9.5 (a)

FEDERAL GOVERNMENT EXPENDITURE ESTIMATES

(Fiscal Year 1975/76)

Item	Amount ($ million)	% of Total Budget	
Payments to Persons	7,722	22.8	69.6
Payments to Other Levels of Government	7,131	21.1	
Public Debt	3,775	11.2	
Subsidies & Other Transer Payments	4,559	13.5	
Operating & Capital Expenditures of Depts. & Agencies (non-Defence)	6,880	20.3	31.4
Defence	2,977	8.8	
Payments to Certain Agencies & Proprietary Corporations	796	2.3	
Total	33,839	100	

[12] Source: Statistics Canada Catalogue 13-210.

Table 9.5 (b)

BREAKDOWN OF FEDERAL PAYMENTS TO PERSONS

(Fiscal Year 1975/76)

Item	Amount ($ million)	% of Total Payments to Persons
Old Age Security & Guaranteed Income Supplement	3,968	51.4
Family Allowance	2,007	26.0
Unemployment Insurance	875	11.3
Other	872	11.3
Total	7,722	100

Table 9.5 (c)

BREAKDOWN OF FEDERAL PAYMENTS TO OTHER LEVELS OF GOVERNMENT

(Fiscal Year 1975/76)

Item	Amount ($ million)	% of Total
Equalization	2,469	34.6
Hospital Insurance	1,739	24.4
Medical Care Act	795	11.1
Canada Assistance Plan	749	10.5
Post Secondary Education Adjustment	511	7.2
Other	868	12.2
Total	7,131	100

Source: Federal Government Estimates Book, 1976/77.

Table 9.6

TOTAL PROVINCIAL EXPENDITURE ESTIMATES

(Fiscal Year 1974/75)

Item	Amount ($ million)	% of Total
Health	6,554	25.5
Education	6,276	24.5
Welfare	3,381	13.2
Transportation & Communications	2,358	9.2
Debt charges	1,480	5.8
General Government	1,427	5.6
Protection Services	885	3.4
Unconditional Payments to Local Government	742	2.9
Other	2,540	9.9
Total	25,659	100

Source: *Provincial and Municipal Finances;* Canadian Tax Foundation (1975).

(Figures derived from Statistics Canada estimates).

Table 9.7

TOTAL LOCAL GOVERNMENT EXPENDITURE ESTIMATES

(1974)

Item	Amount ($ million)	% of Total
Education	5,075	41.6
Transportation	1,617	13.3
Health Services & Public Health	1,581	13.0
Protection Services	948	7.8
Debt charges	834	6.8
Recreation & Culture	676	5.5
General Government	526	4.3
Welfare	479	3.9
Other	390	3.8
Total	12,189	100

Source: *Provincial and Municipal Finances;* Canadian Tax Foundation (1975).

(Figures derived from Statistics Canada estimates).

10. The Future

"He that will not apply new remedies must expect new evils for time is the greatest innovator" — Francis Bacon

In one important sense, the future is history. This is so not only because we find our community spirit and our habits of civility in the experiences and the education provided by the past, but also because the past can be a heavy burden upon us.

The human settlements of Canada illustrate the point clearly. Each year we construct only about 4% of the fabric of our settlements. The largest part of this construction must accept directions set by facilities and services that are already in place; it must respond to previously accumulated needs before addressing those that are emerging; it must, in effect, accept the priorities of the past.

These ideas provide a necessary counterpoise to the image of the future as "brand new". It is not. We can see much of it around us.

The glimpse into Canada's future that is provided in the following pages is highly selective. It is developed from a single theme — the evolution of the Canadian population from 1971 to 2001, including forecasts of growth, distribution, and age structure. From these fundamental estimates are derived several of the subtle yet vitally important social and economic consequences of present demographic trends.

There will obviously be much more in the future for Canadian settlements than can be revealed by demography and this is recognized in the final section which discusses some of the basic issues of the current land and housing debate in Canada. Nevertheless, most of the following forecasts are based on the extrapolation of explicit trends and assumptions concerning the fertility and mortality of Canadians and the movement of foreign and inter-provincial migrants. With mathematical precision, the consequences of these assumptions are translated into views of the future, but nothing enters the processes except past trends, present assumptions, and blind logic. The method derives its validity solely from a realization that the future is continuous with the past; if it were not we could know nothing of it. But the future is not wholly determined by the past; if it were we could not alter it.

10.1 Population Projections

Speculation on the future of human settlement in Canada generally begins with estimates of the population that will have to be settled. While it is not possible to forecast with certainty the size and demographic character (e.g. age, sex, and spatial distributions) of the national population even one year hence, let alone 10 or 25 years, population projections are nevertheless among the most dependable prognostications in the field of human affairs.

The law by which population evolves is simply expressed. The population at any future time is equal to the present population increased by births and immigration during the interval and decreased by deaths and emigration. Uncertainty enters into the estimation of all four component variables. Experience has taught that trends in births, deaths and migration do not vary greatly in the short run — over a few months say — but they do change very substantially over years. It is the unavoidable failure to anticipate the future course of fertility, mortality, and net migration that renders population forecasts progressively less confident as they are extrapolated farther into the future.

Table 10.1 presents three projections of Canada's total population at five-year intervals from 1971 to 2001 broken down by age group.[1] Each projection rests on explicit *assumptions* about mortality, fertility, and net migration.

[1] Prepared by Statistics Canada and reported in detail in *Population Projections for Canada and the Provinces; 1972-2001;* Cat. 91-514 (1974).

Table 10.1

PROJECTIONS OF POPULATION, 1971-2001

Year	Population as at June 1 '000	Annual rate of population growth %	Distribution by age 0-19 %	20-44 %	45-64 %	65+ %
Projection A[1]						
1971	21,568.3	—	39.4	33.9	43.8	8.1
1976	23,086.1	1.4	36.1	36.4	45.8	8.6
1981	25,311.5	1.8	34.3	38.5	47.0	9.0
1986	27,810.9	1.9	33.9	39.6	48.1	9.3
1991	30,177.6	1.6	34.9	38.2	48.7	9.8
1996	32,347.1	1.4	35.6	36.2	48.1	9.9
2001	34,611.4	1.3	34.6	35.5	47.6	9.8
Projection B[2]						
1971	21,568.3	—	39.4	33.9	43.8	8.1
1976	22,846.3	1.2	35.9	36.4	45.9	8.6
1981	24,472.5	1.4	33.2	38.9	47.8	9.3
1986	26,258.6	1.4	31.6	40.5	49.7	9.8
1991	27,902.1	1.2	31.8	39.6	50.9	10.5
1996	29,317.0	0.9	31.8	37.7	50.9	10.8
2001	30,655.5	0.9	30.8	36.4	50.8	10.9
Projection C[3]						
1971	21,568.3	—	39.4	33.9	43.8	8.1
1976	22,772.4	1.1	35.7	36.5	46.1	8.7
1981	24,041.4	1.1	32.0	39.6	48.6	9.5
1986	25,382.9	1.1	29.3	42.0	51.4	10.1
1991	26,591.4	0.9	28.4	41.5	53.4	11.0
1996	27,569.7	0.7	27.8	40.0	54.1	11.5
2001	28,369.7	0.5	26.7	37.9	54.6	11.8

[1] Projection A assumptions: fertility will change from 2.19 children in 1971 to 2.60 by 1985; net migration gain 100,000 a year; and expectation of life at birth will increase to 70.2 years for males and 78.4 for females by 1986.

[2] Projection B assumptions: fertility will change to 2.20 children by 1985; net migration gain 60,000 a year; and mortality same as Projection A.

[3] Projection C assumptions: fertility will change to 1.80 children by 1985; net migration same as Projection B; and mortality same as Projection A.

Source: *Canada Year Book* (1974), Table 4.3.

The mortality trends in Canada have changed very slowly over decades and can be forecast with considerable confidence. All three projections assume a life expectancy gradually increasing to 70.2 years for males and 78.4 years for females by 1986 (compared with 69.34 and 76.36 in 1971).

Much more volatile is the fertility rate[2] which reflects the reproductive propensities of the population (independent of its age-structure). The Canadian total fertility rate has varied erratically over the past 50 years, from 3.36 in 1926, dropping to 2.65 in the aftermath of Depression (1937), rising to high of 3.95 in the middle of the post-war "baby boom" (1959), and then declining steadily and sharply to 2.19 in 1971, 2.02 in 1972, and 1.90 in 1974. In Canada, long-term zero population growth based on natural increase corresponds to a fertility rate of about 2.13 under current mortality conditions. Nevertheless, even if fertility were to fall to 1.8, mortality remaining constant, and net immigration shrinking to zero, Canada's population would continue to grow for another 30 years or so, peaking at under 30 million and declining thereafter. This reflects the nation's youthful age structure (40% of the population is under age 20) which ensures that growth continues, even at very low fertility rates, as the women of the "baby boom" enter their prime reproductive years.

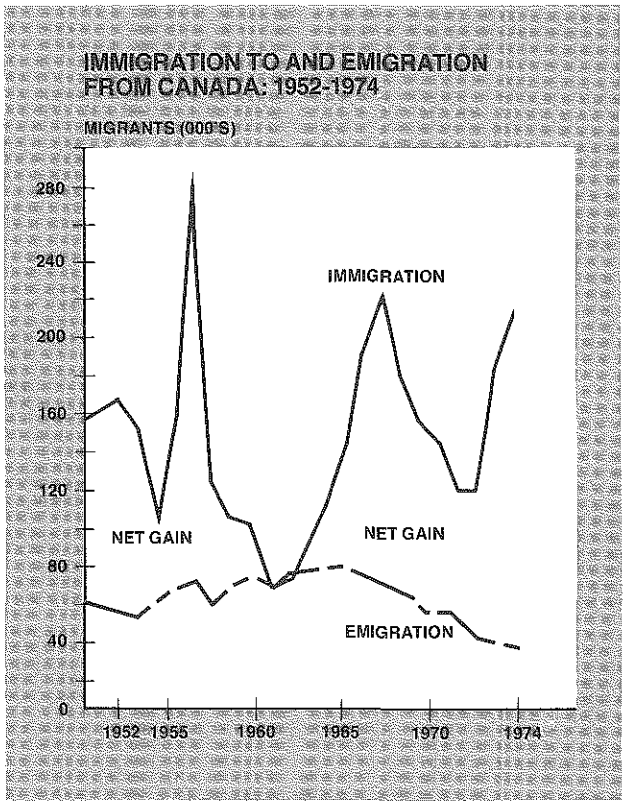
Projections A, B, and C differ significantly in their fertility assumptions, ranging from 2.6 (A), to 2.2 (B), to 1.8 (C). While *current* trends clearly favour C, there is little stability in the history of Canadian fertility from which to predict its future course. It could be argued though that improved birth control methods and greater

[2] The fertility rate (more correctly, the *total* fertility rate) is the sum over all ages of age-specific fertility rates. The age-specific fertility rate for women of age "a" in a given year is the ratio of the number of children born to women of age "a" in that year to the total number of women of age "a" in the population.

female participation in the labour force are permanent structural changes in society that will tend to inhibit a return of fertility rates to the level of the early 1960s.

Net migration is the most unstable parameter in Canadian population projections. (Chart 10.1). Migration is moreover increasingly important as a determinant of total population changes as fertility declines. (Twenty per cent of the Canadian population growth between 1961 and 1971 was due to foreign immigration.) Net migration is the difference between immigration and emigration. Emigration has been relatively steady, averaging 65,000 a year since 1901 with a range from 108,000 a year in the decade 1911-1921 to an average of 24,000 a year between 1931 and 1941. There were 707,000 emigrants between 1961 and 1971. Immigration has been much more erratic, averaging over 110,000 per year since 1901 but with decennial swings from 149,000 (1931-41), to 1,543,000 (1951-61). Over the same period, net migration has ranged from a decennial gain of 1,080,000 (1951-61) to a loss of 92,000 (1931-41). The 70-year average is a gain of 46,000 annually.[3] However, in the 20 years from 1951 to 1971, the average net migration into Canada has been 90,000 per year and in 1974-75, the latest year for which figures are available, it was estimated to be about 170,000.

CHART 10.1



Projection A assumes a net annual immigration of 100,000 while B and C assume 60,000. From 1971 to 1975, projection C has been remarkably accurate in its prediction of natural increase, but it has underestimated immigration and overestimated emigration. As a result, its projection of Canada's 1975 population (22,533,000) is some 250,000 short of the current estimate derived from immigration records and vital statistics. Nevertheless, projection C could easily get back "on-track" if net immigration were to decrease. Though Canada makes no attempt to control emigration, immigration is subject to policy influence. A major review of such policy is now underway and as a result it is likely that immigration will be controlled to a greater extent in the future so as to achieve national population objectives. At present, it is apparently the opinion of most individual Canadians[4] and of their governments that no policy should be adopted that would lead to rapid population growth.

It is quite likely that Canada's population in 2001 will fall within the range of projections A and C; i.e. between 34.6 and 28.4 million, a difference of 6.2 million. There is not a great deal of room for error, since about 65% of those who will be living in Canada in 2001 (barring catastrophe) have already been born. But for many planning purposes, 1986 is a more realistic "future". Over this period, the high and low projections differ by only 2.4 million or less than 10%. Planners are concerned however with the *increment* of population growth between now and 1986. Projection C forecasts an increment of 3.8 million (1971-1986) while A estimates 6.2 million, a difference of 63%. This is a substantial margin for error.

Most of the population-based forecasts in the remainder of the report will use Projection C. It is the most reasonable on the current evidence, and moreover nearly coincides with a more recent projection done for the Ministry of State for Urban Affairs,[5] and hereafter referred to as the "SDL projection."

10.2 Population Distribution

Forecasts of total national population are of limited use, particularly in a geographically vast, federal nation like Canada. There is more interest and importance in the distribution of population, both among provinces or regions, and among settlements of different sizes. Unfortunately, the smaller the spatial scale chosen, the more inaccurate are the projections likely to become. This is both because the numbers are smaller and thus

[3] Source: *Canada Year Book* (1974); Table 4.2.

[4] In a 1945 Gallup Poll, 65% of Canadians wanted a "much larger" population. In 1973, 59% of those polled felt that the current population was "about right".

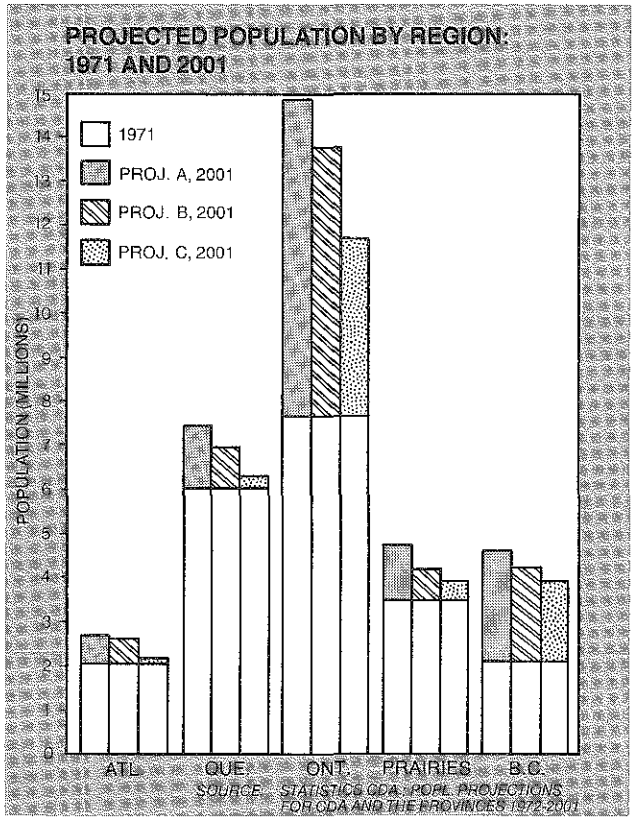
[5] *Urban Canada: The Challenge of 2001*, Systems Dimensions Limited (SDL); January 1976.

subject to relatively large statistical errors and because the dynamics of inter-regional and more particularly inter-settlement movement are poorly known. Internal migration in particular causes great uncertainty when trying to forecast provincial populations. For example, between 1966 and 1971, average annual internal migration involved the movement of 435,000 people across provincial boundaries.[1] Almost 128,000 entered Ontario each year, another 102,000 left. British Columbia and Alberta had annual net gains of about 30,000 and 4,000, respectively. All other provinces experienced net out-migration. These trends are largely inferential, being based on census questionnaires and on address changes submitted to federal agencies. Moreover, they are volatile and are very sensitive to the relative health of provincial economies. All of these factors should induce caution in evaluation of distributional projections.

Regional Distribution

Chart 10.2 illustrates the regional distribution of population in the year 2001 as forecast by Projections A, B and C and contrasted with the 1971 distribution.

CHART 10.2



It is seen that Ontario's share would range between 41.0% and 42.2% of Canada's population in 2001, compared with 35.7% in 1971. Quebec would drop to between 22.5% and 23.8% from its 28% share in 1971. British Columbia would gain relative to its 1971 position, while both the Atlantic region and the Prairies would lose ground, though the Province of Alberta is projected to increase its national share from 7.6% (1971) to about 8.6% (2001).

Even by 1986, the (low) Projection C forecasts Ontario growing by 27% over its 1971 population to 9.75 million while Quebec increases only 6% to 6.4 million. These projections are trend extrapolations and do not incorporate any policy assumptions or social hypotheses. They reflect the very low fertility in Quebec (1.73 in 1972, compared to 2.05 in Ontario), net inter-provincial out-migration from Quebec (averaging 28,600 per year between 1968 and 1971) and the relatively low foreign immigration to Quebec (only Ontario and British Columbia have recently received a share of immigration consistently in excess of their relative shares of national population). Between 1986 and 2001, Projection C forecasts that Quebec will actually lose population — though only 15,000 — while Ontario grows another 19% to 11.6 million. Looking inside the Prairie region, it is seen that the projected position of Saskatchewan is more extreme than Quebec's. In Projection C, Saskatchewan is forecast to fall from 926,000 (1971) to 492,000 by 2001, while Projections A and B predict 615,000 and 546,000 respectively. These estimates must be interpreted cautiously, however, since they are extremely sensitive to inter-provincial migration trends which in the last two years indicate that Saskatchewan is growing slightly due to a gain of foreign immigrants which outweighs a small inter-provincial net loss. Similarly, recent net in-migration to the Atlantic provinces indicates that this region may be reversing its historic trend of population loss to central Canada.

Nevertheless, long-term past trends still point to an ever-increasing concentration of population in Ontario, Alberta, and British Columbia. If realized, this would imply a substantial decline in the political influence of the eastern part of Canada relative to Ontario and the west.[2] Regional economic disparities, already most severe in Quebec and the Atlantic provinces, could intensify as population and economic activity shift westward.[3]

[1] There is no double-counting. The number is the sum of in-migrants to (*or* out-migrants from) each province.

[2] Seats in the federal House of Commons are apportioned by population. At present, Ontario, Alberta, and British Columbia have about 23% more seats than Quebec and the Atlantic provinces. Under current trends this excess would rise to over 90% by 2001.

[3] Population loss does not in itself imply a decline in economic vitality, but unfortunately the youngest and most ambitious residents make up a disproportionate share of those who have traditionally migrated to the high growth provinces. In this sense, population loss is merely a symptom of declining economic opportunity.

Governments appear to agree unanimously on the desirability of a more balanced national population distribution than that implied by Projection C, but there is yet no consensus on what the most desirable distribution would be or on how to achieve it once it was identified. Since the prospect of inhibiting inter-regional migration by legislation is both abhorrent to Canadians and almost certainly unworkable, it is likely that positive inducements arising from the selective location of investment and economic activity will be needed to counter the least desirable trends.

An appreciation of what might be required can be obtained from Table 10.2 which contrasts the trend of Projection C with the populations that would result if each region received a share of the population in 2001 (28.4 million) equal to its relative share in 1971 (the "proportional maintenance" option). To achieve this would require that about 2.6 million be taken from the *trend* toward Ontario and British Columbia and diverted to Quebec (1.56 million), the Atlantic region (408,000) and the Prairies (658,000). This would reduce Ontario's growth between 1971 and 2001 from a projected 51% to 32% and would raise Quebec's from a projected 6% to 32%. The proportional maintenance option has no particular feature to recommend it and is presented only as one example of what might be required to alter trends. Other options may be both more desirable and more feasible.

Table 10.2

TREND vs. PROPORTIONAL MAINTENANCE, 1971-2001

Region	1971 Population ('000)	% of Total	2001 Population, Projection C ('000)	% of Total	2001 Population, 1971 Proportions ('000)	Difference: Proportional Maintenance minus Trend ('000)
Atlantic	2,057	9.5%	2,287	8.1%	2,695	+408
Quebec	6,028	28.0	6,383	22.5	7,944	+1,561
Ontario	7,703	35.7	11,629	41.0	10,128	−1,501
Prairies[1]	3,577	16.6	4,051	14.3	4,709	+658
British Columbia[2]	2,203	10.3	4,020	14.2	2,922	−1,098
Canada	21,568	100.0	28,370	100.0	28,370	0

[1] Includes Northwest Territories.
[2] Includes Yukon Territory.

Settlement Distribution

Projections based on past urban growth trends forecast that by 2001 between 85% and 94% of the Canadian population will live in communities of 1,000 or more. The SDL projection forecasts 86.3% which implies an urban population in 2001 of 24.6 million, an increase of 8.16 million over the 1971 figure. This would require an average annual addition of 272,000 to the urban population over the 30 years from 1971 to 2001. By comparison, the urban increment averaged 337,000 per year between 1966 and 1971; 405,000 between 1961 and 1966; and 417,000 a year between 1951 and 1956. Canada has already coped with absolute rates of urban growth much larger than any anticipated in the next 25 years, and in percentage terms the past rates were greater still. Indeed, in the single decade 1901-1911 the Canadian urban population increased 61% from 1.87 million to 3.01 million. The SDL projection forecasts an increase of less than 50% in the *three* decades, 1971-2001.

The future metropolitan area (CMA) populations are more difficult to estimate with confidence because the trends are less well established than for urban populations as a whole and because the boundary of a CMA often changes as the urban sphere of influence expands. Nevertheless, the SDL projection provides estimates through 2001, during which time total CMA population is forecast to increase by 6.9 million to 17.8 million, or to almost 63% of the projected Canadian population in 2001. Toronto would increase by 70% to 4.50 million, Vancouver by 63% to 1.66 million, and Montreal by 20% to 3.29 million, giving a total population for these three cities in 2001 of 9.45 million — one-third of the estimate of Canadian population at that time. Particularly high percentage growth rates are forecast for St. John's (135% between 1971 and 2001), Calgary (101%), and Kitchener-Waterloo (92%), but absolute growth in each of Toronto, Vancouver, and Montreal is predicted to exceed substantially the absolute growth in every other CMA.

The foregoing projections are subject to substantial error even in the short run. In general, the smaller the unit being forecast, the less reliable the estimate. Table 10.3 offers a more solid base from which to

Table 10.3

ANNUAL GROWTH RATES OF SELECTED METROPOLITAN AREAS IN ALTERNATE YEARS — 1966-1973

Census Metropolitan Area	Percentage Growth				Population ('000)	
	66-67[1]	68-69	70-71	72-73	1966	1973 (est.)
Vancouver	3.4%	2.7%	2.2%	1.6%	933	1,116
Edmonton	3.3	3.5	2.5	2.2	425	518
Calgary	5.1	3.9	3.1	3.4	331	431
Regina	1.5	1.5	1.4	2.1	132	147
Winnipeg	0.6	1.5	1.3	1.8	509	560
London	3.5	2.2	1.8	1.0	254	293
Kitchener-Waterloo	3.6	3.4	2.7	1.3	192	235
Toronto	3.3	2.5	2.4	0.8	2,290	2,692
Montreal	2.2	1.2	0.7	0.5	2,571	2,775
St. John's	1.7	3.3	1.5	0.0	118	133
Canada	1.8	1.5	1.3	1.2	20,015	22,095

[1] The figure in each row is the percentage by which the population in the particular CMA increased in the year from 1966 to 1967, etc.

Source: *Estimated Populations of the CMAs;* Statistics Canada; Cat. 91-207.

consider CMA growth trends in the near term. Tabulated are the annual growth percentages of 10 CMAs at two-year intervals between 1966 and 1973. The steady decline in the growth *rates* of Vancouver, Edmonton, Kitchener-Waterloo, Toronto, and Montreal may portend an overall slackening of metropolitan growth pressure. Or in some cases the trend may merely point up the inadequacy of current CMA boundaries, as it almost certainly does for Toronto.

The point of this brief analysis is to caution against the common assumption (usually based on 1960s data) that continued high rates of metropolitan growth are inevitable barring conscious policy intervention. It is still prudent to assume that several — although by no means all — metropolitan areas will continue to experience robust growth, though likely at a declining rate. There is little in current data, however, to suggest a rate of growth in the largest cities on the scale experienced over the last two decades.

A fairly clear trend is already apparent in the United States where between 1970 and 1973 metropolitan counties grew by only 2.2% as against 3.7% in counties far from any major city. This is not interpreted as a "back to the farm" movement, but rather is accompanied by the location of manufacturing industries in a host of small centres connected with major cities by an excellent road network. A similar trend might be expected in parts of Canada such as the Windsor-Quebec and Edmonton-Calgary urban regions, though its significance in this country may be reduced because the Canadian manufacturing industry lacks the strength and diversity of its American counterpart.

It cannot be concluded from this that urban growth will cease to create serious and difficult problems. In the first place, many smaller CMAs — St. John's and Regina, for example — could experience periods of rapid growth for which they may not be well prepared in terms of land, services, and infrastructure. Moreover, even low percentage growth rates in the biggest cities bring large absolute population increments. And the tendencies toward urban sprawl beyond city limits continue to be encouraged by very high land costs all the way to the urban periphery. As cheaper land is developed 40 or even 50 miles from the downtown core, the agriculture potential of large hinterlands is reduced and automobile dependency is intensified. To overcome these problems will be the main challenge of urban growth management over the next decade.

In summary, Canadian demographic and migration trends point clearly to a turn-of-the-century population of between 28 and 34 million, with a regional distribution increasingly skewed in favour of Ontario, Alberta and British Columbia and away from Quebec and the Atlantic Provinces. The trend toward increased urban growth, particularly in the largest metropolitan areas, is less clear. But to the extent that metropolitan growth is smoothly accommodated in such cities as Toronto, Vancouver, Calgary and Edmonton (e.g. by moderating shelter costs, containing sprawl, and keeping pollution in check), these centres will become all the more attractive as magnets for further growth.

Provinces are responsible for metropolitan growth management and the federal government for overall regional balance. If urban pressures in southern Ontario, in Alberta, and in British Columbia begin to exceed provincial and municipal capacities to respond effectively, then the federal and these provincial governments will have a common objective to divert future growth and some of the investment that encour-

ages it to other provinces. But if severe urban growth pressures do not develop, there will be little immediate incentive for the dynamic provinces to sacrifice their economic advantages for the sake of a somewhat ill-defined concept of national population balance.

10.3 The Age Distribution

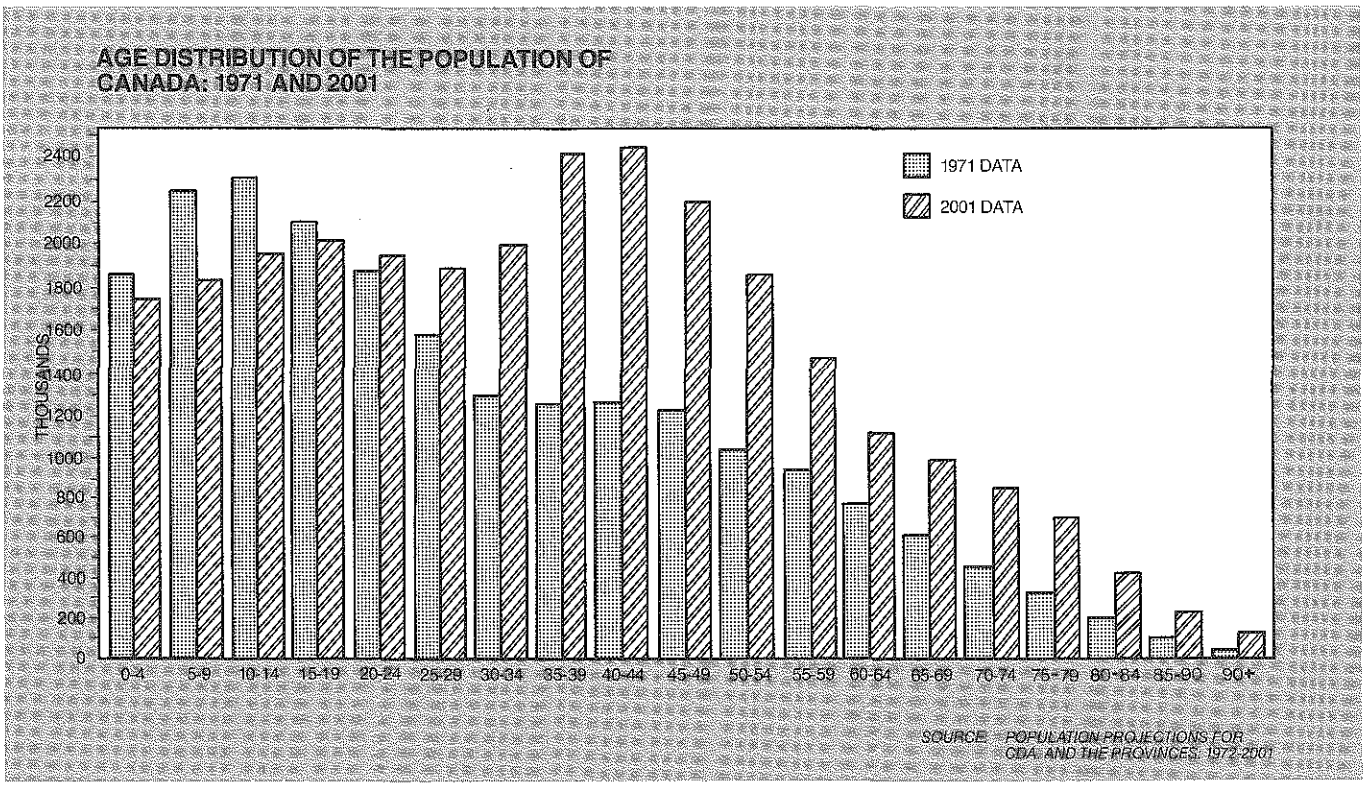
Chart 10.3 illustrates the age distribution of the Canadian population as it was in 1971 and superimposes the forecast age distribution in 2001, derived from Projection C. Implicit is a host of profound social and economic consequences that are likely between now and the turn of the century.

For the first 50 years of this century the Canadian population was growing "older" in the sense that the median age increased each decade from 22.7 years in 1901 to 27.7 in 1951. The aging was due to longer life expectancy — particularly through the control of communicable disease — and to declining fertility (until 1946). With the end of the Second World War there began a rapid increase in fertility (the "baby boom") which peaked at about 3.95 in 1959 and by 1966 had declined to the 1941 level of 2.8. Between 1952 and 1965 there were six million new Canadians born, an average of about 430,000 per year for 14 years. By contrast, in 1972 there were only 334,000 live births.

The effect of the baby boom has been to create a large hump in the age distribution, showing up in the 1971 graph as the age cohorts 5-9, 10-14, 15-19 and 20-24 (Chart 10.3). This hump will persist for another 50 years as it moves into successively older age brackets. Increased by immigration, the baby boom is particularly prominent in the age profile of 2001 where it occupies the age group from 35-54. Also significant in the distribution of 2001 is the "echo" of the baby boom, a second hump of smaller amplitude delayed by about 25 years and centered on the 15-19 age bracket. These are the *children* of the baby boom generation, fewer in number than their parents because of the lower fertility that Projection C assumes for those who will be entering their prime reproductive years in the mid-1980s. Every subsequent 25 years another hump can be expected to appear in the age distribution, each more muted than its predecessor as long as fertility does not increase.

With fertility now in steep decline, the Canadian population has once more begun to grow "old". The median age is forecast to increase from 26.3 years in 1971 to 30.0 by 1986 and 35.5 by 2001. As an index of shifting political influence, the median age of voters is expected to be 38.8 in 1986 and a remarkable 45.8 in 2001. At the same time, the society will have become more "democratic". In 1971 just over 60% of the population was eligible to vote, compared with an anticipated 76% in 2001.

CHART 10.3



It should be noted that these forecasts can be made with considerably more confidence than was possible for spatial distribution. Everyone who will be aged 25 or more in 2001 has already been born even if they have not all moved here yet. Recalling that mortality rates have great predictability, it is quite certain that the distribution from age 25 on in the year 2001 will be substantially as shown in Chart 10.3. Greater uncertainty attaches to the youthful segment, however, since it is not known with confidence what the fertility rate of the baby boom generation will be in the 1980s. Assuming, nevertheless, that Projection C describes a likely evolution of the age structure of the Canadian population, the following conclusions can be drawn.

- Society's institutions must become capable of adapting to rapidly changing demographic forces. The baby boom generation and its subsequent echoes will create waves of alternate pressure and slack in every age-dependent service as they move from youth to old-age. The educational system is perhaps most dramatically affected and is particularly significant for human settlement because of the very large capital and operating investments placed in it by local governments. In 1971, the baby boom generation peaked in the grade school years, 5-19, with a population of 6.68 million, 31% of the Canadian total. School facilities had to be rapidly expanded, tens of thousands of new teachers were trained, provincial and municipal education budgets soared. But by 1981, the 5-19 age group will have dropped to 5.84 million, and by 1986 to 5.45 million, a loss of 1.23 million students or almost 20% when compared with 1971. The school facilities will still be there; so will most of the teachers, supported by strong unions. There is little likelihood therefore that real operating costs will be reduced to reflect the 20% drop in enrolments. However, capital expenditures will surely be rare. New community uses will have to be sought to take advantage of the human and physical resources liberated within the educational system. But these new uses must themselves be flexible, because in 1996 the first echo of the baby boom will be in school, adding an extra 400,000 to the class of 1986.
- The Canadian population will shift, more or less permanently depending on fertility trends, from a youth orientation to a distribution with relatively more middle- and old-aged. In 1971, over 55% of Canadians were under 30; in 2001 it is unlikely that more than 40% will be under 30. Meanwhile, those over 65 are forecast to increase by 1.6 million over their 1971 level, and by 2001 will constitute 12% of the population. More remarkably, if the trends implicit in Projection C are maintained into the next century, a quarter of the population will be over 60 in 2030 while about a fifth will be under 20. Several consequences are implicit:

(1) A steady escalation in per capita cost of health care is virtually inevitable over the next few decades. About three-fourths of those over 65 have some chronic illness, and though they constituted only 8% of the population in 1971, this group accounted for 35% of patient-days in hospitals. It has been conservatively estimated[1] that due to the aging process alone, demand for hospital services will increase at least 40% more than percentage growth in population. Since insured health-care costs are already placing a very heavy financial burden on all levels of government, major changes in Canada's health-care delivery system can be expected before 2001.

(2) A decline in the rate of *violent* crime can be expected as those in the most crime-prone age bracket (15-25) form a progressively smaller percentage of the population. But the total crime rate may not decrease; there could be a compensating increase in "white-collar" crime, already prominent in middle-age groups.

(3) The *dependency ratio,* defined as the ratio of those of non-working age (0-14, 65 and over) to those of working age (15-64), is projected to decline substantially from .60 in 1971 to .46 in 2001. While the old-age dependency increases somewhat, the youth dependency will be reduced much more than proportionately. There are projected to be significant provincial variations in the total dependency ratio, ranging from .43 in Quebec to .54 in Newfoundland, where even in 2001, over 27% of the population is expected to be under 15. It is fortunate that the aging of the population coincides with a declining dependency ratio which should enable an increase in national output sufficient to cover the added costs of old age.

- There is a variety of labour force problems associated with the Canadian age structure, some of which may become acute in the next 10 to 25 years. It is particularly obvious in Chart 10.3 that by 2001 there will be a concentration in the work force between the ages of 30 and 45 quite unlike anything Canada has experienced before. The millions who fill this age range of maximum upward mobility will find promotion difficult. It is impossible to predict how the resulting frustration — which could be massive — might be relieved, but one can foresee a generation of middle-aged drop-outs on the one hand and intense pressure for the early retirement of the upper management class on the other. One immediate consequence would be a substantial increase in leisure time. Combining population growth with a trend toward earlier

[1] *Urban Canada: The Challenge of 2001;* SDL (1976).

retirement and an expected decline in the number of hours worked per year has led to an estimated 40% increase in the total of leisure hours spent by Canadians in 2001, compared with 1971.[2]

Considering as well that real family incomes are likely to be much increased (partly as a consequence of greater female participation in the labour force), it is probable that leisure pursuits will be an increasingly dominant concern in Canadian communities between now and 2000.

Another potential labour force problem is associated with the roller-coaster effect of the baby boom and its subsequent echoes. Between now and 1981 the Canadian labour force will continue to expand rapidly, adding about 280,000 per year as a result of both increased female participation and the age structure. Unemployment will remain a key concern until then and will tend to maintain public pressure for restricted immigration. But in the 1980s, domestic additions to the labour force are forecast to drop to perhaps 150,000 per year. A critical labour shortage, particularly in the resource industries, is then likely to develop at a time when world demand for Canadian resources is expected to be very high. There may be renewed pressure for increased immigration which would clearly have consequences for Canadian settlement policy.

The analysis of the future Canadian age structure is based on national population figures. There will also be significant differences among provinces and among settlements. The Quebec and Saskatchewan populations for example are expected on the basis of present tends to age more rapidly than the national average; Newfoundland will probably remain much "younger". Similarly, slow-growth cities such as Montreal are likely to develop age profiles very different from those in the more dynamic areas which tend to attract young immigrants and new entrants into the labour force. For example, the SDL projection for CMAs forecasts that Toronto will grow by 70% between 1971 and 2001, during which time the school-age group would increase by 29%. Montreal, a more extreme case, is projected to grow by 20% but to see its school-age population actually decline by 24%. The numbers, as always, must be viewed only as extrapolations of *past* trends. Nevertheless, it is most likely that the changing age structure of Canada's population will not be distributed at all uniformly either by region or by settlement. This will continue to challenge Canada's policy-makers to devise solutions that are locally specific yet nationally equitable.

10.4 Two Key Issues: Housing and Land

The vital human settlement issues for Canada in the years ahead will continue to be profoundly influenced by the size, rate of growth, and distribution of the national population, but often the focus will be more immediate. Many of the specific issues have already been raised in earlier chapters: the problem of local government finance, regional economic disparities, the decline of small rural-based centres, the protection of the urban environment, the loss of a sense of community, the challenges and opportunities in resource settlements, the maintenance of architectural heritage. In a sense it is misleading to single out two particular issue areas because all are vital in their context. Nevertheless, to focus briefly on housing and land is to reflect two settlement issues that are uppermost in the minds of Canadians in 1976. The short notes that follow touch on several points already alluded to. They are deliberately provocative and isolate only a sampling of the topics that are now being widely debated. *The policy preferences expressed reflect one set of views among many and do not necessarily represent the position of the governments of Canada.*

Housing

(1) *Meeting demand:* Housing demand continues to be disproportionately higher than population growth owing to family formation in the baby boom generation and to an increasing number of non-family households. To meet this immediate demand, the federal government has established a target of one million dwelling starts over the next four years. The challenge is to provide these units at prices that more people can afford and in locations and styles that will satisfy demand without the wasteful land-use patterns that have characterized much of Canadian residential development over the past 30 years. This will probably require greater use of "in-fill" housing in built-up urban areas, a new emphasis on low-rise multiple-unit buildings, and more modest land and service requirements for single-detached houses. By 1985, it is expected that there will be a need for no more than 160,000-190,000 new units a year. The emphasis in housing policy will then shift to preserving and modernizing the stock and to improving its energy efficiency.

(2) *Designing for flexibility:* At present there are about 1.2 million single-detached houses occupied by households whose heads are over 55; another 300,000 are occupied by single people. At the same time there is intense demand for new single-detached homes by young families. Should Canadians build to meet this demand knowing that it will slacken in a decade as the baby boom passes the stage of family formation? The question arises because the life-span of a house (50 years or more) covers several life-cycle stages in the typical family. A single-detached home in the suburbs may be appropriate for a young family of four or five, but probably not for a couple whose children are fully-grown and even less for an elderly

[2] *Urban Canada: The Challenge of 2001;* SDL (1976).

widow or widower. This constitutes a less serious problem in a context of rapid growth because then the housing stock has a high capability of adjustment with the addition of new units. But as the rate of growth diminishes, a degree of flexibility is lost. In addition, the shift that has taken place from "extended" to "nuclear" family arrangements, together with a growing proportion of non-family households diminishes the appropriateness of the single family house as an efficient solution to the shelter needs of people in all stages of the life cycle. This suggests that housing policy in the near future will have to concentrate less on generating new starts than on encouraging the recycling of the existing stock among users as their needs change. Architects, planners, and builders will also be challenged to create new designs for individual buildings and for entire communities that will facilitate a much more flexible use of housing space.

Land

(1) *Cost:* The high cost of land for urban development is a result of intense demand for limited supply. Wherever supply is limited by concentrated ownership, the monopoly should be broken or subjected to public control. Where supply is limited by public control itself, through unnecessarily complex and lengthy government approval processes, these should be speeded up. But even if this is done there will remain areas of real scarcity, particularly if agricultural land is to be protected. In such situations prices should and will be high and those who continue to demand large amounts of land in areas of rapid urban growth must expect to pay the cost. The price of raw land is typically a small percentage of the cost of a fully serviced lot. Therefore, if the land costs of residential development are to be reduced substantially, the standards required of services would have to be carefully examined to ensure that "gold plating" is not demanded unnecessarily. Finally, ordinances that require lots to be larger than a minimum size (typically a quarter acre) should be re-evaluated to ensure that they are warranted despite the restriction they impose on the number of serviced lots supplied per unit of raw land.

(2) *Sprawl:* Ninety percent of Canadians inhabit about 7% of the nation's land area (approximately 270,000 square miles). This land exceeds the combined areas of the United Kingdom, Federal Republic of Germany, Switzerland, and the Benelux countries and these countries between them support a population of 150 million under circumstances roughly similar to those in Canada. There is therefore no need for Canadians to occupy more land. Indeed, we could live on much less. In the years to come we may feel compelled to settle more densely in order to reduce the consumption of two increasingly valuable resources — energy and good farmland. The inducements to conserve these resources (particularly energy) will be conveyed partly through market prices, but public policy will also be required to support positive market forces and to intervene when market pressures threaten to undermine the long range public interest, as when the best farmland is converted to urban uses.

(3) *Agricultural land:* Canada has ample land on which to situate the urban development currently foreseen. Projections suggest that 8.2 million will be added to urban population between 1971 and 2001. Even if this settlement takes place at the average urban density now prevailing,[1], it would consume only 2,000 square miles. (By comparison, about 1,780 square miles of improved farmland went out of production in Ontario alone between 1966 and 1971). The figures can create a false sense of security. In fact, about half the farmland that has historically been lost to urbanization has come from the best 5% of Canada's agricultural soils. Measured against these, we cannot afford to lose another 1,000 square miles to urban development that can almost as easily locate either on land of little or no agricultural value or be accommodated by higher densities on land that is already urban. Experience has shown, unfortunately, that good farmland cannot hold its own in an unregulated market. Governments that are seriously committed to protecting the best agricultural land must therefore be prepared to prevent — by special legislation if necessary — the use for any other purpose of lands that are designated agricultural. Such measures should probably be imposed province-wide to ensure an adequate standard of protection and to avoid the inevitable public dissatisfaction when different regulations are applied in contiguous local jurisdictions.

The threat that settlement poses to agricultural land is not confined to the urban fringe. In some parts of Canada, particularly in the Ontario portion of the Windsor-Quebec axis, a rapidly growing rural non-farm population is occupying agricultural land and frequently subdividing and selling it in relatively small parcels, creating a patchwork ownership pattern that would severely inhibit future attempts at recombination into farms of efficient size. Where adequate minimum size severance laws are not already in effect they should be enacted to prevent the balkanization of potentially productive land. All of these measures should be undertaken within a comprehensive framework of agricultural land use planning which in most parts of Canada should be accorded as high a priority as urban land use planning.

(4) *Speculation:* Speculation does not directly increase the price of land in the long run unless the speculator is able to restrict supply through monopoly con-

[1] Approximately 6.4 persons per acre, derived by dividing the 1971 urban population (16.4 million) by the estimated land in directly settled urban use in 1971 (2.56 million acres).

trol. If monopoly can be shown, it is likely that public pressures will grow to break it by whatever means are necessary. But the main problem, even with "perfectly competitive" speculation, is the large unearned or "windfall" profits that it can bring from the sale of land made valuable by *public* investments or decisions; e.g. roads, trunk services, zoning bylaws. If the speculator does nothing himself to increase the value of the land he holds, there is no economic or social justification for extracting profit from its sale.[1] This suggests that windfall profits on land sales should be *fully* recovered by the public through taxation or other means. The capital gains tax, corporate tax, and in Ontario, the Land Speculation Tax Act of 1974 are useful steps in this direction but all fail to appropriate the full amount of the windfall profit and permit loopholes through which some are able to substantially avoid the taxes altogether.

[1] Speculation in certain commodities whose supply is highly variable (e.g. agricultural produce) is important for the orderly functioning of the markets for these commodities, but the same cannot be said of land for which the physical supply is fixed — it cannot, except under highly unusual circumstances, be created or destroyed. Speculation therefore performs no socially useful function in the land market.

It is often claimed in defence of profits made from the sale of agricultural land for urban development that they provide farmers with a just reward for a lifetime of underpaid labour. While it may be true that many farmers are not adequately compensated for their produce, the specific solution to this is better prices for agricultural commodities, not windfall profits from land sales, which moreover, only relatively few farmers are in a position to receive.

Speculation is also often associated in the public mind with the wasteful use of land (agricultural or urban) because it may be taken prematurely from a former allocation while awaiting the accumulation of speculative gain. In fact, the idling of agricultural land is rare because the speculator has no reason not to lease it to farmers throughout the holding period. Urban land, on the other hand, may often be underused because of property taxes that discourage improvements. This suggests that municipalities should tax underused land at a rate sufficiently high to encourage its conversion to a use commensurate with the value of its location. That the land might be held in speculation is purely incidental in this regard.

Epilogue

A Note on Human Settlements Policy

The human settlements perspective is comprehensive in scope and complex to plan for. The question to be addressed is how this perspective can be incorporated into the activities of governments and the private sector so that our human settlements objectives may be met: so that Canada's settlements become better places in which to live.

In seeking a comprehensive approach to human settlements policy, we may begin by considering its opposite, namely the sectoral and single-minded approach to problems.

The single-minded pursuit of any objective leads inevitably to the omission of other objectives. For example, the GVRD planning for Vancouver found that it was impossible to simultaneously meet all objectives, specifically finding that the objective of lower land prices was inconsistent with the higher density of development that was needed to achieve other goals.

Similarly, we have discovered that the operation of fiscal and monetary policies alone, in a market economy, is often accompanied by inter-regional and inter-personal income disparities. Also, we have realized that the single-minded pursuit of growth in GNP can lead to environmental deterioration.

In attempting to establish a framework for human settlements policy, we have to understand two different dimensions of the human settlements perspective. First, at the micro level, human settlements provide the context within which we all live; the quality of human settlements is a measure of our national progress.

Second, at the macro level, settlements questions are totally inter-related with such major concerns as economic development, resource development and conservation, and environmental planning.

For example, an economic concern with the Balance of Payments can lead to high priority being placed on resource development for export and on activities which have a low import component. The resource development will lead to the expansion of resource communities; the emphasis on activities with a low import component will increase activity in the service sector, which is concentrated in larger towns and Metropolitan Areas. And this is clearly a two-way street. A well-defined urban system, with well-serviced "central places" or "growth centres", can enhance the potential for attracting industrial development. The Department of Regional Economic Expansion has operated with an implicit human settlements policy since 1969.

Human settlements can strongly affect resource use and development. Urban sprawl can take some of the best agricultural land out of production; but on the other hand, well-designed urban communities can be "conservation communities", minimizing the consumption of energy and other resources.

Similarly, the pattern of human settlements has a strong impact on the natural environment. The careful location of industrial and other development can reduce environmental impact, and a sensitivity to environmental concerns can render the built environment more aesthetically pleasing.

The human settlements perspective, then, is pervasive and central. It must be an integral part of national and provincial scale planning as well as of local and urban region planning. Yet, the levers of policy are in many hands; in the hands of at least three levels of government as well as the private sector. How, then, can the objectives of human settlements policy be met?

The answer lies in coordination, an over-used word, because coordination is easy to talk about but extremely difficult to achieve. In the human settlement field in Canada, the need for co-ordination is perhaps most readily perceived in the relations between the three levels of government. The activities of each level are constantly impacting on areas of jurisdiction of the others. The rate of growth of an urban region for

example is determined by forces largely beyond the control of the region itself. It is determined partly by the degree to which the urban area is an integral part of the national and international urban network. It is determined partly by policies governing the nation's economic and social structure, immigration and migration, international and inter-urban transportation, and technological change. These determinants are influenced by broad powers in the hands of federal and provincial governments.

The federal government is in the best position to apply differential economic and social policies in order to encourage or discourage the movement of population *between* provinces. Provinces, of course, may design tax, fiscal, and spending measures that differ from similar measures in other provinces, in the hope of retaining or attracting people and industry. Within a province both the federal and provincial governments can apply differential economic and social policies to encourage or discourage the shift of population into selected urban regions.

The forces that determine the pace and concentration of urban growth in Canada, therefore, could be subjected to a marked degree of influence and even manipulation by strategies applied at both the federal and provincial level. Unless these strategies were applied within a reasonably coordinated federal-provincial framework, however, it is doubtful that Canada's human settlements objectives could be fully realized.

An effective system of coordination to achieve human settlements objectives must have two components.

First, it is necessary to develop a broad awareness of human settlements issues. If this can be achieved, then road builders may talk to transit people when planning new projects; developers may consider overall community needs and plan for recreation and park areas; and people may demand the retention of historic lands and buildings. Ultimately, this is the best route — to have informed and sensible people adopting a balanced approach. The problem is that this takes time. Also, it is in the nature of people and institutions to be more comfortable with single-minded objectives. It is often easier and almost always more profitable for individuals to take the single-minded approach.

The second aspect, therefore, has to be the establishment of formal systems of coordination with some degree of coercive power. Treasury Boards and Finance Committees perform this function to some extent in governments and organizations. Different governments will have different approaches, and it may be necessary in some circumstances to establish special agencies to review all major projects to ensure their consistency with human settlements objectives.

The problem with this approach is that it can lead to the establishment of large or wasteful systems and the extensive use of regulatory powers may substitute for and even inhibit the development of a broad awareness and concern for human settlements issues.

Fundamental to the pursuit of human settlements objectives is *awareness.* The most effective coordination occurs when people understand the broader perspective and respect the needs of others. If coordination can only be achieved through regulation and control, then the society is in trouble, and tensions and conflicts will continuously emerge in various forms of social disruption and economic waste. The challenge of establishing a rational framework for human settlements policy cannot be answered merely by establishing new layers of bureaucracy and new sets of regulations: we must all consider the problems and adapt our values and our behaviour so that we can attain our objectives.