CENTRE FOR FUTURE STUDIES IN HOUSING AND LIVING ENVIRONMENTS

FACTORS AND INFLUENCES ON THE CANADIAN CITY

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Prepared by
The Centre for Future Studies in
Housing and Living Environments

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INTRODUCTION

This background paper is the first phase of a larger project, "Vision of a Sustainable Canadian City of the Future". The project will assemble a panel of experts to develop and explore alternative futures of a sustainable city. The background paper will contribute to the main project by evaluating the historical evolution of cities in the context of social and economic functions. Influences and trends will then be explored to establish the needs and parameters for the future. Some of the trends covered include: the shift to a post industrial society, global nature of cities, and public attitudes. The panel of experts will be brought together to articulate their individual ideas of a potential sustainable Canadian city into individual thinkpieces.

SECTION 1

SUSTAINABLE DEVELOPMENT

1.1 The World Commission on the Environment and Development

As urban communities continue to grow, so too does the amount of damage inflicted on the environment. The world population, at approximately five billion is expected to reach ten billion early next century (Strong, 1991). Many analysts believe that the limits to the earth's resource base and the capacity of the physical environment to absorb waste are close to being reached. Concurrently, non-renewable resources are depleting, and the atmosphere has become filled with pollution. At the local level, urban communities are approaching the point of diminishing returns as the benefits related to city living will be outweighed by increasing social, environmental, and economic costs. Pollution, social equity, and limits to resources have become major concerns and have contributed to the urban dysfunction.

Concerns for the environment was so great on a global scale that when the World Commission on Environment and Development (WCED) convened on October 1, 1984, the question at hand was clear: is there any way to meet the needs and aspirations of the five billion inhabitants of the world without compromising the ability of tomorrow's ten billion to meet theirs? After three years of open enquiry and public hearings throughout the world, the resounding conclusion was released in the 1987 report, Our Common Future. This document concluded that a transition to sustainable forms of development is possible if and only if a fundamental reorientation of certain institutions and dominant modes of decision making occurs (Brundtland Commission, 1987). WCED made it quite explicit that continued economic growth is an essential component to improving the living conditions for the people of the developing world who are in the early stages of economic development. The Report also stressed that if continued traditional growth patterns which are destructive and unsustainable persist, then continued economic growth is not be feasible.

Our Common Future called for a transition to new modes of environmentally sound or "sustainable development" via a series of basic recommendations to integrate environmental factors into every aspect of our economic, social and political life - from policy to decision making to industrial practice, consumer behaviour, and individual lifestyle (Strong, 1991). Sustainable Development implies the integration of environment and economic decisions which will meet the needs of today without diminishing the ability of future generations to meet their own needs. This concept brought new hope and new direction for the world. The popularity of the report prompted a United Nations Resolution calling upon governments of all member States to develop policies, programmes and budgets to "support sustainable development".

What are the goals of policies, programmes and budgets which support sustainable development? While Our Common Future provided a rationale for the world to move to sustainable development, it does not outline how to

get from where we are at present to sustainable development; although there is some consensus that the simplest path to sustainable development will involve major adjustments to the status quo.

Willian Rees (1989), from the University of British Columbia, identified sustainable development as an essential challenge to forge a link to the concept of social equity, that "the living standards for some may have to be reduced that others may live at all." In Rees' view, this should be the goal of sustainable development -- to provide a secure and satisfying material future for all, in a society that is equitable, caring and attentive to basic human needs. As a prerequisite to developing policies and plans for sustainable development Rees stressed that policies should be reflective of:

> "... positive socioeconomic change that does not undermine the ecological and social systems upon which communities and society are dependent. Its successful implementation requires integrated policy, planning, and social learning processes; its political viability depends upon the full support of the people it affects through their governments, their social institutions and private activities."

Our Common Future was not the first document to espouse the ugly realities of large scale environmental degradation. David D'Amour (1991) cites several classic documents of the 1960s and 1970s, such as Rachel Carson's Silent Spring (1964), the Club of Rome's Limits to Growth (1972), and E.F. Schumacher's Small is Beautiful (1973) as contributing to increased environmental awareness and understanding which sensitized people to the atrocities of large scale environmental degradation. Yet none of these documents, considered classics in their own right, had the wide scale impact afforded to Our Common Future. Although the Brundtland Commission report was not the first document to alert the public of environmental degradation, it was one of the first documents which told people that economic prosperity was possible without harming the environment. For this reason the document is generally regarded as a watershed relating environmental degradation to the way we live on earth.

Another important factor which may account for the widespread acceptance of the concept of sustainable development is the time this report appeared. A 1987 Focus Canada survey of the Canadian public ranked environmental issues ahead of the state of the economy and, more importantly, the deficit. However, the results from this survey must be tempered with some skepticism as it may be reflective of the WCED Report itself. Regardless, the fact of the matter is the environment is a number one priority among Canadians. To quote Victor Hugo, "there is one thing stronger than all the armies of the world, and that is an idea whose time has come". Undoubtedly, the environment and sustainable development's time for global attention had arrived.

1.2 Global Urbanization

Urbanization, in its most visible expression, is the growth of cities and an increase in their number size and areal extent. Urbanization is also associated with the complex process of social, economic and political

change. It involves the adoption and diffusion of new values, thinking and behaviour, institutions and organizations (Yeates and Garner, 1980).

The world population, currently at 5.3 Billion people, is eight times greater than it was at the beginning of the last century and has more than tripled in this century alone. The 5.3 billion people can be divided as those living in the developed or industrialized countries, and those living in developing counties. Among the industrialized countries, urbanization is firmly entrenched as the dominant settlement pattern.

The growth of the world population and urbanization was the dominant demographic trend of the latter half of the 20th Century. Before 1850 no country in the world could be described as urbanized. By 1900 only one - Great Britain - could be regarded as a somewhat urbanized country (Yeates and Garner, 1980). Yet today, the urban phenomenon has taken hold of all the countries of the industrialized nations. In 1950, 600 million people world-wide lived in cities, with this portion of the population swelling to over 2 billion by 1986 (Brown and Jacobson, 1987). Within thirty-six years the urban population of the world has exploded over 300 percent.

Table 1.1 shows the level of urbanization for industrial and developing countries in ten year intervals beginning in 1950 and projecting to the year 2025 (note that the last time frame is only a five year projection). During 1950, half the population of industrialized countries was classified as urban. The proportion of the urban population continued to increase with each subsequent ten year measure. At present, approximately 72.2% of the developed world population reside in urban areas. A projection to 2025 shows that 8 in 10 residents will live in cities.

In the same table, the developing world numbers provide a stark comparison to the developed world. In 1950, only 16.9% of the population was classified as urban. In 1970 this rose to 25.5% and then to 33.9% in 1990. Although the percentage of urbanization for the developing world is much smaller than the level of urbanization achieved in the developed countries, the absolute numbers of the urban population residing in the developed world dwarfs the urban population of the industrialized countries. Whereas in 1950, 448 million people in developed countries were classified as urban, only 285 were urban in developing countries. By 1970, both urban populations had achieved relative equality in number (ie. 699 vs. 675). By 1990 the urban population of the developing world had reached 1385 million, which far outstrips the industrialized world total of 876 million. The projection to 2025 shows the developing counties will have practically quadrupled the urban population of the developed world. The sheer numbers of urban residents expected in the developing countries is quite an alarming figure with severe implications to the environment, housing, employment and transportation.

The urbanization of the world over has raised many questions, without offering any answers. Is the amount of environmental degradation associated with cities themselves or a manifestation of unbridled and unplanned concentration of people? The United Nations Centre for Human Settlements noted that the environmental impact of cities is not solely a problem created by urban growth, but rather by unplanned and unmanaged growth and insufficient infrastructure to support the urban population.

URBAN POPULATION IN INDUSTRIALIZED AND DEVELOPING COUNTRIES

1950 - 2025

(MILLIONS)

YEAR	DEVELOPED COUNTRIES		DEVELOPING COUNTRIES	
	URBAN	% OF POP	URBAN	% OF POP
1950	448	53.8	285	16.9
1960	571	60.5	459	22.1
1970	699	66.6	675	25.5
1980	798	70.2	972	29.3
1990	876	72.7	1,385	33.9
2000	945	74.8	1,972	39.5
2010	1,003	76.8	2,733	46.5
2020	1,050	78.4	3,599	53.5
2025	1,068	79.0	4,051	56.9

SOURCE: United Nations, Population Division

TABLE 1.1

Clearly, if growth is not abated or more importantly controlled and planned, the amount of environmental degradation will surely mount in the face of continued urbanization in the developing countries.

The industrialized areas of the world need to assert leadership on this front given its status, advanced technological position and its wealth. But most important, within the goal of sustainable development, the rich countries of the world must ensure a distributive equity. This should include wealth, and information in the form of leadership. The developing countries are quickly becoming urbanized. In this context, the local economies and planning knowledge and expertise of third world cities are sadly outmatched to cope with increased urbanization alone. However, before any substantive assistance can be provided to the developing countries, the industrialized countries must tend to their own situation and their problems of development. Discussions in the next section will explore the integration of sustainable development and urbanization, particularly in developed countries.

1.3 Role of Cities in Sustainable Development

The Brundtland Commission clearly identified sustainable development as a global challenge. Air pollution, the destruction of the ozone layer, waste generation and disposal are issues which have no political boundaries. Furthermore, the greater inter-linkages between countries on a global scale justify a global perspective. However, confronting the challenges associated with sustainable development purely on a global level is not enough. Sustainable development, although a world wide challenge, must be addressed at the local level, particularly at the city level. The idiom, "Think globally, act locally" not only challenges individuals to contribute to sustainable development but also conveys the view that local actions can have a direct impact on a global scale.

According to World Bank Officials, countries are better off leaving environmental problems in the hands of authorities closest to the people - officials of the towns and cities (Jane Coutis, Globe and Mail, August 27, 1991). This approach would ensure that environmental degradation is not considered in isolation from the people it affects. According to Michael Cohen, chief of the World Bank's urban development department, "... there is great importance in bringing environmental issues back to a human scale where the implications of what people do to natural resources is visible." According the Cohen there are two advantages to local action. First, the international environmental agenda tends to focus on the protection of natural resources, leading to a confrontation between developed and developing countries. Local action on the environment can cut through this political issue by focusing on small actions that make an overall difference, such as improved public transit to reduce the dependency on cars and improve sanitation systems. Second, most people find it easier to comprehend and take action on the urban environmental problems they see around them rather than on more abstract ideas like global warming or deforestation (Globe and Mail, August 27, 1991).

Cities or urban areas are dynamic economic and social entities which play a driving role in the development of regional, national and international

economies. Cities are the centres of consumption, and production of goods and services. At their best, urban areas embody all the positive advantages of economies of proximity, scale and concentration. At their worst they can produce a high degree of environment degradation including air, water and noise pollution, land contamination and generation of a considerable amount of waste. Furthermore, it is at the urban level where the inter-dependence between economic, social and ecological systems occurs the closest. The previous sections have shown that sustainable development must embody economic, environmental as well as social elements. The success of incorporating sustainable development into the way we live will depend on how successful we are in integrating these elements into the decision making process at the local level.

If national economies are to perform well, the interlocked urban economies must perform well. A precarious balance exist between growth and the environment. How can development and re-development proceed in ways to improve national economies without harming the global environment? The interaction between economic growth and the environment is an important link to the concept of sustainable development. Insufficient attention to environmental issues would threaten and extinguish economic growth, while disregarding the importance of economic growth would mean society would not have the means to sustain a growing population. The real issue is how we grow. History is littered with examples of economic growth that has taken place in the absence of environmental stewardship. The eventual result, albeit a worse case scenario, is an uninhabitable environment.

In addition to environment and economic concerns, another crucial dimension to sustainable development is the social dimension. Canada and many OECD countries are experiencing a significant growth in diversity of ethnic, social and demographic character - women in the work force, single parent households, the elderly. The net effect of the diversity in population exerts an increased demand on and for urban services and support systems. This diversity is accompanied by a dichotomy in the urban population where one segment is classified as the "have", and the other segment is classified as the "have not" in terms of wealth, provision of services and general well-being. Generally, but not always, the "have not" segment will be composed of certain ethnic minorities, the unskilled young and the elderly. Parts of the city become areas noted for the homelessness, drug addiction, and crime. This situation conflicts with the economic and environmental objectives of sustainable development (OECD, 1990). How can the social and cultural role be enhanced to reinforce rather than conflict with economic and environmental objectives?

The global challenge of sustainable development serves some local opportunities. The challenge is to make cities more sustainable. To achieve this end cities must frame short-term policies with the long term perspective of evaluating whether and how initiatives contribute to the future development of the global environment (OECD, 1990). The heightened public awareness and concern about the environment and related public health issues has provided policy makers with a strong incentive to devise new solutions to these problems (OECD, 1990). The Organization for Economic Cooperation and Development (OECD) has forwarded several policies principles which outline a number of opportunities for sustainable development at the urban level. These are summarized as the need for:

1) **Developing long term strategies** for the management of the urban environment in the context of sustainable global development.
2) **Adopting a more cross sectoral approach** to the planning of development proposals, for instance better integration of transport and land-use planning. This should draw administrative and political forces together to work more effectively for the environment.
3) **Facilitating co-operation and co-ordination** within the public sector, and between the public and private sectors and local communities.
4) **Enabling the producers of pollutants** to absorb environment and social costs through fiscal and pricing mechanisms.
5) **Setting and enforcing minimum environment standards** to protect the various aspects of the urban environment from individual and collective deterioration - for instance, setting maximum pollution tolerance levels and encouraging the preservation of open spaces, such as parks in cities.
6) **Increasing the use of renewable resources** and fostering low waste and recycling processes.
7) **Encouraging and building on local initiatives** and community involvement, and improve local capacities for environment activity, particularly through the retraining of local people for local jobs.

The process of urbanization and urban development play a vital role in the performance of economic, social and ecological systems, at the local, national, and international level. If economic, social and environmental goals are to be achieved within the context of sustainable development, cities must work well as they can be a major source of dysfunction in the three systems. Consequently, urban areas must play a central role in policies to improve these systems as the city is the economic, social, physical and political heart of society.

1.4 Sustainable Development and Housing

The interaction between economic growth and the environment is the basic premise of sustainable development. This is a unique perspective as examples from the past show how incompatible these two forces were. Individuals were either classified as environmentalists/conservationists with little regard for economic reality, or entrepreneurs with little regard for anything outside of money. There was no compromise. Quite literally, both sides were viewed as natural enemies. Yet a symbiotic relationship does exist, as elaborated in the Brundtland Commission. Sustainable development recognizes the strong interrelationship among the economy, social development, and the earth's ecological system.

Housing's unique nature, more than any other commodity, exhibits this relationship. In economic terms, housing and its urban setting plays an important role in the collective consumption of the earth's resources. In Canada over $70 Billion dollars is spent each year on construction, and half of this amount is spent on housing. The residential construction industry alone accounts for over one million person years of employment either directly or indirectly through spin off activity. Housing expenditures account for over 7% of Canada's gross national product (Bank of Canada, 1990). Add to that the cost of municipal services, utilities and transportation to and from work needed which are all needed to support

housing and you get the appreciation of how big housing is to the economic sector.

Housing affects how land is used, communities built, and the character of neighborhoods. In environment terms, housing consumes land and raw materials in its construction, and energy in its manufacture as well as during its occupancy. Approximately 20 percent of Canada's energy consumption, among the highest per capita in the world, is used for heating, cooling and operating housing (1992-1996 CMHC Strategic Plan). It should be noted that our energy usage is 50 percent higher than countries such as Sweden, which have similar climates and sparse population. Therefore, at least some of this consumption is attributable to non-sustainable aspects of our lifestyle (Robinson, 1990). The future economic growth and housing development cannot occur if the building blocks of this growth, the environment and its resources, have been depleted.

An efficient urban form presents a number of risks to housing in urban areas. One such risk identified by the Ontario Ministry of Housing is that it would be easier to limit development outside of established urban areas than it will be to provide opportunities for intensification and higher urban densities. Policies that constrain growth will only be successful if housing supply is increased through intensification and new development at higher densities. If intensification of existing and new areas is not achieved then the supply of housing is likely to be constrained. The result will be increased cost of housing and associated affordability issues. Policies to constrain growth will not be successful since a growing urban population, unable to find affordable accommodation in the area, would be forced out. Future economic growth based on new population would be jeopardized (Ontario Ministry of Housing, 1991).

A sustainable community is one which is well planned, offering a high quality of life to its residents. This means economic and social well-being for individuals while ensuring environmental well-being for the whole community.

SECTION 2

THE EVOLUTION OF CANADIAN CITIES

2.1 The Industrial Revolution: The Spread of Urban Centres

The population of British North America, between 1815 and 1865 grew from half a million to three and a half million people. Although many settlers favoured rural areas for settlement, it was during the middle half of the nineteenth century which witnessed the growth of major towns into cities at a very rapid pace. Toronto grew from 1,000 to 50,000; Montreal increased its population from 15,000 to 110,000; and Kingston grew to 17,000 from 6,000 during the 19th century (Hodge, 1989). Scholars such as Lampard (1968) attributed the concentration of people in time and place with the industrialization of the productive sector. The Canadian experience proves to be no different as it points to a similar conclusion.

The industrial revolution does not refer to a single event, but rather a series of events or innovations. The most renowned elements associated with the industrial revolution are: innovations to transportation and energy systems, changes to the nature of work, and the arrival of a new market economy. Each of these elements are inter-dependent acting together to promote and facilitate the move of people and services to cities.

The most valuable technological innovation of the time was the introduction of the steam engine and its application to transportation and factories. The railway system became a very prominent and efficient way to move bulk materials in a quick and efficient manner, while the introduction of the steam engine in the manufacturing process gave rise to mass production. These innovations helped to change the nature of work. Artisans and craftsmen were replaced by the manufacturing process based on the division of labour and specialization, and powered by machinery and factory workers. Although, this mode of production increased the output manyfold at a cheaper cost, the new mode of production also increased the number of workers. Far from replacing workers, the introduction of machinery and the new mode of production produced economies of scale which promoted the congregation of people and factories. Jobs became a major pull factor which enticed people to cities. The economy no longer relied on extractive economic activities such as agriculture or fur trading as the primary economic activity. Families moved away from self sufficiency becoming more of a consumer entity. The family unit became a wage earning unit dependent upon city amenities and goods to fulfill basic needs. The industrial revolution also marked the arrival of specialized economic functions taking hold within cities to meet the demands of families.

To a degree the adoption of the industrial revolution and hence the growth of cities can also be attributed to the influx of western European immigrants to the New World. Western European settlement in the New World did not only represent the physical transfer of a group of people but also a transfer of ideas, and cultural and economic values. At the time of Canadian or British North American settlement by immigrants from Europe, the industrial revolution was well under way in Britain and western Europe.

Thus, the onslaught of European immigrants from the old world transplanted the seeds of the industrial revolution in Canada.

The elements arising from the industrial revolution enabled, and promoted the congregation of people into cities. It was in this atmosphere in which the framework for Canada's urban system began to form.

2.2 Function of Cities During the Industrial Revolution

Cities which evolved as a result of the industrial revolution, such as York (Toronto) and Montreal, were primarily thought of as economic entities, places for employment, production and consumption. Few people during this period, were attracted to cities for the cultural, and social amenities which urban settlements had to offer. According to Yeates and Garner (1980) "... The encouragement of the manufacturing industries was the most direct and lucrative method of increasing the wealth of the country." No doubt Yeates and Garner drew their conclusion from Canada's first National Policy, developed in the latter half of the 1870's. The National Policy identified railway building, increased immigration, and the construction and implementation of a system of tariffs as the most lucrative method of increasing the wealth of the country.

The railway facilitated the movement of people and bulk materials to factories, while immigration enabled Canada to become economically competitive. Immigration was channeled to settlements and farms to the west and to newly formed cities in the east. To remain competitive the Canadian population needed to grow in order to provide a labour force for factories. The third initiative under the National Policy, the imposition of a system of tariffs, was conceived to provide an incentive for factories to locate in Canada. With the tariff system in place, it became more beneficial for factories to locate in Canadian cities rather than to manufacture a product outside Canada and have it shipped into the Canadian market whereupon a tariff would be imposed. The National Policy expressed the sentiment that prosperity at the national level is only possible if there is prosperity at the local level.

Although the industrial revolution is synonymous with economic opportunity, the term is also synonymous with the squalid living conditions offered by cities. The urban decay of cities in the nineteenth century is well documented in British literature and in the writings of Charles Dickens. Dickens had a penchant for visualizing the decay of cities by conveying cities as immoral, filthy and unfit places to live. Dickens' novels vividly captured the conditions of industrialized Britain.

Although the industrial revolution in Canada occurred later and did not reach the same proportions of its British predecessor, the dysfunction of cities was also evident in the Canadian nineteenth century city. The next two examples, taken from Gerald Hodge (1989), depict very similar conditions, although one describes a British city and the other a Canadian city.

> ... Stagnant pools of water, green as leek, and emitting deadly exhalations, are to be met with in every corner of the town - yards

> and cellars send forth a stench from rotten vegetables sufficient almost of itself to produce a plague and the state of the bay, from which a large proportion of inhabitants are supplied with water, is horrible.
>
> In many houses there is scarcely any ventilation; dunghills lie in the vicinity of the dwellings; and from the extremely defective sewerage, filth of every kind accumulates.

The first describes the colonial town of York in 1832, and the second describes Glasgow, Scotland in 1840. Cities which prospered during the industrial revolution were also characterized by squalid living conditions for the urban underclass. Why was this so? The examples beg the question whether these conditions are a direct result of the industrial revolution and the associated congregation of people, or simply a reflection of the lack of technology to provide adequate building and sewage systems. The root problem is not solely an urbanization problem, but also a clear lack of planning and infrastructure to accommodate a rapidly urbanizing population. The mass of people converging on cities in the nineteenth century had the effect of overwhelming the urban system. History has a habit of repeating itself, and this situation is repeating itself among third world countries.

Increasingly, Canadian urban centres during the latter 19th century showed signs of stress, such as in the example above. The cities arising from the industrial revolution did not adequately integrate a social function into the planning, if any, of the city. Working Class Toronto at The Turn of the Century, an investigation by Gregory Kealey noted the abhorrent living and labour conditions of the latter nineteenth century. The lives of workers and their families were affected both by the change in the system of production and by the rapid growth of the city of Toronto. In a study by Ames (1897) of a working class district of Montreal in 1896 found 37,000 people lived in tenement type apartments in an area which was approximately three square kilometers located just east of the Windsor station. This translates into 14,300 persons per square kilometers which was very dense for 1896. Add to this the very narrow streets, no open public space, and outdoor privies for half the homes in the region and the result was unhealthy living conditions. Although not as dense, Winnipeg in 1884 had a total city density of 4,000 persons per square kilometers (Artibise, 1975). By 1900 half the population still had outdoor privies. Even though Winnipeg and Montreal are distinct cities in their own right, their situations, and the situation of other cities which grew during the period of industrialization, were very similar. Poor people attracted to cities in search of employment opportunities, who obtained low-paying jobs if any, unable to afford very good housing, being offered small, insubstantial dwellings with inadequate sanitation.

The crowding of the population in these cities often led to illness and social tension. It was by no coincidence that the same century witnessed the appearance of an articulate and angry labour movement (see Royal Commission of 1889). By the end of the century, efforts were underway in many cities to deal with slum conditions through public health measures, improved building practices and codes, and even new housing specifically built for workers (Hodge, 81).

The economic function was the more important value of cities during the industrial revolution. However, for cities to be successful they must integrate a social function as well. Various scholars have (David Ley, Max Sorre, Gerald Hodge) emphasized this importance. This is not to imply that the social function of the city is the most important element. Rather, cities of the nineteenth century were not sustainable because the decision making process did not integrate the social, economic, and environment considerations into the plan for the city in a structured and planned fashion.

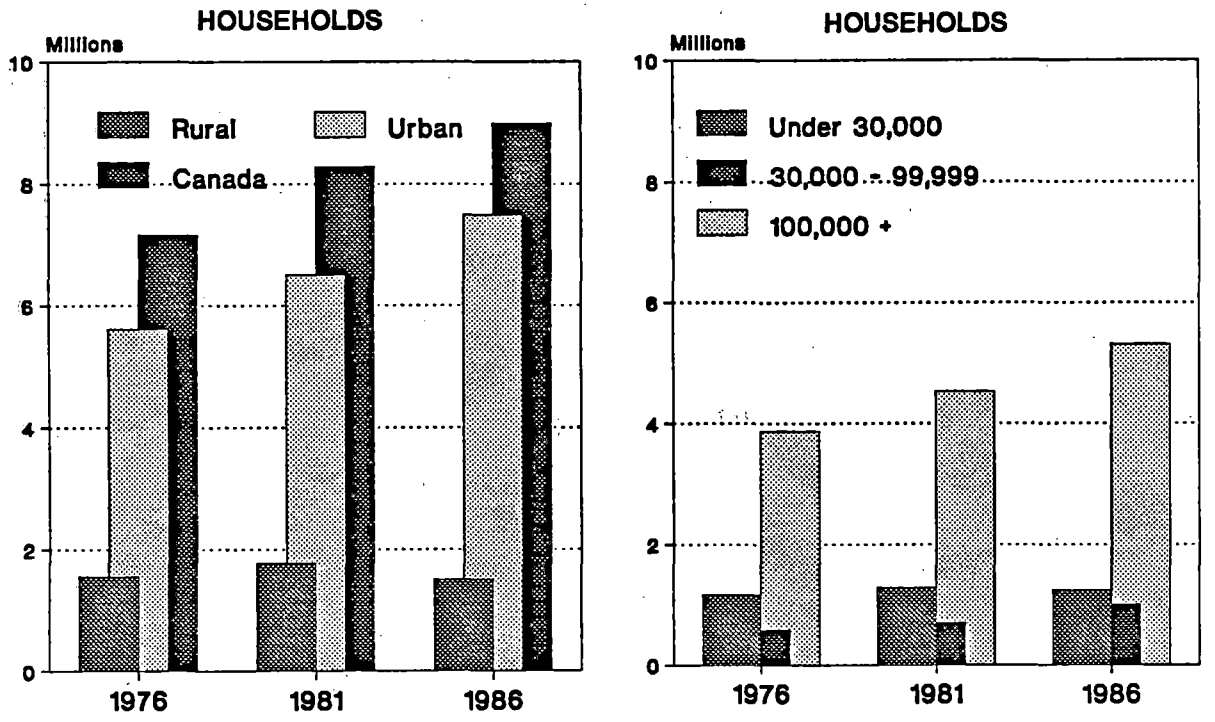
2.3 Present Settlement Patterns and Problems

The complete transition of Canada from a rural to an urban society occurred in the middle to late twentieth century. This sparked numerous reports and studies such as the Economic Council of Canada's 1967 report which recorded that "Canada had the fastest rate of urban growth among the industrially advanced countries for the post war period as a whole". By 1986 83% of Canadian households were living in urban areas. Graph 2.1 shows the three dominant trends of the late 1970s and the early 1980s: 1) the continuing urbanization trend; 2) most of the growth occurring in large and mid size urban areas; and 3) reduced growth for rural areas. Today, 80% of the Canadian population reside in 12 cities, with 30% in living in Toronto, Vancouver, and Montreal. The locus of most physical and human problems, now and in the future, will be the urban environment (Jackson, 1983).

According to an OECD Report, Environmental Policies for Cities in the 1990s, the most pressing environmental problems associated with cities are: air pollution, water pollution, solid waste disposal, pressure on land for urban development, and deterioration of the quality of life. The nature of the pollution cited in the OECD Report arises from consumption behaviour. The damage to the environment has spiraled as people have continued to increase their consumption behaviour. Air and solid waste pollution are the results of people's consumption of natural resources. The question is to what degree does living in cities promote our consumption behaviour and how do we align our consumption behaviour with the principles of sustainable development?

One of the main determinants of the level of this waste and pollution is the form and structure of Canadian Settlements. Canadian settlements are characterized by a diversity of form and structure, where form refers to the disbursement or concentration of development, and structure refers to the internal linkages generated between functional district areas, for example residential, industrial and commercial regions within the city boundaries (Gertler and Crowley, 1976). These two characteristics of settlement determine the sustainable quality of a city. Given that Canadian settlements are dominated by a variety of form and structure, the question that immediately comes to mind is, "which form and structure is more sustainable?". On this matter, there is some consensus in the various literature and among academics that a more condensed, planned form which promote the integration of work and home with other daily activities is more conducive to positive environment effects from human habitation than dispersed settlements which distinctly separates land uses.

DISTRIBUTION OF HOUSEHOLDS BY POPULATION SIZE OF AREA, CANADA 1976 - 1986



SOURCE: Human Settlements in Canada: Trends and Policies, 1981 - 1986

Graph 2.1

The form and structure of a settlement is a function of human interaction and other forces working together. One of these forces is the continual conflict between public and private interests. This conflict permeates into many sectors of society and individual lives and affect all of us directly or indirectly to some degree.

The private versus public interest debate has been quite evident in matters related to land use. On the one hand, land is viewed as property - a private commodity to be owned, used, bought, or sold for personal comfort and profit. In this perspective, the concept of private-property rights is deeply ingrained in North American history and tradition, and survives today as a cherished personal right. On the other hand, land is also viewed as a shared natural resource, much like air and water, to be conserved and cared for with due regard for its effect on society as a whole and for the condition in which it will be passed on to future generations.

If one takes the view that the public good is to the advantage to society as a whole, and therefore should take priority over private interests, then there really is no conflict at all to comment. However, many people do not interpret the issue in this manner or this simplistically as there are numerous other forces at work. An extreme example, but a very real example nevertheless, of the private versus public good involves monetary gains. Very frequently the public good is sacrificed in favour of individual monetary rewards or gains.

The private/public issue comes to the fore in the practice of land speculation, where rural land at the outskirts of urban areas are bought in advance of need in anticipation of future monetary gains. The most infamous manifestation of land speculation is urban sprawl, the haphazard, and discontinuous development that occurs on the fringes of many North American cities and metropolises. Land speculation and the resulting urban sprawl is perhaps the most criticized practice and possibly one of the most influential elements to the form of the city. At the heart of the issues is the consumption of rural land. An example of the conflict which may result is the British Columbia Land Commission Act of 1973. The Commission was given the power to designate lands as agricultural, after which time that land could not be used for any purpose other than farm use without application to, and approval from, the commission. In the public and political discussions proceeding the implementation of the act, the individual rights of the farmers who owned the land involved dominated most of the debate. (Yeates and Garner, 1980)

Local governments can also be implicated as agents which promote sprawl. In an article by Jack Todd in the Montreal Gazette (August, 23, 1991), Sylvia Oljemark, of the Green coalition, criticizes the MUC environmental policy as a policy which does nothing to make "citizens" aware of the most important way in which the MUC and its member communities are failing to protect the environment. That is through zoning policies which in some cases encourage rather than discourage urban sprawl.

There are many environmental impacts which are an offshoot of urban sprawl. The haphazard, discontinuous nature of urban sprawl creates a problem for providing services to these areas as the existing infrastructure must be extended to service new needs. The cost for servicing the infrastructure is paid by the municipalities, who are increasingly unable to meet these demands. Other environmental consequences related to urban sprawl include: the loss of agricultural land, the destruction of natural areas, deteriorating water quality, and the energy use and pollution attributed to increased automotive travel.

The Not In My Backyard or NIMBY syndrome is another manifestation of the public/ private debate. The NIMBY Syndrome is a collection or group(s) of individuals banded together to guard or protect their local interests. In many cases NIMBY involves blocking change or changes to a neighborhood, be it a new development proposal or simple zoning changes. There are plenty of examples of local protests aimed at some sort of development perceived to be detrimental to the existing fabric of the community. The most popular protests seem to involve developments which would "decrease" land values. In many instances, there is no substantive evidence to support this claim, however, the perception is real enough to the residents to solicit a NIMBY type reaction. Such actions can act as a barrier to initiatives geared towards making a city form and structure more conducive to a sustainable city.

NIMBY can also have consequences at the National level. Goldberg (1990), drawing on the economic concept, fallacies of composition, states that when localities argue against development in their areas, the effects are potentially much broader spatially and can be long lasting on the aggregate level. The danger of NIMBY is what holds for a small entity does not hold true for the larger aggregate of these entities.

Land use planning, or rather the tools used to implement land use plans can indirectly promote NIMBY as planning practices determine the structure of the city by defining the inter linkages between functional areas. In principle, land-use planning in Canada and North America has not changed that dramatically since Burgess developed his concentric-zone model in the early 1920s, and Hoyt developed his sector model in the late 1930s. Both these models endorsed the division of land uses, a practice that is readily exercised to a certain degree today. Consequently, urban land uses can be divided into six major categories: residential, industrial, commercial, roads and highways, public and semi-public land, and vacant. It is not totally accurate to concede land use practices as a cause of NIMBY as many municipalities are now in fact utilizing a comprehensive zoning designation and are moving towards mixed land use developments.

The past practice of separating land uses, though well intentioned to avoid the mix of incompatible land uses such as heavy industry, business districts and residential areas, has resulted in some situations today where the interests of certain areas are protected by the local residents with little or no regard to the effects to the composition of the whole region. In this regard past land use planning provides a basis for the strengthening of both physical and perceptual barriers applied to localities thereby promoting a NIMBY type response to any changes. Whereas

sustainable development requires changes in how we live, NIMBY stands against any changes to the status quo.

The automobile is yet another element, and perhaps the single most influential technological factor to influence the form and structure of a city. It greatly increased individual mobility thus pushing the outer boundaries of a city even further. The automobile also altered the internal structure of cities as it was no longer imperative or desirable to work close to home. In terms of transportation, people value privacy, speed and convenience. In many circumstances public transportation or any other forms of urban transportation cannot compete with the automobile in these categories. It is this individual need for mobility which not only promoted the widespread ownership of cars in Canada, but also its use. It is no coincidence that suburbs developed in conjunction to the general use of cars for day to day transportation. The automobile not only promoted the consumption of rural land but automobile use is often cited as a major source of air pollution. The accumulation of carbon dioxide gases from the automobile is often cited as a major contributor to the greenhouse effect and global warming.

A sustainable city must develop against the backdrop of private versus public interests. Private interest is very much ingrained into the Canadian psyche. So too is the Canadian dream to own a single family home in the suburbs with a back and front yard and a car in the driveway. However, this dream should not be condemned. It is no crime to aspire to better things in life. However, the "bigger is better" mentality does merit some criticism. For one thing this perception has made the introduction of intensification measures a difficult task. Regardless of the different manifestations which arise from the conflict between public and private interests, the end result has greatly determined the sustainable quality of cities.

The developments associated with the industrial revolution serve to illustrate how the forces of population growth and concentration make the form of settlement a factor that influences, critically, the quality of life in cities(Gertler and Crowley, 1976). Whether people live in big places or small places; in concentrated, compact high density towns and cities, or sprawling dispersed spread-out places - are variables that increasingly affect the environment and well being of Canadians (Gertler and Crowley, 1976). The challenge is to identify the factors which will influence decisions on settlement patterns and their prospects for the future of a sustainable city. Whether cities will be large, small, or dispersed will be determined by these prevailing factors and more importantly how will they evolve. Some critical influences are: the shift to a post-industrial society, public attitudes, and the global nature of cities.

SECTION 3

FACTORS TO CONSIDER

Society is always in a perpetual state of transformation and evolution. At the beginning of the 1990s, Canadian society is gradually changing: demographics, the nature of work, technology, attitudes and thinking will all influence how society will change, and what form it will take. Society's evolution will impact how people relate and how people live. This in turn will affect the structure and form of settlement patterns. In developing a scenario these factors must not be ignored, since they are both real and significant. Hence the future of a sustainable Canadian city must be built with these elements in mind. The difficulty of future scenario building is to proceed within the perceived parameters of anticipated future events. The challenge is to build a model which is applicable to real world situations. The following section will investigate events which will impact how people interact and hence the structure and function of a sustainable Canadian city.

3.1 Globalization

Cities today are part of the global economy which began with the arrival of multinational corporations, and the network of service organizations consisting of banks, advertising agencies, management consultants, computer software bureaus and others. The rate of technology, the prevalence and anticipated dominance of huge trading blocks have reinforced the whole notion of the globalization of cities. The growing economic interrelationships between nations has further promoted the emergence of a set of global cities with influences which stretch outside their local boundaries. It is quite possible that the economic health of a city will be dependant upon the economic policies set by foreign countries. The nature of Canadian society will be global, from the mix of people living in cities to the daily transactions among businesses and cities.

What does globalization involve? There have been many attempts to outline the characteristics of a global city. Goldberg and Davis (1988) outline some prerequisite conditions for a global city in their publication, Global Cities and Public Policy, The Case of Vancouver, British Columbia. According to the Institute for the Study of International Cities in Montreal, globalization is associated with thirteen characteristics. Among these characteristics are: the ability to attract foreign capital, manpower, services and engages in foreign trade; hosts foreign institutions such as banks, consulates and chambers of commerce; direct transportation links with foreign countries; and strong telecommunications network.

In another study, Heenan (1977) reports on the extensive interviews with executives from both the public and private sector, and discusses the implications of his findings. His study provides some intriguing insights into the value system of chief executives in locating corporate headquarters. There are five noteworthy trends. First is the myth of price and the feeling among corporate leaders that economic factors are not

as vital to location as one may think. Second is the meaning of proximity where Heenan found that worldwide companies prefer to locate their regional headquarters in cities which are relatively close to their major operational units. Third, is the presence of full service bankers are not required to attract regional or corporate headquarters. The fourth conclusion relates to the emergence of urban satellites and the rising anti-city movement in the Corporate boardrooms. Generally, the concern among corporate leaders is the ability of suburbs to develop timely commitments to multinational corporations in an environment relatively free of urban decay, and crime. These qualities give these areas special advantages over traditional cities. The last finding is the importance of political stability as it rated as an important consideration in selecting a regional office city.

The global influence will have several implications for cities. One, will be the need for cities to identify the demands placed on them by entry into the global city network. The other is that city regions will have to compete globally to survive and prosper just as private sector firms (particularly those in financial services) have had to learn to do over the past decade (Heenan, 1977).

Not every city can be global. There will be a core number of cities which will have the characteristics of a global city, while the remaining cities will benefit from the presence of global cities and be linked to global markets through this relationship. Global cities will be the centres for business and decision making. To survive the decades ahead, communities must develop some capability to serve a multinational constituency. Given the availability of technology, certain functions will be allowed or encouraged to decentralized. In this sense work will not be constrained by location. One possible result is that people will be drawn to smaller centres based on quality of life considerations while maintaining contact with global centres. What will the relationship be with the remaining cities which are not global? Will Canadian second tier cities interact with Canadian global cities or foreign ones?

Cities must be economically healthy. By excluding themselves from the evolving world economy, they run the risk of extinction. In a world where international economies, business and politics powerfully influence local lives and economies, achieving international status especially for Toronto, Montreal and Vancouver is that much more important for their continued success and the success for the surrounding region. In an increasingly interdependent world the greatest challenge is not how we get on independently, but how we get on together internationally and locally.

4.2 Post-Industrial Society

The move to a post industrial society may mark a fundamentally different society than that of the industrial revolution and the pre-industrial revolution. Each of these previous societies were driven by different needs and functioned on different principles. The industrial society was driven by the fabrication and conversion of raw materials into finished products and needed a large labour supply to produce goods in mass quantities. The industrial society was powered by interweaving machinery

and human power aimed not only at mere survival, but on how productive that survival could be made. As Savitch (1990) asserts, "The industrial city was the "private city", built by the invisible hand of unregulated capitalism". This was quite different from the pre-industrial society where survival was the principal consideration. Pre-industrial society primarily relied on extractive means for support, depending heavily upon agriculture, fishing, timber, and mining as the main economic forces. Human and animal muscle drove the pre-industrial society.

The arrival of the post-industrial society will differ from the previous two socioeconomic organizations in that the processing of information will increase in relative importance. In contrast to the other modes of organization, the post-industrial will transcend the world of production to deal with its effects (Savitch, 1990). By this Savitch means the post-industrial society will be organized around the dissemination of information for purposes of social control, business efficiency, demand management, and scientific innovations. This society will not be just geared on attaining well-being, but how to enlarge or further that well-being. Aside from these characteristics, the post-industrial society is also identified with technological innovations and the changing nature of work. The move to the post-industrial society on these two fronts is taking place in Canada.

Castells (1985) characterizes the majority of today's evolving technological innovations as information related discoveries which is process oriented rather than product oriented. For example, microelectronics processes and generates information. Telecommunications transmits this information while innovations in the media disseminates the information. Widespread office automation, improved data transmission, cable and telecommunications are examples which readily come to mind. High technology is also process oriented in the sense that it is a form of organization and production that can affect all spheres of activity by transforming their operation in order to achieve a greater performance through increased knowledge of the process itself.

Technological innovations have two side effects: 1) it can determine the form and structure of a city; and 2) it can alter the nature of work. According to Castells (1985) technological innovation will interact with spatial structures in three fundamental ways: (1) the new informational logic of production and management creates a new space of production; (2) the direct impact of new technologies on the ways of working and living modifies the urban form; (3) the effects of high technology are mediated by broader economic and social processes to frame its use.

Coates (1982) expresses the same sentiments that technology has played and will continue to play a major role in the development, location and structure of settlement patterns. During the 19th Century the advent of the steam engine and the rail system, technological innovations in their own right, made inaccessible lands accessible, thereby promoting settlement. The introduction of railway lines within cities had a profound effect on settlement structures by further dispersing development as did the automobile many years later. History tell us that technology will continue to shape our cities.

The dominant technological innovations are coming from the field of telematics; that is the technologies of telecommunications, computers, and information. Telematics will affect the production, storage, handling, use, and dissemination of information. Such innovations will effectively divorce work from the calendar, clock, and any fixed location. A Globe and Mail article in the August 22, 1991 edition chronicles the growing number of U.S. companies hiring in Ireland. Cigna Corp., McGraw-Hill Data Services and Massachusetts Mutual Life Insurance Co. are a few companies cited in the article which have set up shop in Ireland. The article identifies this as a growing movement of data processing and other "back office" jobs migrating overseas to places where wages are lower, people speak English and state-of-the art telecommunications allow links to the U.S. company's host computers. One of the many factors which have attracted U.S. Companies is the ability to spread the work force over different time zones. An Irish office will tend to put demands on expensive mainframe computers at off-peak hours. This example provides an introduction to the other impact arising from the post-industrial society; that is the changing nature of work.

The nature of work will also change as a consequence of technological innovation. The change in the mode of production has been commented upon by many academics and experts in the fields such as Peter Hall, Manuel Castells, and Yoneji Mastuda. As earlier as a half century ago, experts have been preparing for this change in socio-economic order. For example Colin Clark (1940) argued that there is a very long-term trend in all industrial advanced economies for the proportion of workers in manufacturing occupations and industries to fall, and for that in service industries and occupations to rise, is now seen to be quite prophetic. Industrialized nations, according to Manuel Castells (1989) are in a middle of the second great economic transformation of modern time; from the industrial to the information mode of production in which the fundamental imputs are no longer material, but knowledge based. The change in mode of production will fundamentally alter the nature of work. The typical worker today is "no longer a male blue collar factory operative but a white-collar office worker, who is just as likely to be female as male" (Hall, 1991). The nature of work, structural requirements of society and the demands from the new mode of production will affect the form and structure of the city.

Canada, like the other industrialized nations, is experiencing the change in the socio-economic order as a result of the change in the nature of work. The Economic Council of Canada's 1990 report, "Good Jobs, Bad Jobs" presents the results of its research on employment changes and examines whether public policy has kept pace with the changing labour market. One of the Report's intriguing findings involves the examination of the shift to a service based economy. While in the 1940s , 60% of the Canadian employment was in the goods sector (manufacturing, natural resources and construction), today 70% of employment is in the service sector. Even more important is virtually all job creation occurs in this sector.

Whether the move to a service sector based economy is good or bad depends upon who you talk to. According to the Quebec Manufacturers' Association, Canada lost 330,000 manufacturing jobs during the present recession. The statistic cover the period from May of 1989 ending in the first half of this year. The Association further warns that many of the jobs will not be

recovered. Although Quebec lost one-quarter of those jobs, the hardest hit was Ontario which lost about half of the total. The main culprit cited by the Association as responsible for the loss of jobs is the federal government who has not taken the manufacturing sector seriously enough. According to the association, "Politicians do not seem to have a high view of the manufacturing sector.... It is false to think, as some do, that the service sector can drive the Canadian economy." (Ottawa Citizen, August, 28, 1991 - B3).

The changing nature of work is one of six major structural shifts that Peter Hall (1991) cites that have, and will, profoundly effect the way people live and work in the metropolitan areas of the industrialized countries. No doubt that the application of new technology and the changing nature of work which will bring about a new locational logic and possibly altering the urban hierarchy as it stands today. The question is how to make these impacts more sustainable.

4.3 Increased Competition Between Metropolitan Areas

Peter Hall (1991) in his thinkpiece for CMHC, noted the growing tendency for cities to market and promote themselves, in effect, "like competing brands of breakfast cereal or automobiles". The move to a post industrial society will increase the competition for businesses and residents between cities. However, not all cities will be able to compete on an equal footing. Nevertheless, these cities will be competing as locations for economic activity and thus for people.

One area which will come under increasing marketing competition among cities is the quality of life. Evidence of this competition is already available. For example, in 1988 the Regional Municipality of Hamilton Wentworth commissioned a quality of life study to follow up on the 1986 economic strategy and associated implementation plan. The 1986 economic strategy was centred around four components: (1) attracting and keeping jobs; (2) attracting and keeping people; (3) developing small business; and (4) developing Hamilton-Wentworth as a regional centre. In order to attract people to the Region a major marketing campaign aimed at specific targets was initiated, as well as a study which investigated ways to improve the quality of life for the Region. The major assumption underlying the reason of the economic strategy is that quality of life considerations are significant factors in residential decisions and that potential migrants may not perceive Hamilton-Wentworth as having a competitive advantage in this area. The Quality of Life Study is intended to identify those quality of life attributes that the Region should be marketing to attract people. It is also intended to assist the Region and its area municipalities in determining changes to their capital investment programs, municipal services and land development practices that would improve the quality of life for the Region.

Another example of the quality of life competition between cities is the publication, Places Rated Almanac, a guide to finding the best places to live in America. Places Rated Almanac is a collection of information on house prices and various amenities offered in three hundred and thirty metropolitan areas. The metropolitan areas are ranked and compared on the

basis of living costs, job outlook, crime, health, transportation, education, the arts, recreation, and climate. The aim of the Almanac is to guide individual decision to whether geographical mobility might be the best and quickest route to a more satisfying life.

The "survival of the fittest" (or rather healthiest) mentality has always existed between cities. The only difference now is that the competition involves marketing the quality of life. The main question is how big are quality of life considerations in determining the prosperity and size of cities, and what are people's perception of a good quality of life. Will quality of life in fact be a leading edge of the competition between cities?

4.4 Institutional Framework

To achieve, or at least move towards a sustainable city what changes will be required within the institutional framework within which urban places function? The notion of a sustainable city will have some impact on the perspective of planners and politicians and vise versa. Savitch (1990) declares that city building is an expression of city politics. In this regard, local governments have a distinct role in the development of sustainable cities. The central focus of urban planning, in Kiernan's view (1990) is the maximization of the city's economic, social, and physical potential. According to Kiernan urban planning does not, however, achieve this holistic view due to ideological influences and the organizational context from which urban planning has evolved.

Kiernan cites four ideological influences acting on contemporary urban planning in Canada. We will deal with the three. The first involves the ambivalent disposition of Canadian planners regarding the legitimacy of public-sector planning in the urban land market. Without strong political and professional consensus which support forceful public intervention in the urban land market, planning will be doomed to a reactive and marginal role. Second, local governments have tended to assume as few responsibilities as possible and then to interpret those few it will accept as narrowly as possible. Third, is the notion that planning is essentially a rational, technical, professional enterprise. The net result is a planning system that tends to be reactive with an overwhelmingly focus on zoning issues driven by technical land development controls, and without the mandate, expertise, intellectual power or political support to concern itself with broader social and economic issues.

The organizational context of local institutions is composed of two dimensions: 1) the enabling legislation; and 2) the organizational structure in which the powers are exercised. Under the Constitution Act 1982, which replicated the division of powers in the British North America Act (BNA) 1867, provincial legislation has sovereignty over municipal institutions. All planning powers exercised by local authorities are delegated to local governments by acts of the provincial legislatures. These powers include overseeing zoning and planning bylaws, which control land use, height, lot coverage, and density. Many jurisdictions also exercise development control powers which are comparable to zoning bylaws but allow municipalities to control development on a case-by-case basis at

the time of development, rather than setting out detailed ground rules through zoning bylaws. Local governments also have the authority to regulate the subdivision of land and thereby control the timing, servicing, use, and density of development. Municipalities also have the power enabling them to transcend a purely passive, regulatory role to a more aggressive role which stimulates development. The use of these powers vary widely among local governments. Many have the legal capacity to assemble and lease land for development, to create and operate local housing corporations, and to recycle the monies raised through developmental levies to help generate further development.

These tools provide local governments with the ability to shape and form cities. However, provinces have and will continue to maintain a close vigil on municipal development. Not only do provincial statutes normally prescribe which planning powers a municipality may exercise, but also a very strong voice is reserved for the provincial government in how these powers are exercised. Major municipal planning decisions usually require provincial approval, either by appointed boards such as the Ontario Municipal Board or provincial cabinet ministers. This ensures that the provinces have the final say in controversial matters.

The organization of the planning bureaucracy is determined by the local government. Local planning authorities range from regional planning commissions and planning districts, to metropolitan or regional governments, to single tier city governments. In the case where lower and upper tier municipal governments co-exist, planning legislation attempts to divide responsibility between what are deemed to be regional issues on the one hand and local ones on the other.

It is in this atmosphere in which planners and municipal politicians must mold and develop a city. The overall pattern that emerges as a result of these influences is one of a local government planning system preoccupied with physical land use and development issues without adequately developing a broad scope on other relevant matters. Matthew Kiernan (1990) feels that, "the present contours of the Canadian urban planning system have been largely defined by historical, ideological, economic, and structural imperatives, the net effect of which has been to narrow and circumscribe its purview." More importantly, he states that this has been occurring at a time when Canadian local governments and their planning departments ought to be moving in the opposite direction. The resultant effect which emerges is one of a local government planning system preoccupied with physical land-use and development issues while disregarding the other aspects of society. On this matter there is some recent evidence of cities embarking on strategic planning exercised to develop a more comprehensive and long term vision (Kemp, 1988).

4.5 Municipal Finance

Another issue at the local government level is municipal financing. The complexity of urban issues have heightened the debate on municipal financing to centre on issues such as revenue raising, and expenditure. This is related to the cost and benefits of maintaining a city and its services.

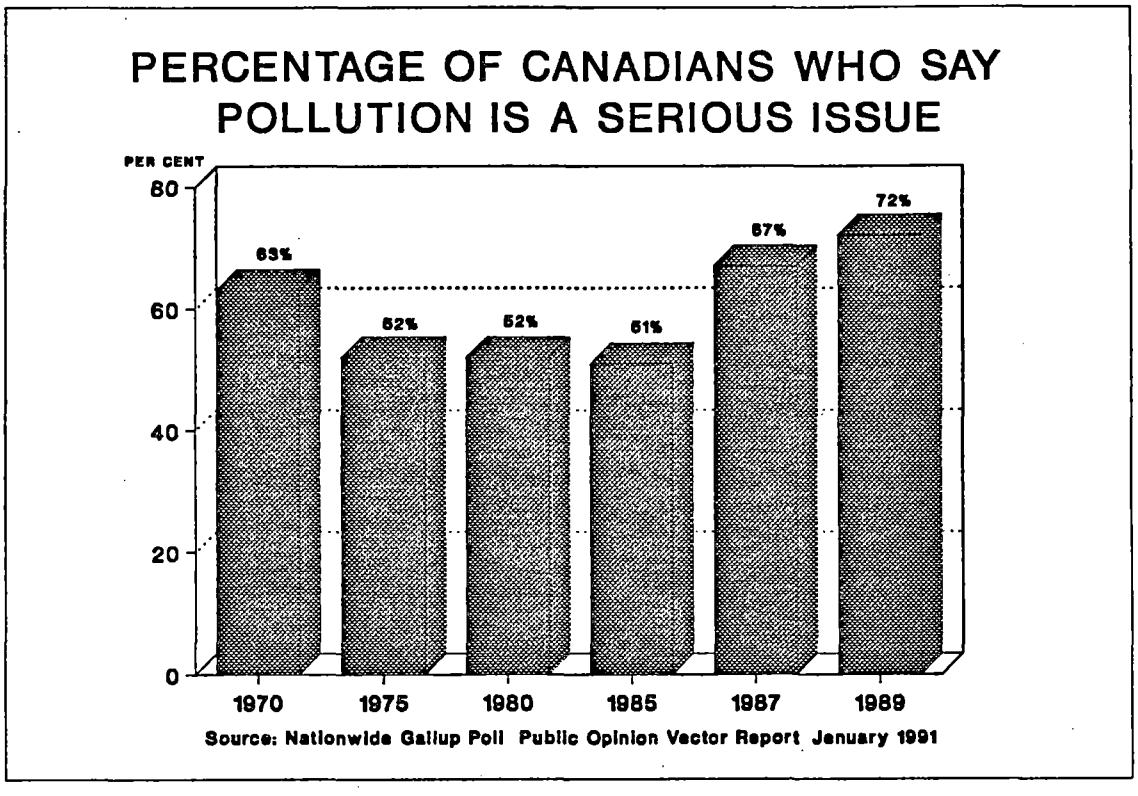
There are four major sources from which local governments draw their financial resources: property taxes, conditional and unconditional grants, and user pay services. Property taxes and conditional grants from the provinces provide the majority of the financing to the local governments. During times of fiscal restraint among federal and provincial governments, local governments must increasingly rely on their own abilities.

An increasing controversial issue arising today is the ability of local governments to finance services. Specifically, this is related to the distribution of costs and benefits of maintaining a city and its services. One issue which has dominated the debate is the ability of cities to maintain their services in the face of decreasing population. For example, in a study of the schools of the St. James-Assiniboia School Division, Mathur (1990) noted that many of the schools are operating at a 55% capacity as a result of demographic change, aging, and loss of population to newer suburban areas. The structure of the school division was typical of low density suburbs built during the post war era to accommodate young families. Consequently, the area attracted a disproportionate number of Winnipeg's larger families with young children. As the population aged, the servicing for this area became outdated as the needs no longer matched the services nor the ability of the region to finance the services. This raises a fundamental question in municipal financing as well as questions on how to plan and provide for changing long term needs. The main question to ponder in the face of sustainable development, is the distribution of cost and benefits of maintaining a city and its sources.

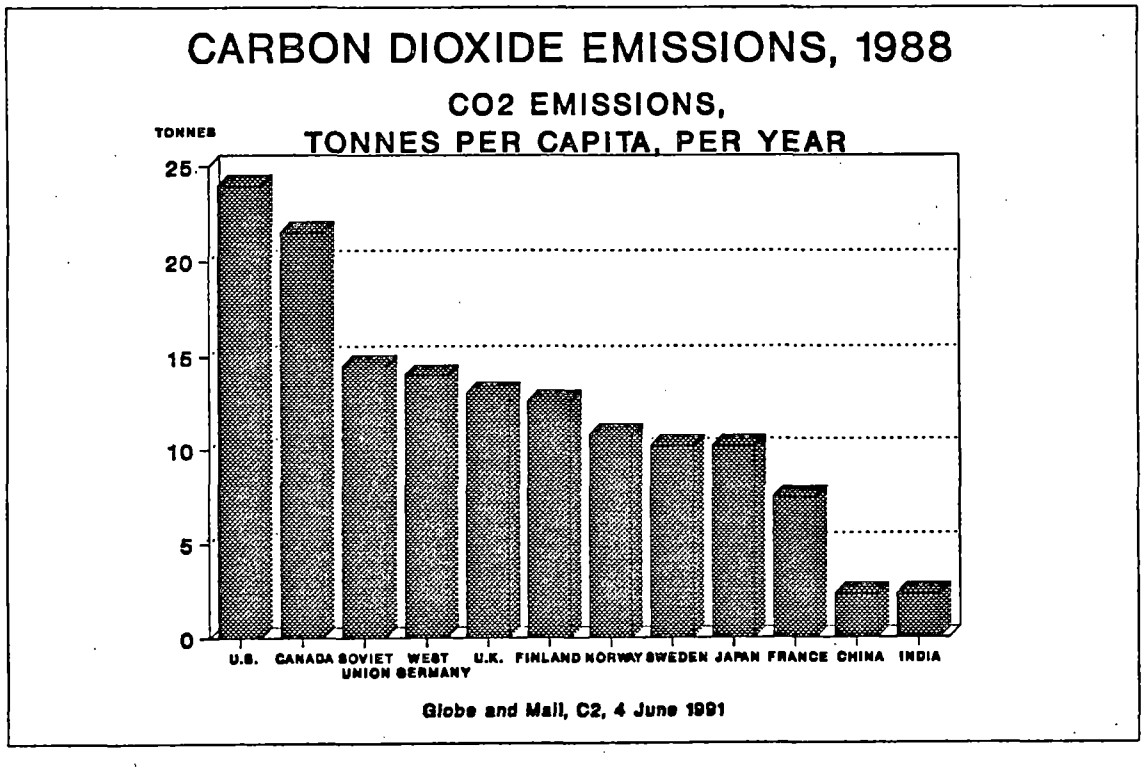
4.6 Public Behaviour and Consumption

Public attitudes concerning the environment will determine the success of a sustainable city. In a 1991 Public Opinion Vector Report, over one-half of the public polled used recycled paper, favoured a ban on lawn and garden pesticides and disposable diapers, and wanted stiffer penalties, including incarceration, to executives of companies who fail to meet environmental standards. The public endorsement of these recommendations seem to indicate a very strong support for environmental measures. However, upon closer examination these measures are really minimal at best. The recommendations either target outside groups (ie. corporations and farmers) or involve the least inconvenience to consumers (ie. cloth diapers use). How serious is the public in translating rhetoric into action? Strong evidence exists showing the paradox between what the public says, and what the public does.

A June 4 Globe and Mail Report, commented on Canadian attitudes and actions as a baffling paradox. According to Graph 3.1 a nationwide gallup poll indicated that the Canadian perception of pollution as the number one problem is at its highest level in twenty years. However, the worry over ecology has failed to stem the consumption of disposable products, or the production of carbon dioxide. Canadians generate twenty tonnes of carbon dioxide per person each year. This is double the output of the other industrialized countries such as Sweden and Japan depicted in Graph 3.2. Canada ranks number one in the amount of trash produced per capita. Approximately 1.7 kilograms of trash is generated by each Canadian each day. On a yearly basis this is over 600 kilograms of trash produced by



Graph 3.1



Graph 3.2

each Canadian. Not only is trash of major environmental problem but it is also a financial/ political problem. The above statistics indicate that the environment has not benefitted from what Canadians say.

Canadians are quite informed as to which activities are harmful to the environment, yet still persist with these activities. Canadians know that the automobile is the largest contributor to carbon dioxide and a major component of the greenhouse effect, however, substantial progress has not been made in curbing automobile use. Canada is not the only country which has not been successful in curbing automobile use. A May 14th Globe and Mail report noted that "...the past few decades have seen an astonishing growth in road traffic almost everywhere. In Britain, for example, the average daily traffic per mile of road grew by 34% between 1978 and 1988, and by 52% on freeways". in Los Angeles several studies estimate that sitting in traffic jams costs Angelenos about $9 billion (U.S.) a year in lost output, with another $4.7 billion in environmental damage (Globe and Mail, May 14). Los Angelas has always been a popular example of what is wrong with a city. Freeways, the car culture, the detached house on a big lot has been the legacy of Los Angeles. In 1984, the average morning rush-hour speed on Los Angeles expressways was 60 kilometers an hour. Today, because of more cars and longer average commutes, the average speed is 50 kilometers per hour. By 2010, it is expected to be just 20 kilometers per hour (Globe and Mail, July 20, 1991). Although education has been successful in alerting the majority of people in developed countries, and more specifically Canadians, of the dangers of pollution, education has not been successful in curbing pollution or wasteful consumption behaviour altogether.

For a politician to openly endorse an automobile ban from the inner city would be considered political suicide. Even minor measures aimed at reducing the use of the automobile have encountered stiff opposition. Within Metro Toronto, the number of cars travelling in and out of the city every day has risen from 350,000 in 1971 to 950,000 in 1988. Although, the automobile has fallen from grace among planners and politicians in favour of mass transit, transit has yet to catch on with the public. According to Richard Soberman (1990), part of the overall congestion in the system could be eased if authorities worked harder to eliminate random obstacles such as parked cars. Currently, the big debate in Toronto relates to the elimination of parked cars where it has come against strong opposition from metro merchants who cite that this will divert shoppers to plazas in the suburbs with ample free parking (Toronto Star, June 4, 1991). Removing obstacles is not a long term solution.

The fundamental question arising from the analysis of public opinion and action is how committed are Canadians to saving the environment? Will Canadians accept the principles of a sustainable city no matter how drastic the consequences to individual living preferences and the diminished convenience which is a natural consequence.

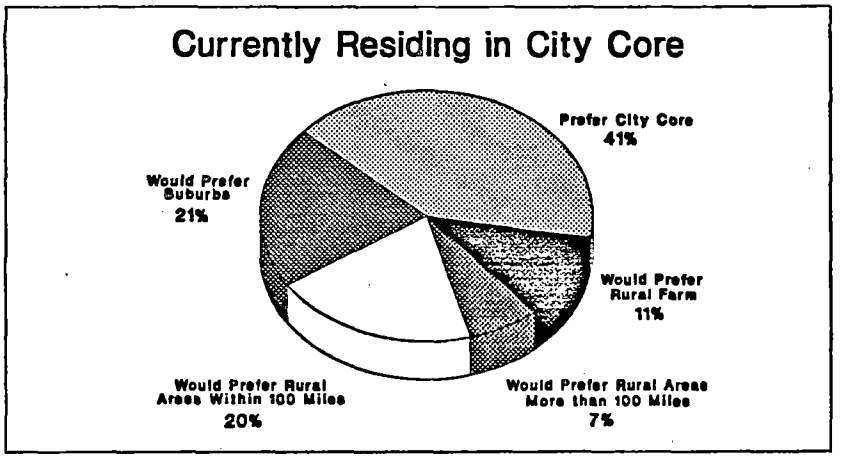
Urban life itself seems to exemplify the same type of paradox. Despite the urban dominance of the Canadian population, the numbers should not be interpreted to mean that people are quite happy with urban life. On the contrary the opposite is true according to <u>The Big Picture</u> (Gregg, 1990), a

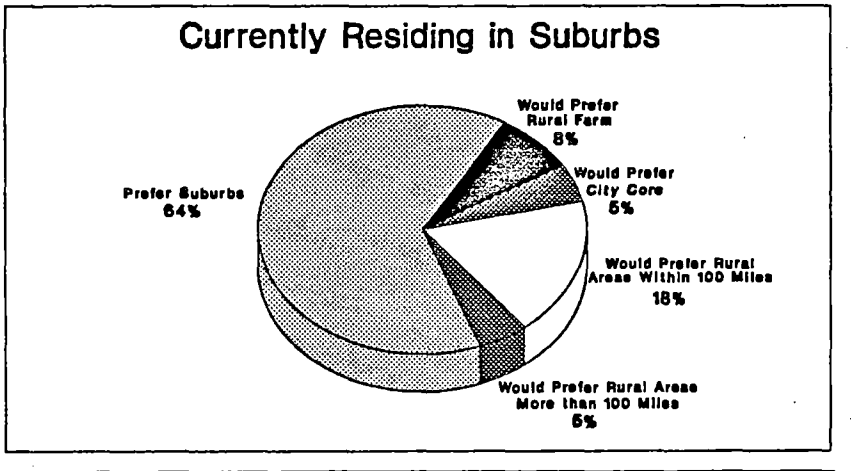
contemporary Canadian almanac of facts, opinions, and analysis. Urban life is a source of frustration as the city has become associated with trends which are abhorrent to city dwellers. Increased crime both petty and violent, cost of living and environment stress are just a few areas where city dwellers have cited as areas for alarm.

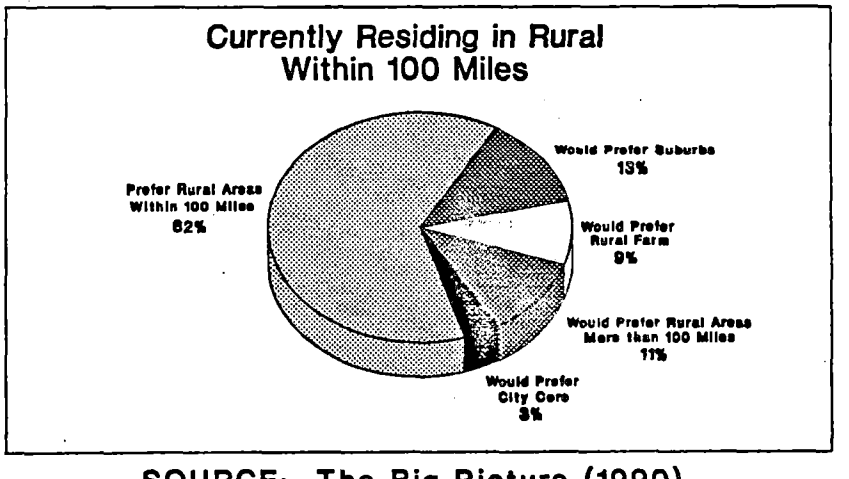
Nowhere else is this more apparent than in the simple questionnaire administered on a sample Canadian population surveying the preferences of the country and city for 1986 and 1988. In both cases, 70% chose the country over the city as the ideal place to live if they were given the choice. In a more in depth survey of different type of residences and where they would prefer to reside, the overwhelming consensus chose rural areas within 100 miles (see Graph 3.3). Obviously, this implies a mix of city cultural amenities and retaining the privacy and elegance of the country.

Many of these reactions are grounded in perception. The fact remains that Canadian cities, in comparison to their American counterparts, are much more liveable. However, quality of life is made of both subjective and objective qualities. Is perception enough to discourage large urban areas in favour of smaller types of settlements?

RESIDENTIAL PREFERENCES OF CANADIANS



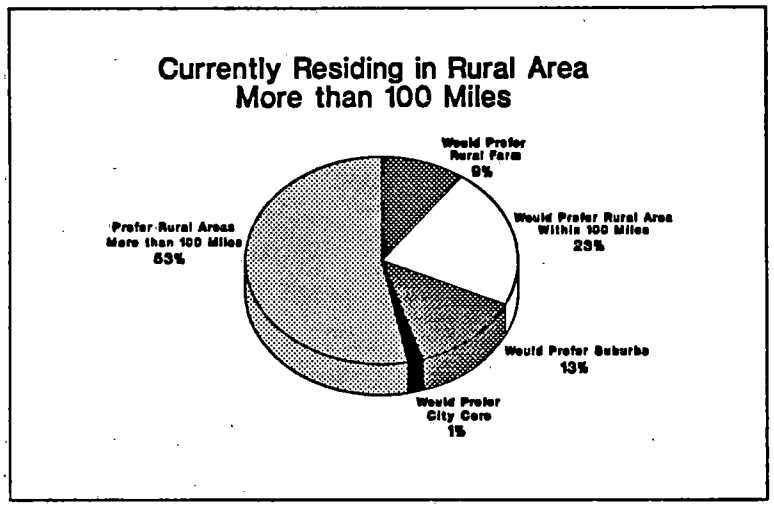


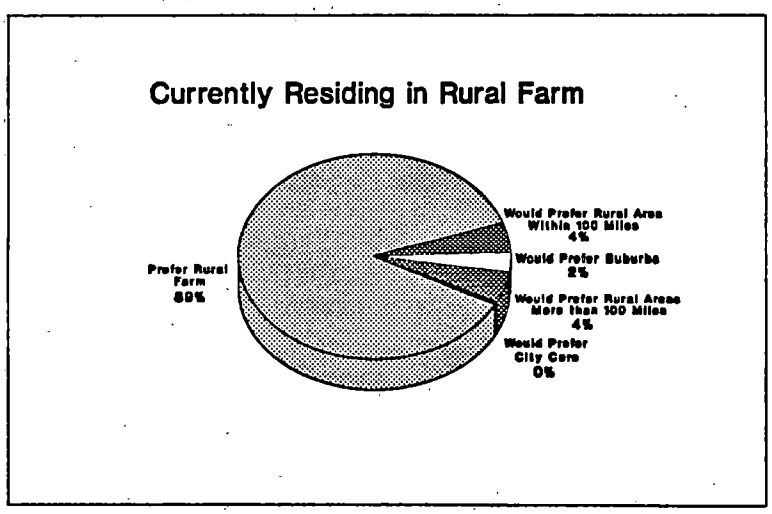


SOURCE: The Big Picture (1990)

Graph 3.3

RESIDENTIAL PREFERENCES OF CANADIANS
(Continued)





Source: The Big Picture (1990)

Graph 3.3 (Continued)

SECTION 4

SUMMARY

Cities of the future will have a different function from the present just as cities of the present are different from cities of the past. Cities from the industrial revolution contributed to many social, economic, and environmental problems of the times. Many of these problems were a result of the inadequate planning and lack of proper infrastructure as urban areas during this period were largely perceived as economic centres for manufacturing. There was little concern or planning for the social, health, or environment aspects of cities. The influence of sustainable development, and the greater awareness of people in general have moved cities away from this perspective.

Sustainable development presents a number of challenges. Not only does it call for a transition to new modes of environmentally sound development, but also for the transition to take place in every aspect of our economic, social and political life. This will have specific implications to not only urban planning, but also to local government decision making just to name two.

One aspect of environmentally sound development can be applied to urban planning in the context of the energy requirements of a city, particularly in the residential and transportation components. Research on transportation energy requirements and urban size has by in large concluded that transport energy efficiency can be reduced as urban areas decline in size (Stewart and Bennett, others). In the residential sector, the general consensus is that increased density reduces per capita requirements for space heating and cooling. By placing more units in a given physical space, usually involving more shared walls, less exposed surface area for a given volume of enclosed space, and more sheltering of buildings by other buildings the energy requirements for the residential sector is reduced. The results from the studies of the energy requirements of the residential and transportation sector of cities seem to indicate that small is better. If this is the case, then should cities be more compact with higher densities, and how will this form impact the economies of local governments as city land is placed under increased demand for business and residential purposes? Although this presents some hard questions, what is clear is that the simplest path to sustainable development requires major adjustments to society and cities.

In addition to sustainable development, another factor which will influence the function and form of the future Canadian city is the move to a post industrial society. The technological innovations and related shift in the nature of work will undoubtedly alter not only the relationships between such sectors as home and work within cities, but also the relationship between cities. The post industrial society will also facilitate the globalization of society. The shift to a post industrial society and its related elements in Canada will affect the way people live and work in the metropolitan areas of Canada. How do you align or utilize to the full

extent, the imminent changes that will occur as a result of the post industrial society in such a way to promote sustainable development.

Another factor that will profoundly influence the function of cities and hence the structure is the imminent globalization of many segments of society. This change must be anticipated and planned for in the context of sustainable development. Sustainable development, as defined by the Brundtland Commission, integrates the environment perspective with business decisions. In an atmosphere where local economies will be drawn into the international stage, local economies will play a major role in international relations and sustainable development. International economies, business, and politics will also powerfully influence local lives and economies. How will global factors such as competition and distribution of wealth impact Canadian cities?

Yet another consideration pertinent to sustainable development and city form is the optimal size of a city. If the sustainability/liveability of a city is defined as the relationship within and between neighborhood/ community units, then is the measure of the sustainable quality of a city an expression of the aggregate of neighborhoods. If this is the case is there an optimal size in which a city can comfortably accommodate a certain number of neighborhoods/ community groups without jeopardizing the sustainable quality of the neighborhood or larger city area, or is there no limit in the number of neighborhoods that can be aggregated into the larger city system. A related issue is the distribution of cost and benefits of maintaining a city and its resources, and how to maintain an equilibrium between the services and needs as well as the need to plan and provide changing long term needs.

The aforementioned factors are only a few elements which perceived to influence the future Canadian city. There are many other factors which have not been mentioned. The elements which have merited some attention indicate that cities will have a different function in the future than they do presently. In this sense how do you reconcile some of the conflicts which will undoubtedly arise between a sustainable city and elements such as the shift to a post industrial society, and globalization?

Sustainable development raises a host of questions and presents many challenges to every sector of society. If a Canadian city is to be considered sustainable, changes need to be made. These changes will be determined by what type of society we want in the future. To achieve, or at least move towards a sustainable city what changes should be considered within the context of a post industrial society?

BIBLIOGRAPHY

Ames, Herbert B. (1897). The City Below the Hill. Bishop Engraving: Montreal.

Artibise, Alan. (1975). Winnipeg, A Social History of Urban Growth 1874-1914. McGill-Queen's University Press: Montreal.

Begg, Hugh M. (1991). "Town and Regional Planning and The Challenge of Sustainable Development", in The Planner. February 25.

Boyer, Richard and David Savageau. (1989). Places Rated Almanac. Prentice-Hall: New York.

Bradbury, Bettina. (1990). "The Family Economy and Work in an Industrializing City: Montreal in the 1870s", in Cities and Urbanization. Gilbert A. Stelter (ed.). Copp Clark Pitman: Mississauga.

Bramwell, Robert D. (1977). Towns and Cities: Yesterday, Today, and Tomorrow. Gage Educational Publishing Limited.

Brown, Lester R. and Jodi L. Jacobson. (1987). The Future of Urbanization: Facing the Ecological and Economic Constraints. World Watch Paper 77.

Castells, Manuel. (1989). The Informational City: Information Technology, Economic Restructuring and the Urban Regional Process. Basil Blackwell: Oxford.

Castells, Manuel. (1985). "High Technology, Economic Restructuring and The Urban Regional Process in the United States", in High Technology, Space and Society. Manuel Castells (ed.). Sage Publications: London.

Clark, Colin. (1940) The Conditions of Economic Progress. Macmillan: London.

Coates, Joseph R. (1982). "New Technologies and Their Urban Impact", in Cities in the Twenty-First Century. Gary Gappert and Richard V. Knight (eds.). Sage Publications: London.

Conable, Barber B. (1990). "Development and The Environment", in International Environment Affairs. Volume 2, Number 1, Winter 1990.

D'Amour, David (1991). The Origins of Sustainable Development and its Relationship to Housing and Community Planning. Research Paper No. 1, Canada Mortgage and Housing Corporation.

Davis, Kingsley. (1973). "World Urbanization, 1950 - 1970", in Systems of Cities. L.S. Bourne and J.W. Simmons (eds.) Oxford University Press: New York.

Economic Council of Canada. (1990). Good Jobs, Bad Jobs.

Economic Council of Canada. 4th Annual Review: The Canadian Economy from the 60s to 70s. Queen's Printer: Ottawa.

Gertler, Len and Ron Crowley. (1976). Changing Canadian Cities: The Next Twenty-Five Years. McClelland and Stewart Limited: Toronto.

Goldberg, Michael A. (1990). "Global Change Local Challenges: Issues Facing Canadian Cities into the 21st Century". Thinkpiece prepared for Canada Mortgage and Housing Corporation. Unpublished.

Goldberg, Michael A. and H.C. Davis. (1988). Global Cities and Public Policy: The Case of Vancouver, British Columbia. UBC Planning Papers, comparative Urban and Regional Studies, No. 17.

Gregg, Allan and Michael Posner. (1990). The Big Picture. MacFarlane Walter and Ross: Toronto.

Hall, Peter. (1990). "Quality of Life in an Urban World". Thinkpiece prepared for Canada Mortgage and Housing Corporation. unpublished.

Hall, Peter. (1985). "Technology Space and Society in Contemporary Britain", in High Technology, Space and Society. Manuel Castells (ed.). Sage Publications: London.

Hancock, Trevor, Bernard Pouliot and Pierre Duplessis. (1990). "Public Health", in Urban Policy Issues, Canadian Perspectives. Richard A. Loretto and Trevor Price (ed.). McClelland and Stewart: Toronto.

Heenan, David. (1977). "Global Cities of Tomorrow", in Harvard Business Review. May-June.

Hodge, Gerald. (1989). Planning Canadian Communities. Nelson Canada: Scarborough.

Hussein, Rotsum. (1987). Human Settlements in Canada:Trends and Policies, 1981-1986. Canada Mortgage and Housing Corporation.

Jackson, John N. (1983), The Canadian City. McGraw-Hill Ryerson Limited. Toronto.

Jones, Emrys. (1990). Metropolis. Oxford University Press: New York.

Kealey, Gregory. Working Class Toronto at the Turn of the Century.

Kealey, Gregory. (1973). Canada Investigates Industrialism. University of Toronto Press: Toronto.

Kemp, Roger. (1988). America's Cities: Strategic Planning for the Future. The Interstate Printers and Publishers: Danville.

Kennedy, Leslie W., Herbert C. Northcott and Clifford Kinzel. (1977). Quality of Life in Edmonton. Department of Sociology: University of Alberta.

Kiernan, Matthew J. (1990). "Land Use Planning", in Urban Policy Issues, Canadian Perspectives. Richard A. Loretto and Trevor Price (eds.). McClelland and Stewart: Toronto.

Knight, Richard V. (1982). "City Development in Advanced Industrial Societies", in Cities in the Twenty-First Century. Gary Gappert and Richard V. Knight (eds.). Sage Publications: London.

Krupat, Edward (1958). People in Cities. Cambridge University Press. New Rochelle.

Lampard, E.E. (1968). "The Evolving System of Cities in the United States: Urbanization and Economic Development", in Issues in Urban Economics. H.S. Perloff and L. Wingo, Jr. (eds.). John Hopkins University Press: Baltimore.

Ley, David (1983). A Social Geography of the City. Harper and Row: New York.

MacNiel, Jim and Robert D. Munroe. (1991). "From the Margin to Mainstream", in Ecodecision. Issue 1, 1991.

Masuda, Yoneji. (1980). The Information Society. Institute for the Information Society: Tokyo.

Mathur, Brijesh. (1990). "Community Planning and Sustainable Urban Development", in Ethical Dimensions of Sustainable Development and Urbanization: Seminar Papers. Mary Ann Beavis (ed.). Institute of Urban Studies: University of Winnipeg.

Mumford, Lewis. (1961). The City in History. Harcourt Brace Jovanovich: New York.

Ontario Ministry of Housing. (1991). Sustainable Development and Housing. June - unpublished.

Organization for Economic Co-operation and Development. (1990). Environment Policies for Cities in the 1990s.

Parkinson, Tom. (1990). "Energy Efficiencies of Urban Transportation". Globe 90 International Conference.

Peat Marwick Consulting Group. (1988). Regional Municipality of Hamilton Wentworth Quality of Life Study.

Pred, Allan. (1977). City Systems in Advanced Economies. John Wiley and Sons: New York.

Price, Trevor. (1990). "The Environment", in Urban Policy Issues, Canadian Perspectives. Richard A. Loretto and Trevor Price (eds.). McClelland and Stewart: Toronto.

Rees, William. (1989). "Defining Sustainable Development". Research Bulletin. University of British Columbia Centre for Human Settlements, May.

Richardson, Nigel. (1989). Land-Use Planning and Sustainable Development in Canada. Canadian Environmental Advisory Council.

Roberts, Thomas (1978). "Land Use Planning", in Urban Planning. Anthony J. Catanese and James C. Snyder (eds.). McClelland and Stewart: Toronto.

Robinson, John, George Francis, Russel Legge and Sally Lerner. (1990). "Defining A Sustainable Society", in Alternatives. Volume 17, No. 2.

Robinson, Terry. Sustainable Housing for A Cold Climate. Prepared for CMHC. unpublished.

Savitch, H.V. (1990). Post Industrial Cities. Princeton University Press: Princeton, New Jersey.

Shafer, Thomas W. (1977). Urban Growth and Economics. Reston Publishing Company: Reston.

Siegel, David. (1990). "The Financial Context for Urban Policy", in Urban Policy Issues, Canadian Perspectives. Richard A. Loreto and Trevor Price (eds.). McClelland and Stewart: Toronto.

Strong, Maurice F. (1991). "On the Road to Rio", in Ecodecision. Issue 1, 1991.

Strong, Maurice F. (1990). "What Place Will Environment Have in the Next Century - and at What Price", in International Environment Affairs. Volume 2, Number 3, Summer 1990.

Urban Outlook, Volume 12, Number 24 - December 30, 1990.

Wilson, J. Brian. (1991. "The Future City: Where is the City Going?". The Planner. January 25.

Yeates, Maurice and Barry Garner. (1980). The North American City. Harper and Row: New York.