Colloquium on Sustainable Housing and Urban Development: Papers Presented (November 16, 1991)

Occasional Paper No. 29

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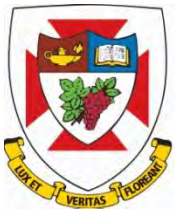
edited by Mary Ann Beavis
1992

The Institute of Urban Studies



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COLLOQUIUM ON SUSTAINABLE HOUSING AND URBAN DEVELOPMENT: PAPERS PRESENTED (NOVEMBER 16, 1991)
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The Institute of Urban Studies is an independent research arm of the University of Winnipeg. Since 1969, the IUS has been both an academic and an applied research centre, committed to examining urban development issues in a broad, non-partisan manner. The Institute examines inner city, environmental, Aboriginal and community development issues. In addition to its ongoing involvement in research, IUS brings in visiting scholars, hosts workshops, seminars and conferences, and acts in partnership with other organizations in the community to effect positive change.

COLLOQIUM ON SUSTAINABLE HOUSING AND URBAN DEVELOPMENT:

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INTRODUCTORY REMARKS

Claude Bennett
Chairman
Canada Mortgage and Housing Corporation

The Institute of Urban Studies has chosen a topic which concerns many Canadians. People today realize that the quality of life in the city is changing—in a number of ways, not all for the better—and that we must do something about it. And more and more people are recognizing the achievements of the Institute of Urban Studies here at the University of Winnipeg. It has fostered research, discussion and debate about improving the lives of people in the inner city.

Over the years, Canada Mortgage and Housing Corporation (CMHC) has established a close working relationship with the Institute. It is an excellent example of the partnership the Corporation has developed with private, public and non-profit institutions across Canada. As many of you know, CMHC and the University of Winnipeg provide major support for the Institute of Urban Studies. It gives me great pleasure to tell you that CMHC will continue its funding commitment this year: we will be contributing 260 thousand dollars in 1991-92, to ensure that the Institute carries on its work.

Examples of that work include studies of changes in the inner core of cities on the Prairies, and a program of research to identify ways to make development more sustainable in Winnipeg and in other Canadian cities. The Institute has sponsored research which has sought solutions which are novel, innovative and practical. As we encounter the rapid social and economic changes of the twenty-first century, this is the kind of work we need in Canada. In its mission of helping to house Canadians, CMHC supports the contributions of people with talent, imagination and insight. With CMHC continuing its five-year funding commitment until 1994, we can all look forward to continued leadership from the Institute and its associates.

An example of that leadership is the initiative to bring together people this morning to examine the problems and opportunities in sustainable development and urban housing. Everyday, in every city and town in Canada, the news media remind us of the needs, the issues, the differing views regarding the impact of urban development on the environment. We see and hear about congestion, deteriorating quality of air and water, pollution and social problems in the heart of our cities. Our suburbs are characterized by massive investment in infrastructure, land and roadways to serve private transportation needs. None of these resources are renewable.

On the other hand, we see and hear that economic development in our cities is the key to sustaining jobs—to alleviate unemployment and related social problems and to provide the capital to mitigate environmental damage. There are many people—rightly—pointing out the problems. There are fewer people suggesting practical answers on the form future development should take—and perhaps even fewer people listening, and putting those answers to work.

Today, we have a group of speakers who have examined the problems, considered solutions and offer some suggestions. They cover a broad range of aspects of sustainable housing and urban development. They recognize that solutions will not come from one-dimensional approaches or unilateral action.

Reconciling housing with the environment is no simple matter, and will require much more than action by one group, one jurisdiction or one institution. It requires partnership. CMHC works closely with many professional associations, academic institutions, industry groups and other public departments at all levels of government which are concerned with urban and regional planning and the residential sector.

One such program, sponsored by CMHC, is "Affordability and Choice Today," or A.C.T., which is designed to foster regulatory reform at the local level. In addition, we are bringing sound ecological principles to bear on Canadian housing. The building of a new house can generate as much as two and one-half tons of waste, while the renovation of an old one can waste otherwise reusable materials. Our new construction waste reduction challenge, for instance, is aimed at implementing the 3 Rs—reduce, reuse, and recycle—in residential construction and renovation.

I think we realize that we must all work together. And we must not allow the difficulties, obstacles and frustrations of trying to work together to degenerate into excuses for doing nothing: we must form cohesive and effective partnerships where co-operation is the norm. In fact, we are so committed to the concept of co-operation that we are recently established an agency called "The Canadian Centre for Public-Private Partnerships in Housing." This agency works with private sponsors to create innovative housing solutions . . . using public expertise and private money.

When we listen to the research, analysis and suggestions of concerned people like our speakers today, we know that we have relevant, practical and novel solutions at hand. We can understand the complex relationships between the forces at work in our cities. We can grasp the interplay between the build environment and the natural environment. We can develop, not simply new housing, but new ideas to adapt future needs. We can make use of the results of high quality research to educate the public—to change attitudes and behaviour. And most important, we can bring to bear the political will to make these things happen, to agree on our goals and to pursue them. On Saturday morning, we have come together to discuss the challenges we face, and the opportunities we have before us. Our speakers will provide some provocative facts, ideas and suggestions.

With its major contribution to the Institute of Urban Studies, Canada Mortgage and Housing Corporation has ensured the continuation of the work of the Institute. To build on that work, as

partners, we must all do our part in transforming those facts, ideas and suggestions into action—action which will help provide housing for the Canada of the ~~21st~~ twenty-first C~~entury~~ which our children deserve.

THE ORIGINS OF SUSTAINABLE DEVELOPMENT AND ITS RELATION TO HOUSING AND COMMUNITY PLANNING

David D'Amour
Research Division
Canada Mortgage and Housing Corporation
Ottawa

INTRODUCTION

Our subject here today is one of the most important challenges facing human settlements all over the world: the implementation of sustainable development practices. I would like to begin by thanking the Institute of Urban Studies for inviting me to Winnipeg to contribute to these discussions. As an urban researcher representing Canada's national housing agency, I am profoundly interested in both the concept of sustainable development and its application to housing and urban planning.

The main message I would like to get across this morning is that sustainable development is not a new concept. Variations on the theme have been around for a very long time. In fact, it's only quite recently that a distinctly Western disregard for the environment emerged around the same time as the phenomenal growth of our cities.

As a result of this urban growth and disregard for the environment, there are now a host of social, economic, and environmental challenges confronting our built forms. CMHC, and the rest of us, have only just begun to address these challenges in a comprehensive way.

To help clear up the term sustainable development, I shall begin this morning by reviewing some of the history behind the concept. Next, I shall discuss the many challenges confronting housing and urban development. And finally, I shall introduce you to some of CMHC's activities that are addressing these challenges.

THE ORIGINS OF SUSTAINABLE DEVELOPMENT

To put the recent call for sustainable development into perspective, we should understand that environmental stewardship has a long history in North America. It started with the people many point to as the very models of sustainable development—our indigenous populations.

Evidence suggests, however, that *even* Native Canadians had to *learn* how to co-exist with the North American environment after coming here via Bering Strait some 10,000 years ago. Original lifestyles had to be adjusted after climate change, improvident hunting and other human interventions, such as fire, eventually led to the decline of numerous North American species. Studies show that during the Pleistocene period, human beings could have met their food needs with about five percent of the animals they were apparently responsible for killing. As the number of North American species decreased and surviving species dwindled, the ecosystems of large areas were disrupted and

indigenous populations were devastated. The experience is thought to have contributed to the emergence of indigenous people's unique relationship with the earth, expressed in their culture, knowledge, practices and careful stewardship of the living earth.

With the arrival of the Europeans starting in the fifteenth century, however, indigenous peoples' ecological perspective was quickly overwhelmed. The fur trade, slash and burn land clearing practices, and later, the industrial revolutions, all ran their respective courses with little or no regard for the environment. This disregard for the environment was the beginning of what the renowned U.S. Conservationist, Aldo Leopold, would later describe as: "a land relation which is strictly economic, entailing privileges, but not obligations."

With the industrial revolutions came exponential economic and population growth. As the implications of exponential growth became increasingly apparent, concern for the environment and understanding of its importance to human well-being increased dramatically, particularly after the Second World War, when rates of natural resource consumption soared well beyond historical levels.

In the 1960s and 1970s, several classic documents such as Rachel Carson's *Silent Spring* (1964), E.F. Schumacher's *Small is Beautiful* (1973), and the Club of Rome's *Limits to Growth* (1972), sensitized people to our conspicuous consumption and to the reality of large-scale environmental degradation around the globe.

The first international event to address the global challenges articulated by these and other documents, was the U.N. Conference on the Human Environment held in 1972 in Stockholm, Sweden.

At the end of the Stockholm conference, the official delegates passed the "Declaration on the Human Environment," or 109 resolutions for action, dealing with matters that had to be acted upon by nations, media and citizens alike. From these, the world has seen the emergence and growth of such organizations as: the United Nations Environment Programme (UNEP); World Conservation Strategy; Ocean and Seas Action Plan; Earth Watch; and World Heritage.

The Canadian delegation at Stockholm urged further consideration of the relationships between urbanization and environmental degradation. This eventually led to Canada's hosting of Habitat, a U.N. Conference on Human Settlements, held in Vancouver in 1976.

Among the sub-themes of this conference were rates of urbanization, the role of human settlements in national economies, and basic human needs, such as housing, a clean environment, health care, employment and education.

Around the same time as Habitat, a uniquely Canadian response to environment-development dilemmas was delivered by Justice Thomas R. Berger in *The Report of the Mackenzie Valley Pipeline Inquiry*. The pipeline proposal mobilized powerful economic interests, including multinational oil

companies, banks, steel companies and North American gas utilities. However, in spite of the massive public relations campaign by the applicants, Canadians became disturbed by the environmental and Native issues. The report, written with a clear sense of conviction for the environment and social problems of the North, enshrined the principle that economic development could be stopped by environmental veto.

By the 1980s, environmental consciousness in Canada and around the world reached an all-time high as the cumulative effects of development, and its accompanying environmental degradation, reached global proportions. In Canada, public opinion polls consistently ranked the environment among the most important, if not *the* most important issue facing the country. This consensus, here and elsewhere, led to action on several fronts.

For example, in 1980, the World Conservation Strategy was adopted by the International Union for the Conservation of Nature and Natural Resources (IUCN). It was endorsed by Canada in 1981.

In 1986, the World Conservation Strategy Conference, held in Ottawa, examined progress in implementing the World Conservation Strategy. The conference was attended by more than 300 decision-makers from around the world and ended on a hopeful note. For the first time in the 40-year history of the United Nations, there was almost unanimous agreement that the nations of the world must unite to combat poverty and war. In fact, poverty, and the wars it engenders, were labelled as the most significant threats to the global environment.

Also in 1986, the Third Biennial Conference on the Fate of the Earth was held in Ottawa and endorsed by 225 organizations. The conference followed two previous Conferences on the Fate of the Earth, which were held in New York in 1982, and in Washington D.C. in 1984.

Finally, in April 1987, the World Commission on Environment and Development published its landmark report *Our Common Future*. The establishment of the Brundtland Commission in 1983, reflected the conviction that it is possible to build a future that is more prosperous, more just, and more secure because it rests on policies and practices that are both ecologically and economically sustainable. In November 1987, discussion and debate on the report led to a U.N. Resolution calling upon governments of all member states to develop policies, programmes and budgets to support "sustainable development."

Now, ever since the Brundtland Commission released *Our Common Future*, there has been a lot of discussion about the meaning of the term "sustainable development."

Some environmentalists have charged that sustainable development is nothing more than a sell-out to industry. An opportunity to continue with business-as-usual, with minor modifications when

it's convenient or profitable. Others have suggested that sustainable development is an impossibility, a contradiction in terms, or an oxymoron.

There may be an element of truth to both of these assertions. However, it is probably also true that much of the confusion surrounding sustainable development is a result of the words themselves: "sustainable" and "development."

For example, too many people tend to confuse economic development with economic growth. Economic growth is generally understood to mean an ongoing expansion in scale of the physical dimensions of the economic system. If this is assumed to be true, then clearly economic growth cannot be sustained indefinitely. This was the gist of the Club of Rome's *Limits to Growth* in 1972.

Economic development, on the other hand, is a far less tangible concept and not nearly as easily quantified. In fact, we don't really have any indicators of development, just of growth. If economic development is understood to mean a positive qualitative change in the economic system that pre-empts the need for continuous growth, then sustainable development becomes a very real possibility.

The other tricky word in sustainable development is "sustainable." Many understand an activity to be sustainable if it is one which can be carried on indefinitely, without being adversely affected by, or adversely affecting its surrounding environment. This overly pure interpretation is, however, an impossibility. First of all, nothing lasts forever. And second, we cannot possibly act in isolation from our environment for the very simple reason that as part of the natural system our actions necessarily alter the system. And when the use of natural resources is involved, virtually everything we do "pollutes" the environment—at least to the extent that the second law of thermodynamics, or entropy, is understood to be a form of pollution.

In a practical sense, therefore, sustainability is a relative *concept which should be measured against the next best, or next worst, alternative course of action.*

With this in mind, I would like to turn my attention to one component of human activity that desperately needs an alternative to the *status quo—the urban development process*.

SUBSTANTIVE ISSUES

Given the rapid rate of urbanization around the world and the dominant position of urban areas in the world's population distribution, the challenge of sustainable development as presented by the Brundtland Commission in 1987, is largely an urban challenge.

Today, about 80 percent of Canadians live in urban areas, up from about 25 percent in 1881 and 50 percent in 1921. Globally, more than 2 billion people now live in cities, up from 600 million

in 1950. As Third World cities continue to grow by another three quarters of a billion people in the next ten years, about half of humanity will live in cities by the year 2000.

According to the Brundtland Commission, over the next several years, the developing world will have to increase by 65 percent its capacity to produce and manage its urban infrastructure merely to maintain today's often extremely inadequate conditions. The situation will be particularly severe in the developing world's mega-cities, such as Mexico City, which is expected to have to cope with some 25 million residents by the turn of the century. Similarly, Sao Paulo and Calcutta's populations are expected to approach 24 and 16 million respectively by the year 2000.

Although the potential for disaster is not nearly as high in industrial countries, such problems as environmental degradation, inner-city decay, and neighbourhood collapse, will be among the most important urban issues.

Relating the concept of sustainable development to urban areas as a whole, therefore, is one of the major challenges Canadians and the rest of the world face in dealing with today's global ecological crisis.

The challenge presents itself on many fronts, and involves virtually all of our cities' predominant land uses, including: residential, transportation, office, commercial, institutional, industrial and open space.

In developed countries, and particularly in North America, however, one of the most pressing challenges will be to reduce both the embodied and operating resource intensity of our sprawling residential development patterns. In fact, as is often pointed out, rethinking the two main pillars of our settlement patterns—the private car and the single-family detached house—has created what is arguably the single most important challenge to urban sustainability in Canada.

In a nutshell, the challenge consists primarily of reducing Canadians' dependence on private cars, and creating houses that are at once more affordable for all income groups, more efficient in the use of energy and other natural resources, and more sensitive to changing housing demands and needs. Many, more specific social, economic and environmental issues flow from this broad housing challenge.

For example, the primary social challenge for the housing industry will be to respond to rapidly changing demographics. This includes: an aging population; increasingly smaller households; and a rate of household growth that is faster than the growth rate in the population as a whole.

The housing industry will also have to respond to gradually shifting attitudes, perceptions and values. For many people today, a higher "quality of life" is now broadly perceived to include such things as: better access to employment, cultural and recreation opportunities; good educational

facilities, community support groups and day care; and more interaction with an exciting mix of people with different cultural, professional and ethnic backgrounds. These are all expectations that prevailing residential development patterns are hard-pressed to deliver.

To begin to respond to all of these social issues, the housing industry will have to start producing a greater variety of more affordable and more appropriate housing options. Its primary economic challenge will be to achieve these objectives while maintaining the industry's productivity, its competitiveness, and its vital contribution to the national economy.

For example, the share of total Gross Domestic Product accounted for by total residential construction in Canada has ranged between four and seven percent over the post-war period. Estimates also indicate that the $27.8 billion spent on residential construction in 1986, generated over 1 million person-years of employment, just under 320,000 of these directly in the construction industry.

These numbers represent a lot of building activity and a lot of Canadian business. They are so significant in fact, that we use them to help gauge the overall health of our entire economy. But like the rest of our economy, the housing industry has yet adequately to incorporate long-term environmental considerations into its cost-benefit ratios.

This, despite the fact that our houses are all made with and operate on products from our surrounding environment. They are all major consumers of natural resources in the building, renovation and demolition stages. And they are all major consumers of energy and water in the occupancy stages. Some sort of "full-cost accounting," therefore, means that the industry will have to begin considering a variety of environmental issues at both the community and household levels.

At the community level, some of the more important urban planning issues include:

1. *The land required for residential subdivisions*. Today's primarily suburban residential developments typically account for about 50 percent of the average city's total land area. Housing has, therefore, been the primary culprit in the ongoing conversion of agricultural land to urban uses. It has also helped consume and degrade other sensitive areas, such as wetlands and shorelines.
2. Our dispersed development patterns have also led to an over-dependence on private cars, the most inefficient mode of urban transportation we have. Today, fully 77 percent of Canadian households own one or more automobiles and 73 percent of all journeys to work are made by car. And the situation doesn't appear to be getting any better. Between 1980 and 1988, the number of registered cars in Canada increased by about 18 percent, while the number of licensed drivers grew by about 24 percent.

Presumably, many Canadians are still waiting to buy and register new cars. There are now over 12 million registered cars in the country, a growth of about two million in the past eight years. And there are many more to come.

3. In most urban areas, cars have also overtaken industry as the number one source of air pollution. The average car spills over 34 kilos of hydrocarbons, over 4,000 kilos of CO_2, and about 30 kilos of nitrogen oxide per year. Multiply these numbers by 12 million, and you begin to appreciate the magnitude of the problem.
4. Our dispersed development patterns are also extremely expensive to service. A single-family detached house for example, requires about four times more linear infrastructure per unit than the average duplex. For municipalities, this also means four times more distance to travel for such services as snow and garbage removal, school bus routes and public transit.

Governments at all levels can no longer afford to ignore these kinds of inefficiencies. We must somehow learn to stretch our service dollars, or work smarter rather than harder. If we fail in this capacity, the real question being debated about the entire infrastructure issue, and about community development in general, is: who will face the unpopular job of raising more tax dollars, and who will do the more popular job of spending it?

If we lower the microscope from the community to the level of the individual house, we find a variety of environmental issues in the building, occupancy and renovation stages of a dwelling unit's life-cycle. Some of the key environmental issues in the building stage include:

5. The energy intensity of building materials: for example, the typical woodframe house requires approximately one-third less gross energy than do the main alternatives—steel or concrete. There are trade-offs to be made in every situation, but this is the kind of information that the industry needs to know to make informed decisions.
6. Another issue in the building stage is residential construction waste: an average of more than 2.5 tonnes of waste is produced in the construction of one new dwelling unit. And as much as 10 percent of all lumber purchased for construction ends up as waste. Coming to grips with this problem would not only lighten the load on the environment, but would also save the builder a lot of money.
7. One of the key social challenges in the building stage will be to construct more flexible houses, able to adapt to today's changing housing demands and needs: for example, the 65 plus age group is expected to surpass 3.9 million in 2001, up from about 2.8 Million in 1981. Of this, the percentage made up of the over 75 population is expected

to top 44 percent, up from around 35 percent in 1981. This implies the need for a radically different stock of housing as the nuclear families for which the suburbs were planned move into an ever-shrinking minority position.

One approach to dealing with changing demographics that are ultimately reflected at the community and household levels is the Canadian Home Builders' Association/Canada Mortgage and Housing Corporation demonstration home, know as "Charlie." This made-to-convert house can be a single 2,000 square foot residence, or it can be converted into two separate single residences by adding and removing certain key walls.

Its purpose is to introduce flexibility into neighbourhoods, so families can progress through their natural life-cycles, consuming and renting out space as required. Its a particularly useful concept for "house-rich, empty-nesters," who wish to supplement their incomes, while remaining in their homes as long as possible.

In the occupancy stage, the main environmental issues related to housing are:

8. The energy spent to operate existing dwelling units: residential end-uses account for approximately 20 percent of total energy demand in Canada. Since space heating requirements account for over 65 percent of this, there is significant potential to bring this number down considerably, particularly in Canada's older stock of post-war housing.

9. Canadian households also appear to be consuming far too much fresh water; municipal water use, of which the residential component accounts for over 63 percent, has undergone a general upward trend, rising from about 3,000 cubic metres in 1972 to over 4,000 cubic metres in 1981. This rate of increase is significant, particularly when only five percent of domestic water is used for drinking and cooking, while fully 70 percent is used to water our lawns and to flush our wasteful five gallon toilets. At 360 litres *per capita* per day, Canada is second only to the United States in *per capita* water consumption, and nearly double the consumption rate of both Sweden and the United Kingdom (200 litres *per capita*).

10. The flip side of this water consumption is the pollution of receiving waters by residential wastewater discharges: in 1984, only about 2,000 of Canada's over 3,000 communities had sewers of any kind. And of these communities, only about 44 percent had some kind of sewage treatment. Today, many of these facilities are now obsolete and/or rapidly deteriorating due to a lack of maintenance.

And finally, an increasingly topical problem in many Canadian cities is the land required for household waste: the average Canadian generates about 1.7 kg of garbage per day. Much of this is recyclable material, such as paper and glass. And much of it is organic and could be composted rather than sent to landfills.

On the subject of landfills, the renovation and demolition stages of a unit's life-cycle have also proven to be massive generators of waste: in a 1989 survey of 100 licensed renovation firms, it was determined that over a 12 month period, over 8,000 reusable items were sent to landfill sites. This includes 711 kitchen sinks, 455 bathtubs, 570 refrigerators, close to 4,000 interior doors, and about 2,600 exterior doors.

To put the problem in perspective, there are tens of thousands licensed renovation firms across Canada and countless informal operations adding to these numbers on an ongoing basis. All of these housing challenges in the planning, building, occupancy and renovation stages are interrelated. What is required for the necessary changes to come about is the widespread dissemination of research to encourage the housing industry to adopt better building practices and housing technologies. Research targeted to consumers will also help boost the demand for more environment-friendly products.

To complement this process, however, we also need a revamped regulatory framework. One which is flexible enough to permit the rapid introduction of innovative building techniques, house forms and technologies.

We also need a much more comprehensive community planning process. A process which can consider all of the issues, and evaluate the complex trade-offs associated with different development alternatives. And a process that can do all of this in a manner consistent with new economic realities and changing attitudes, perceptions and values.

For the rest of my talk, I would like to explain how CMHC is helping to affect some of these changes.

CMHC ACTIVITIES

First of all, it should be noted that, as a Crown Corporation, actively engaged in building and community research and development, CMHC is well positioned, in both the business and government sectors, to facilitate the development of more sustainable communities in Canada.

Moreover, this goal is in keeping with the key role CMHC has always played in improving Canadian housing and living conditions. For example, under the provisions of the National Housing Act, policies to support private market housing led to new standards for new construction, and to new

housing technologies and approaches. Other policies concerning equity and social justice in housing, led to the development of a range of programs which provide housing assistance for needy Canadians.

There is no question that CMHC has made great strides in both of the above policy areas since the post-war period. From a "quality of life" perspective, it can even be argued that CMHC literally transformed the way the majority of Canadians live.

More recently, however, with the increasingly integrated nature of environment and development decisions, CMHC has been undertaking a number of activities that address the linkages between our homes, our communities and the environment.

At the international level, CMHC has been actively promoting the role of cities in sustainable development. In fact, we were instrumental in getting member countries of the OECD—Group on Urban Affairs to accept this topic as the master theme for the group's new mandate. We also helped ensure that this mandate reflects the social dimension of sustainable development, often overshadowed by environmental and economic considerations.

CMHC is also represented on the steering committee of the "future buildings forum," being organized by the international energy agency. The purpose of this international forum will be to investigate the long-term sustainability of buildings.

Other international activities include involvement with: World Cities and Their Environments—a five city consultation; the International Colloquium on Human Settlements and Sustainable Development; the 1992 United Nations Conference on Environment and Development; and the United Nations Commission for Human Settlements. One of the prime responsibilities of the UNCHS, or Habitat, is the implementation of the Global Strategy for Shelter to the Year 2000.

If anyone would like any more information on any of these activities, you can call CMHC's International Relations Division in Ottawa.

Closer to home, CMHC is currently working on a variety of research projects to improve the overall sustainability of housing. This includes work on:

- the energy intensity of building materials;
- rationalized house energy systems;
- the impact of consumer choices on energy and the environment;
- earth energy systems;
- construction waste;
- residential water conservation; and,
- soil gas and toxic lands.

Perhaps worthy of special mention is CMHC's "Healthy Housing Design Competition." The primary objective of this project is to demonstrate house designs that respect the principles of sustainable development, without compromising indoor air quality or affordability. Seventy-two submissions were received for the first stage of the competition, which closed October 1, 1991. Based on such design criteria as healthy indoor environments, energy and resource efficiency, environmental responsibility, and economic viability, the prototypical designs include a range of housing types in each of the following design categories: suburban detached, older home retrofit, and urban infill. CMHC will provide funds to assist finalists in developing detailed designs for Stage Two. We also propose to undertake follow up demonstration activities.

CMHC also works closely with many professional associations, universities, industry groups, and other public departments concerned with broader, urban and regional planning issues.

One of the Corporation's initiatives in this context is the Affordability and Choice Today program, or ACT. Sponsored by CMHC, ACT is being carried out by the Federation of Canadian Municipalities (FCM), the Canadian Home Builders' Association (CHBA), and the Canadian Housing and Renewal Association (CHRA).

The program is designed to foster regulatory reform at the local level. In particular, it encourages municipalities and the housing industry to work co-operatively to improve housing affordability and choice through more flexible municipal planning and building by-laws. The impetus behind the ACT program includes such issues as:

1. outdated land development standards that often prevent the use of cost-saving methods in land-use planning, site planning and site servicing;
2. approval procedures that cause unnecessary delays, increasing costs; and,
3. building regulations that often inhibit innovation and technological change.

One of the main components of the program, therefore, is concerned with streamlining land development, and building approval processes. The idea is to minimize costly delays in order to enhance the affordability of both land and housing.

Another component examines land development standards, such as, land-use, site planning and site servicing standards. These standards are important since they help determine both the capital investment and the resource input required in the construction of our houses. It is hoped that regulatory reform would ease the rigidity of these standards, allowing for more flexibility and innovation in the planning and design process.

Taken together, then, CMHC's research activities have a heavy emphasis on the social, economic and environmental dimensions of sustainable urban development. This is in keeping with the corporation's position that sustainable community development necessarily implies not just the need to achieve economic objectives and to maintain ecological integrity, but also to consider the importance of a variety of social considerations, such as community equity, and responsiveness to changing social conditions.

Ironically, much like the notion of sustainable development itself, this sort of comprehensive decision-making framework is not new in Canada. It has a long history, starting with the efforts of Thomas Adams—a planning advisor to the Canadian Commission of Conservation, established in 1909. Adams' conviction that the physical well-being of the people is the resource from which all others derive value made explicit the relationship between social welfare, housing, the environment and urban planning. The Commission's work might even have been more comprehensive than today's outlook. It embraced not just housing, urban planning and public health, but also resource management issues, such as the wise use of forests, agricultural land, wetlands and so on.

For CMHC, and other actors and agencies interested in human settlement issues, the ultimate challenge will be to conduct our affairs while respecting the same holistic unity that our predecessors on the Commission of Conservation recognized three-quarters of a century ago.

This is no small challenge. But while the transition may be stressful, it also ripe with economic potential. As our colleague William Rees from the University of British Columbia has pointed out—those industries, companies and nations that recognize the potential early enough, will build not just ecologically harmless businesses or economies, but will also become the best at fixing others' mistakes.

The whole world is full of mistakes. We must seize the moment by cleaning up our own backyard, and by helping others do the same.

In closing, I would encourage us all to heed the very wise motto which was proposed by an environmental activist a few years ago:

Let's treat Canada as if we planned to stay.

THE POLITICS OF SUSTAINABLE URBAN DEVELOPMENT POLICY IN CANADA

Philip H. Wichern, Ph.D.
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INTRODUCTION

What is the politics and the policy relevance of "le développement urbain viable"—"sustainable urban development" in Canada?[1] This concept has become a prominent focus not only for this Institute and Canada Mortgage and Housing Corporation, but has also been the theme of major international conferences held in Toronto and Montreal—the latter being the third Summit Conference of Major Cities of the World (Couture, 1991). In addition, the more general concept of "sustainability" has also become an important policy focus for such national organizations as the Canadian Federation of Municipalities and the Canadian Institute of Planners. The latter was advised that " . . . sustainability is essential to our survival, and should be viewed as (our) . . . central operating principle . . . "(Canadian Institute of Planners, 1991). With this focus in academic circles and professions, as well as more general policy commitments from the Prime Minister and Premiers to take leadership in promoting sustainable development, it is most appropriate to inquire as to the degree to which Canadian governments at all levels are formulating policies and undertaking projects which make sustainable urban development a key concept in Canadian settlement and urban policymaking? Or, is this interest simply a diversion for academics and professionals from public and private patterns of continued wasteful, pollution-producing, urban growth—"business as usual"? In other words, what is the politics of sustainable urban development in Canada?

The author introduced and first addressed these questions in a previous volume published by this Institute (Wichern, 1990). However, the scope for that initial research was quite limited. It introduced the research question and traced the development of the first definitions of sustainable urban development in Canada. But its primary context was the Manitoba Government's policy focus on formulating and implementing sustainable development policies. The primary research focused on the degree to which City of Winnipeg officials and programs were recognizing and incorporating sustainable urban development policies. This paper expands the research scope to include all levels of Canadian government. The organization is quite simple: beginning with the national government, each of level of government is reviewed with regard to the recognition and status of sustainable urban development as a focus for urban policymaking at that level. At the local level particular attention is given to numerous Canadian municipalities which are pursuing innovative sustainable development practices and developing sustainable urban development as a primary policy focus. A final section summarizes the research findings and makes recommendations for further research.

THE FEDERAL LEVEL

The sponsorship of the conference for which this paper was prepared and David D'Amour's paper (presented at the conference immediately before this paper) indicate a substantial commitment by some individuals and subunits within Canada Mortgage and Housing Corporation (hereafter indicated by the letters CMHC) to exploring the nature and the significance of sustainable urban development. The institutional focus of this commitment appears to be its Research and Policy Planning Division, and especially its Centre For Future Studies. In 1991, there was also an interdivisional committee which was reported to be functioning as an nexus for activities focused on this subject (CMHC, 1991, p. 1). The particulars of CMHC's expanding sustainable urban development activities have been described in D'Amour's paper and CMHC publications (see CMHC, 1991, pp. 1-4). Those activities will not be described or evaluated further here, because they are well described elsewhere, and because evaluation of them here would be premature.

What is more important to recognize here is that there are several significant institutional and political constraints which limit the scope and significance of CMHC's focus on sustainable urban development in terms of national urban policy development. First, the scope of CMHC's institutional commitment appears to be limited to research, demonstration projects, and support for workshops and conferences. There is no indication that these activities are expected to lead to the formulation of national sustainable urban development policy (or policies).[2] Most, if not all, of CMHC's activities are currently in the realm of academic, research, experimental, demonstration projects, or the communication of information about sustainable urban development. But this author has found no evidence of an explicit process of formal policy formulation and adoption designed to produce national sustainable urban development policy or policies.

There is also a second important consideration to be kept in mind when assessing the current interest in sustainable urban development as a policy focus within CMHC, and that is whether sustainability is one of broader policy goals of CMHC. When this organizational context is considered, the policy status of CMHC's sustainable urban development activities diminishes even further. First, by statute (the National Housing Act), CMHC "is a federally-owned Crown corporation in the business of helping to house Canadians," (CMHC, 1989, p. 1). "CMHC's general mission is to ensure that Canadians are well housed . . ." (CMHC, 1990, p. 1). Unlike the United States Department of Housing and Urban Development, CMHC has no clear mandate or policy context for developing sustainable urban development policy (or any other kind of national urban policy). This lack of policy mandate is confirmed in the omission of sustainable urban development in CMHC's six "strategic directions" for 1990 to 1994, whose commitment does not extend beyond "Harmonizing the pursuit of Federal

housing objectives with urban development"(CMHC, 1990, p. 14). In short, no matter how much research particular individuals or groups do, inside or outside of CMHC, the political reality is that CMHC has up to this time not been given a mandate to formulate or implement sustainable urban development policy(ies). CMHC appears to be limited to sponsoring conferences, undertaking research, publishing or funding the publication of sustainable urban development information, as well as helping to organize and funding demonstration projects, such as those in the ACT program, described elsewhere in this volume.

But isn't sustainable development the product of, and an explicit policy goal of Environment Canada, the lead department for Canada's Green Plan? The Prime Minister reportedly obtained the idea for his surprise 1988 commitment to making Canada a leader in sustainable development from "a thought Environment Canada officials had while drafting Canada's response to the Brundtland report."(Robson, 1990).[3] Subsequently, sustainable development become "the major policy objective advanced by a broad range of actors within the (environmental) policy community."(Hoberg, 1991, p. 9). Although this new policy focus was not explicitly directed toward urban settlement in Canada, one indirect result was the first formal definition of sustainable urban development formulated in Canada. That definition was undertaken by planner/consultant Nigel Richardson in a paper commissioned by the Canadian Environmental Advisory Council. The paper related sustainable development to land use planning in Canada (Richardson, 1989).[4] Richardson recommended that governments at all levels should identify sustainable development as the primary goal of land use planning (p. 40). As far as the author has discovered, this recommendation has not been acted upon within Environment Canada. Nor does research indicate any subsequent major thrust within Environment Canada to further formulate and seek adoption of sustainable urban development policy. It is a fact that Environment Canada's land division was given the new title of "sustainable development", and there are senior staff of the Department who have titles such as "Director of Sustainable Development." But research for this paper did not indicate that division or any other of Environment was working on further defining or formulating sustainable urban development policy.[5] To the contrary, reliable sources indicated that when CMHC staff attempted to insert sustainable urban development into the Environment Canada review agendas, those efforts were rebuffed.

Or consider briefly Canada's 1990 Green Plan, which bills itself as enunciating a "Government-wide commitment" of over 40 federal departments and agencies. It endorses about 400 recommendations in seven fields with 22 targets, and 100 initiatives which citizens can pursue in achieving sustainable development. But cities, urban development, and sustainable urban development are not mentioned (some sources say, purposefully excluded). While local affairs are exclusively placed

within the provinces' jurisdiction (in Section 92 of the Constitution ["B.N.A."] Act of 1867), the omission of any national recognition of Canadian urban settlement patterns, trends and significance within the Green Plan is shocking. Despite the Prime Minister's original pronouncement and extensive policy rhetoric since that time, there appear to be few significant practical efforts toward the development of sustainable urban development policies in any other federal agencies or departments, except the limited initiatives in CMHC noted above.

These considerations lead us to the broader scope of the whole federal government, and the crucial problem that it has no constitutional mandate, no institutional framework, and no political or policy mandate to formulate, adopt, or implement national urban policy in Canada, including sustainable urban development policy. Furthermore, the present political prospects are not very favorable to the development of such a mandate, or framework, or policy priority. As this paper was being prepared in fall 1991, the (Mulroney) Government indicated in its proposals for revising the Constitution that it was "prepared to recognize the exclusive jurisdiction of the provinces" in "housing" and "municipal/urban affairs", as well as several fields of environmental policy (The Government of Canada, 1991, p. 37). As far as research for this paper could determine, neither the Liberals or the New Democratic Party had formulated (as of late 1991) significantly different proposals which would lead to sustainable urban development being proposed as a national policy goal. Even if formulated and adopted by a party, in the current climate of constitutional and economic policy concerns, there appears to be little hope that such a goal would have a high priority on any national party's (or Governments') political agenda for adoption and implementation.

Therefore, at the national level, sustainable urban development appears to be a non-policy concern, and not even in the mainstream of national political rhetoric. Rather, sustainable urban development at the national level is popular primarily as a research focus within some parts of CMHC, as well as being a subject of interest to some academics and professionals (planners, consultants, housing and urban development associations). Serious policy consideration of sustainable urban development policymaking does not appear likely in the near future at the federal level in Canada. (This is unfortunate, because modern urban trends and problems are national in scope, not just provincial or local--see Bunting and Filion, 1991). However, if we are to discover progress toward sustainable urban development policies, it is to the provinces and their local or regional governments that we must turn our attention.

THE PROVINCES

Like the federal government, provinces have not created integrated institutional frameworks for the development of urban policy(ies). Rather, they have mostly responded to various types and patterns of urban problems within disjointed and often decentralized institutional contexts which vary from province to province. Older departments such as Municipal Affairs have been joined in addressing urban environmental problems by departments of the environment and provincial environmental protection agencies--but not always with integrated systems of decision-making or policy development. From 1987 to 1990, most provinces added to the existing multiplicity of provincial institutions by creating "multistakeholder" provincial Round Tables on the Environment and Economy (Hoberg, 1991, p.11; Howlett, 1990), many of which featured sustainable development as a central organizing phrase and concept.

In Manitoba, the Progressive Conservative Premier, Gary Filmon, took a personal interest in promoting Sustainable Development as a provincial policy focus. He chaired the province's Roundtable and such interprovincial events as the 1989 national Conference on Sustainable Development (Environment and Economy, 1989). He also created a Sustainable Development Coordination Unit reporting directly to him and the provincial Cabinet. That Unit recommended to the provincial Roundtable basic sustainable development principles and a strategy for developing appropriate policies (Wichern, 1990, p. 78, 79, and 87). The Unit and the Round Table have produced "A Sustainable Development Strategy For Manitobans" which included sustainable development policy goals and strategies for Winnipeg ("the Capital Region"), as well as goals and strategies for rural areas and northern communities. However, even this expensive and ambitious policy development effort does not claim to have an integrated and comprehensive sustainable urban development policy (or set of policies) as one of its goals.

Other provinces such as neighbouring Saskatchewan also pursued sustainable development policy goals, but research for this paper did not indicate that any province in 1991 was attempting to formulate a sustainable urban development policy or set of policies. Virtually all the provinces were formulating, adopting, and implementing new environmental policies regarding the collection and disposal of liquid and solid wastes (especially toxic wastes), recycling, and protection of areas of natural environments. In Ontario, a 1989 confidential report was presented to the Liberal (Peterson) Government under the title "Reforming Our Land Use and Development System." It suggested replacing the many provincial laws affecting land uses with a single law to be called "The Sustainable Development Act." According to reports on this Act, it would have streamlined the processes for approving land development proposals and taken environmental impact assessment powers from

Ontario's Environment Ministry (shifting them to Municipal Affairs). Opposition parties opposed the law as a step backwards in environmental protection (McInnes, 1989).

The Rae New Democrats, who replaced the Peterson Liberals in 1990, had quite different policy priorities. In June of 1991, they announced the creation a Commission on Planning and Development Reform, headed by former Toronto Mayor (and Councillor) John Sewell. Its draft goals did not include sustainable development, and apparently the working groups of local officials which it inaugurated did not spend much time discussing the concept. In the Commission's @U(Newsletter), which reported their suggested policies, the only mention of sustainable development was by a local planning official in the Rural and Small Centres Working Group. He was quoted as suggesting that " . . . we should have talked about sustainable development . . ."(Commission, 1991, p. 9). However, it should be noted that despite eschewing sustainable development terminology, the Commissions draft goals contained many of the policies and practices associated elsewhere with the concept of sustainable urban land development without any mention of the term or concept as a policy goal. Reviews of materials from other provinces and interviews with knowledgeable officials indicated a variety of policy responses to defining and applying sustainable development in the context of rural and urban settlement. In most provinces the emphasis is on environmental protection and waste management, without primary focus on sustainable urban development. Instead, sustainable development is applied to rural local communities and agricultural regions. The focus is therefore on sustainable rural and regional development, which involves provincial programmes designed to maintain the economic viability of local communities, and which may subordinate environmental concerns to economic development (cf. Everitt, Annis and McGuinness, 1990).

THE LOCAL LEVEL

In an earlier study of City of Winnipeg officials and policies, the author found very little recognition of the nature and importance of sustainable development in terms of municipal government and urban development (Wichern, 1990, pp. 79-80). A more recent survey indicates that senior administrative officials in Winnipeg have learned more about sustainable development, have different definitions of what the phrase means, but can readily identify numerous policies and projects as being "sustainable development" initiatives, including environmentally friendly purchasing practices, energy and waste management policies, and social development/community improvement programs such as the tri-level Core Area Initiative (Maclaren, III, pp. 95-105).[6] In addition, the Manitoba Government added to the City of Winnipeg Act a requirement that the City address sustainable development as a policy goal in

its review and revision of its official development plan, Plan Winnipeg. This added Winnipeg to a growing list of Canadian cities whose development plans included sustainable development goals and policies.

There are several other cities and regional municipalities in Canada which in 1991 were attempting to formulate, adopt and implement explicit sustainable urban development policies and practices. Some of the best known involve comprehensive plans. For example, in 1987 the City of Sudbury began adoption of a new comprehensive "official plan" which committed the City to " . . . making a smooth transition from a conventional growth city to a sustainable development city" (Richardson, 1990, p. 54; Sudbury, 1987, p. F-1; see also Maclaren, 1991, III, section on Sudbury). Another often-cited example of inserting sustainable urban development into an official plan was the City of Ottawa's revised version of its official plan (City of Ottawa, 1991). The proposed Mission Statement of the Plan was a concept of Sustainable Urban Development defined as "...an approach to managing urban development which balances the rights of the individual and the needs of society with the need to conserve our natural resource base and enhance the natural environment, thereby promoting the health of Ottawa's inhabitants and communities." (Chap. 2, p. 2).

Both Peterborough (Ontario) and Montreal also exhibit a high degree of civic government leadership in promoting sustainable urban development as a new, overarching policy framework for local urban governing. Canada's first local Citizens' Committee for Sustainable Development was organized in 1988 in Peterborough, Ontario by Mayor Sylvia Sutherland (Sutherland, 1989; Tomalty and Hendler, 1991, p. 28; Maclaren, 1991, III, pp. 197-98). This local Citizens' Committee for Sustainable Development formed a Task Force which has made over 101 recommendations for changes in local policies and administration (Maclaren, 1991, pp. 199-203). Another notable locus of local sustainable urban development policy is the City of Montreal. There, the Doré administration formally adopted "le développement urbain viable" as its strategic focus for all City departments and operations, perhaps as a result of its preparation for, and hosting of, the October, 1991 Third Summit Conference of World Cities, which adopted the concept as its theme (Jacobs, 1991; Couture, 1991; see also Gaudreau et Hamel, 1990).[7] In Montreal, as in Winnipeg, Sudbury, and Ottawa, much of the general policy focus on sustainable urban development is institutionalized in new environmental co-ordinators and offices. In Toronto, such an office has been created and many important environmental initiatives undertaken without the sustainable development label and rhetoric. This pattern is repeated in many other municipalities.

On a broader scale, there are many other innovative policies and projects which have been identified by officials or classified by researchers as being the local operationalizations of the concept

of "sustainable urban development." The above and other examples of the vast variety and diversity of local ~~s.u.d.~~ policies and projects in Canada are reviewed in detail in the third volume of a 1991 survey of ~~twenty-three~~ Canadian cities (Maclaren, 1991). Undertaken for the Intergovernmental Committee on Urban and Regional Research, this survey included the definitions of sustainable urban development by senior civic administrators, as well as comprehensive reviews of policies and programs which they identified. The first volume of the resulting report indicates the research methodology, the many different definitions of sustainable development, and the patterns of sustainable development initiatives which were identified, organized by the various civic departments which administered them. As well, there are other initiatives administered by senior city government officials or inter-departmental committees (in Montreal, for example). Others are products of citizen advisory groups and civic committees outside the City government (as in Peterborough). It is not within the space available here to properly review and summarize the vast plethora of local policy initiatives and project innovations which are reviewed in this report. There are simply too many, and they are too diverse to do them justice here. It is sufficient to note here that there are dozens of different policies and projects being implemented in Canadian cities which can be classified as sustainable urban development. These include many recycling and waste management policies and projects, as well as planning and development initiatives. They include processing and reuse of city vehicles' oil and tires, as well as environmentally friendly purchasing around which there has formed the Association of Canadian Cities for Environmentally Sound Strategies--ACCESS).[8] The local innovative policies include Toronto's ozone reduction policies, and requirements for environmental impact assessments and natural areas as prerequisites for new urban development in several Ontario municipalities. Vancouver commissioned the widely acclaimed study of what can be done locally about atmospheric pollution (City of Vancouver Task Force On Atmospheric Change, 1990).

Despite this broad range of policy innovation at the local level in Canada's major cities and metropolitan areas, there are several reservations that deserve attention. First, most sustainable urban development innovations can, and often are, subsumed or at least anchored in environmental policy contexts. It remains to be seen whether sustainable urban development will become a separate (and enduring) policy focus. Second, even granted the adoption of sustainable urban development as a policy focus in those municipalities which have been studied, it must be recognized that there are hundreds of other municipalities classified as "urban" in Canada, as well as over four thousand other municipalities. Are the municipalities cited above the leaders in a national trend toward local policymaking based on "operationalizing" sustainable development at the local level? (The concept has been the focus of Federation of Canadian Municipalities' conferences and publications.)

In considering sustainable urban development as an emerging policy focus at the local level, we have mostly been dealing with administrators and municipal staff. But local politicians, local interest groups, and the general public should also be considered. The rhetoric of local politicians, election reports, and public opinion polls contained very few direct references to sustainable urban development. There were many references to environmental policies and pollution issues. For example, monitoring the 1991 campaign reports from Ontario, and particularly Toronto did not suggest a popular surge of recognition of, or emphasis on sustainable urban development in campaigns for municipal offices. Here in Manitoba, the concept of sustainable development remains largely absent in local political rhetoric, and the local politicians still view it with considerable disdain. Nor has the term "caught on" with many urban environmentalists and post-marxists, who see it as rhetoric really meaning "business as usual" (Gerecke, 1989). Instead they champion "Green Cities", "ecology parties", and "bioregionalism" (Cholette, 1989; Gordon, 1990; Roussopoulos, 1990; Cholette,1991).[9]

Therefore, it seems to me that we are actually dealing with here is the intellectual and administrative politics of sustainable urban development, not the practical urban politics of local campaigns and elections or citizen groups and pressures. Rather, we are considering the increasing power and influence of a concept which is being put forward and may or may not "stick"as an important concept in the national professional and academic communities (of educated elites) which are most involved in various urban policy and development practices (urban housing and municipal government networks and "policy communities"). For the most part, the local press and media have not "bought" the concept of sustainable development either. They continue to present relevant issues in environmental and economic terminology.

CONCLUSION

There are some interesting innovations, but limited policy development of sustainable urban development policy or policies at all levels of government in Canada. The most important ~~nexuses~~ areas of innovation are found in the federal CMHC, the Manitoba Sustainable Development Unit, and at least half a dozen local efforts reviewed in this paper. However, many more important policy innovations and projects are being implemented at all levels of Canadian government--and especially in larger Canadian cities and urban areas--as "environmental" initiatives, without being labelled "sustainable urban development." In addition, that concept has many different meanings at the present time. It remains to be seen whether sustainable urban development will become a suitably defined and enduring component of urban policymaking in Canada. But sustainable urban development is much more than academic, professional, or political rhetoric in Canada. It represents many important policy

innovations and practices which take present environmental impacts and future consequences into account. Sustainable urban development is a policy perspective on urban policymaking which evaluates the costs of public decisions on present and future environments and generations. But it remains to be determined whether this perspective becomes a more general framework for local, provincial, and even national urban policymaking. Though there are some locales to watch (Ottawa, Montreal), the prospects do not appear bright. Rather, it is more likely that sustainable urban development will be folded into environmental urban policy categories.

Further directions for research include the tracking of national, provincial, and local "operationalizing" of sustainable urban development and environmental policy development. There should be much more extensive research into the orientations and influence of business groups (in particular housing and urban development associations as well as Chambers of Commerce and Boards of Trade), as well as of the "Greens" and environmental groups. Clearly, the whole field of local environmental policies and innovations is an important research priority: especially recycling and waste management programs, as well as environmental requirements for new urban development projects. Whatever the fate of sustainable urban development, there is much more research needed on urban environment politics and policies in Canada.

NOTES

1. There is more than one French version of this phrase. In some phrases, "durable" or "soutenable" appears instead of "viable." The order of the adjectives is sometimes reversed. The cover subtitle on a recent issue of the Montreal-based Forces magazine was "Le développment viable en milieu urbain: sustainable urban development . . ." (Couture, 1991).

2. This is in spite of explicit citation of Prime Minister Mulroney's 1988 declaration that sustainable development would be "Our basic principle . . . in considering any development, any project, and program . . ." (cited in CMHC, 1991, p. 1).

3. The source of this observation was the Associate Director of the Sustainable Development Program at the Institute for Research on Public Policy. In the article, he was quoted as explaining: "It was the usual Ottawa thing. Somebody decided that the politics of something looked pretty good, reached down into the bureaucracy, pulled out whatever was there, dressed it up and put it into an announcement to the UN." (Robson, 1990).

4. Richardson defined sustainable urban development as ". . . a process of change in the built environment which fosters economic development while conserving resources and promoting the health of the individual, the community, and the ecosystem (recognizing that . . . the urban environment cannot be separated from the region of which it is a part)" (Richardson, 1989, p. 14; on the latter concept see Fowler, 1991).

5. The Canadian Institute of Planners has come closer to at least seriously considering Richardson's recommendation. See *Plan Canada*, 31,3 (May, 1991).

6. One City of Winnipeg Commissioner probably came closest to the truth when he told the interviewer that he thought sustainable development is actually a bundle of different ideas, which each government and business organization can adapt for its own purposes: "It means thing to government, another to business" (p.96). Winnipeg's Chief Commissioner indicated there was great interest in the concept and the philosophy it represents, but ". . . what it means is less clear. It isn't simply a buzz-word, but rather represents a new value structure;" (p. 95).

7. The author acknowledges the assistance of Normund Brunet, City of Montreal Environment Co-ordinator, regarding these points. See also Maclaren, 1991, ~~Volume~~ III, section on Montreal.

8. Originated in Toronto in 1989, this network now includes purchasing officers in Halifax, Fredericton, Moncton, Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary, Edmonton, and Vancouver. This is based on information from Glen Nakauchi in the Purchasing Department at the City of Winnipeg and Normund Brunet, who is cited in the previous footnote.

9. For broader perspectives on Greens and other "ecologies", consult Ternette, 1987 and Tokar, 1988. Local Green parties have elected municipal councillors in several

American cities, according to *Green Letter: In Search of Greener Times*, 6:2 (Summer, 1990), but the local groups in Montreal and other Canadian cities have been less successful (on Montreal, Roussopoulos, 1990; on other cities, *City Magazine*).

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THE REGULATORY FRAMEWORK AND THE DEVELOPMENT OF SUSTAINABLE HOUSING AND COMMUNITIES: CAN WE ACHIEVE "SUSTAINABLE" OBJECTIVES WITH OUR CURRENT PLANNING REGULATIONS?

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INTRODUCTION

"Sustainable development" is a concept which recognizes the interdependence of environmental, social and economic interests. The concept gained wide support as a result of the work of the World Commission on Environment and Development (WCED). In 1987, the Commission released a report entitled *Our Common Future*, better known as *The Brundtland Report*, which broadly defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] A more vivid description, especially fitting in the context of sustainable housing and community development, was offered by Margaret Thatcher in an address to a 1988 Conservative party conference: "No generation has a freehold on the earth," she said. "All we have is a life tenancy—with a full-repairing lease."[2]

Nearly five years after the Brundtland Report first popularized the concept of "sustainable development", policy makers and planners are just beginning to grapple with the challenge of putting "sustainable development" into practice. Unfortunately, without a clear idea of what makes a society or community sustainable, the next step, the implementation of sustainable practices, becomes very difficult. Nowhere is this more true than in the domain of urban land-use planning.

Returning to the idea of sustainable development as means to balance environmental, social and economic interests, we only have to look at our cities to see that economic concerns have driven development with little regard for the environment. It is becoming increasingly clear that we need to change how we develop land and housing if our children are to be able to live in our communities. There is an urgent need, therefore, for greater direction in the integration of environmental and social considerations into the land-use planning process. Inadequate consideration of environmental and social factors in urban policy making involves harmful long-term effects, such as the loss of productive agricultural land, atmospheric and water pollution, contaminated sites, traffic congestion, road accidents, crime and visual blight. Indeed, as authors Barbara Ward and René Dubos have pointed out, a planned and comprehensive strategy for human settlements is one of the best tools we have to deal with these problems.[3]

To formulate strategies to make our communities more sustainable, planners must begin by asking themselves three questions:

1. What makes a community sustainable?

2. Can we achieve sustainable community development with out present planning tools and practices? (and if not, what tools are needed?)
3. Are there initiatives from which we can learn?

The paper is divided into two parts: the first to address questions one and two; the second, question three. In Part One, some of the key characteristics of sustainable communities are identified and examples of planning regulations that inhibit the development of those characteristics are presented. Although we are a long way from consensus on the definition of the perfect sustainable community, in order to take any practical action, it is necessary to identify some basic elements of a sustainable community. The next step for planners is to identify the regulatory barriers to achieving sustainable communities.

Some of the regulatory tools necessary to achieve sustainable development at the community level are already at our disposal; they need only be redefined in order to fit into a sustainable planning process, one that integrates environmental and social equity considerations into decision-making.[4] The aim of this paper, therefore, is to provide a framework for the revision of regulatory tools—specifically, municipal land-use and building regulations, and planning approval processes—which can be used to make Canadian housing and communities more sustainable.[5]

To illustrate how regulations can be modified to achieve sustainable objectives and to provide an understanding of what challenges lie ahead, the second part of this paper highlights some regulatory reform approaches drawn from this author's experience in implementing a nationally sponsored housing program called A C T (Affordability and Choice Today). Although the objective of A C T is to improve housing affordability and choice and to encourage innovation by stimulating regulatory reform, many of the issues addressed by the program relate to those of sustainable urban development.

PART ONE: CHARACTERISTICS OF AND REGULATORY BARRIERS TO SUSTAINABLE COMMUNITY DEVELOPMENT

For all purposes of this paper, the Brundtland Commission's definition of sustainable development provides a useful starting point for discussion on sustainable community development. It focuses on two related goals: balancing environmental and economic interests and ensuring current and intergenerational equity. Simply stated, a sustainable community is one which "improves the quality of life while living within our ecological means".[6] According to landscape architect Peter Jacobs, the achievement of sustainable living rests on four basic principles:

- respecting the unity of life;
- improving the quality of human life;

- minimizing the depletion of non-renewable resources; and
- limiting human impact on the planet.[7]

The first two principles refer to the notion that equity is central to sustainable community development. Development that is sustainable, then, is not achieved at the expense of other groups or later generations. Improving the quality of human life implies that all groups are sufficiently empowered to effectively participate in decision making and community-building. The third and fourth principles suggest that we must use our resources more efficiently and manage ecosystems to conserve the earth's vitality and diversity.

There exists some consensus on the physical characteristics of a sustainable community. For example, it is widely recognized that higher densities and mixed land use facilitate the use of public transport, reduce the consumption of land and resources and reduce the degradation of the environment all of which are "sustainable" objectives. Much work remains to be done, however, on more concretely defining what the essential elements of a sustainable community are and what kind of urban forms favour sustainability. A discussion of six issues provides a framework for the re-definition of regulations. These issues are

1. Pattern and density;
2. Conservation of the built environment;
3. Choice and diversity;
4. Equity;
5. Protection of the natural environment; and
6. Succession.

Governments develop regulations and procedures related to the production and use of housing and land for a variety of reasons. Common government policy objectives are to ensure public health and safety; to permit the effective management of housing and land within communities; to improve housing quality; and to achieve aesthetic goals. If used imaginatively, planning regulations can also be employed to meet sustainable objectives, such as keeping the costs of urban services under control, more equitably distributing resources, maximizing long-term return from the use of renewable resources, and protecting unique natural landscapes. Current regulatory frameworks, however, present a number of significant barriers to the achievement of sustainable community development.

1. Pattern and density

Urban design and residential density, in particular, greatly influence energy and resource consumption, transportation requirements, environmental impact and access to jobs and services.

North American cities are generally characterized by a dispersed pattern of living resulting from the separation of land uses and the predominance of low density residential development. This type of urban form, which consumes precious resources and increases environmental contamination, limits our ability to create sustainable communities. In short, pattern and density have important implications for our ability to make our communities more sustainable. It is possible to identify patterns that are likely to contribute to sustainability. Regulations need to :

- encourage a mix of land uses (and activities) where different uses can co-exist harmoniously; and
- encourage higher density housing forms.

Such compact, mixed-use development has been strongly endorsed by the European Economic Community in its recent *Green Paper on the Urban Environment* (1990).

Current land-use planning and zoning regulations that foster development patterns that consume vast tracts of land for single-detached housing or that physically distance urban activities from each other restrict such development. The impact of urban form on energy use provides one example. Our current development patterns of decreasing densities and increasing separation of uses has resulted in the profligate use of energy. Energy use, although influenced by such factors as the cost of fuel and the quality and availability of public transport influence energy use, can be greatly reduced by careful, comprehensive planning. Changes in land-use patterns can reduce the use of private transport and make public transportation more viable, thereby reducing demand for rapidly dwindling energy supplies.

We need to identify urban patterns that are not only more efficient in terms of energy use but that will not inhibit the introduction of innovative energy technologies, such as communal heating and power systems, and solar energy.[8] Existing land-use patterns, for example, severely limit the use of cogeneration; the sources of waste heat are often at some distance from the places where this heat could function usefully as energy.

Therefore, to achieve sustainability, regulatory systems need to recognize the environmental advantages of urban patterns that allow for a more compact settlement and a greater integration of different land uses. Land-use regulations, particularly zoning and subdivision standards, need to be redefined so that they favour the intensification of existing communities, higher densities in new developments, the integration of different activities, and energy-efficient transportation systems.

For example, one means of increasing density is to intensify existing housing and communities. Housing intensification is achieved by increasing the number of housing units in a community through the processes of conversion, infill, subdivision and redevelopment. Many non-intrusive, cost-effective

means to intensify existing neighbourhoods have already been identified and successfully implemented. Secondary apartments, granny flats, and infill housing are just a few examples. These practices, however, are illegal in many jurisdictions. For example, in spite of a number of successful provincially and federally funded granny flat demonstration projects undertaken in several Canadian municipalities, including Fredericton, New Brunswick, Sudbury, Ontario and Lethbridge, Alberta, granny flats are still not permitted uses in most single-family districts.

Revising land-use regulations to permit the intensification of existing housing and neighbourhoods would serve several environmental objectives: it would reduce dangerous emissions from private-car use and reduce energy use for transportation and home heating, while preserving agricultural land. Intensification can be achieved by designing land-use regulations to be more flexible in terms of permitted uses. For instance, municipalities can include zoning provisions to permit residential options such as rooming and boarding houses and secondary apartments as-of-right and adopt development standards so that alterations to create additional units in new building stock can take place in the future, as needs change within a community.

2. Conservation of the built environment

Our cities are full of disused and underutilized land, buildings and infrastructure. To make our communities more sustainable, we have to start by making better use of the existing built form. In fact, we will be relying heavily on our current housing stock to house people thirty years from now.[9] Maximizing the use of existing built environment would achieve several sustainable objectives; it would curtail urban sprawl into valuable agricultural lands and sensitive areas, limit the negative impact of urbanization on the environment, and provide a greater choice of housing types and tenures. There are several ways to ensure that our existing stock of housing continues to provide housing in the future:

- rehabilitating and maintaining existing housing and neighbourhoods; and
- converting existing housing to permit a greater range of uses, types and tenures.

There are, however, regulatory constraints to these practices.

Rehabilitation and maintenance of existing housing stock and neighbourhoods

Given that a significant proportion of the housing stock in this country is aging, regulations should be revised to encourage residential rehabilitation and maintenance. Chief among regulatory barriers to upgrading housing and neighbourhoods are building standards, land-use regulations, and permitting processes for renovation activities. Current building codes, for example, may bear little or

no relationship to residential units built before the regulations were updated. Codes often require the latest materials and methods that are inconsistent with those originally used. Introducing newer technologies sometimes requires the replacement of plumbing and electrical systems that are still serviceable. Furthermore, in many jurisdictions, building regulations and approval processes are identical for new construction and renovation. Such unresponsive regulations and approval processes may increase the cost of rehabilitation, discouraging people from renovating. One innovative approach to encourage the rehabilitation of existing buildings is the adoption of a "renovation code" that deals specifically with renovation. Other measures to stimulate residential renovation projects include exempting minor works from the approval process; assigning staff specifically to handle residential renovations; and providing a same-day permit service for small or low-value projects.

Conversion of existing housing to more appropriate housing types and tenures

Another opportunity to make more efficient use of existing resources, buildings and serviced land is to revise regulations to permit the conversion of non-residential buildings to residential uses and the conversion of existing dwellings to more appropriate housing types and tenures. Some likely conversions are rental housing to condominiums and cooperatives; former warehouses to apartments; and single-family houses to include rental units.

We must recognize that one urban element, such as a house, a park or school, can serve many purposes both over time and at the same time. Neighbourhoods can be intensified; schools can double as community centres; homes can serve as workplace and be designed to contract and expand according to a family's changing needs. One recent successful example is the rehabilitation of a school building in Brandon, Manitoba, to contain a senior's residence and community centre as well as an elementary school. As enrolment at the school declined, much of the old school building fell into disuse. The new design encourages social interaction between the elderly residents and the school children and allows for the future expansion of the school facilities or the seniors' housing should needs change.[10]

3. Choice and diversity

A stable sustainable community fosters diversity in land use, housing type and form and human activity. In contrast to homogeneous suburban environments, a sustainable community would welcome a range of socio-economic groups. A diverse community provides choice, is less dependent on one resource and is a more interesting, liveable place. Just as a farm will not survive if it is dependent on a single crop that fails, so may a community deteriorate if its residents do not have

access to appropriate housing or employment options. If the only choice in the community is a single-detached home, for example, an elderly couple may be forced to abandon the community when they can no longer maintain their home.

The mismatch between the existing housing stock and people's housing needs and social and environmental concerns point to the urgent need to reevaluate how we use and develop housing and land. To increase housing and lifestyle choices, planning regulations should enable a community to:

- evolve with changing housing needs and preferences; and
- promote security of tenure.

Changing housing demands

Recent demographic changes, such as a decline in household size, an increase in the number of childless and single-person households, and a growing number of elderly households, are creating a substantial demand for small, affordable housing units. Excessive standards and inflexible requirements impede the housing delivery system's ability to supply smaller units and other types of housing appropriate to current economic and social conditions. For example, exclusionary regulations that stipulate large minimum lot and house size, single-family detached housing, the use of expensive building materials, and so on, result in expensive housing. This kind of development practice tends to exclude those who cannot afford, or do not want, such houses.

A recent American Planning Association report examined planning and design strategies to retain or restore the integrity of traditional small-town environments, as an alternative to standard low-density, residence-only suburbs. The report identified diversity of housing types as one of the key ingredients in the development of successful small towns.[11] One way to foster diversity is to provide for a range of housing types as one of the key ingredients in the development of successful small towns.[11] One way to foster diversity is to provide for a range of housing types in both new residential developments and the intensification of established communities by zoning land to accommodate a range of housing types.

This would require the development of zoning standards such as residential densities, and minimum unit and building area, to permit the development of the desired range of housing types, and the elimination of any standards which would serve to preclude these uses.

Security of tenure

Zoning regulations that limit choice can also be detrimental to security of tenure. Such seemingly innocuous matters as allowing elderly homeowners to use part of their homes as rental units in order

to remain in their communities are frequently prohibited by local zoning bylaws. Regulations that limit the availability and choice of affordable housing may force people out of their homes and communities when their financial means and housing needs change.

4. Equity

Fundamental to the concept of sustainable development as defined in the Brundtland Report is the idea of social and economic equity, not only across generations but within the current generation. Authors Julia Gardner and Mark Roseland argue that in a sustainable society, everyone's basic physical needs would be met by a more equitable distribution of resources. Quality of life, they suggest, would reside in "the sense of personal belonging and usefulness that can be found in sharing and community; in the sense of empowerment and the opportunity for creativity that comes with self-determination; in the sense of connectedness to our natural environment associates with increased access to an understanding of healthy ecosystems; and in the sense of well-being that comes from 'plenty of good food, clean air and clean water.'"[12]

Sustainability addresses social self-determination, opportunity and quality of life for all groups. There is a need to develop mechanisms that will enable people to fully participate in, and contribute to, the economic and social development, and the environmental improvement, of their communities. To create a balanced, integrated community, it is vital to address the social and economic aspects of land use. In particular, it is essential to formulate urban development policies that reduce segregation, and are sensitive to the needs of the underprivileged, especially with respect to decent, affordable housing. From a land-use planning perspective, promoting equity involves:

- providing access to housing, employment and services;
- encouraging the development of affordable housing; and
- encouraging social integration.

The distribution of housing, employment and services

An effort must be made to ensure that all citizens have equal access to decent education, employment, and housing. Land-use plans, if not prepared in a holistic manner, can limit the accessibility of jobs and urban services. For example, a transition house at the outer edge of a city would limit the residents' access to the services they need to integrate into the community. Plans and regulations must allow for the development of a city in which mutually supportive activities are not separated and dispersed, but are instead available locally. For example, land-use regulations can be redefined to permit the integration of commercial development and places of employment into residential areas and

vice versa. Planning regulations must also recognize that, given the changing technological environment and demographic and social realities, homes can be a place for a wider range of activities.

Housing affordability

Housing must be affordable to attract people to a community and to allow them to continue to live there. Affordable housing also provides a foundation upon which people can contribute socially and economically to society. Although it is true that other forces in addition to regulatory barriers affect housing affordability, it has been shown that regulations can add substantially to the cost of housing. Residential development standards often exceed public health and safety requirements, or are outdated and overly complex. Lot and dwelling sizes, setbacks, street widths, parking requirements, infrastructure and construction materials and techniques are examples of housing development components that tend to be overspecified or oversized in zoning and subdivision bylaws and in building codes. Such overregulation affects housing affordability by restricting the supply of land and by raising the cost of construction and rehabilitation. According to a *U.S. Advisory Committee on Regulatory Barriers to Affordable Housing* report, in some areas of the United States, it is not uncommon for excessive regulations to increase housing prices by 20 to 35 percent (1991).

How can planning officials create zoning bylaws that will allow developers to provide housing for people with modest incomes? Small lots, small units, reduced building and infrastructure standards, and efficient proposal reviews all form part of the answer. One such regulatory solution in the establishment of affordable housing districts. A recent issue of Zoning News describes one such district in Fairfax County, Virginia, which allows 4,200-square-foot lots—this reduction in lot size translates into a 20 percent increase in density over other single-family districts in the county.

Social integration

Exclusionary zoning regulations, more than any other regulatory mechanism, act as a major barrier to social integration.[13] Such zoning, by increasing the cost of housing beyond the reach of society's poorer members, segregates people by income level. This, in turn, contributes to the already limited access by economically disadvantaged groups to better educational and employment opportunities, recreation facilities, public transport, and other urban services. As one author has forcefully suggested: "Zoning must go beyond neutrality and take an aggressive, positive role in remedying the damage inflicted by the existing distribution of land, income, and capital in metropolitan housing markets".[14]

Regulations can be redefined to permit a variety and mix of housing types and tenures across communities, and to break down the walls that segregate the affluent from the disadvantaged. For example, the development of inclusionary zoning mechanisms, such as mixed-use districts, bonus zoning, floating zoning, and mandatory set-asides of a given percentage of affordable units in a residential development represents an effort to take into account the social and economic aspects of land use.

Despite a significant evolution in the design of low-income housing projects—present-day projects are typically much smaller scale, designed to blend in architecturally with the community and to provide a greater mixture of income levels—neighbourhood resistance, commonly known as the NIMBY (Not In My Back Yard) syndrome, remains one of the chief obstacles to the implementation of social integration strategies.[15] Neighbourhood resistance has stymied modifications to regulations that would permit the construction of smaller homes or more appropriate housing forms, and to allow the subdivision of land into smaller plots. Regulations have, instead, been used to maintain the *status quo* in existing neighbourhoods, thereby limiting housing choice for lower-income households and fostering social segregation.

5. Protection of the natural environment

To apply this principle, planners need to ensure that development:

- reduces resource consumption and encourages appropriate resource use; and
- maintains the integrity of ecological systems, such as wetlands and waterways.

Starting with the idea that "no system is sustainable unless all resources are renewed",[16] sustainable development requires a reduction in resource (both renewable and non-renewable) consumption and a better matching of resources to uses.

Inherent in the concept of sustainable development is environmental protection. Policy makers must "work to ensure that growing economies remain firmly attached to their ecological roots and that these roots are protected and nurtured so that they may support growth over the long term."[17] Cities, for example, are often built on the best agricultural land. Limiting urbanization would protect the countryside and preserve sensitive natural habitats such as wetlands and woodlands.

While creating an environmentally sensitive community, we need to recall that cities are for people, and that people find certain types of places more livable and stimulating. Therefore, we need to balance the need to protect the environment with human needs like comfort, safety, choice and access.

Zoning categories and other planning controls have generally been developed to guide the distribution and form of urban development, with only general consideration of the environment. Land-use designations exist for natural areas such as "hazard lands" or "open space", but these provide only limited protection. New zoning categories need to be developed to protect natural areas and ecological functions. Author Tony Hiss, for instance, describes a proposed system of countryside zoning, known as "existing-use zoning", which would protect working landscapes such as farms from speculators, by designating such land to permit only traditional economic activities.[18]

Land-use measures can also promote "greener" behaviour. In California, a model zoning ordinance for single-family residential developments encourages developers "to include innovative designs both inside and outside to make recycling more convenient and accessible for residents".[19] Likewise, a recent building code amendment in Minnesota requires suitable space for trash separation, collection and storage in some types of housing.

Building standards and land development regulations often inhibit innovative approaches to housing and community design and construction, even though these approaches would allow a reduction in construction costs and increased energy and resource efficiency. Performance standards, rather than prescriptive standards, may better serve to promote the development of innovative construction techniques and materials.

6. Succession

We must ask ourselves whether our type of community development can be sustained over time. Regulators must understand, anticipate and plan for a community's future needs, needs that may evolve over time. Planning for the needs of future generations requires a comprehensive, long-range strategy, which incorporates environmental concerns. The challenge will be to balance the need for responsive planning regulations with the need to consider the cumulative effects of planning decisions.

For example, a project's short- and longer-term social and environmental costs must form an integral part of its assessment. The need to fully value these costs in the decision-making process will entail a shift from an emphasis on short-term sectoral policies to the inclusion of longer-term environmental and social costs and benefits in the economic equation. For example, the decision to build a low-income housing project using an energy-saving design may entail a higher initially capital outlay, but may also mean lower long-term operating costs and obvious environmental benefits.

Several characteristics of a sustainable community and some of the municipal regulatory constraints to the development of those characteristics follow. As a framework for the creation of the

types of regulatory tools needed to make our communities more sustainable, it is proposed that municipal regulations and approval processes be changed to:

- encourage a mix of land uses, thereby decreasing the separation of activities;
- encourage higher density housing forms;
- intensify existing communities;
- rehabilitate and maintain housing and communities;
- convert housing to permit a greater range of uses, types and tenures;
- be more responsive to changing housing needs and preferences;
- promote security of tenure;
- provide a more equitable access to housing, employment and services;
- encourage the development of affordable housing and social integration; and
- encourage innovation.

PART TWO: LESSONS FROM THE A C T (AFFORDABILITY AND CHOICE TODAY) PROGRAM

Redefining municipal land-use and building regulations to meet the objectives of sustainable community development is one way to start putting the concept of sustainable development into practice. Although the need for regulatory change seems self-evident, modifying regulations is no easy task. Regulations and approval processes are, by their nature, slow to change. Nevertheless, change is occurring . . .

One initiative that seeks to stimulate regulatory reform at the municipal level is the A C T program. A C T was initiated in 1989 by a partnership of four national housing organizations, the Canadian Home Builders' Association (CHBA), the Canadian Housing and Renewal Association (CHRA), the Federation of Canadian Municipalities (FCM), which administers the program, and Canada Mortgage and Housing Corporation (CMHC), which provides financial support. A C T provides grants on a competitive basis to municipalities, private and non-profit builders, and other housing professionals. Grants are awarded for three types of projects:

- demonstration projects resulting in the construction of a house or a subdivision;
- streamlined approval projects, which aim to reduce the time and effort involved in obtaining development approval; and
- case studies of existing regulatory initiatives.

The idea behind the program is to provide an incentive to municipalities and builders to work together to actually modify planning and building regulations and approval processes. The demonstration projects provide real examples of the benefits of regulatory reform. A demonstration

house shows that regulatory changes will not destroy the character of a neighbourhood, and in fact, will increase affordable housing options.

The A C T program grew out of the joint recognition by disparate groups in the Canadian housing industry—municipal officials and planners, builders and developers, non-profit organizations—that something was very wrong with the current regulatory environment. Numerous interviews and discussions with housing professionals confirmed this view; it was found that excessive, outdated, and unresponsive regulations and permitting processes were indeed contributing to housing problems in Canada.

When the program was announced in January 1990, four main objectives were identified:

- to improve housing affordability, choice and quality through regulatory reform;
- to stimulate innovation in the housing industry;
- to develop regulations that are more responsive to changing housing needs and preferences; and
- (very importantly) to foster dialogue and cooperation among the various players in the housing sector.

It is still too early to tell whether the program has achieved these objectives. A C T does, however, present some interesting lessons that can be applied to the achievement of sustainable objectives. These lessons include:

- the importance of community-based action and of involving all the key players;
- the value of demonstration projects in stimulating change; and
- the need to share information about regulatory initiatives.

A C T has resulted in incremental regulatory changes rather than system-wide regulatory reform. To increase the impact of regulatory change, the next step may be to undertake a more comprehensive review, probably by the provinces that set up the enabling legislation.

The program has funded a wide range of regulatory reform activities across the country. In Victoria, British Columbia, for example, there is a shortage of vacant land and affordable housing; rather than encouraging continued growth in the periphery, the City of Victoria is constructing three small-lot, infill projects to demonstrate the advantages of urban intensification. One of the key obstacles to the development of higher-density housing in Victoria, as elsewhere, is neighbourhood resistance. To overcome this resistance, the City's Planning Department is working with community groups to develop design guidelines to ensure that the infill projects are compatible with the surrounding neighbourhood.

The City's non-profit housing agency, the Capital Region Housing Corporation, is also looking at the issue of regulatory barriers to residential intensification. The Corporation is designing and building a one- and two-bedroom, side-by-side fourplex. A key component of this project is the creation of a new zoning category that will permit the construction of this type of housing on lots now zoned for single-family, detached housing.

A C T has funded several projects that examine alternative land development patterns in order to reduce construction costs and increase housing density and choice. These projects typically aim to review and modify land development standards, such as zoning and subdivision bylaws, and site-servicing standards. Under consideration are standards related to streets, sidewalks, easements, lot frontages and sideyards, dwelling unit size and the provision of infrastructure and services. One project, in particular, is developing a subdivision bylaw that is flexible and sensitive to the needs, structure and values of small towns. The new subdivision bylaw will also take into account the town's unique ecological features.

Other projects confront the regulatory obstacles to greater housing choice and diversity. Various groups are looking at ways to modify regulations to permit the construction of housing forms that are now illegal in many jurisdictions in Canada. For example, projects in Dartmouth, Nova Scotia, Vancouver, B.C., and Ste-Foy, Quebec, have developed variations on the convertible house—a house that expands and contracts with changing family needs—and will draft zoning bylaws to permit its construction in single-family districts. In Kentville, Nova Scotia, regulations and design guidelines are being developed to permit the installation of granny flats.

None of these projects is earth-shattering in conception. What is exciting is that they are resulting in much-needed changes to the current regulatory environment, many of them contributing to the creation of more sustainable communities. Given the complexity of the concept of sustainable development and the ~~enormity~~ magnitude of the task ahead, policy makers may be tempted to wait until all the issues have been resolved. It is only through action and the cumulative effect of thousands of day-to-day decisions, however, that change will occur.

NOTES

1. *Our Common Future* goes on to state that "the concept of sustainable development does imply limits—not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities" (p. 8).

2. F. Cairncross, *Costing the Earth* (london: The Economist Books, Ltd., 1991), p. 16.

3. B. Ward and R. Dubos, *Only One Earth* (New York: Horton, 1972), p. 180.

4. See also N. Richardson, in *Land Use Planning and Sustainable Development in Canada* (Ottawa: Canadian Environment Advisory Council, 1989). He suggests that "[land-use planning] is potentially a most valuable instrument for achieving sustainable development without any broadening of the concept; and that we already possess a great deal of the legal power, many of the administrative mechanisms, and the experience to make effective use of the instrument" (p. 5).

5. For the purposes of this paper, the regulatory areas to be addressed will be regulatory instruments with a basis in legislation, and the procedures employed to develop, implement and enforce them. Regulatory instruments to be discussed include development control standards; building standards; zoning by-laws; site-servicing and planning standards; and land development and building approval processes.

6. This definition, suggested by a recent publication of the International Union for Conservation of Nature entitled *Caring for the World*, integrates nicely the central notions of the Brundtland Report.

7. P. Jacobs, "Strategies for a Sustainable Economy," *Ecodecision* (September 1991): 12.

8. Commission des communautés européenes, *Livre vert sur l'environnement urbain* (Bruxelles: Commission des communautés européenes, 1990) and S. Owens, "Energy and Settlement Patterns," *Built Environment*, 5,4 (1979): 282-86.

9. Canada Mortgage and Housing Corporation, *Healthy Housing Design Competition: Guide and Technical Requirements* (Ottawa: CMHC, 1991), p. 32.

10. Canada Mortgage and Housing Corporation, *Innovations in Housing for Seniors* (Ottawa: CMHC, 1989), p. 29.

11. S. Sutro, *Reinventing the Village: Planning, Zoning and Design Strategies* (Chicago: American Planning Association, 1990).

12. J. Gardner and M. Roseland, "Thinking Globally: The Role of Social Equity in Sustainable Development," *Alternatives*, 16,3 (1989): 32.

13. Just as zoning creates and preserves land value, thereby providing some stability for communities, it can also serve to protect the interests of current residents. In two landmark

cases in the United States (*Mt. Laurel I and II*), the court overturned exclusionary zoning ordinances that severely limited multi-family housing and required minimum lot sizes. The decision opened the door for more flexible zoning by obligating communities to regulate land use so as to provide realistic opportunities for low-income and affordable housing. (The National Association of Home Builders, *Low- and Moderate-Income Housing: Progress, Problems and Prospects* (Washington, DC: National Association of Home Builders, 1986), p. 79).

14. D. Merriam *et al.*, *Inclusionary Zoning Moves Downtown* (Washington, DC: Planners Press, American Planning Association, 1985), p. 5.

15. There are many reasons that changes in land-use categories meet with such widespread resistance. Typical justifications include concern over property values, destruction of neighbourhood character, increased traffic congestion and, frequently, plain and simple prejudice. Several studies have shown that these fears are often ungrounded. A recent report prepared by Ekos Research Associates Inc. for the Ontario Ministry of Housing concluded that low-income housing projects have no overall negative impact on the value of surrounding properties (see Ekos Research Associates Inc., *Evaluation of Property Value Impacts: Non-Profit Housing* [1989]). In a recent article in *Landscape Architecture*, a builder commented, "Even in the more traditional planned unit developments . . . it's been demonstrated that you can have a variety of housing types right next to each other without diminishing values. On the contrary, you can actually increase values."

16. Starhawk, *Truth or Dare: Encounters with Power, Authority and Mystery* (San Francisco: Harper & Row, 1990), p. 222.

17. WCED, *Our Common Future*, p. 40.

18. T. Hiss, *The Experience of Place* (New York: Alfred A. Knopf, 1990).

19. S. Gordon and S. Canli, "Using Land-Use Measures to Promote Recycling," *Zoning News*, 9 (November 1990): 2.

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RECONSIDERING THE DREAM:
A REPORT ON RESEARCH UNDERTAKEN REGARDING CONTEMPORARY SUBURBIA, WITH A VIEW TOWARDS A NEW MORPHOLOGY

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In an introductory paper published in 1990 by the Institute of Urban Studies, University of Winnipeg, on the theme of "Ethical Dimensions of Sustainable Development and Urbanization," Mary Ann Beavis discusses how the study of what constitutes "ethics" has recently been expanded to include the concept of human responsibility with respect to the environment (Beavis, 1990). The contention that sustainable development is an ethical notion, therefore one which is inherently related to human and environmental "good," is an enlightened idea; however, I believe it can also be demonstrated to be a particularly specious construct.

Whereas ethics is a study concerned with codifying universal perceptions of right and wrong (conduct), and attempts to articulate moral principles (virtuous and fundamental truths or doctrines), sustainable development is a much less quantifiable concept. While the notion of sustainability can adequately be defined in terms of "nourishment and rightness," development, characterized as an "evolutionary growth," cannot be fully appreciated when considered as an abstract phenomenon. Development is inadequately delineated unless its political and temporal aspects are taken into consideration. It is this linkage between one concept which has a moral aspect and another which can be perceived as having an immoral aspect which is problematic.

The inexact concept of development is one affected by scientific and theoretical forces, as are the two principal professions which translate it from being an idea into a product. Architecture and planning both involve science (learned through observation and experimentation) and theory (speculation), and are, as such, in a constant state of evolution. While an individual may be considered in terms of morality or principle, can architecture and planning, or for that matter, the development of a city, be judged in these terms?

Is there, for example, a right and a wrong way, a moral or an immoral way, of designing an urban infill project? In the current conservative era, architectural and planning theory, dominated by the likes of Leon Kriers and Prince Charles, is predicated on an affirmative reply to this query. If, however, this same question had been proposed to the proponents of Dadaism in the 1920's, the response would have been in the negative. Consider for a moment Le Vau and Le Notre's plan for Versailles versus architect Pearl's for a residence in the Laurentians. Because of the political and temporal nature of architecture and planning, what might be considered "right" today will invariably be considered "wrong" tomorrow.

Right versus wrong, moral versus immoral, fundamental truths versus accidental truths, sustainability versus unsustainability. When considering housing and urban development, there can exist no certainty, and sometimes not even a consensus. Insidious or not, the nature of development is of course of fundamental importance to the quality of life as experienced by the residents of urbanized and urbanizing areas, and to the "health" of the environment. While I believe one should question the didactic terminology and assumptions of universality, it is not my intention to denigrate the intentions underlying the concept of sustainable development.

Which leads me to the topic of my presentation: Suburbia. Upon initial examination, it would appear that to consider sustainable suburban development is to attempt to legitimize what otherwise would be perceived as an oxymoron. After all, while sustainable development concerns itself with themes such as community, equity and environment/economy integration, suburbia concerns itself with the enclave, the individual and segregation (Wismer, 1990).

In terms of the framework established for analysis of sustainable development, suburbia is more readily understood by what it is not rather than by what it is: it does not encourage Self-Determination, it does not permit Integration, it does not achieve Balance, and it does not foster Diversity. What it is, more often than not, is expressed pejoratively: suburbia as the last refuge of the individual, one that masks an insidious conformity, bastion of the religion of NIMBY. In the words of architect John van Nostrand, "The idea of the suburb in North America has been fraught with contradiction since suburbs were first identified as such in the mid-nineteenth century. Where earlier colonial forms of settlement had sought to establish European man's domination over the hostile wilderness, the suburbs were based on the more complex concept of living in harmony with nature. This idea of combining the country with the city—nature with technology—was, from the outset, one of contradiction, and gave rise to the emergence of the suburb as not just a planning type but "perhaps most importantly a state of mind based on imagery and symbolism."[1]

As most developers, and more than a few planners will admit, contemporary suburbia is not so much a manifestation of an all-pervasive ideology as it is a brilliant representation of the seductiveness of marketing and the power of corporate advertising. In what can only be described as a significant understatement, Brijesh Mathur observes that " . . . most Canadians value their dream of a home in a low-density suburb. Most are probably not willing to accept a lesser alternative."[2]

From the Lower Mainland of British Columbia to Canada's two largest metropolises, developers continue to produce a product for which, if one believes in statistics, there should no longer exist a substantial market: prohibitive housing and land costs, increased traffic congestion, transforming demographics, a lack of housing choice, the evolved and evolving status of women, a shortage of

schools and other socio-cultural amenities, have forever altered the once "utopian" quality of post-1945 suburbia. Yet, the planners keep approving, the builders keep building, and the public keeps consuming. For some thirty years, the post-1945 model of suburbia has been assailed by virtually all professional bodies. Central to their criticisms have been suburbia's most readily perceived failings: its ubiquitous land-consumption, auto-dependency, and doctrinaire land-use segregation.

But there is an even more insidious allegation which can be levelled against suburbia, a criticism which is not unique to the post-1945 model, but one which has been exacerbated by it. This has much to do with analyses and assessments of the factors encouraging the development of suburbia since the mid-~~19th~~ nineteenth century. It has been demonstrated that the transformation of suburbia from a process of town-extension to one of independent community has closely paralleled the evolution of society and the economy. In America, the decision by the middle-class to relocate to such idyllic environments as Riverside and Forest Hills had as much to do with the desire to live close to nature as it did to be removed from the perceived or actual evil of the city. As the hinterland was commodified in the form of increasingly isolated and well-off residential suburbs, the concept of community, the idea of the public, was transformed. No longer living and working in the same community, the life of a middle-class businessman was split between the two. With an enormous personal investment in a home in the suburbs, it was entirely predictable that allegiances would shift, and that the city, experienced from the office, car or commuter train, would be left to fend for itself. The rise of the suburban cannot help but be understood in terms of the decline of the urban as a "legitimate" idea (van Nostrand, 1985; Boyer, 1983; Sennett, 1978).

There is ample evidence demonstrating in pragmatic terms that the expansion of the suburban continues to occur at the expense of the urban. Peripheral extension often undermines publicly-financed initiatives aimed at reversing middle-income population loss and at restoring economic vitality to depressed inner-city areas, while at the same time absorbing an increasingly disproportionate share of a static or declining capital funds and maintenance budget. As freeways and arterials are erected on the periphery to serve an elite population, in the city, roads are left unrepaired, and schools are shut and abandoned (Mathur, 1990).

Given these observations, is it possible to construct a linkage between the apparently dichotomous concepts of sustainable development and suburbia? Yes, but only if two pre-conditions were to be applied: the first being that the concept of suburbia, defined as "the residential area on the outskirts of the city," not be pre-judged pejoratively; the second being that suburbia be viewed as an unavoidable process, but one which, in the words of architect Dan Solomon, "can be fixed."

As a resident in the Centre for Future Studies in Housing and Living Environments at CMHC, I have recently commenced a comprehensive two part study of "suburbia." The first segment, nearing completion, involves a review of multidisciplinary literature pertaining to key periods, seminal projects, and provocative ideas in the evolution of suburbia, focusing on the period from the industrial era to the present day; the second segment will, in light of this review, reconsider contemporary suburbia through the elucidation of an alternative paradigm, one which will be "tested" on a greenfield site in Mississauga, Ontario.

The new paradigm is intended as a response to nascent environmental, economic and societal critiques of current suburban planning practices, but one which is measured in that it is not premised upon a formal rejection of an inexorable North American cultural icon: the single-family house set in a leafy suburb, what is popularly referred to as the "American Dream." The nomenclature *dream* is an appropriate one, as dream is defined as "an unrealized ambition, something only imaginary," a state in which contemporary suburbia surely rests. But a dream is also defined as "a sequence of thoughts and fancies, and of visions," and in this lies the timelessness, the power, and the mystique of suburbia as icon, even though suburbia as artifact resides in an advanced state of degeneration.

The study researches the metaphysical condition of contemporary suburbia seeking to comprehend it in terms of its revolutionary past, in terms of its evolutionary present, and in terms of its theoretical future. It also seeks to understand the nature of the transformed and transforming relationship between suburbia and the "urbia" which originally spawned it, and the intercourse between urbia and contra (country), entities now referred to as urbanized territory and exurbia.

The new paradigm will not be a revolutionary one as it will be based upon a critical analysis and synthesis of *appropriate* historic, contemporaneous and avant-garde planning ideas, as well as original planning strategies. The term appropriate is used in the sense that planning concepts are considered relevant when they positively inform the five fundamental principles underlying the alternative suburban model: community compactness; neighbourhood identifiability; increased residential density; a range of low rise dwelling typologies; and less doctrinaire land-use segregation. Considered in terms of the themes and framework for analysis of sustainable development as articulated by Susan Wismer, the alternative model will be structured in an attempt to create a functional as opposed to dysfunctional "community," to promote the concept of "equity," and to enhance "environment/economy" relationships. It will also seek to support some of the principles that Wismer elucidated, including: self-determination, integration, balance and diversity.

As part of the literature review, the research investigated a number of seminal projects and provocative ideas. In the past decade, particularly in the United States, there has emerged what could

be described as a movement to formulate alternative strategies to contemporary suburbia. Spearheaded primarily by architects amongst the design professions, this latest reconsideration of the urbanization of the peripheral territory is influenced by aesthetic, cultural, socio-economic and environmental concerns. Amongst the many proposals being advanced, two strategies, those of the Traditional Neighbourhood Development and the Pedestrian Pocket, manifest considerable equivalence and have garnered significant media, public, and professional attention. It is evident that both of these initiatives owe much to a re-examination of historically significant suburban planning ideas and projects, ranging from the traditional town to the commuter and Garden Suburbs.

The most renowned of the strategies, known as the Traditional Neighbourhood Development or TND, is generally referred to as a "neo-traditional" concept premised on the notion that suburbia, to be tenable, must be designed projecting the hitherto forgotten qualities of the American town. Hence suburbia must be comprised not of a continuous spread but of a series of discrete, compact, "town-sized," mixed-use units. The concept, conceived by the Florida-based architects Andres Duany and Elizabeth Plater-Zyberk, hinges upon implementation of an innovative "zoning" ordinance, one meant to substitute for traditionally segregated land-use rules and regulations, controls that seldom permit creation of the form of community desired by architects, planners, the public, and, of late, developers.

Presented in a simple matrix, the TND ordinance is comprehensive in that it lays out a regulating (master) plan supported by the codification of urban, architectural and landscape regulations. In the process, it conceives street and architectural types, and prescribes measures to create a community exhibiting many of the formal features of the neo-traditional American town, such as the grid and the town square. An "intent" statement specifies required components of the TND, such as: civic buildings, commercial town centre and residential neighbourhoods. Each TND is required to be surrounded by open space along the majority of its perimeter.

Although conceptually intriguing, the formulation of the TND should be considered in relationship to the American proclivity towards the Planned Unit Development or PUD, essentially large corporately-owned and developed "enclave" projects premised on the provision of significant recreational amenities (e.g., golf courses). While PUD's have proven enormously popular with their residents, their exclusionary, gated quality has led to much criticism—ranging from social to environmental.

Unlike the PUD, which generally caters to a privileged income group, and is manifested by cul-de-sac enclave planning, the proponents of the TND profess that "progressive" social engineering underlies their concept. While they incorporate such social "diversification" notions as the workshop

and rowhouse, it is doubtful there is anything prescriptive enough in the TND ordinance ~~which will~~ actually ensure the creation of a "mixed," socially interactive community, although certain features, such as the adoption of a grid, interconnected streets, and houses situated close to streets, could help, in a limited way, to encourage this.

The first and most highly acclaimed TND project is that of Seaside, located about a hundred miles west of Tallahassee on the Florida Panhandle. A mixed-use resort village, Seaside was the testing grounds for both the TND ordinance and the social-engineering exercise. An aesthetically attractive community, Seaside nonetheless demonstrates that it is highly doubtful a single, profit-motivated developer can build a socially balanced community. The experience of Seaside would appear to justify this claim: since its inception, land values have tripled, and the desired social mix (i.e., artists and lawyers) has largely failed to materialize.

While Seaside can hardly be described as a "town," and even less as a suburb, it can, nevertheless, be described as a resident's and developer's dream come to: the employment of aesthetically pleasing, neo-traditional features such as narrow streets and a highly prescriptive building code has proven attractive to residents, as it ensures property values, and a bonanza for the developer, as it generates enormous profits.

The second of the strategies, the Pedestrian Pocket, is a much more provocative and intellectually stimulating concept. It was conceived and tested in 1989 in a charette undertaken by the University of Washington School of Architecture. Teams of students led by high-profile architects proposed various solutions for a site situated near Seattle. Each of the teams was requested to respond to a program devised by chief proponent Peter Calthorpe, which articulated the Pedestrian Pocket as being ". . . a simple cluster of housing, retail space and offices within a quarter-mile (five minute) walking radius of a transit (light rail) station."[3]

The Pedestrian Pocket posits a high intensity, mixed-use living and working environment. A typical pocket would accommodate approximately 5000 residents, have employment for 3000 in 1 million square feet of back office space, and be built on a 50 to 100-acre site separated from other development by a greenbelt.

In contrast to the TND concept, the Pedestrian Pocket is premised upon a finite community centred on a station in a regional collective transport system, one which would traverse the metropolitan periphery linking a constellation of pockets and providing a viable alternative to the car. Significantly, at the heart of a pocket is not just a main street, but a major employment centre, predicated on contemporary demands for service sector back-office accommodation.

While the pocket features many of the aesthetics of a "town" (i.e. a formal square, civic buildings, mixed-use centre, etc.), it does not pretend to be a town in function. The 100-acre maximum area was determined both on the basis of what constitutes an acceptable walking distance, and on the typical subdivision "increment" which a developer would undertake. While the community would be zoned for a broad cross-section of uses within the central "transit area," market forces would be expected to dictate what specifically would be built and when. Unlike the TND, the pocket would not be dependent upon a doctrinaire style and topological encoding ordinance.

While the pocket does not espouse a social-engineering zeal, as does the TND, it does seek to promote development a range of dwelling types responding to the needs of a non-nuclear family; its imagery, lacking the nostalgia of the TND, clearly manifests that vision. However, as is the case with the TND, there is nothing inherently prescriptive in the concept that would ensure creation of a balanced community. Currently, the first Pedestrian Pocket intended for an actual client has been planned and is under development near Sacramento, California.

While the TND and the Pedestrian Pocket concepts offer creative alternatives to contemporary suburbia, and while they do go some ways towards addressing aesthetic and environmental concerns, they do not offer models which address either socio-economic concerns or provide for easy replicability. However, as previously asserted, while both appear as responses to the American PUD phenomenon, both suggest planning directions which have considerable merit, and manifest characteristics worthy of further study.

The second segment of the CMHC study, that of the articulation of an alternative model, will synthesize appropriate components of these and other avant-garde models with original planning strategies. The fundamental strategic difference between these American models and the proposed alternative is in the adoption of a mixed-density block as suburbia's basic planning module.

In an area equivalent to that of the contemporary suburban block, it is intended to formulate a mixed-density block structure predicated upon a gridded street and lane pattern. The new block would provide for significantly enhanced residential density in an integrated community. It would feature: wide-frontage, narrower depth, street-related single-family detached residences, and low-rise, lane-related medium density housing of various typologies. This integrated planning structure would be capable of incorporating community-oriented, street-related commercial premises, as well as lane-related cottage industry activities.

As the principal building block of suburbia, the morphology of the block has a fundamental environmental and socio-economic impact. And while critically acclaimed concepts such as the TND and the Pedestrian Pocket address many concerns about suburbia, each of these examples possesses

a weakness in that each disregards positing comprehensive solutions for the restructuring of that most ubiquitous of suburban dwelling types, the single-family detached dwelling.

As well, it must be remembered that contemporary suburbia is not comprised of Dream houses alone, but rather is planned to accommodate three distinct residential zoning categories: those of low, medium and high density. If doctrinaire land-use segregation is to be discontinued as a practice in the alternative model, then any proposed block pattern will have to devise a means of accommodating, or rather synthesizing, the attributes of each.

Planning the new suburbia by the block instead of by the neighbourhood unit is neither a new nor a radical idea. Prior to the modern notion of suburbia, perhaps best appreciated by the description of "a community apart," towns generally expanded by ~~a manner of~~ gradual urbanization through the process of division and subdivision. This incremental approach enabled the urbanization of small landholdings, thus negating the contemporary requirement for large-scale land assembly, a practice which virtually guarantees corporate versus "individual" development. In the traditional (pre-corporate) model of the "unplanned suburb," a neighbourhood was not a marketing concept, but rather the product of a natural evolution of block by block town-extension (van Nostrand, 1985).

The practice of the city expanding through an accumulation of "unplanned suburbs" was abandoned post-1945 for reasons that are not thoroughly researched; however, it is possible to surmise that the unprecedented requirement for post-war housing and the advent and universal application of "zoning," neatly dovetailed with the appearance of corporate developers and their assembly of large, speculative land holdings. It would probably have been argued that only large enterprises could produce the quantities and quality of housing required in the brief time frame available; thus, the incremental, block-by-block practice of expansion would have been viewed as being haphazard and inefficient, an entirely specious argument. As well, it is probable that government, municipal and provincial, and their social-engineering bureaucrats, would have been desirous of implementing Canadian variants of avant-garde planning and development ideas, particularly those being initiated in America. There is no ready evidence to suggest, for instance, that, unlike in England, the environmental quality of Canadian tract development prior to 1945 instigated a critical backlash. Quite the opposite would appear to be the case, as these now "inner suburbs," particularly in Toronto and Montreal, have never lost their desirability.

Implicit in the premise of instituting a block module concept would be the abandonment of a hierarchical road network, the Holy Grail of post-1945 traffic planners. That this is possible and desirable has been amply demonstrated. Studies of generic, computer-simulated Californian communities have demonstrated that the travel miles in an unrestricted, gridded, versus a restricted,

multi-tiered hierarchical system, amounted to less than ~~sixty~~ percent of those travelled in contemporary suburban developments, produced lower travel speeds, reduced travel times, and only marginally increased road lengths.

While incorporation of the block as the primary planning module of the alternative paradigm has many historical precedents, intentional adoption of a *mixed-density* block structure has no obvious precedent, historical or contemporary.

What precisely is a mixed-density block? Essentially, it is a parcel of land of similar area to a standard suburban block, planned on a gridded street and lane pattern. Built in to the idea of the mixed-density block is the concept of transformation. Therefore, the individual lots of which a block is comprised would not be "end-run" propositions, but rather something which could evolve over time. The "lot" and the "lane" would assume dynamic qualities. Although the details need to be worked out, there would be the possibility of subdividing individual lots into as many as three parcels of land: one addressing the street, and zoned for single-family detached; two addressing the lane, zoned mixed-use. This is intended to respond to the socio-economic changes in suburbia, by offering a landowner several options. In theory, this land option would allow individual parcels to be densified over time, thus encouraging the participation of individual entrepreneurs, and create opportunities for real diversity.

It is evident that the successful implementation of a mixed-density block would require the formulation of a comprehensive zoning ordinance, one which would be informed substantially by the TND model, one which would allow for incremental development and functional transformations.

How would such a mixed-density, mixed-use lane appear? While a model will not be delineated until the months ahead, following round-table discussions with developers, community groups, CMHC officials and City of Mississauga planning staff, it is possible to illustrate how it might appear by viewing examples of appropriate lane environments located around the world. In particular, the lane environments of Santa Monica and Venice in California, and those in Sydney, Australia, demonstrate the inherent potential of the lane as a unique living environment. Each of these cities once or currently permits residential intensification of lanes in urban areas.

Finally, the objective of the second segment of the study is not to examine a mixed-density block structure as a generic exercise, but rather to demonstrate its potential and to understand its ramifications by conceptually "testing" it on a collective transport accessed greenfield site in Mississauga. This will necessitate formulating how a community comprised of these planning units could be designed. While still to be delineated, the community concept will likely be considerably informed by the TND, the Pedestrian Pocket, and by the ideas of architect van Nostrand, who has proposed an intriguing concept of urbanization which permits most of the vestigial qualities of the rural

landscape, such as hedgerows, woodlots, concession roads, rural homesteads and farms, to be incorporated without loss of "memory." The City of Mississauga has attempted to incorporate some of van Nostrand's planning ideas in the Meadowvale Village "town-extension" secondary plan. Will such a community comprised of "mixed-density blocks" be a more desirable place to live? Will it have a less negative impact on the environment? Will it assist in transforming suburbia from being a pejorative form of urbanization, to becoming a more sustainable form of development? Hopefully, an affirmative response to these and other queries will be forthcoming in the months ahead.

NOTES

1. John van Nostrand, *Toronto's Suburbs: Their Origins and Future*, Section A, p. 33.
2. Brijesh Mathur, in *Ethical Dimensions of Sustainable Development and Urbanization*, p. 31.
3. Peter Calthorpe, *The Pedestrian Pocket Book: A New Suburban Design Strategy*, p. 3.

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