

**1992**  
**Policy and**  
**Research**  
**Initiatives**

Existe aussi en français sous le titre  
«Initiatives en matière de propositions et de recherche pour 1992»

## FOREWORD

Research and the introduction of innovative ideas are the keys to improving housing and living conditions in Canada. With housing as a cornerstone of both economic and social development, it is very important that the work be conducted on a wide scale and in co-operation with a broad range of participants. Canada Mortgage and Housing Corporation, with its partners, is continuing to provide this national perspective.

We are proud to share with other government agencies, the home building and sales industry, social housing groups, various research-based organizations and the academic community, both the planning and execution of our work. Research is co-ordinated through the National Housing Research Committee, created and chaired by the Corporation. This committee serves a pivotal role in ensuring that resources are allocated and priorities established in the manner that crosses provincial boundaries and benefits the Canadian public.

By demonstrating the results of our research and sharing our findings as widely as possible, we are working to ensure that the industry is sound and competitive, research continues to be world class, and Canadians remain among the best-housed people in the world.

E.A. Fichel  
President  
Canada Mortgage and Housing Corporation

## INTRODUCTION

Canada Mortgage and Housing Corporation (CMHC), a Crown corporation, is the federal government's housing agency. We help to promote the construction of new houses, the repair and modernization of existing homes, and the improvement of housing and living conditions across the country. CMHC has been "helping to house Canadians" for the past forty-six years.

CMHC is responsible for administering the National Housing Act. Under Part IX of the Act, the Government of Canada provides funding to CMHC for research into the social, economic and technical aspects of housing. The Corporation also publishes and distributes the results of this research. This document outlines CMHC's planned policy and research initiatives under Part IX for 1992.

The three main sections of this report reflect the themes identified in CMHC's 1992-1996 Strategic Plan. Each theme encompasses a wide variety of topics and issues. The remaining sections describe activities which cut across all three themes.

### **Promoting Good Living Environments**

Housing is an important element in the quality of our living environment. In 1992, CMHC's work in this area will focus on a number of topics, including: the development of environmentally sustainable homes and communities; the United Nations' Global Strategy for Shelter; social and ethnic segregation; home safety and security; the issue of housing constructed on contaminated soil; the special problems of multiple-unit housing; construction technology; the indoor environment; renovation; and housing in northern and remote areas.

### **Pursuing Effective Mortgage and Housing Markets**

CMHC is committed to making housing both affordable and financially accessible for Canadians. That goal can best be achieved by ensuring that private housing and mortgage markets function as efficiently as possible. As part of this effort, CMHC will be studying the role played by housing in the national and international economy. Other areas of concern for 1992 include: housing affordability and accessibility; homeownership security; market research; and the development of market housing for the elderly and for people with disabilities.

**Helping Households in Need**

CMHC helps to provide housing assistance to Canadians who are unable to obtain affordable, suitable or adequate shelter on their own. The social housing stock serves disadvantaged people from all walks of life, including seniors, families, single parents, children, the Native community, people with disabilities and the working poor. Research and policy development in this area will focus on: alternative forms of social housing assistance; housing assistance in rural and northern areas; program improvement; life-cycle costing; self-help in social housing; and measuring and forecasting housing need.

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## PROMOTING GOOD LIVING ENVIRONMENTS

### Sustainable Development

Canadians are becoming increasingly aware of the impact our everyday activities have on the natural environment. Our actions today will affect the quality of life of future generations. Whether that effect is for the better or for the worse is up to us.

Housing has a substantial effect on the environment in direct and indirect ways. Our homes, and the roads, services, sewage systems and other infrastructure required to support them, consume huge amounts of land, energy, water and other natural resources. They also produce considerable waste.

**Housing Technology:** There is increasing pressure on the housing industry to develop more sustainable products, technologies and designs. New legislation at the provincial and municipal level, for example, may require environmental assessments for new projects.

CMHC has already started to work with the industry. The Healthy Housing Design Competition encourages the development of houses which are environmentally sustainable, healthy even for sensitive occupants, and affordable. The Waste Management Challenge promotes the reduction, reuse and recycling of construction waste, which in some major centres makes up 16 per cent of the volume of waste in landfill sites.

#### Activities:

- Continue to work with Energy, Mines and Resources Canada on a study of the environmental impact of housing.
- Develop ways to measure energy production and use in the housing sector.
- Continue to investigate the consumption of energy in Canadian homes.
- Conclude the Healthy Housing Design Competition with an awards ceremony, an exhibition of winning entries, and a document publicizing the results.
- As a follow-up to the competition, begin demonstration projects of sustainable "healthy" housing. This will include assessments of the performance of some innovations, and an information program aimed at industry and the public.
- Continue to promote the results of the Waste Management Challenge.
- Continue the Build Green program, which encourages the use of building products containing recycled material.



- Review and update CMHC publications on energy conservation.
- Assist in the design and demonstration of sustainable housing options through the "Maison Verte" demonstration, part of Montreal's "L'Art de Vivre en Ville" program.

**Settlement Issues:** To produce more sustainable housing, we must look at the house as part of a larger system: the community or settlement. Environmental issues to be considered at this level include land use, energy and resource use, transportation, and the adaptability of the housing stock to meet changing demands and needs.

**Activities:**

- Conduct a study on the "externalities" of urban development: intangible costs, such as pollution, which are not included in conventional cost-benefit analyses. Our findings will help builders, local governments and the public to better understand the environmental and societal impact of their decisions.
- Study options for intensifying land use within the developed parts of urban areas.
- Study the relationship between urban transport and sustainable development. This project will support other work being done in this area by the Organization for Economic Cooperation and Development.
- Monitor municipal policies and programs on sustainable development issues, including transportation, energy and recycling.

**Global Strategy for Shelter to the Year 2000**

In 1988, the United Nations adopted the Global Strategy for Shelter to the Year 2000 (GSS). The Strategy's main objective is to provide shelter for everyone in the world by the year 2000.

As a member of the United Nations and a founding member of the United Nations Commission on Human Settlements (UNCHS), Canada supports the Global Strategy. A large part of that support consists of CMHC activities such as those described in this document. In fact, most of our domestic initiatives can be considered part of Canada's contribution to the Strategy.

**Activities:**

- Monitor and encourage Canadian developments which reflect the goals of the Global Strategy.
- Prepare to report in 1993 to the 14th Session of the UNCHS on Canada's response to the Global Strategy.

- Continue special events and information campaigns to observe World Habitat Day (the first Monday in October).

### **Social and Ethnic Segregation**

The ideal community, according to many social scientists, includes a mixture of people from different income levels and ethnic backgrounds. This idea lies at the heart of the federal government's, and CMHC's, commitment to multiculturalism. It is also the driving force behind the shift in social housing policy from the large high-rise developments of the 1960's and 1970's to smaller, more widely dispersed projects.

Unfortunately, this ideal is not always reflected in reality. In some public housing projects, a majority of the occupants are members of a single ethnic group. Recent immigrants and ethnic minorities can receive helpful support from living amongst their own people. But this may not outweigh the negative effects of possible isolation from the mainstream of Canadian society.

Despite efforts to avoid concentrating social housing in certain areas, land values and availability have caused many projects to be developed in the same neighbourhoods. Opposition from neighbours (the "Not In My Back Yard" syndrome) is also a factor in the location of social housing, even though there is no proof that these developments affect the value of nearby properties.

#### **Activities:**

- Determine the effects of ethnic segregation in social housing.
- Review the costs and benefits of current decisions on the location of social housing.
- Explore the public perception of social housing and its impact on the value of nearby market houses.

### **Safety and Security**

Canadians want their homes to be as safe as possible from accidental injury, fire, burglary and other hazards. CMHC helps by providing information on home safety and security that can help consumers to make informed choices about their behaviour and the products and services they use. We also work with industry, consumers and regulatory authorities to identify gaps in technology and develop solutions.

#### **Activities:**

- Continue to promote safety and security measures in cooperation with police and fire departments and associations such as the Canada Safety Council.

## **Toxic Lands**

Consumers are becoming aware of the problems of homes built on or near contaminated land. These homes may affect the health and safety of the occupants. Affected homes may also pose a financial liability to homeowners or to the Corporation.

A townhouse development in Kitchener, Ontario provides a good example of how the issue of toxic lands can affect CMHC. These homes were built in the mid-1970's on a former landfill site, adjacent to a municipal landfill. Because of problems such as methane build-up in basements, most of them have been vacant for the last ten years. CMHC took them over after the owners defaulted on their mortgages.

CMHC research has determined that the problems affecting these houses respond well to relatively simple solutions, such as ventilating the soil underneath. Unfortunately, while many other housing developments across Canada have similar problems, municipalities do not usually publicize their experiences with these problems. That forces others to re-invent the same solutions.

### **Activities:**

- Review and consolidate information on legislation and legal precedents regarding toxic lands, as part of a review of environmental law.
- Create a guide to assessing the potential problems of toxic lands.
- Review environmental hazard policies in other countries.
- Study how environmental hazard policies affect such factors as cost, availability and liability for both social and market housing.
- Continue to develop a policy for dealing with residential environmental hazards.

## **High-rise and Multiple Residential Buildings**

Roughly 43 per cent of Canadian housing units are in high-rise or multiple unit dwellings. Multiple-unit residences account for 50 per cent of new housing starts.

While high-rise living is becoming increasingly common, there has been only limited research into the special problems associated with these types of dwellings. Problems with claddings, air tightness, noise and ventilation, among others, are common, and repairs are often expensive. Our research now can help to minimize repair costs in the future.

**Cladding:** Cladding, the outer surface of a building, is often made of brick or stucco. These can be affected by problems ranging from unsightly efflorescence (the whitish mineral deposits left behind by escaping moisture) to severe damage that causes the cladding to crumble or fall off the structure.

A failed cladding system in a high-rise residential building, besides being a potential safety hazard, can be expensive to repair. In many cases, the cost of repairs may affect the economic viability of the building or project.

A study involving the Ontario New Home Warranty Program found that most cladding problems in the buildings surveyed were related to moisture (rain, snow or water vapour). CMHC's research has shown that allowing wind to pressurize the wall cavity can significantly reduce rain penetration. This is known as the "rainscreen" principle.

**Activities:**

- Investigate ways of making stucco and similar coatings less vulnerable to failure.
- Inform builders about the work done on brick veneer/steel stud design, using an advisory document and workshops.
- Produce a document for property managers that describes the nature of cladding failures, how to determine the state of the cladding system, and what to do if work is required.
- Develop the rainscreen technology to make it more easily applicable to existing construction methods.
- Prepare a handbook on flashing for designers and builders. Inadequate or badly designed flashings, used around chimneys, windows and other structures, are a major source of rain penetration.
- Develop a workshop for architects and consultants on the prevention of rain penetration, and prepare a document on how to commission foundations, walls and roofs.
- Study operating, maintenance and repair costs for high-rise buildings. Use this information to find ways to reduce overall life-cycle costs for public and market projects.

**Air Tightness:** Energy costs could be reduced if high-rise buildings were made more air-tight. High-rises tend to lose more of their heat through air leakage than smaller buildings. As a result, while the exterior wall surface of an apartment unit is much smaller than that of a bungalow, the amount of energy required to heat both is about the same.

Improved air-tightness would also reduce repair costs. The building envelope is less likely to break down if warm moist air from inside, and rain and moisture from outside, are unable to penetrate the walls. The National Building Code of Canada requires the use of an air barrier in outside walls to prevent air penetration and moisture problems. There is little information available, however, on what materials to use or how to create an effective air barrier.

**Activities:**

- Determine ways of making high-rise apartment buildings more air-tight to prevent energy loss and moisture problems.
- Develop ways to measure the amount of moisture entering the wall cavity through rain or air leakage.
- Continue work on an air-tightness guide for building designers.
- Develop ways to measure the quality of on-site air barrier construction.

**Noise Transmission:** As the number of Canadians living in multiple-unit buildings has increased, so has the number of complaints about noise. CMHC testing has shown that it is possible to build sound-resistant walls and floors using economical construction techniques.

**Activities:**

- Study ways to control flanking noise: noise which travels through the building structure rather than going directly through the walls and floors.
- Study ways to improve the performance of party walls.

**Ventilation:** Innovation in mechanical heating, ventilation and air conditioning (HVAC) systems for high-rise residential buildings has often lagged behind developments in detached housing or commercial buildings. The Canadian Standards Association, for example, has developed a standard (CSA F326) for ventilation in low-rise residential buildings, but none for low- or mid-rise apartments or condominiums.

Changes to high-rise ventilation systems can affect energy consumption, carbon dioxide generation, and indoor air quality. If existing systems are to be safely renovated, CMHC must study HVAC design, installation and maintenance, and communicate our findings to building owners.

**Activities:**

- Investigate recent ventilation and combustion venting problems in high-rise buildings such as those involving individual direct-vent gas appliances or fireplaces in condominiums.

- Investigate whether CSA F326 can be applied to walk-up condominiums and low- and mid-rise apartment buildings.

**Restoration of Structural Concrete:** Structural concrete is widely used in high-rise buildings, parking garages, and other large structures. In recent years, there has been increasing concern about structural concrete failures, often due to corrosion of the steel reinforcing members. When failure occurs, the building may require sophisticated repairs which cost more than its value. And while it is estimated that more than \$100 million a year is being spent on concrete restoration, the durability of some of that repair work is in doubt.

Many types of structural concrete failure are difficult to foresee. This is especially so in the case of post-tensioned concrete, which uses high-tension steel cables to stiffen wall and floor plates. If there is a problem, the cable or its anchorage can burst through the wall or floor.

**Activities:**

- Promote CMHC's concrete research findings to the industry and to building owners.
- Prepare an information kit on restoration of structural concrete for CMHC field offices.
- Evaluate non-destructive methods for detecting problems in post-tensioned structures.

## **Moisture**

Too much moisture in indoor air can cause health problems. According to recent Health and Welfare Canada studies, childhood respiratory disease is often caused by excessive moisture levels in the home, especially in houses with damp basements. Excess airborne moisture can also cause furniture and other items in the home to deteriorate and emit higher levels of pollutants such as formaldehyde.

In the structure of the house, high levels of moisture can lead to increased energy consumption, deterioration of finishes, rot, and reduced structural strength. Eliminating excess moisture in houses would reduce the need for repairs. Lower moisture levels would also reduce energy consumption.

**Activities:**

- Investigate or develop moisture monitoring devices that could be used by householders.
- Provide information on moisture problems to consumers, builders and inspectors.

- Perform a field survey to obtain more information on actual moisture levels, surface temperatures and air pressures in different types of housing.
- Continue work on moisture demonstration projects and transfer the results to the housing and wood products sector.

## **The Indoor Environment**

While many people are concerned about the quality of the air outdoors, the indoor environment often poses a greater threat to health.

This is due partly to the amount of time we spend indoors: about 92 per cent of our time, according to a typical estimate. A second factor is the variety of materials found in houses. In many cases, their effects on health are unknown or have just recently been discovered. Lead, for example, is now known to be toxic even in very small quantities. Low-frequency electromagnetic radiation has been tentatively linked to cancer and other health problems.

Finally, both new housing and renovated older houses have been made more air-tight and more energy efficient. That has led to new concerns, including ventilation problems, combustion safety and mould and mildew growth.

Ventilation standards are beginning to have an impact, particularly the CSA guidelines on residential ventilation, but builders and homeowners still need guidance on the selection, installation and operation of proper equipment.

### **Activities:**

- Continue to survey lead sources in Canadian housing and to explore ways to reduce lead exposure, particularly during renovation.
- Provide information to do-it-yourselfers and the renovation industry on lead-based paint and precautionary measures.
- Survey existing lead-based paint abatement training and develop materials for the Canadian industry.
- Continue research support for the implementation of ventilation standards.
- Identify common household sources of low-frequency electromagnetic radiation.
- Work with industry and CSA to develop tests for the effectiveness of residential duct cleaning.
- Publicize the plastic bag technique for measuring the airflow of ventilation fans, developed in 1991.

- Publicize successful ventilation strategies. Provide information for householders on ways to monitor indoor air quality.

## **Innovation**

Consumers and builders are usually quick to adopt new cosmetic ideas in housing: oak trim or fancy plumbing fixtures, for example. Fundamental innovations, such as basement insulation, are less likely to be adopted by the housing industry.

Small innovators who come up with new ideas often do not know how to develop or promote them. Homebuyers, meanwhile, are not aware of these innovations and so do not demand them from builders.

With the expansion of global markets, however, the Canadian housing industry will need to improve the flow of new products. CMHC needs to encourage more innovation, productivity and competitiveness in the residential construction industry.

### **Activities:**

- Identify new technologies which may allow major improvements in housing, and study their feasibility and performance.
- Continue CMHC programs to document and promote new construction methods, and produce an information package on innovation.
- Study productivity and technological development in the housing industry, including comparisons with other countries.
- Work with External Affairs Canada to produce an information package that would promote the use of Canadian wood-frame construction in other countries.
- Study the feasibility of using new water conservation and sewage treatment methods in non-urban areas.

## **Renovation**

Renovation has become a significant part of the housing industry, worth \$16 billion a year. Both consumers and the renovation industry need advice on repair and renovation that will allow them to make more informed decisions.

### **Activities:**

- Update and expand CMHC's existing industry training programs.
- Develop a series of publications on retrofitting older houses for improved moisture control, air quality, and energy performance.



- Develop material for training the home inspections industry.

### **Northern and Remote Housing**

Building products and construction techniques used in southern Canada do not necessarily perform well in remote or Arctic locations. The cold, harsh climate causes building components such as doors, windows and foundations to deteriorate more quickly. Costs are high because construction materials, fuel and skilled labour must be imported from the south.

CMHC intends to develop products and techniques that are cost effective, easy to maintain and operate, perform well in harsh climates and allow for safe and comfortable living. Also of concern is the impact of housing on the fragile Arctic ecosystem. Finally, housing information needs to flow to and from communities which are widely spread and thinly populated.

#### **Activities:**

- Study the quality and economy of alternative materials and approaches to housing production in northern and remote areas, including modular manufactured houses.
- Begin research on low-cost portable foundations which can be used on unstable soils in remote locations.
- Determine whether a electronic bulletin board system, which could be used with a personal computer, would make it easier to exchange technical information with northern and remote areas.

## **SUPPORTING MORTGAGE AND HOUSING MARKETS**

### **Housing in the National and International Economy**

Housing is both a basic necessity and an important contributor to the national economy, as a major source of employment and investment activity. Expenditure on new residential construction amounts to about \$20 billion a year. A further \$4.9 billion is spent on residential repair and maintenance, and \$16 billion on renovation. One in ten jobs in the economy depends on residential construction.

Housing is a valuable asset for Canadians and an important sector for financial institutions. Residential real estate accounts for about 35 per cent of the total assets of Canadians. As Canada works to strengthen its export economy (currently one job in three is tied to exports) it will be important for the housing industry to explore new international opportunities as it continues to improve its competitiveness on the domestic front.

#### **Activities:**

- Continue to monitor technical adjustments in the Goods and Services Tax (GST) affecting housing.
- Continue to monitor the implementation of the Bank for International Settlements (BIS) accord, which sets rules for capital adequacy.
- Examine the implications of mortgage interest-rate risk within the BIS regulatory regime.
- Monitor the effects of federal financial reforms on the mortgage market and mortgage insurance.

### **Housing Affordability**

Canadians want to be able to find suitable housing at a price they can afford. In some markets, this can be difficult because of a lack of affordable housing or a narrow range of housing types and prices.

Some of the principal reasons for a lack of affordable housing include zoning which excludes certain types of homes, excessive site-development standards, the lack of serviced land and infrastructure, inflexible building codes, and a lack of creative financing techniques.

#### **Activities:**

- Review the literature on public/private partnerships in housing.
- Produce a consumer guide to selecting rental accommodation.

- Examine a variety of approaches to producing affordable housing, and encourage the use of those which are applicable in Canada.
- Continue the Affordability and Choice Today (ACT) program, which promotes the production of affordable housing by encouraging regulatory innovation.
- Examine the regulatory mechanisms being used to ensure the production of affordable housing.
- Document programs and policies used in other industrialized countries to increase affordable market housing.

### **Homeownership Accessibility**

Affordability is not the only barrier to homeownership. Many Canadians also face a problem of accessibility: they cannot obtain financing for the purchase of a house, or, if they can, face stringent terms and conditions.

Meanwhile, the financial marketplace is changing and housing finance is becoming an important component of that market. CMHC must assess the ability of Canada's housing finance system to serve the needs of the housing and real estate industries, consumers, investors, mortgage lenders and other intermediaries.

#### **Activities:**

- Continue to examine ideas that could increase housing finance options and make homeownership more accessible.
- Examine non-institutional lenders as another source of mortgage finance.

### **Homeownership Security**

Homeownership security is a third concept that's closely tied to affordability and accessibility. "Security" describes the ability of the homeowner to maintain ownership over time: in other words, the ability to keep up payments until the mortgage is finally paid off.

While interest rates are now lower than they have been for several years, interest-rate risk is still a potential threat to homeownership security. CMHC's Mortgage Rate Protection Plan (MRPP) offered some protection against interest-rate risk, but was not widely adopted and has been discontinued. The issue of security may also need to be broadened to cover the income difficulties many households face as a result of the slow economy.

#### **Activities:**

- Study new mortgage instruments and new sources of funds for mortgages in order to provide more alternatives for consumers.

- Review the MRPP and consider possible ways to increase participation by homeowners.

### **Market Intelligence**

One of CMHC's most important functions is to serve as a source of information, analysis and forecasts in a number of important areas in the housing field. A regular flow of housing market information and analysis helps the industry and government understand current developments and plan for the future. A lack of information can make it more difficult to adjust to changes in the market and be costly for producers and consumers.

An important tool in this area is CMHC's Potential Housing Demand model, a computer program which can be used to forecast the demand for new housing.

#### **Activities:**

- Test the survey on housing condition which was developed last year, and develop supplements to deal with technical areas not covered in the main survey.
- Develop an updated list of renovators for a future survey.
- Work with the renovation industry to define renovation activity. Determine what sort of renovation data our clients need.
- Investigate potential new information sources such as provincial renovation warranty programs, and municipal assessment.
- Study the value and types of renovation being undertaken in Canada.
- Support Statistics Canada's survey of renovation by landlords.
- Study how demographic changes will affect real house prices over the next 20 years.
- Identify what needs to be known and where information is available about the movement of people to, from and within Canada.
- Determine the best method for forecasting migration at the national and provincial level.
- Develop forecasts for the labour and material that will be required by the housing industry, with the help of Employment and Immigration Canada and Statistics Canada.
- Expand information obtained from lenders to have better information on local mortgage markets.

- Improve the assumptions used in the PHD model about factors affecting housing demand such as rental versus ownership, household formation and choice of dwelling type.

### **New-Home Warranty Programs**

New-home warranty programs provide homebuyers with protection against the loss of their deposit or defects in the finished home. New homes must be registered with a warranty program to qualify for CMHC mortgage insurance. We should therefore examine this relationship with the warranty programs as the market evolves.

#### **Activities:**

- Review CMHC's relationship with home warranty programs and examine its impact on the housing market.

### **Rental Markets**

About one in three Canadian households lives in private rental housing. A well-functioning private rental market will provide sufficient rental housing at a range of prices that accommodates most incomes.

There are several issues to consider when studying the Canadian rental market. For example, the "tightness" of the market in some areas has been affected by migration due to economic factors: vacancy rates fall when a large number of people move into a community and rise when they move out. The degree of government regulation of the rental market has increased in some provinces.

#### **Activities:**

- Prepare a report on policy options that examines how the rental market should function, and what governments can do to achieve and sustain that arrangement. This will involve studying the characteristics of rental markets and their economic, demographic and policy environments in the present and the future; and a review of existing rental market research.

### **Housing the Elderly**

By 2031, a quarter of Canada's population will be over 65 years old. In the next ten years alone, the number of people who are 75 or older will almost double. While some of the elderly will require social housing, most will look to the private market for accommodation.

Most elderly people prefer to live in their own homes or communities for as long as possible. For this, they will require homes that can meet their changing needs and appropriate services to help them maintain independence.

Alternatives will have to be found for traditional sources of informal care for the elderly, which are disappearing.

**Activities:**

- Through the Advisory Committees on Seniors' Housing, raise awareness of possible options for seniors and identify areas where all housing sectors can cooperate in providing housing and support services.
- Study how practical it would be (financially and otherwise) to design new housing that can be adapted for occupants who become frail or disabled. Examine the feasibility of making all new social housing adaptable in this manner.
- Examine situations in which seniors are forced to move out of affordable private rental projects, and evaluate ways to allow these people to remain in their communities.
- Examine the implications of aging in place in social housing so that new policies can be developed.
- Continue developing a model to forecast the socio-economic and health characteristics of the elderly.
- Develop a new Guide to the Development of Seniors' Housing.
- Complete the tools developed to help rural communities to assess the needs of their elderly populations, and develop case studies exploring the possible options.
- Investigate community-based home maintenance, repair and adaptation programs for seniors.
- Identify and evaluate housing options that are appropriate for seniors who want to stay in small, isolated communities.

### **Housing for People With Disabilities**

People with disabilities wish to live as independently as possible in the community, rather than in institutions. They want housing that allows them to live where they want, and reduces restrictions on their lifestyles.

Unfortunately, their housing options are generally limited. There is little market housing designed for people with disabilities, and much of the accessible social housing is in seniors' developments. This makes it difficult for younger people to obtain suitable accommodation.

Clearly, we need to develop a wider range of housing and service options. We must also find ways to encourage the private sector to become more involved. This would increase the range of choices within a community, and reduce dependence on subsidized housing.

The federal government is funding a wide variety of initiatives to address the issues affecting people with disabilities. Some of CMHC's work is part of "The National Strategy for the Integration of Persons with Disabilities", a program of the Department of the Secretary of State.

Activities:

- Design and build a barrier-free demonstration house for the Independence '92 exposition of products and services for people with disabilities. Use the house as the focal point for Canada-wide consultations, seminars and information exchange.
- Complete a review of CMHC programs, policies and procedures concerning people with disabilities.
- Finish the new publication, Housing Choices for People with Disabilities.
- Explore ways of encouraging the private sector to create more barrier-free environments and to provide more homes that are adaptable for people with varying disabilities.
- Study the needs of people with non-mobility disabilities who live in social housing.
- With the help of the Canadian Automated Building Association, identify how people with disabilities can utilize "automated building" (or "smart house") technology, which permits centralized control of appliances, lights and other systems.
- Explore ways of cost-effectively introducing apartments designed for people with disabilities into existing housing.

## HELPING HOUSEHOLDS IN NEED

### Alternative Forms of Housing Assistance

The federal government has used the current system of housing assistance for two decades, with only minor policy changes in that time. Financial assistance is provided to the non-profit sector to allow them to develop non-profit and co-operative housing and to charge rents geared to the tenants' income. Rehabilitation assistance is also provided to low-income homeowners and to modify units for people with disabilities. Some tenants in the private market receive rent supplement assistance.

Provincial governments, the housing industry and other interest groups support different methods of delivering housing assistance. The federal government must be assured the current system is the best available.

#### Activities:

- Explore alternate ways to efficiently and effectively house Canadians in need.
- Review the possibility of using the income tax system to deliver housing assistance, such as a housing tax credit.
- Develop strategies to achieve economic, environmental and social development in cities.
- Review the social housing needs and housing assistance policies of other countries.

### Housing Assistance in Rural and Northern Areas

Housing assistance in Canada has tended to focus on urban solutions because the majority of need occurs in towns and cities. In rural and remote areas, however, the incidence of need is greater, particularly in certain populations such as aboriginal peoples. There are special programs for these areas, but there are a number of outstanding issues which cut across programs and require attention.

Among these are the special circumstances of rural and northern areas. The nature and scale of the housing needs of aboriginal people should be assessed, for example. Access to private financial resources can be difficult in rural areas.

#### Activities:

- Develop ways of making more land available for social housing in rural and remote areas.
- Study how the limited availability of private financing hinders housing development and renovation in rural areas.



- Develop a way to determine the housing needs of single-industry communities and examine possible solutions, such as portable housing.
- Develop appropriately flexible housing solutions for the needs of declining rural communities.
- Explore the problems caused by the taxation of housing assistance in northern areas, and develop solutions.

### **Social Housing Improvements**

CMHC provides a number of programs to help low-income Canadians. Both the programs themselves, and features of individual programs, are constantly being reviewed in order to find ways to make them more effective and efficient.

#### **Activities:**

- Encourage the co-ordination of social and housing services at the federal, provincial and municipal levels.
- Review other countries' experience with the integration of housing and other social services such as income support.
- Investigate whether the existing social housing stock will meet Canadians' needs in the future.
- Continue work begun last year to improve the federal rent-gear-to-income scale.
- Investigate regional variations in the definition of modest housing and strengthen the federal policy to ensure that subsidies are not used to deliver housing which is unnecessarily expensive.
- Explore ways for the federal government to ensure that the social housing stock in which it has invested will continue to be used for that purpose after current operating agreements have expired.

### **Financial Alternatives**

CMHC has examined a number of alternative funding systems for social housing. Further work on some is underway, and additional analysis is required in 1992.

#### **Activities:**

- Examine indexed financing for social housing -- that is, mortgages which take into account future inflation -- considering all operating costs such as future taxes and energy costs.

## **Life-Cycle Costing**

Life-cycle costing measures both initial and ongoing costs over the entire life of a project. In areas where the climate is severe, for example, the lifetime cost of heating can be substantial. A more efficient heating system may be more expensive in the short term. The savings it provides in the long term, however, may more than offset the additional expense, thereby reducing overall subsidy costs.

CMHC has developed a model which can determine the life-cycle costs of alternative systems. While developed primarily to evaluate costs for CMHC's social housing activities, the model will also be of use to the private sector.

### **Activities:**

- Complete development and testing of the life-cycle costing model.

## **Self-Help**

"Self-help" refers to the work done by individuals to improve their shelter using their own time and expertise. It includes new construction, renovation and management, for both social and market housing. Reasons for the popularity of self-help include price and quality of the work, the lack of skilled professionals and time-honoured tradition.

Self-help projects are responsible for as much as one-third of Canadian construction, and half of all renovation activity. Percentages are even higher in certain areas of the country, especially rural portions of the Atlantic region.

Self-help may have a role to play in new social programs which emphasize independence. By encouraging the use of the local labour force, it may also be an effective way to reduce the cost of construction in remote locations.

### **Activities:**

- Conduct a survey of self-help activity in the housing sector.
- Conduct a supervised Self-Help Residential Rehabilitation Assistance Program pilot project.
- Explore the feasibility of a demonstration of self-help construction in an urban setting.

## **Housing Needs**

Information on Canadians' housing needs is necessary for the assessment of current government initiatives and the introduction of new programs and approaches.

Limited federal social housing resources must be allocated to provinces and territories on the basis of need. Within provinces, program resources must also be restricted to the most needy geographic areas and groups. This will only be possible if a reliable picture of housing needs across the country can be developed.

CMHC's chief tool for creating this picture is a database developed in cooperation with Statistics Canada and updated every three years. From the database, we are able to develop figures on the number and location of households in need of housing assistance.

**Activities:**

- Develop new estimates of core housing need, based on the latest version of the database and incorporate improvements into the core need model.
- Continue to develop better ways to measure the housing need of groups such as Natives, singles and the homeless.
- Examine whether the standard fixed measurement of housing affordability (whether housing costs represent less than 30 per cent of income) should instead be variable to account for factors such as family size.

### **Native Households**

CMHC has a number of programs to assist Canada's Native community. As Natives gradually gain more autonomy and control over their land and their affairs, our relationship will change.

**Activities:**

- Review CMHC's past contacts with the Native community in areas such as housing and inspection services, and determine ways to apply the lessons we have learned.

### **Homelessness**

There is considerable interest in the issue of homelessness, as a result of media coverage, a recent report by a committee representing Canada's largest cities, and a special survey of the homeless in the 1991 census.

**Activities:**

- Examine the needs of, and possible shelter solutions for, the homeless and squatters in small communities.
- Examine any barriers that prevent homeless people from getting social housing.

- Study how gentrification and changes in land use affect the supply of affordable housing in inner cities. Determine whether temporarily vacant sites can be used for hostels, as was done in the Street City project in Toronto.
- Initiate a series of demonstration projects with a view to identifying effective ways of helping to house the homeless.
- Prepare an advisory document on accommodation for the homeless based on case studies in Vancouver, Toronto and Montreal.

## **THE CENTRE FOR FUTURE STUDIES IN HOUSING AND LIVING ENVIRONMENTS**

The Centre for Future Studies in Housing and Living Environments studies the factors and trends that will affect housing and living conditions in the years to come. Research activities focus on the following themes.

### **Social, Economic and Demographic Change**

**Economic Restructuring:** Canada's economy is changing as a result of factors such as the globalization of the economy, the emergence of trading blocs such as the European Economic Community, and changes in the nature of work.

#### Activities:

- Examine how economic restructuring is actually occurring, and the implications for housing and living environments.

**Family and Household Change:** The changing nature of families and households will create new trends and demands in the future. The new, influential class of professional "baby boomer" women, for example, may plan a much different retirement from that experienced by the current generation of elderly.

Another trend-setting group will be the near-elderly singles, many of whom are also female. This group will include people who will have few retirement income prospects beyond government pensions.

#### Activities:

- Examine the future socio-economic profile of single professional women and assess the possible impact of this group on future housing markets.
- Analyse the profile of the future elderly (those people currently between 45 and 65 years old) to determine their housing prospects after retirement.

**Future Rental Investors:** Tax reforms, interest rates and other economic factors have significantly changed the nature of investment in rental housing since the 1970's and early 1980's.

#### Activities:

- Investigate possible changes in the nature of rental investment, and the implications for rental supply.

## **Housing and Social Policy**

**Housing as a Social and Economic Stabilizer:** It is often claimed that good housing is the foundation of both social and economic progress for a household. The extent to which this assertion is true has not been well substantiated through research.

### **Activities:**

- Examine the contribution of sound and affordable housing to various indicators of progress, including labour-force participation, welfare dependency, educational attainment, and income.

**Native Urbanization:** Because of their higher birth and death rates, Natives have an inverted population pyramid; that is, a higher than normal ratio of children to older people. Natives are also more likely than the general population to need housing assistance.

Like many rural residents, there is a trend among Natives toward urbanization. This deprives them of access to a variety of programs provided on reserves and creates many challenges both for Native households and for municipal governments.

### **Activities:**

- Examine the challenges created by Native urbanization, and the extent to which this will continue in the future.

## **Changing Urban and Rural Living Conditions**

**Sustainable Development and Household Behaviour:** The concern people express for the environment is not always reflected in their actions. For example, increasing density is one way to reduce housing's environmental effects. Yet intensification efforts are often resisted by neighbours. We need to know more about what will cause people to change their behaviour.

### **Activities:**

- Study whether individuals and households recognize the trade-offs they make when faced with choices about the environment, and what causes them to consciously change their behaviour. Prepare a paper describing the long-term trade-offs involved in such decisions.
- Review sociological and behavioural literature about high-density residential environments, and the factors which lead people to accept or reject intensification.

**Social Segregation:** Lower-income households, specific ethnic groups, and aboriginals appear to have become increasingly concentrated in certain areas, often inner-city neighbourhoods. Middle- and upper-income groups, meanwhile, have tended to move out towards the suburbs. Significant increases in house prices over the last 20 years have resulted in large equity gains for owners. Thus, the gap between the wealthy and the poor has become in part demarcated by tenure. Today's new communities may be reinforcing the resulting pattern of segregation.

Activities:

- Evaluate the extent to which residential development patterns create and encourage residential segregation. Determine the longer term implications of such development.

### **Technological Change**

**Technological Change:** New technology makes change easier, but generally does not create change on its own. Where change does occur, it is the result of other factors, such as economics.

Home computers, modems and fax machines, for example, make it possible for more people to work at home. Most discussions of home-based employment, however, have concluded that it is so far not a significant trend. Until now, there has not been enough of an economic incentive. That may change in the future, as employers try to streamline their operations and reduce overhead costs.

Activities:

- Examine ways technology is changing the way in which we organize and live out our lives.
- Examine the concept of home based employment.

## PROGRAM EVALUATION

In line with government policy, CMHC periodically reviews the relevance, success and cost-effectiveness of its programs. As a result of these reviews, programs may be confirmed, modified or discontinued. Social housing programs which are cost-shared with the provinces and territories undergo joint federal-provincial-territorial evaluations.

In 1992, the Program Evaluation Division intends to continue work on its evaluations of the following programs:

- the **Urban Native Program**, which provides housing to Native people living in urban areas, examining the issues of volume of need, portfolio management, delivery effectiveness and program alternatives;
- **Project Haven**, which provides temporary accommodation for victims of family violence; and
- the **Research, Information and Communications** programs, which support research and provide information on housing problems and solutions in Canada.

In addition, the Division will begin evaluations of the following programs:

- the **Non-Profit Housing Program**, especially the results of the revised targetting strategy and greater provincial involvement;
- the **Rent Supplement** program, focusing on the question of whether it is more cost-effective to provide rental subsidies or to assist the development of non-profit, low rental housing; and
- the success of the new **Home Adaptations for Seniors' Independence** program in helping the frail elderly to live on their own.



## **RESPONSIVE PROGRAMS**

In addition to its directed policy and research program, CMHC supports a number of activities which are aimed at developing housing expertise and knowledge in Canada. In 1992, these will include the following activities:

### **External Research Program**

CMHC's External Research Program provides grants of up to \$20,000 to help individuals undertake innovative and high-quality research investigations into a broad range of housing topics. A committee with representatives from industry, academia, government and the professions chooses the best applications for support in an annual national competition.

### **Housing Technology Incentives Program**

Provides grants to encourage research and development of new products and systems in housing technology.

### **Scholarships Program**

CMHC scholarships of up to \$14,154 per year help to develop Canadian housing expertise by assisting Master's-level students who specialize in studies related to housing and community planning. Fields of study can range from engineering to law and include multidisciplinary programs. A committee representing professional, academic, business and government interests in housing chooses successful candidates in an annual national competition.

### **Housing Awards Program**

The CMHC Housing Awards Program encourages innovation and recognizes excellence in all fields of activity that influence the provision of adequate, affordable housing for Canadians. This year's program focuses on housing solutions for people with disabilities. The Awards will be presented at a special symposium, "Independence Through Housing," to be held in Winnipeg in October 1992.

### **Job-Site Innovator Awards Program**

Provides modest grants and "Innovator of the Year" awards to encourage home builders and tradespeople to develop and share new construction techniques.

## **INSTITUTIONAL SUPPORT**

### **Intergovernmental Committee on Urban and Regional Research (ICURR)**

ICURR facilitates the exchange of information, opinions and views on urban and regional issues, and provides a focus for the development of policies on settlement change in Canada. ICURR achieves its mandate by providing information services to all levels of government, undertaking a research program on issues of national importance and organizing workshops and conferences.

### **Canadian Housing and Renewal Association (CHRA)**

CHRA acts as a national focus of information and advice to the federal government; a vehicle for housing and renewal information exchange and research; and a "window" between senior levels of government and practitioners working to deliver non-profit housing and rehabilitation assistance.

### **Housing Research Institutes**

The Rural and Small Town Research and Studies Program (RSTRSP) at Mount Allison University, and the Institute of Urban Studies (IUS) at the University of Winnipeg, carry out programs research, academic courses and outreach within their respective regions. RSTRSP specializes in rural housing and community development issues in the Atlantic region, while ICUS focuses on urban and northern issues in the Prairies.

### **United Nations Centre for Human Settlements (UNCHS)**

CMHC provides financial support to the Centre, which is currently responsible for disseminating information relating to human settlements; monitoring developments in technology, research and training; and communicating this information as required through the United Nations system.

## INFORMATION AND TECHNOLOGY TRANSFER

CMHC will continue to transfer information through existing and new forums. In 1992, Information and Technology Transfer initiatives will include the following:

### **National Housing Research Committee**

Continue to encourage cooperation on research initiatives and exchange of information on ongoing and completed research. The NHRC Newsletter, describing research being conducted by members, reaches interested parties outside the Committee as well. At the two meetings of the full Committee and selected Working Groups planned for 1992, members will have opportunities to consider potential joint ventures and to discuss ongoing research.

### **Builders' Workshops**

Develop workshop material in cooperation with the provincial homebuilders' associations for inclusion in provincial homebuilder training programs. This material will also be delivered directly by CMHC staff in rural and remote areas.

### **Renovation Seminars**

Refine and continue delivery of seminars for renovation contractors in cooperation with the Canadian Home Builders' Association and the Canadian Renovators' Council.

### **High-rise Construction Seminars**

Deliver the results of CMHC research and development to designers and builders through seminars and workshops in collaboration with industry.

### **Advisory Documents**

Produce new and revised publications with practical advice for builders, renovators, designers and consumers and disseminate information through conferences, home shows, mail-outs and other special events.

### **Canadian Housing Information Centre (CHIC)**

Continue to provide access to the largest collection of housing information in Canada. CHIC contains publications on all aspects of housing, building and community development, and is a major distribution point for virtually all research reports undertaken through Part IX. The Centre has access to all major housing reference sources, both computerized and printed, and its photo library contains extensive holdings of slides and photographs documenting all aspects of housing.